

eco

ECO ANNUAL REPORT AND
FINANCIAL STATEMENT

2021

eco

ASSOCIATION OF THE
INTERNET INDUSTRY

eco



2021

Content

1. Foreword	4	6.5 members+ Area – Exclusive Content for Members Only	50	9.8 Security	92
2. Report from the Management	6	6.6 eco Media	51	9.8.1 Security Competence Group	92
2.1 How Multiple Voices Become a Choir	6	6.7 Social Media	52	9.8.2 Study on IT Security	94
2.2 The Metaverse on the Horizon – A Glimpse into Our Digital Future	8	7. eco International	54	9.8.3 Anti-Abuse Competence Group	95
3. Association Development	10	8. eco Services & Initiatives	58	9.9 #LiT – Ladies in Tech	96
3.1 Finances	10	8.1 DE-CIX – The Year 2021 in Figures, Data & Facts	58	10. eco Events 2021	98
3.2 Europe's Largest Internet Association	14	8.2 Certified Senders Alliance	64	10.1 Data Centre Expert Summit	99
3.3 eco Association Structure and Presidency Committee	15	8.3 deutsche ict + medienakademie/eco Academy	66	10.2 eco Trust & Safety Summit	101
4. Reports from the Board	16	8.4 Cybersecurity Services	68	10.3 ISDdigital	102
4.1 Policy, Law & Regulations	16	8.4.1 Smart and Safe on the Internet (SUSII.nrw)	68	10.4 20+1 years Anniversary of the deutsche ict + medienakademie	103
4.2 IT Security	18	8.5 eco External Data Protection Officer	69	10.5 CSA Digital Email Summit 2021	105
4.3 Online Services/Cloud Computing	20	8.6 EuroCloud Deutschland_eco e.V.	70	10.6 Webinars and other eco Events	106
4.4 Infrastructure & Networks	23	8.7 Service-Meister	72	10.7 Events in cooperation with eco	113
4.5 2021 – Yet Another Year with Covid-19 Restrictions	25	8.8 Datacenter Star Audit	73	11. Memberships and Cooperations	118
5. Political Representation	26	8.9 CEBRA	74	11.1 Representation in Pivotal Committees	118
5.1 Legislative Processes & Focus Topics	28	9. Reports on eco Focus Topics	75	11.2 Council for Digital Ethics	119
5.2 EuroISPA	33	9.1 Digital Business Models	75	11.3 KI Bundesverband	119
5.3 eco Complaints Office: Combatting Illegal Internet Content and Youth Media Protection	34	9.1.1 Gaia-X	76	11.4 networker NRW	120
5.4 Events and Highlights of the Policy, Law & Regulations Division 2021	38	9.2 Digital Infrastructures	78	11.5 Cooperation Partners	121
6. Association Communication	41	9.2.1 Alliance for the Strengthening of Digital Infrastructures in Germany	78	12. The eco Team 2021	122
6.1 Communication of Industry Topics	42	9.2.2 Data Centre Expert Group	80	13. eco Members 2021	126
6.2 Political Communication	44	9.2.3 Networks Competence Group	82		
6.3 Selected Media Highlights	46	9.3 Names & Numbers	84		
6.4 eco Websites	48	9.4 Law & Regulations Competence Group	86		
		9.5 E-Mail Competence Group	87		
		9.6 New Work Competence Group	88		
		9.7 Internet of Things/Mobility	89		



*Oliver J. Süme, Attorney-at-Law
Chair of the Board
Board Member for Policy, Law & Regulations*

1. Foreword

Dear Readers,

2021 has shown us that crises can only be controlled to a limited extent and that the new normal created by Covid-19 will probably be with us for much longer than initially assumed. But crises often have their good sides. They force us to find solutions, to accelerate change, to follow new paths.

The Covid-19 pandemic has set developments in motion in Germany and worldwide – especially in the digital sector – that might have taken many years longer under other circumstances. Flexible and mobile working, digital schooling, virtual forms of communication and collaboration in both the professional and private spheres, the accelerated digitalisation of many economic sectors and the transformation of analogue business models into the digital – none of this would have taken place at this speed without the disruptive effect of the coronavirus.

Digital technologies are the key to shaping such disruptions. And this does not only apply to dealing with the pandemic. Digitalisation is part of the solution to many of the challenges we will face in the coming years, either with or without the pandemic – be it managing climate change, dealing with demographic change or even the constant struggle for democracy and participation around the world.

Dare to act

One thing is obvious: This process of digital transformation must be shaped politically. It needs a strategy and framework conditions that promote innovation, offer companies legal certainty and economic room for manoeuvre, and, at the same time, protect the rights of users.

I am confident that the new German federal government elected in autumn 2021 has recognised the urgent need for a new start in digital

policy in Germany with the establishment of the Ministry for Digital and Transport and will quickly tackle the existing issues – for example, in the areas of digital administration, digital infrastructure and digital education.

The topic of digitalisation can be found in almost all chapters of the coalition agreement and thus duly reflects the importance of the cross-cutting digitalisation topic. The will of the future federal government to make a digital breakthrough is clearly evident. The approaches addressed in the coalition agreement address the right issues and show the need for action. We see that, in many sections, propositions were adopted that we had formulated in our Internet Policy Agenda and intensively discussed with representatives of all government parties in 2021 within the framework of both our election campaign “Wahl/Digital 2021” and the Internet Policy Party Checks that we conducted.

Seize digital opportunities

One topic that I would like to highlight in the context of “opportunities of digitalisation” is sustainability. We have long pointed out that these two issues need to be thought of in tandem with each other because digital infrastructures and digital technologies and services offer great potential for tackling climate change and other sustainability goals. Bringing the coal phase-out forward to 2030 is ambitious. To this end, a massive expansion of renewable energies and their availability is absolutely necessary in order to constructively flank the associated challenges for the industry, especially data centres, which are now already to be operated in a climate-neutral manner by 2027. The planned end of the Renewable Energy Sources Act (EEG) levy will also be helpful here.

Accelerated digitalisation will not only contribute to environmental and climate protection

through the potential of CO₂ savings but will also make a significant contribution to achieving the climate targets.

A digital policy oriented towards sustainability principles – which we have been calling on for years, especially via the Alliance for the Strengthening Digital Infrastructures in Germany founded under the umbrella of eco – must consider such effects of digital innovations from the outset and integrate them into an overall regulatory concept in the long term, instead of merely establishing rules for CO₂ savings in data centres in the short term.

This concerns not only immediate energy policy aspects. A rapid expansion of connected mobility and a strengthening of the technology location with regard to innovative technologies such as AI will also have a positive impact on sustainability and climate protection goals in the medium term.

We also see our role as an association as thinking outside the box of the Internet industry and actively promoting synergies and exchange with the most important user industries and sectors. In my view, the mobility industry is one of the most interesting and promising industries which digitalisation is likely to massively transform in the coming years. In this context, I am particularly pleased about the new foundation of the Mobility Competence Group in 2021, through which we want to track and, above all, help shape this rapidly changing market.

2022 – like 2021 – holds many uncertainties, especially with regard to further pandemic developments. This makes it all the more urgent that we develop a clear and long-term roadmap on how we want to deal with this challenge and other developments in our environment and our society in the future. Digitalisation will continue to offer us effective and robust solutions going forward. It is up to us to harness

them in such a way that as many people as possible can benefit from these solutions.

I would like to thank all members and partners, my colleagues on the Board, the eco management and, of course, all employees for such good and trustful cooperation in the past year. I very much hope to finally meet you in person again in the course of this year, be it at the eco Summer Party or eco Congress, or at one of our numerous other industry events.

Yours

Oliver Süme



Harald A. Summa
Chief Executive Officer

2. Report from the Management

2.1 How Multiple Voices Become a Choir

From the outset, eco set out to be the voice of the Internet industry. We have, of course, remained committed to this principle in 2021. And yet the past year has shown that the way we fulfil this claim has evolved. It's no wonder. Our association has now over 1,000 members. With a rising growth in specialisation in our industry, the differences between the individual companies naturally increase; each of our member companies is special and unique in its own way. Each has its own voice: So it is up to us to bring together these multiple voices to form a choir.

**Did we succeed in this task in 2021?
Oh yes, we did.**

The major factor that powers us all is the reliable foundation. A solid digital infrastructure is the baseline without which no meaningful action on the Internet is possible.

Data must flow. The Internet, which currently consists of around 75,000 autonomous sub-networks, ensures that it does so even if one or the other sub-network fails. However, it also offers innumerable weaknesses and points of attack.

Redundancies are important, but they are not enough on their own. To function reliably, the Internet must be robust and resilient to many types of threats. Cyber experts saw little sign of an easing of the threat situation in 2021. Many of the problems, such as encryption Trojans, are known, and there is no shortage of security solutions and initiatives. Nevertheless, 57 per cent of the experts surveyed by eco saw the German economy as insufficiently positioned in 2021, and 77 per cent expect the threat situation to grow.

Dangers threatening the reliability of the Internet do not only come from criminals.

Authorities also try to tap data, albeit with a different motivation, often in very similar ways, be it with a state Trojan or data retention. Our position as the Internet industry association is clear: If they do not want to gamble away trust in digital communication, policymakers must pull the plug here.

An IT infrastructure that is tolerant of errors and attacks because it is robust and secure is an indispensable prerequisite for sustainable success in the data-driven economy. With Gaia-X, we are working on a platform that offers companies and other data-processing organisations much more than that. We are

developing a federated data infrastructure with a focus on data sovereignty and data availability, based on European standards and values, with the aim of promoting innovation in Europe.

Since the beginning of 2021, eco has been responsible for the project management of this initiative, a project funded by the German Federal Ministry for Economic Affairs and Energy with around 13.5 million Euro. Since then, things have been moving forward with great strides: In May, we were able to finalise the specification of the first four Gaia-X Federation Services and, in December, we started the implementation phase. I also have the honour of having developed the budget for 2020/2021 as interim CFO for Gaia-X, and of having been elected to the Board.

The idea of a digital infrastructure based on European values that helps our economy realise the full potential of digital innovation is often described as visionary. A year ago in our annual report, this was an adjective I also used to describe Gaia-X, especially due to the initial

euphoria that inspired not only me, but actually everyone involved. In the meantime, I've come to a more rational standpoint. For me, Gaia-X is no longer a visionary moonshot project. It is an urgently needed investment in order to be able to realistically keep up with global competition.

As much as we can celebrate about what we have accomplished together in 2021 – even in times when we met mainly virtually – we should not be under any illusions. There is still some catching up to do in the digital transformation of our business location. The new German federal government has not created the digital ministry that we and many representatives of the digital economy have been long calling for. However, we see a clear commitment to a new beginning in the coalition agreement.

This also involves interlinking the topics of digitalisation and sustainability. It is clear that large data centres consume a lot of electricity. This means that they bear a great deal of responsibility but also have a particularly large amount of influence. To share this,

25 companies and 17 associations from all over Europe, under the leadership of the Alliance for the Strengthening Digital Infrastructures in Germany initiated by eco, have committed themselves to taking concrete measures to make data centres climate neutral by 2030.

This initiative shows that we as an association, as an industry, as entrepreneurs and as architects of our digital future not only have a voice but can also take action. We must do so if we are to meet the challenges that lie ahead. We aim to do this because we are committed to a worthwhile future in which the digital world makes a difference for the better. And this is something we can do.

I look forward to another year with you!

Yours

Harald A. Summa



Alexander Rabe
Managing Director

2.2 The Metaverse on the Horizon – A Glimpse into Our Digital Future

As in 2020, 2021 was also marked by the ongoing Covid-19 pandemic and the resulting shift of large parts of life and work – including our association work – into the digital realm.

Global crises, such as pandemics or climate change, have a catalytic effect on the further development of the Internet and the search for technological solutions to address the major challenges facing humanity.

Because, today, it seems clearer than ever: The "boundaries" of the digital space vis-à-vis the "analogue world" are becoming more malleable and general "human-machine interaction" is successively becoming more intuitive.

The paradigmatic technological approaches to this are already recognisable in voice-controlled smart speakers, gesture control, AI-supported image recognition and navigation support, IoT, augmented reality solutions and immersive virtual reality applications – especially in the games segment.

If we now take these technological developments together and combine them with open standards that interoperably link technological applications and services and base them on an ecosystem of high-performance and trustworthy digital infrastructures, the vision of a new evolutionary stage of the Internet opens up, which is already being widely discussed today under the catchword "metaverse".

In addition to immense innovation potential for new value chains and business models, this new evolutionary stage of the Internet also brings with it a number of technological and regulatory challenges that need to be overcome. In part, these are the same as we are already seeing with the current Internet: The digital infrastructures must be efficient, sustainable and reliable, and the users of such applications – including those of a metaverse – must be sure that they have access to the information they need.

The aim is to ensure that people can trust the technologies provided, that their data and digital identities are protected, and that misuse is prevented to the maximum extent possible.

Misuse of such technologies can take place via the operating companies themselves, but even more so on the part of criminal groups, state intervention or other users from within the respective communities.

The success of such a metaverse, therefore, also depends to a large extent on how the technical architecture is set up, how the power relations in such a metaverse are distributed, and how the opportunities for participation are designed. For the acceptance of and trust in digital technologies and solutions – and thus also a metaverse – the answers we give to these questions will be indispensable.

When I look at the topics that we as an association have intensively promoted and accompanied in the past year, I see a strong correspondence to these key questions, which are also likely to be the focus of the public and political debate when shaping the metaverse.

For example, with the Alliance for the Strengthening of Digital Infrastructures in Germany, we promote intensive exchange with policymakers on the topic of sustainable digital infrastructures and the role of digitalisation for a climate-friendly future.

As part of our role in the Gaia-X Federation Services, we are making a significant contribution to making the vision of sovereign European cloud services marketable, not least through transparent standards.

Within the framework of our eco Complaints Office, whose 25th anniversary we celebrated in 2021, we successfully campaign for the fight against illegal Internet content and promote awareness and social exchange in the fight against crime online.

With our new TopDNS initiative, we are working together with leading companies in the industry, such as registries, registrars and hosting providers, to combat abusive activities in the Domain Name System and thus to ensure the stable and secure operation of an important pillar of the Internet infrastructure.

For us as eco, it was always clear: The shaping of the Internet – in its current and future versions – must involve all relevant stakeholders and put people with their needs and requirements at the centre of developments. This is the only way that digital technologies and applications – in a metaverse alongside fun and entertainment, alongside profit maximisation and business model development – can also contribute significantly to meeting the major human challenges of the future.

Above all, the Internet industry and policymakers must work intensively together to create or expand digital infrastructures that meet these requirements. Because without digital infrastructures – starting with data centres, Internet Exchanges and nationwide broadband

connections as well as mobile Internet access – all scenarios and applications based on them are pipe dreams.

That is our role and our great strength as an association: The successful mediation between the Internet industry, politics and civil society and the realisation of constructive exchange. All of this with the aim of creating a functioning regulatory framework for digital services and technologies that enables companies to be competitive and innovative while creating a network that benefits people and respects their needs and rights.

This goal will continue to be the focus of our association's work in the coming year, and I am pleased that we are already in dialogue with the new German federal government and, in particular, with the new Minister for Digital and Transport, Volker Wissing, and his cabinet colleagues on many of the topics mentioned above.

The metaverse is coming. Whether it will be the better Internet is up to us. Let's use this opportunity together. I'm looking forward to the exchange with you and hope you enjoy reading our wide-ranging and informative eco Annual Report 2021.

Stay healthy!

Cordially yours

Alexander Rabe

3. Association Development

3.1 Finances

An exciting 2021 with many ups and downs came to an end for eco – Association of the Internet Industry. Despite all the Covid-19 pandemic challenges, we were able to accomplish the association's business in a satisfactory manner.

In 2020, we had very successfully mastered the pandemic-related switch from on-site to purely virtual events. To build on this success, we rented neighbouring premises in Cologne in mid-2021, where we set up our own studio for video productions. In-house production is, on balance, cheaper than working with external service providers, offers more flexibility, and gives us the chance to create our own "video style". The "eco TV studio" also allowed us to react flexibly to legal pandemic regulations without hindering the timely flow of the association's business. The applicable distance rules and hygiene concepts could be upheld without having to reschedule or even cancel events.

The successful expansion of the eco Academy and the associated perfection of virtual event formats helped further increase the number of participants in the C-Level segment among our members and also among our sponsors.

A highlight of 2021 was to be the eco Congress, the first major on-site event after one-and-a-half years of the Covid-19 pandemic. Much to our regret, however, the Covid situation came to a head again, and we had to call off the congress at short notice. We are incredibly pleased to have been able to just postpone the event to 2022 rather than having to cancel it.

The number of members remains relatively stable: The association registered a total of 66 new member companies in 2021, but this was offset by 54 regular terminations and 31 insolvencies/mergers, which led to a reduction in income from membership fees of -2.1 per cent (previous year +15.6 per cent). The growth of the Certified Senders Alliance (CSA) could not be continued, unlike in previous years; this is reflected in a reduction in turnover of -10.2 per cent (previous year +5.8 per cent). The reasons for this lie primarily in the trend towards mar-

ket consolidation among senders and mailbox operators. Nevertheless, work was intensified on the quality of the reputation management system, and the expansion of the neutral platform was driven forward. Despite consolidation in the market, the outlook for CSA's success remains promising.

The increase in public funding contributions results, among other factors, from projects that have been successfully procured, including the Gaia-X Federation Services, Service-Meister and Auditor. All of these projects will continue in 2022, which means that public funding is secured for the upcoming budget.

A suitable starting point for a future eco Association ecosystem has been created via the Service-Meister project, which in 2021 involved 61 associated partners, a great media response of 13 external articles and 22 events, trade

3. Association Development

fairs and workshops. Over 12,000 visits to the website per year speak for themselves. The Service-Meister project also received international attention: for example, with an invitation to the 8th GIO Roundtable of the Global Industry Organisations and a part in their GIO white paper.

In addition, at the end of 2021, we were able to acquire a new funding project, Car Repair 4.0 (Autowerkstatt 4.0). The project, funded by the German Federal Ministry for Economic Affairs and Climate Action (BMWK), is researching the differentiated and machine learning-based fault diagnosis of vehicles in public car repair shops. This involves vehicle data being collected in car repair shops and made publicly available by IT service providers and measurement system suppliers on a platform for improving diagnostic procedures.

The Gaia-X Federation Services (GXFS) project, launched at the end of 2020 under the leadership of the eco Association and with a funding volume of around 13.5 million Euro, was successfully launched in 2021. Here eco's role resembles that of a project management agency: it transfers the acquired funding directly to the projects and companies that have been selected for funding via the tendering procedure and accompanies the projects financially and in terms of content throughout their timeline. Despite the pandemic, we have been able to hold some events remotely with our partners as part of the project sponsorship, and the TV studio mentioned above has already been put to very good use.

eco was present at the founding of Gaia-X AISBL, the supporting association in Brussels, and is involved as a neutral advisor in the establishment of the association structures, as well as in the foundation and the handling of the early administrative structures. A corresponding remuneration has been acquired for this support.

As in previous years, other income included charging benefits for cars, reimbursement of advanced costs, and offsetting of personnel costs. It also included income from the eco External Data Protection Officer service, which generated a small positive balance in the 2021 financial year. The corresponding costs are largely reflected in the increase in legal and consulting costs.



Due to project work, personnel expenses were increased significantly. In preparation for the time after the pandemic, we implemented a concept for mobile working in the premises in Cologne by converting and modernising the technology at the workplace. By shifting our marketing activities to virtual formats, we were able to hold a large number of new events, combined with the corresponding expenses. A tax audit of the eco companies for the years 2017-2019 resulted in a back payment of 37,000 Euro in underpaid taxes, which, together with trade and income taxes, led to a relatively high tax payment.

In summary, the eco Association recorded significant revenue growth of 14.0 per cent in 2021 with a moderate cost increase of 16.4 per cent.

Since the presentation of the financial figures has always been based on income and expenditure, the investments made are distributed over the normal useful life for tax purposes (depreciation for wear and tear – known in Germany as AfA), so that a profit of 6,645 Euro is shown in the tax return.

In the 2022 budget, the eco Association expects membership fees to continue to rise, CSA revenues to increase, and the project management business for the public sector to consolidate. Conclusion: a positive development of the association despite difficult times.

Revenue and Expenditure for the Financial Year 2021					Budget for the Financial Year 2021	
eco e.V.	Actual Value 2021 in Euro	Share in per cent	Actual Value 2020 in Euro	Change from the preceding year in per cent	Planned for 2022 in Euro	Share in per cent
Einnahmen						
Member fees	2,165,713	48.2%	2,211,900	-2.1%	2,216,725	44.5%
Public funding	881,252	19.6%	419,486	110.1%	1,486,307	29.9%
Generated proceeds	885,364	19.7%	985,408	-10.2%	960,000	19.3%
Other*	558,327	12.4%	322,468	73.1%	315,522	6.3%
Total revenue	4,490,655	100.0%	3,939,262	14.0%	4,978,554	100.0%
Expenditure						
Personnel costs	2,386,923	52.5%	2,092,481	14.1%	2,987,699	60.1%
Administrative costs	428,940	9.4%	423,580	1.3%	430,228	8.7%
Occupancy costs	156,610	3.4%	143,985	8.8%	153,143	3.1%
Contributions	29,765	0.7%	36,982	-19.5%	48,333	1.0%
Travel costs	43,682	1.0%	42,192	3.5%	83,588	1.7%
Investments***	86,795	1.9%	17,096	407.7%	35,000	0.7%
Marketing/Projects	1,219,953	26.8%	1,011,216	20.6%	1,130,000	22.7%
Administrative/accounting/ legal costs	66,967	1.5%	65,620	2.1%	46,500	0.9%
Other/taxes**	127,601	2.8%	72,956	74.9%	59,500	1.2%
Total expenditure	4,547,236	100.0%	3,906,108	16.4%	4,973,990	100.0%
Surplus/deficit	-56,581		33,154		4,564	
Third-party funds in transit GXFS	1,532,770		100,270		7,629,554	
Transitory expenditure GXFS	1,532,770		100,270		7,629,554	

* Other revenue: e.g. eco Data Protection Officer service, charging benefits for cars, reimbursement of advanced costs, etc.

** Other expenditures: Bank fees, artists' social security contributions, insurances, further education, advanced costs, etc.

*** The investments made are depreciated over the normal useful life (AfA), resulting in a positive result for tax purposes as follows:

Surplus/deficit	-56,581
+ Acquisition costs	86,795
- Depreciation	23,560
Tax result	6,654



Katrin Mielke
Project Manager
Member Services

3.2 Europe's Largest Internet Association

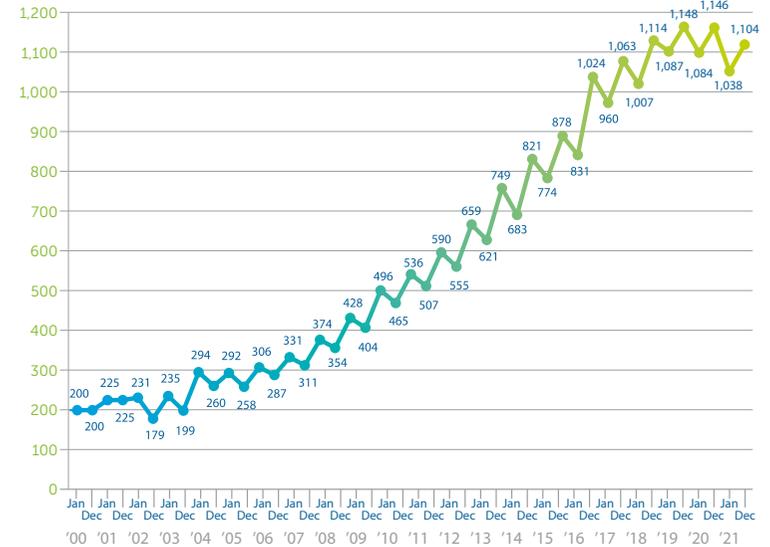
With now more than 1,100 member companies from over 70 countries, eco is the largest Internet association in Europe.

Since its foundation in 1995, eco has played an instrumental role in the development of the Internet. The association promotes new technologies, infrastructures and markets, forms framework conditions, and represents the interests of its members vis-à-vis politics and in (inter)national committees. Key topics are reliability and strengthening of the digital infrastructure, IT security and trust, and ethics and self-regulation. eco is committed to a free, technologically-neutral and network-neutral Internet.

In more than 65 online events, eco members received information about crucial current and future developments and, together with experts, developed guidelines and quality standards for the market. eco enables members to engage in an intensive exchange of knowledge with experts and executives from the Internet industry, other sectors of the economy and important representatives from politics, academia and society.

The list of all eco members is available in [chapter 13](#). More information on the benefits for members is available at: international.eco.de/about-eco/membership

Membership Development 2000 - 2021



3.3 eco Association Structure and Presidency Committee

In 2018, eco signed the asset transfer documents of the eco subsidiaries DE-CIX Management GmbH and DE-CIX International GmbH into DE-CIX Group AG, thus becoming the sole shareholder of DE-CIX Group AG, which acts as the holding company. The link between the association and the holding company is Felix Höger, Chair of the Supervisory Board, and Vice Chair Klaus Landefeld, both of whom are also members of the eco Board. The Supervisory Board of DE-CIX Group AG is rounded off with Rudolf van Megen.

eco Presidency Committee

During the 2018 AGM, the establishment of the eco Presidency Committee was agreed upon, with the aim of assisting the eco Board and senior management in a consultative manner.



*eco Honorary President
Prof. Michael Rotert
Managing Partner
maxspot GmbH*



*Prof. Anja Feldmann
Director of the Max Planck
Institute for Computer
Science and Leibniz Prize
winner*



*Saskia Steinacker
Global Head of Digital
Transformation at Bayer
AG and member of the EU
Commission's High-Level
Expert Group on Artificial
Intelligence*



*Karl-Heinz Land
Author, speaker and
investor/partner at
neuland.digital GmbH,
digital consulting*



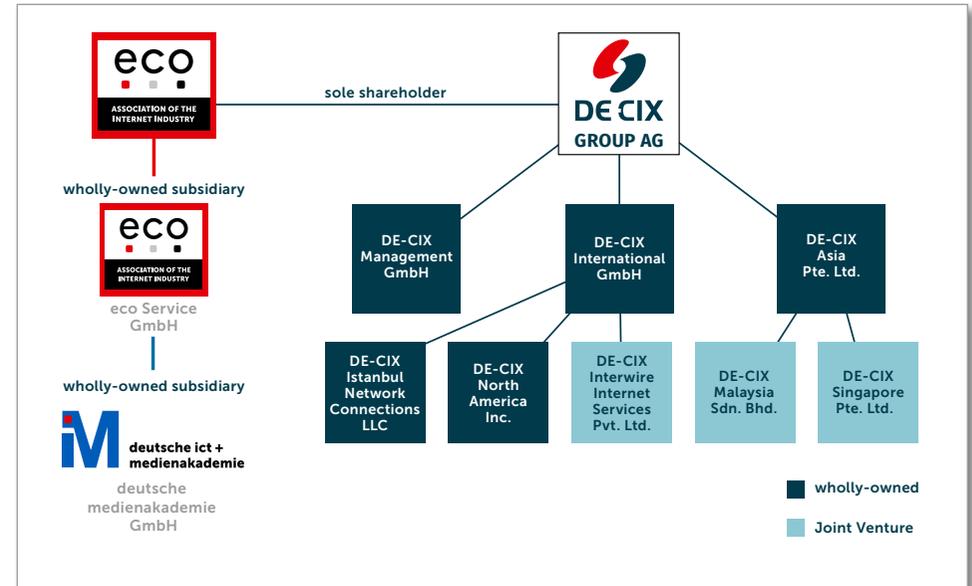
*Oliver Weimann
Start-up specialist, initiator
of the RuhrSummit and
Managing Director of the
ruhr:HUB*



*Stefanie Kemp
Country Leader
Oracle Germany*

The intention is to enable high-level representatives from industry, research, the media and politics to provide valuable stimulus with their expertise, helping the association to identify on-trend digital topics more rapidly and to more broadly apprehend their impact, as well as to extend the Internet industry perspective by integrating multiple points of view and lines of thought from other fields. The committee is also intended to enable the promotion of an interdisciplinary exchange of views and experiences on the opportunities and challenges of digital transformation.

Since 2017, Prof. Michael Rotert, who was previously Chair of the Board for 17 years, has been the eco Honorary President. The eco Presidency Committee is being successively expanded. The first five Presidency Committee members are:



eco Board 2021

Oliver J. Süme

Chair of the eco Board; eco Board Member for Policy, Law & Regulations; Attorney-at-Law/Partner Fieldfisher (Germany) LLP

Klaus Landefeld

Vice Chair of the eco Board; eco Board Member for Infrastructure & Networks; CEO nGENn GmbH

Felix Höger

eco Board Member for Online Services/ Cloud Computing; Chair of Supervisory Board DE-CIX Group AG; CEO Höger Management GmbH

Prof. Dr. Norbert Pohlmann

eco Board Member for IT Security; Professor and Managing Director of the Institute for Internet Security – if(is)

4. Reports from the Board**4.1 Policy, Law & Regulations**

From the Internet industry's perspective, 2021 was a very eventful political year. In what was seen as the "super election year" – in a time that was still being shaped by the Covid-19 pandemic – digital policy was revealed to be a prerequisite and a fundamental component for mastering the major challenges we will have to address in the coming years. In this respect, digitalisation takes centre stage in our society and economy. Digitalisation alongside Internet and digital policy aspects were thus accorded an eminent role in all elections which took place in 2021. While eco devoted particular attention to the federal Bundestag elections in September, state parliament elections were also held in the German federal states of Saxony-Anhalt, Mecklenburg-Vorpommern and Berlin.

In light of the elections, in 2021 eco continued to raise awareness of the relevance of digitalisation as a topic in numerous political debates and initiatives at national and European levels, and designated this topic as the primary focus of its work in Berlin and Brussels.

As the legislative term under Chancellor Angela Merkel drew to a close, many projects in eco's working sphere were completed and implemented, with these including initiatives related to sustainable digitalisation, IT security, digital sovereignty, digital infrastructures and changes in competition law. However, the dynamic and rapid approach of the outgoing German federal government at the end of its legislative term posed challenges for the digital industry and brought about unclear participation processes, not to mention decisions made at short notice

by the federal government and the Bundestag. eco participated in these dynamic processes and initiatives, repeatedly advocating for the interests of the Internet industry and contributing its positions to the political process. In the run-up to the elections, eco also presented its ideas on digitalisation in its Internet Policy Agenda and brought together the Internet industry's most important demands and recommendations for action. The Internet Policy Agenda laid the foundation for eco's political work for the upcoming legislative term. In the coming year, this agenda will continue to be the baseline for work in the political arena. In eco's event format "Wahl Digital" (Digital Election), digital politicians from all parliamentary parties responded to questions about their election programmes and their digital policy goals for the term after the September Bundestag elections.



*Oliver J. Süme, Attorney-at-Law
Chair of the eco Board
Board Member for Policy, Law & Regulations*

*Henning Lesch, Attorney-at-Law
Head of Capital Office
Head of Policy, Law & Regulations Division*

The SPD, Alliance 90/The Greens and the FDP presented their coalition agreement at the end of November. The agreement demonstrated how important and relevant digital policy issues are for the new German federal government. It also reflects how eco's commitment to shaping Internet and digital policy has paid off: The coalition agreement illustrates the importance of digital policy issues, with many demands of the Internet industry set out in the Internet Policy Agenda featured in the agreement. The topic of digitalisation can be found in almost all chapters of the coalition agreement, thus reflecting the importance of this cross-cutting topic.

From eco's point of view, aspects which are particularly positive are the clear emphasis on trust and security, such as the promotion of security by design, the planned focus on closing vulnerabilities, and the establishment of principles such as the right to encryption. eco also recognises a clear commitment to innovation and a strong technology location, for example through the resolute roll-out of digital infrastructures and the accelerated digitalisation of the state and public administration. Another positive approach of the coalition agreement is the close link between the topics of digitalisation and sustainability. eco has been pointing out for a considerable length of time that these two topics must be intertwined, because digital infrastructures as well as digital technologies and services offer great potential for tackling climate change and achieving the sustainability goals. Bringing

forward the goal of the coal phase-out to 2030 is ambitious, but the switch to a sufficient renewable energy supply is absolutely necessary to constructively flank the associated challenges for the industry, especially data centres, which are already supposed to operate in a climate-neutral manner by 2027.

The new German federal government's intention to make a digital breakthrough is clear. In the coming year, it will be a question of how the 'traffic light' coalition parties will succeed in implementing a consistent and at the same time ambitious digital policy across all ministries. In eco's view, this requires an overall digital strategy that provides a clear roadmap for Germany's digital transformation. eco will remain in close contact and dialogue with decision-makers and the ministries in the political arena. To this end, eco will continue to actively

accompany the plans of the new German federal government and advocate for the interests of its member companies.



Prof. Dr. Norbert Pohlmann
Board Member for IT Security

4.2 IT Security

With its 2021 report on the State of IT Security in Germany, the German Federal Office for Information Security (BSI) assesses the cybersecurity situation in Germany as “serious to critical” and, in some areas, there is already a “red alert”.

We can all continually observe that cybersecurity problems are increasing every year, also in view of digitalisation. A fact that can be deduced is that today's IT is not designed and built securely enough to successfully counter the attacks of intelligent hackers. Especially since the growth in the complexity of IT systems and infrastructures, the attackers' methods are

becoming more sophisticated, and the targets are becoming more lucrative. Accordingly, the risks are rising very sharply, resulting in high losses. At the same time, cybercriminals are becoming more and more successful and are able to increase their performance through criminal ecosystems, which endangers our digital future. In this context, the “red alert” in the State of IT Security report of the German Federal Office for Information Security (BSI) sums up the situation. In particular, ransomware attacks are currently being implemented very successfully by groups of attackers, because they can make a lot of money through blackmail. In contrast, the attacked parties suffer a great deal of damage at various levels.

Smart City study also shows the need for cybersecurity

The eco study “The Smart City Market in Germany: 2021-2026”, which eco prepared in 2021 alongside Arthur D. Little, shows the enormous potential of the Smart City market and forecasts a considerable growth potential of over 17 per cent annually in Germany. This corresponds to an increase in revenues of over 46 billion Euro within five years. The study also shows that cybersecurity is a key driver of the German Smart City market. Cities, service providers and citizens are exchanging data across more and more IT systems and interfaces. In the process, an increasing number of IoT devices, sensors and platforms are providing

data exchange and data analysis with very different levels of security. This increases the risk of cyberattacks. Therefore, when designing smart solutions for administration and citizen services, the responsible parties in the municipalities should factor in cybersecurity from the very outset.

Internet Security Digital Days

From 16 to 17 September 2021, eco hosted the Internet Security Days (ISDs). At the two-day conference, over 150 security experts and more than 60 speakers met at the second digital ISD, which took place via the talque event tool.

4. Reports from the Board

For the second year in a row, the ISDs were held purely as an online event, rather than taking place at Phantasialand near Cologne as in previous years. The focus on current cybersecurity topics remained the same: In more than 40 online sessions, experts presented strategies for more IT security for our increasingly connected world.

The main topics were "Well equipped against cybercrime", "Smart World – Secure World", "New working worlds, but secure!" and "Securely into the future".

Anti-Abuse Competence Group

The Anti-Abuse CG, a closed working group exclusively for eco members, met for a total of four virtual meetings in 2021. The experts of the anti-abuse teams were able to network with each other virtually and discuss current developments and trends – for example, "Clearing Agent for Copyright on the Internet" (CUII). Other topics included RDAP as a possible alternative to WHOIS and the planned security label of the German Federal Office for Information

Security (BSI). Before the federal elections, the members of the Competence Group discussed their view of the threat situation and compared it with the trends identified by the BSI in 2021.

Security Competence Group

In 2021, the IT Security Advisory Board met again with the eco Board, the Competence Group leaders and management to discuss the topics to be addressed in 2022 and to define work priorities.

In 2021, the Security CG dealt with four focal topics: "Security in IoT", "Secure Software", "Quantum Computing" and "Secure Networks". In addition, together with member companies, webinars on the topics of "Cybersecurity", "Ransomware", "Fake on the Internet" and "Artificial Intelligence" were offered to interested parties. Based on the latest issues, the Competence Group also delivered comments and helped shape the Internet Policy Agenda.

For the IT Security Survey published by the Security CG in 2021, 175 IT experts were

consulted. The survey shows that there is still a high potential threat of cybercrime for the German industry. However, there are also indicators that are tentatively positive: 77 per cent of the experts, and thus fewer than in the previous year, assumed that the threat would continue to increase. According to the eco survey, around 57 per cent of the experts surveyed considered the German industry to be inadequately protected. Here, too, there was a slight decline of 9 percentage points compared to the previous year.

Congresses and trade fairs

In 2021, eco was represented on several occasions at it-sa, Europe's largest trade fair for IT security: From 12 to 14 October, visitors were able to discuss the importance of IT security in digitalisation with the Member Services team at the North-Rhine Westphalia (NRW) joint stand in Hall 7. In addition, Thomas Rickert, eco Director Names & Numbers, spoke at the forum on the topic of "DNS abuse". eco members had an allotment of free tickets at their disposal. Overall, it can be summed up that the security

industry was happy to take advantage of the first "post-Covid" exchange, even if the number of exhibitors and visitors present could not be compared with those taking part in pre-pandemic times.

Internet Policy Party Check for the 2021 Bundestag election

Prior to the Bundestag election, eco conducted an Internet Policy Party Check on the topic of digital security. The focus of this check was to learn what plans various parties had in the area of digital security and what digital policy goals were being pursued.

Over the course of this check, eco was also able to articulate its ideas about what it regarded as being of particular relevance for the follow-on legislative term in the digital security field.



Felix Höger

Board Member for Online Services/Cloud Computing

4.3 Online Services/Cloud Computing

The cloud no longer needs evangelists. Eight out of ten German companies are already in the cloud and draw on storage space, on computing power and software, right through to even complete office workstations from the data cloud. Basic IT needs can now be satisfied via commodities. So, how are things looking now?

The demands of user companies grow with their cloud maturity. Hardware is becoming less and less important, infrastructure in the cloud is automated, problems are not only solved by software, but more and more by data. At the same time, classic IT service providers are still seeking their place in the cloud market of the future.

As the Association of the Internet Industry, the focus of eco's work is on addressing the challenges of the next generation of cloud services. eco supports pioneers and established providers to prepare for the newest upheavals. With its working groups and its own industry activities, eco is playing its part in advancing the cloud market in Europe.

EuroCloud Native: Platform for cloud pioneers

Why do tablet apps mimic calculators with leather covers or paper rolls? Because customary activities are what helps things to be sold. Companies start out no differently with the cloud. At first, they move their legacy IT one-to-one to the data cloud. But as little as an iPad resembles a **Texas Instruments pocket calculator from 1972**, lift&shift does not exploit the possibilities of a cloud platform to the same degree.

Meanwhile, virtual containers, microservices and programming interfaces are replacing the way we think about hardware and software. **New cloud native application architectures are emerging** that are resilient, elastic and agile, enabling companies to react quickly to digital transformation.

The technology itself is available everywhere – in contrast to the necessary expertise. The ability to develop cloud native solutions and transform accumulated business logics has become the real bottleneck in the market. **This is especially true for SMEs.**

Instead, the sought-after experts congregate in specialist start-ups because that's where they find the necessary openness for the new platform world. But the pioneers are still too small-scale and too few to gain the attention of large projects and hyperscalers.

eco's **"EuroCloud Native" initiative** gives these key digitalisation companies **more visibility in the market** and connects them with user companies, classic IT service providers and the hyperscalers.

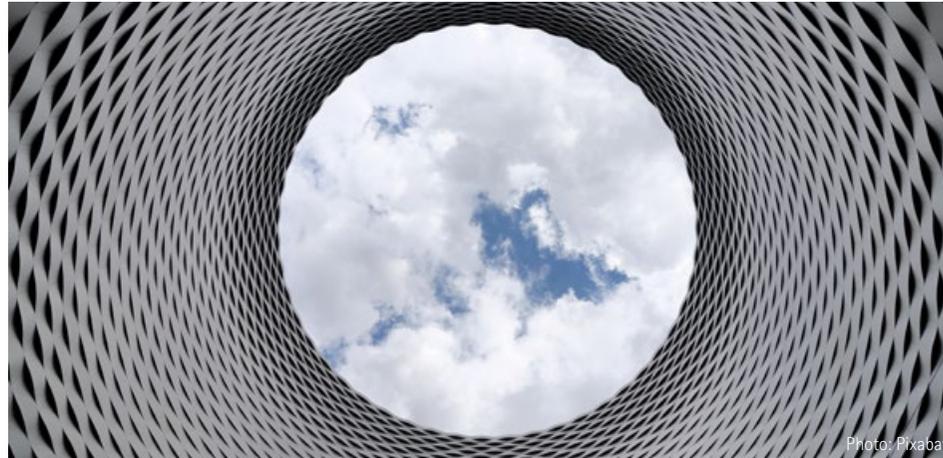


Photo: Pixabay

The success of **EuroCloud Native** has exceeded all expectations. In 2021, our initiative grew through regular member meetings and the enthusiastic participation of all participants, motivated by the commitment of the **Head of our EuroCloud Native initiative, Dr. Nils Kaufmann**.

Channel2Cloud: Forum for IT general contractors

In addition to specialists, the cloud market still lacks general contractors for the digital transformation. In the past, the channel took on this role. As trusted advisors, system integrators supported German SMEs in introducing new IT systems.

However, the virtualisation of hardware and software is making the retail and integration business an obsolete model. Business

customers no longer need someone to set up servers at their premises and to install DVDs. Managed services for all marketable cloud models are in demand.

The problem: like their clients, small and medium-sized providers are lacking the knowledge and the required experts to transform their business. Although their entire industry is facing similar problems, far too many providers are still facing this challenge alone.

For the target group of SME system integrators, the "Channel2Cloud" initiative was therefore launched under the leadership of **EuroCloud Board Member Bernd Krakau**. Channel2Cloud offers a vendor-neutral platform for exchanging experiences and for networking. Here, system integrators can cooperate on a non-competitive basis and also benefit

from **synergies with other EuroCloud initiatives**.

At the same time, our system integrator initiative is affiliated with the eco Association, which facilitates contacts with user branches of the Internet industry. Through eco, Channel2Cloud can also address the aligned interests of its members in relation to policy and regulation.

Gaia-X & GXFS: Industry-specific cloud solutions

The demands of user companies are even exceeding what hyperscalers offer. Their general-purpose clouds function like department stores: customers are supposed to buy all services from them. While this may work for individual companies, it becomes problematic when partners want to use cloud resources

collaboratively – especially in Europe's **highly integrated industrial value chains**. The prerequisite for cooperation cannot be that all partners are customers of the same cloud provider. Nor should companies relinquish sovereignty over their data.

More and more sectors are therefore looking for specially tailored cloud offerings, right up to the point of industrial clouds. The most important initiative in this field is the development of a **European ecosystem for cloud services**. Gaia-X ensures that services from different providers are interoperable, and that data is available and can be shared in a trusted environment.

From the very outset, **eco and EuroCloud have been actively engaged** in this major Europe-wide project. The focus of this work is the



Photo: Pexels, Daria Shevtsova

management of the German project office for the development of the **Gaia-X Federation Services (GXFS.EU)**, which is at the organisational heart of the new cloud ecosystem. In 2021, the crucial preliminary work has been undertaken so that the necessary software components will be tendered and programmed this year.

DE-CIX: Automated interconnectivity

The cloud does not stop at the point which made it surge: the Internet. While data packets are normally routed via the public Internet, in contrast, so-called interconnections offer more performance, real-time capability and security. They switch private direct connections between network operators, service providers and their customers, data centres, cloud platforms and, in the future, perhaps also Gaia-X participants.

The problem: Until now, such direct connections had to be ordered. Activation took days. Through DE-CIX, a solution is now also available for these requirements of the cloud industry: At the turn of the year, **DE-CIX API** was launched, the **first self-service portal** that automatically and instantly establishes, changes or closes high-performance direct connections. The API is available all year round, around the clock, and saves costs and effort with every transaction. In so doing, the DE-CIX API is already fulfilling central requirements for a European data infrastructure.

Cloud Legal Meet-up: Legally secure cloud usage

It goes without saying that not everything can be automated in the cloud. For example: legal security. Conformity with the stringent data protection rules in Europe is not a foregone

conclusion. Violations entail high business risks for providers and customers alike. In the new EuroCloud format "**Cloud Legal Meet-up**" it is possible to learn how users and providers can prevent painful errors and use cloud services in a legally compliant manner.

How does the new German Telecommunications-Telemedia Data Protection Act (TTDSG) affect the cloud? How do companies deal with inconsistencies between German and European data protection? The IT specialist attorney and EuroCloud Board Member **Dr. Jens Eckhardt** clarifies legal questions about the cloud in his webinar series every quarter, exclusively for members.

Looking back at the 2021 activities, it is clear that nobody needs to be further convinced of the benefits of the cloud. What is needed now

are no longer evangelists, but pioneers who help to shape the cloud industry. eco and EuroCloud are happy to be on the frontline here for their members and the cloud industry.



*Klaus Landefeld
Vice Chair
Board Member for Infrastructure & Networks*

4.4 Infrastructure & Networks

Dear Members,
Another pandemic year, another year of working from home, another year of “express digitalisation” for companies – and another year of “digital decision-making” for the authorities and ministries, which had already caused us a lot of problems in 2020.

In the first half of the year, the former German federal government saw it as its task to coordinate a large number of its projects between the ministries in a fast-track procedure and to have them passed by parliament – in between the special Covid-19 sessions, this was hardly noticed by the public.

Even the German Federal Council (Bundesrat) itself found the pace to be too fast and rejected some of the projects which needed its approval – a striking novelty in 25 years of regulatory experience. When does an association work with the Bundesrat on a legislative procedure? It is worth noting that the number of new regulations last year was so high that some of the new laws did not even remain consistent from the time of publication to entry into force.

As Internet and service providers, we are primarily affected by the new version of the Telecommunications Act (TKG), which has been in force since 1 December 2021. Many changes were opted for here, from the reporting requirement, to the configuration of the affected services,

through to the mandatory measures in the field of public safety.

Facets that are particularly new include a quality requirement for access services, as well as minimisation and compensation requirements, which also apply to the provider changeover or the removal of faults in connections. The industry is currently trying to reach an agreement with the German Federal Network Agency (BNetzA) on the exact form of these requirements and the formula for calculating the compensation, but ultimately this will be decided by the courts.

With regard to its scope and form, there is also a lack of clarity concerning consumers’ “right to a fast Internet”, which, coupled with the requirement of “affordability of telecommunications services”, replaces the previous “universal service”.

The German Federal Network Agency (BNetzA) is currently trying to come closer to a specification within the framework of a study – personally, however, I have my doubts that the currently discussed minimum requirements will satisfy all politicians with regard to the goal of fast and affordable Internet access. This is especially true if this specification is not even future-proofed for a legislative term and thus remains to be redefined year after year.

Customer data protection and compliance with telecommunications secrecy were removed from the Telecommunications Act (TKG) and are now

regulated in the German Telecommunications-Telemedia Data Protection Act (TTDSG) – here, too, the act did not remain consistent from June to December, with the first changes already made in August.

Overall, the requirements for the security of the Internet have been massively expanded; the provisions of Sections 166 and 181 of the new Telecommunications Act (TKG) as well as the IT Security Act 2.0 (IT-SiG 2.0) of 18 May 2021 make new security concepts necessary for all providers. A revision of the catalogue of security requirements of the German Federal Network Agency (BNetzA) is to appear as a guide at the beginning of 2022.

In the CRITIS area, industry standards for infrastructures not regulated by the Telecommunications Act (TKG), such as data centres or Internet infrastructures, were developed and published over the course of the year.

At the European level, the topic of security was also debated on throughout the year within the framework of the Network and Information Security (NIS2) Directive; here, the trilogue negotiations commenced in January 2022.

The regulations on public security were revised in 2021 in many fields; there was an adjustment of the German Inventory Data Disclosure, the Network Enforcement Act (NetzDG), the Federal Police Act (BPolG), harmonisation in the field of the German domestic intelligence services, and

adjustments to the Telecommunications Interception Ordinance (TKÜV) and the Technical Guideline for implementing legal measures for telecommunications surveillance and information disclosure (TR-TKÜV).

In some cases, the new regulations deeply interfere with the autonomy of the Internet operators, who are supposed to permit the installation of devices in their online networks. The ideas of the security authorities are in some instances completely incompatible with practical Internet operation, and no regulations are currently foreseeable for certain access technologies.

Unfortunately, this seems to be the “new normal” because, despite the foreseeable difficulties and the incompatibility with current law, data retention was also adhered to in the Telecommunications Act (TKG). This remains on hold in Germany; a law was passed which imposes requirements on the providers, which have been suspended and submitted to the ECJ by the German Federal Administrative Court (BVerwG). The opinion in these proceedings from November 2021 and the applications of the Advocate General offer hope that this messy situation will soon be put to an end – but the legislator’s procedure looks questionable.

Nonetheless, the new coalition wants to put all of these new surveillance laws up for review in accordance with its coalition agreement and to also table the surveillance overview bill, an action that eco has been vehemently calling on



for many years. From my perspective, I have doubts that there will actually be any changes in the controversial areas such as vulnerability management, the use of Trojans, a right to encryption or even “hackbacks” on the part of the state – it remains to be seen how Ms. Faeser as Federal Minister of the Interior will position herself here and implement the coalition agreement.

One thing is already clear today: we will not be able to determine the regulations on our own at the national level; rather, the topics of encryption, exceptional access, ghost protocol and vulnerability management will increasingly be positioned at the European level and lead to corresponding European regulations.

Throughout the year, we worked on the progress of E-Evidence, which has been in the trilogue since March 2021, as well as the consequences

of the 2nd Additional Protocol to the Cybercrime Convention adopted on 17 November 2021, both of which mandate direct access to customer data by foreign law enforcement agencies. There have been some concrete improvements in the state of negotiations, especially regarding the electronic transmission and signature of the orders. However, some of the fundamental problems or the expected volume of requests remain unresolved. During the transitional period, help should be availed of, such as the “UNODC Service Provider Handbook”, to which eco also contributed.

In the field of digital infrastructures, the German federal government’s efforts to establish a nationwide 5G infrastructure culminated in the foundation of the Mobile Communication Infrastructure Company (MIG), which began its work in 2021 and aims to close the supply gaps in cooperation with the network operators.

Over the course of the 2021 Gigabit Forum of the German Federal Network Agency (BNetzA), discussions took place on the wholesale products of fibre and OpenAccess, as well as on the framework conditions for the upcoming switch-off of copper networks and migration scenarios. In the course of the coalition negotiations in 2021, we provided assistance not only with regard to the regulations on broadband roll-out and public safety, but also the energy efficiency of infrastructures such as data centres.

In the second half of the year in particular, activities that were more than ever in tune with the spirit of the times and which experienced a strong growth in interest, not only from the existing membership, included the following: the actions of our “New Work” Competence Group, which was able to seamlessly take up the issue of post-pandemic working conditions; the right to work from home, and the balance between on-site and remote working; and the “Ladies in Tech” initiative, with its aim of bringing more women into the Internet industry.

As you can see, the year 2021 was quite turbulent and involved manifold topics. Details on the individual topics can be found in the reports of the Competence Groups and the Policy, Law & Regulations division.

Stay healthy!
Yours

Klaus Landefeld



*Prof. Michael Rotert
Honorary President*

4.5 2021 – Yet Another Year with Covid-19 Restrictions

Up until mid-year, there were nearly only virtual events in the spectrum that I cover. These included not only events organised by e-Sports, the Council of Europe, or on the new State Treaty on Gambling (GlüStV), where I am involved in a project together with Prof. Rürup from the Handelsblatt Research Institute, but also events run by EuroISPA and the Council of Europe/CDMSI, as well as cybercrime events and, of course, events held by the German Internet Governance Forum, where I represent eco on the Board.

The first event I attended was the presentation of the eco study together with Handelsblatt. The topic was on the new German State Treaty on

Gambling (GlüStV), which exhibits a range of weaknesses when it comes to data protection and gambling via the Internet.

In June, there was also a virtual conference of ministers in the Council of Europe, which focused on artificial intelligence in connection with human rights.

The takeover of the EU Presidency by Portugal was also a purely virtual event and AI was once again a focus topic.

EuroDIG 2021 took place under the motto of "Into Europe's Digital Decade". The topics included "standardisation and legislation", data protection in connection with artificial intelligence, digital service regulation and much more.

In August, once again, there were two on-site events in Berlin: one of which focused on "Wahl Digital" (Digital Election), given the pending elections for the 20th Bundestag, while a second successful event celebrated the 25-year anniversary of the eco Complaints Office.

At the Council of Europe in Strasbourg, all meetings in 2021 were virtual events only.

The Internet Governance Forum Germany held its annual event in September. The opening lecture with the topic "The Status of the Internet in Germany – Publication of the Results of UNESCO's Internet Universality Indicators" was delivered by the German Federal Ministry of Economic Affairs and Energy (BMWi).

On the occasion of the 20-year celebration of the deutsche Medienakademie, an on-site event could still take place, over the course of which lectures from the business world provided an interesting framework.

In November, I took part in the Internet Award ceremony in London on behalf of eco.

A parliamentary evening on the new State Treaty on Gambling (GlüStV) took place in Magdeburg in November, covering the topics of both our study with the Handelsblatt Research Institute and Internet licences.

In Poland, the IGF of the United Nations addressed programme items such as "Regulation and the open, interoperable and interconnected Internet – challenges and approaches" and offered substantial information and, consequently, also a generous amount of screen time.

Unfortunately, the eco Christmas party in 2021 also fell victim to Covid-19 and was therefore cancelled, so that all hopes now rest on a better year in 2022.



*Henning Lesch, Attorney-at-Law
Head of the Capital Office
Head of Policy, Law & Regulations Division*

5. Political Representation

The Policy, Law & Regulations division coordinates all eco Association activities which concern the legal and regulatory framework for Internet and network policy. With its Capital Office in Berlin and its office in Brussels, eco delivers on-location representation of the political interests of its members and keeps them up-to-date on current developments and legislative initiatives. The division brings together eco's expertise on the range of relevant topics and ensures a clear political positioning of the association vis-à-vis political stakeholders. The member companies' interests are brought directly into the political debate through position papers on legislative procedures, hearings and industry

positions on the important Internet policy topics and are incorporated into accompanying event formats and political press and public relations work.

In the field of German federal politics, the year 2021 was strongly shaped by preparations for the approaching federal election, which took place on 26 September 2021. This election marked the culmination of Angela Merkel's 16-year chancellorship and thus the end of a political era. At the same time, when it came to policies such as the IT Security Act 2.0 (IT-SiG 2.0), projects of the former German federal government were still completed in the first half of 2021. eco actively contributed to the debate on the IT Security Act. The association also delivered comments on the German federal

government's Cyber Security Strategy, which was published in summer 2021.

Within the Bundestag election campaign, digitalisation topics played a major role in the parties' election programmes as well as in the public debate, with its heightened importance also influenced by the Covid-19 pandemic. In this context, an increased societal perception of the relevance of digital topics could be observed.

During the election campaign, political actors stressed the need to modernise Germany – also from a digital perspective. eco was actively involved in the debate on how German digital policy should be shaped in the following legislative term. For this purpose, eco and its member companies compiled an Internet Policy Agenda for the 2021 federal election. In this

agenda, eco outlined the most important topics and fields of action for the coming legislative term alongside the Internet industry's core demands for Internet policies. The recommendations for action and focal points of the agenda included, for example, the demand for faster network roll-out, sustainability, civil rights in the digital sphere, and strengthening IT security in Germany.

The Bundestag election finally drew to a close with a change of government. For the first time in the history of the Federal Republic of Germany, a German federal government was formed consisting of the SPD, The Greens and the FDP. The joint coalition agreement, entitled "Dare to make more progress", offers eco many intervention points and has taken on board many demands from the Internet Policy Agenda. The topic of digitalisation, along with combatting

climate change, plays a central role in the agreement. As a cross-cutting issue, digitalisation is a common denominator throughout the coalition agreement. eco will avail of the many intervention points to actively accompany the implementation of the coalition agreement and to get involved in the concrete design of the individual projects of the German federal government.

In addition, the Policy & Law division conducted a detailed analysis and rating of the coalition agreement. This analysis and rating was made available to the members.

In 2021, there were also many intervention points for eco at the European level. The European Commission continued to drive forward the fruition of a Digital Single Market. The Digital Markets Act (DMA) and the Digital

Services Act (DSA), which had been presented by the Commission in 2020, were subsequently tabled in the European Parliament and forwarded to the responsible committees. eco actively accompanied both European legislative processes. Among other activities, eco published position papers on both the planned DMA and the planned DSA in 2021 and submitted these as part of the political consultations at the European level.

In addition to the Digital Single Market, the focus at EU level was also on IT security. Here, the Commission delivered its draft of the Network and Information Security (NIS2) Directive. eco participated in the debate on the law by issuing a position paper and continues to monitor the developments both at the European level and with respect to the subsequent transposition in the Member States.

At the international level, a global minimum tax on digital companies was initiated by the G7 and G20. The European Commission has already reacted to these decisions and published a proposal on how such a minimum tax could be implemented in the EU. eco will present its position on this development and continue to actively accompany the process.

The current position papers, statements, background papers and PR activities are available on the eco website of the division at international.eco.de/topics/policy-law. The following topics were a particular focus of the division's work in 2021.



*Henning Lesch, Attorney-at-Law
Head of the Capital Office
Head of Policy, Law & Regulations Division*

*Thomas Bihlmayer
Policy Adviser
Brussels Office*

*Philipp Ehmann
Legal Consultant for Internet Law &
Telemedia Regulation*

5.1 Legislative Processes & Focus Topics

Federal election and the Internet Policy Agenda

The federal election was scheduled for 2021. This election also marked the end of Angela Merkel's 16-year chancellorship. eco availed of this fundamental change in the political landscape as an opportunity to work with its member companies in setting out its political positions and demands in an Internet Policy Agenda. This agenda is intended to serve as the baseline for eco's political work in the coming years. In addition, eco evaluated the election programmes of those German Bundestag representative parties who had a stake in government participation. eco intensively accompanied the coalition negotiations of the SPD, The Greens and the FDP and highlighted the

importance of the central, digital policy challenges for the coming legislative term.

German Telecommunications Act amendment/EEEC

At the beginning of 2021, the German federal government's draft for the transposition of the European regulatory framework for telecommunications (European Electronic Communications Code) was presented to the Bundestag. In the field of market regulation, the principle of regulating market power was retained. New features involve the introduction of co-investment and cooperation models for the roll-out of high-performance networks. In the field of customer protection, numerous new regulations were initiated. In addition, an entitlement to

the provision of telecommunications services was introduced as a successor regulation to the universal service. In the area of security requirements for telecommunications companies, a number of points became considerably stricter. Telecommunications surveillance was also expanded. On 1 December 2021, the new version of the Telecommunications Act (TKG) came into force. eco actively accompanied the TKG amendment and took a regular stand on this topic. In the coming year, eco will continue to accompany the further transposition and shaping of the TKG on behalf of its members.

IT security

In the 2021 year under review, two factors that played a central role regarding the topic of IT

security were the Network and Information Security (NIS2) Directive of the European Union presented at the end of 2020, and the German IT Security Act 2.0 (IT-SiG 2.0) introduced by the cabinet for consultation in December 2020. eco had commented extensively on the NIS2 Directive and accompanied the consultations in Parliament and the Council with a further key points paper and a discussion event, as well as an online policy briefing. eco also continued to contribute to the debate on the IT-SiG 2.0. In the area of IT security, the German Cyber Security Strategy presented in the summer of 2021 also represented an important field of work for eco. eco not only contributed to the consultations and workshops of the German Federal Ministry of the Interior (BMI) as part of the preparatory development on the strategy, but also delivered comments on this strategy, which was published at relatively short notice.



Laura Gather
Legal Consultant, Policy, Law & Regulations Team

Nicolas Goss
Legal Consultant for Telecommunications Law & Regulations

Jamal Lammert
Legal Consultant, Policy, Law & Regulations Team

Johanna Tantzen
Legal Consultant for Policy & Law

eco will continue to follow the developments and, in particular, the negotiations on the NIS2 Directive; the commencement of the trilogue negotiations at the European level brought this into focus once again at the end of 2021.

Digital Services Act

In December 2020, the Digital Services Act (DSA) was presented as the successor to the E-Commerce Directive (ECRL). eco submitted a position paper to the Commission in March. In dialogue with Members of the European Parliament and representatives of the various Member States, eco highlighted critical points and actively accompanied the discussions in the parliamentary committees and in the Council. In a focus paper at the beginning of September, eco took up the current developments in the legislative process and availed of the opportunity to position itself and to make the key

points clear to the institutions. The negotiations in the Council were finalised in November. Negotiations in the Parliamentary Committee were concluded in December and the plenary vote should still take place in January 2022. Following this, the trilogue talks between the bodies involved in the EU legislative process should commence.

Digital Markets Act

On the basis of the Digital Markets Act (DMA), central platform services – so-called gatekeepers – are to be identified and ex-ante obligations (rules and prohibitions) are to be attached to their business activities in order to ensure fair and contestable markets in the digital sector. In May 2021, as part of the further debate, eco submitted a position on the DMA to the EU Commission. After the European Parliament's Single Market Committee (IMCO) had been

appointed as the lead committee for deliberation on the DMA, the act could be actively accompanied by the responsible rapporteurs of the committee and the committee's discussions. After a short delay, the IMCO adopted its report on the DMA in November and brought it to the European Parliament for debate the following month. The Parliament approved the IMCO Committee's report with a clear majority, so that the trilogue on the DMA could start in January 2022.

Combatting right-wing extremism and hate crime on the basis of the German Network Enforcement Act

In autumn 2020, the German Federal President withheld the enactment of the Act on Combatting Right-Wing Extremism and Hate Crime – an extension of the German Network Enforcement Act (NetzDG) – with reference to

the latest case law of the German Federal Constitutional Court (BVerfG) on inventory data disclosure. Subsequently, in the first quarter of 2021, the German Bundestag, drafted, or rather adopted, regulatory specifications. The reporting obligation created by the act for the release of illegal content from the complaints procedure – including the IP address, port number and user name of the publisher – was to come into force on 1 February 2022. In the summer of 2021, in order to have the effectiveness of the reporting obligation and associated obligations reviewed, several social network operators applied at the Cologne Administrative Court for negative declaratory action against the Federal Republic of Germany. As the responsible enforcement authority, the German Federal Office of Justice (BfJ) suspended the implementation of the reporting obligation until the pending proceedings had been clarified.

In March 2020, the German federal government submitted the draft acts to amend the German Network Enforcement Act (NetzDG) and to introduce a research clause in the NetzDG to the EU Commission for notification. eco participated in both draft acts as part of the notification procedure and, with the delivery of its comments, addressed European law aspects of the regulation of social networks. The act for amending the NetzDG and the introduction of a research clause were passed in a second and third reading by the German Bundestag on 6 May 2020. Numerous adaptations of the amending act entered into force on 28 June 2021.

Based on previous experience and the newly created obligations in the German Network Enforcement Act (NetzDG), the German Federal Ministry of Justice and Consumer Protection (BMJV) delivered a draft of adapted guidelines on fines for the NetzDG for discussion in October. eco submitted comments to the BMJV, including references to European law provisions and possible risks of overblocking. Due to the change of government, the new guidelines on fines could not enter into force by the end of the year.

In the coalition agreement of December 2021, the SPD, Alliance 90/The Greens and the FDP referred to the general importance of common European standards and announced a fundamental revision of the German Network Enforcement Act (NetzDG). The continued

status or future standardisation objective of the NetzDG has not yet been conclusively clarified.

Data protection/ePrivacy/ Data policy

In the field of data protection, eco delivered comments on the German Telecommunications and Telemedia Data Protection Act (TTDPA). The act has since been adopted, with Germany thus implementing the ePrivacy Directive from 2009. There was little development, however, in moving forward with the European ePrivacy Regulation. While the Council was able to agree on a common position at the beginning of February, the trilogue negotiations were still ongoing. In the field of data policy, eco addressed the European Data Governance Act, which was presented at the end of 2020, and delivered detailed comments on this act.

Inventory data disclosure

According to a ruling by the German Federal Constitutional Court (BVerfG), the regulations on inventory data disclosure in the Telecommunications Act (TKG) and the provisions of the Act on Combatting Right-Wing Extremism and Hate Crime – which has been endorsed but not yet entered into force – were not constitutional. Due to this ruling, the latter act has not been passed by the German Federal President. The law on the adaptation of inventory data disclosure did not initially gain approval in the German Federal Council (Bundesrat) and a Mediation Committee was appointed. This procedure also took into account eco's call for



legal interests to be specifically named and for a more strict definition of the related requirements for danger thresholds. In March 2021, the Bundesrat approved the mediation proposal for the law to adapt the regulations on inventory data disclosure.

Data retention

In May 2021, as part of the amendment of the Telecommunications Act (TKG) – and in spite of several court cases and constant opposing case law of the European Court of Justice (ECJ) – the German legislator once again decided not to change the regulations on data retention. On 13 September 2021, one of the cases that the ECJ ruled on was the SpaceNet AG vs. BRD (Germany) case on data retention. In its campaign against the German data retention

regulations, eco has supported its member company from the outset. eco and SpaceNet are of the firm conviction that blanket data retention without cause violates the requirement under EU law that the retention of traffic data is only permissible in exceptional cases. On 18 November 2021, the Advocate General at the ECJ affirmed this opinion. A ruling is expected from February 2022. In general, the ECJ complies with the Advocate General. This can also be expected in the case that is pending before the ECJ. Irrespective of this, the German coalition of the SPD, The Greens and the FDP announced that, instead of the regulations on data retention, they want to legally create targeted retention by judicial order.



Photo: Pixabay

German BND Act

The regulations of the German BND Act – that is, the act of the Federal Intelligence Service (BND) – had to be amended following a ruling by the German Federal Constitutional Court (BVerfG). Among other deficiencies, the protection of foreigners and journalists was ruled to be insufficient, as was the control of the foreign intelligence service. In the draft BND Act, some of the court's requirements were implemented, but they were not all taken on board. In addition, the BND was granted the power to penetrate the IT systems of foreign companies. These deficiencies were not rectified in the legislative process. In July 2021, the greatest part of the act entered into force.

Amendment to the German Act for the Protection of the Constitution

In 2020, the German federal government had already initiated a reform of the Act for the Protection of the Constitution. In particular, it was intended to grant all German intelligence services the authority to conduct temporary and restricted online state searches. eco sharply criticised this on several occasions and managed to bring about better control and stronger protection of encryption in the legislative process. The greater part of the act came into force in July 2021. A supplementary regulation on details of the introduction of Trojans did not receive the approval required by the German Federal Council (Bundesrat). eco also issued comments on this regulation several times.

Terrorist content online

At the end of 2020, the negotiators of the European Parliament and the Council of the European Union agreed on a common text for the Regulation on preventing the dissemination of terrorist content online. At the start of 2021, the result of the negotiations was endorsed by both the Council and the Parliament and published in the Official Journal on 29 April 2021. The rules are to be applied from 7 June 2022. From then on, content reported by authorities must be removed within one hour. Service providers will have to publish transparency reports on the measures taken.

Aspects of sustainable digitalisation

After the German Council Presidency drew to a close, in January 2021 conclusions of the European Environment Council were published under the title of "Digitalisation and Sustainability". The EU Commission was called upon to develop various factors, including common and transparent methods for the ecological assessment of information and communication technologies in cooperation with industry and scientists.

In July, the German Federal Ministry for Economic Affairs and Energy (BMWi) published the draft General Administrative Regulations on the Procurement of Climate-Friendly Services (AVV Klima). The administrative regulations are intended to take environmental and climate protection issues into account in future federal procurement activities. In a commentary, one

of the factors that eco pointed out was that the Blue Angel should not be applied as a general criterion for determining the efficiency of services. Rather, standards developed by the industry – for example, within the framework of voluntary commitments – should also be recognised as equivalent seals in procurement. The AVV Klima was adopted by the Federal Cabinet on 15 September and came into force on 1 January 2022.

With the EU's Ecodesign Directive and the associated product-specific regulations, efficiency requirements for servers and data storage products were agreed upon for the first time in 2019. The update of the regulations on the Ecodesign Directive which had been announced for the fourth quarter of 2021 was postponed by the EU Commission in autumn 2021 due to the increasing complexity of the existing ecodesign requirements. The work programme for the Ecodesign Directive is to be presented in the first quarter of 2022.

Over the course of the coalition agreement, the SPD, Alliance 90/The Greens and the FDP agreed to harness the sustainability potential of digitalisation. To this end, new data centres in the private sector are to be operated in a climate-neutral manner from 2027. In addition, options for waste heat utilisation are to be created. eco will continue to engage in the discussions on climate-neutral data centre operation in the coming year.



in order to draw attention to the Internet industry's position.

Artificial intelligence

With regard to artificial intelligence, the primary focus was on the AI Regulation of the European Commission, which was published in summer 2021. With a detailed position paper and commentary on the regulation as well as a roundtable discussion in autumn, eco monitored the Commission's draft and will also actively accompany the further debate in the European Parliament.

Copyright

The European Union adopted the Copyright Directive (Digital Single Market Directive – DSMD) on 6 June 2019. The Member States had two years for its transposition. On 7 June 2021, Germany transposed the regulations via the Act on the Adaptation of Copyright Law to the Requirements of the Digital Single Market. Concurrently, the EU Commission published the overdue guidelines on Article 17 of the DSMD and shortly afterwards initiated infringement proceedings against 23 Member States for an incomplete transposition of the directive. Meanwhile, in Poland's ECJ case against Article 17 of the DSMD, the Advocate General's opinion was presented on 17 June. A ruling on the case did not occur before the year-end.

Platform regulation

Work on the regulation of digital platforms continued to progress at national level in 2021.

In January, the German Federal Ministry of Justice and Consumer Protection (BMJV) published a draft bill on the regulation of the sales of goods with digital elements and other aspects of the sales contract, and invited comments on this bill. eco contributed to the consultations at the BMJV with a brief commentary. The bill was passed in its 2nd and 3rd reading by the German Bundestag in June.

Regulation of competition

The 10th amendment to the German Act against Restraints of Competition (GWB) came into force on 19 January 2021. As a result, over the course of the year, the German Federal Cartel Office (BKartA) opened proceedings under Section 19a GWB against Google, Amazon, Facebook and Apple in order to review the companies' major cross-market significance and, based on this, to issue measures against a possible abuse of power. At the end of the year, the BKartA stated that it would announce the results of the proceedings initiated under Section 19a of the GWB in the first quarter of the new year.

Digital tax

Negotiations on the digital tax continued in the first half of 2021 at the level of the Organisation for Economic Cooperation and Development (OECD). Following on from the G7 and G20 finance ministers' meeting in summer 2021, it already emerged that an agreement on the digital tax had been reached. Since then, the digital tax has been operating under the

Energy and climate policy

Following the consultations in the previous year, the EU Commission delivered the "Fit for 55" package in summer 2021 to bolster the ecological transformation and achieve the European climate targets for 2030. The package consists of twelve proposals: eight drafts aim to strengthen existing framework conditions, such as the Renewable Energy Directive or the Energy Efficiency Directive, while a further four set out to initiate new measures. In its comments, eco pointed out the importance and necessity of expanding renewable energies in order to secure the agreed climate-neutral data centre operation by 2030. On a similar note, eco emphasised that the development of ecological standards for data centres at the level of the EU Member States would not be

expedient and that European community standards are what are required at the very least. In addition, an exchange took place with the rapporteur on the Energy Efficiency Directive in the lead Committee on Industry, Research and Energy (ITRE) of the European Parliament. The reports of the ITRE on both the Renewable Energy and Energy Efficiency directives are to be adopted in the summer of 2022. eco will continue to accompany this topic.

With the coalition agreement, the new German federal government has resolved to accelerate the expansion of renewable energies and to abolish the Renewable Energies Act (EEG) on 1 January 2023. In the coming year, eco will continue to engage in the associated processes

5. Political Representation

working title of "global minimum tax". On 8 October, the OECD confirmed the agreement on the global minimum tax and introduced the key points of the planned regulations. The global minimum tax comprises two pillars: the first pillar regulates the distribution of taxing rights or tax revenues and the second pillar stipulates that a minimum tax of 15 per cent will be levied. In order to reach agreement at the OECD level, the European Commission initially engaged in its own work on the introduction of a European digital tax rate. In December 2021, the European Commission delivered a draft directive on the transposition of the global minimum tax and requested feedback. eco will continue to accompany the transposition process at the European level and contribute to the shaping of the global minimum tax.

Update of the European Industrial Strategy

Due to the Covid-19 pandemic and its economic consequences, the EU Commission announced a revision of the European Industrial Strategy in the third quarter of 2020. The revision, presented in May 2021, reaffirms the selected path of ecological and digital transformation of the European economy. The revised strategy paper identified strategic dependencies in the European economy which arose from the pandemic and went on to analyse these dependencies and to define remedial actions. The analysis of strategic dependencies in the digital ecosystem concluded that there are identifiable dependencies in Europe in the

areas of semiconductor production/development, cloud and cutting-edge technologies. In order to reduce the dependencies, industrial partnerships and collaborations or cross-border project projects ought to be strengthened in the future. The publication of an EU Chip Act has been announced for the first quarter of 2022, on the basis of which European semiconductor production is intended to be strengthened.



5.2 EuroISPA

eco is a founding member of the European umbrella organisation of Internet service providers, EuroISPA, an organisation which has its headquarters in Brussels and which has been actively representing the interests of its members at the European level since 1997.

The members meet regularly in seven committee groups, as well as at quarterly general meetings, in order to both exchange information and views on national and European developments and to develop position papers and statements. After the meetings became virtual due to the pandemic, the last general assembly could at least take place in hybrid form in Brussels. One of EuroISPA's board

members, Thomas Bihlmayer, is from the eco Association. In the year under review, EuroISPA focused primarily on the topics of cybersecurity, e-evidence and ePrivacy. One of the predominant topics, however, was a project on the Digital Services Act which was presented at the end of 2020, the importance of which was acknowledged through a series of six discussion events with representatives from the industry and politics.



*Alexandra Koch-Skiba
Attorney-at-Law
Head of Complaints Office*

*Kira Peek
Attorney-at-Law (Legal Counsel)
Consultant Complaints Office*

*Sebastian Fitting
Attorney-at-Law (Legal Counsel)
Consultant Complaints Office*

*Peter-Paul Urlaub
Attorney-at-Law (Legal Counsel)
Consultant Complaints Office*

*Christian Kubiak
Attorney-at-Law (Legal Counsel)
Consultant Complaints Office*

5.3 eco Complaints Office: Combatting Illegal Internet Content and Youth Media Protection

2021 was a milestone year where we proudly marked 25 years dedicated to combatting illegal content on the Internet. Since 1996, the eco Complaints Office has been fighting successfully against illegal content on the Internet and is committed to ensuring that illegal content is taken down and criminal offences are reported to the authorities. In fulfilling this commitment, cooperation with the various actors and neutral and transparent processes are of equal importance.

The work is based on voluntary cooperation with society as a whole, and its fundament is that of the self-regulation of providers and the engagement of Internet users. From the outset, eco has cooperated with law enforcement agencies in the fight against child sexual abuse material and other illegal Internet content. In addition, the eco Complaints Office is the contact partner for eco members, for the state, society and politics.

Internet users can report suspected illegal Internet content to the eco Complaints Office, free of charge and anonymously, for example, under complaints-office.eco.de. The Complaints Office's lawyers then assess whether the

reported content violates German law and take appropriate measures if necessary.

The eco Complaints Office can also be reached via the portal www.internet-beschwerdestelle.de/en, which it operates together with the German Association for Voluntary Self-Regulation of Digital Media service providers (FSM), as well as via the German information platform for young people jugend.support.

We celebrated the anniversary year with the campaign "Together for the Good of the Internet", the centrepiece of which was the [eco Trust & Safety Summit](#) under the patronage of

Dorothee Bär, who, at that time, was the German Minister of State for Digitalisation in the Federal Chancellery.

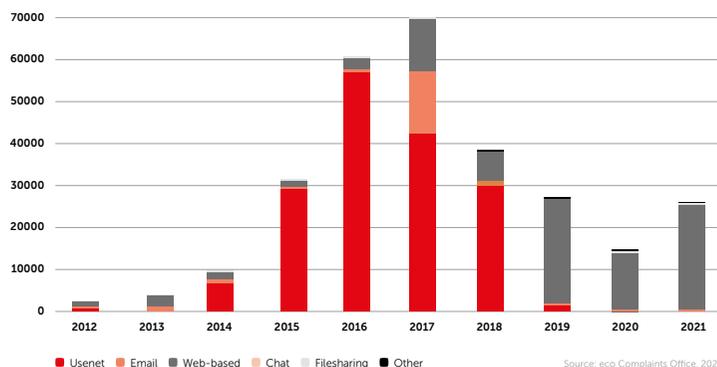
Statistics

In 2021, a total of 25,775 complaints were reported on potentially criminal content or violations of the youth media protection provisions. Around one-third of these reports were "actionable" complaints.

With 8,613 cases in 2021, the eco Complaints Office recorded a new peak in actionable complaints. This was an increase of 50.6 per cent compared to the previous year.

5. Political Representation

Growth in Numbers of Complaints in the Field of Youth Media Protection



The actionable complaints were forwarded – depending on the type of violation and server location – to law enforcement agencies, content providers, host or platform providers and/or members of the INHOPE network.

In terms of content, the majority of complaints concerned depictions of the sexual abuse and sexual exploitation of minors, defined as Child Pornography in Section 184b of the German Criminal Code. The proportion of anti-constitutional content was strikingly low, comprising 0.39 per cent of all actionable complaints.

The take-down times for depictions of sexual abuse of children remained consistently short in Germany and could once again be further lowered in foreign cases.

A total of 97.15 per cent of the illegal Internet content reported upon by the eco Complaints Office – such as depictions of sexual abuse,

incitement of the masses, and depictions of violence – were removed worldwide. This demonstrates once again that self-regulation works – also internationally.

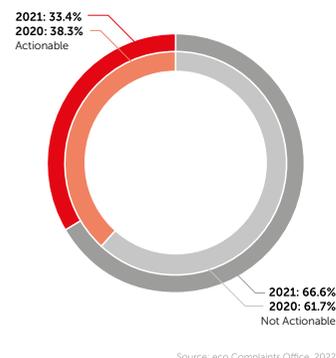
Network and committee work/political engagement in 2021: an excerpt

INHOPE (International Association of Internet Hotlines, www.inhope.org)

INHOPE is the international umbrella organisation of Internet hotlines that handle complaints concerning depictions of the sexual abuse of minors. Founded in 1999, among others by eco, it has grown to encompass 50 hotlines in 46 countries.

In terms of content, the network placed a focus on the exchange of information on working approaches, technical developments to support complaint handling, and staff welfare in 2021. In addition, the transposition of the new European

Proportion of Actionable Complaints 2021 Compared to 2020 (Excluding Spam)



“CSAM Strategy” was an important topic in the network’s activities. To this end, the eco Complaints Office was actively engaged in the INHOPE Policy Task Group, among others.

Since June 2018, Peter-Paul Urlaub, eco Complaints Office Consultant, has been a member of the INHOPE Board and has held the role of Treasurer since July 2020.

Safer Internet Centre Deutschland (saferinternet.de)

As (co-)operator of the portal www.internet-beschwerdestelle.de/en, the eco Complaints Office has been part of the German Safer Internet Centre (www.saferinternet.de) since 2008. Alongside eco, other members of the Safer Internet Centre are the FSM, jugendschutz.net, “Nummer gegen Kummer”, and klicksafe.de (operated by the Rhineland-Palatinate State Media Commission and the North Rhine-Westphalia Media Authority).

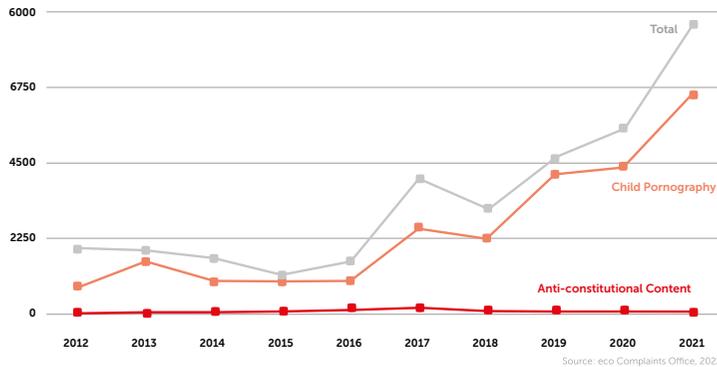
Within the framework of this cooperation, on the occasion of the international conference “Keeping Children and Young People Safe Online”, the Complaints Office organised a workshop on “My Picture on the wrong screen – Shared online, felt offline” together with the FSM and “Nummer gegen Kummer”. In addition, the eco, FSM and jugendschutz.net hotlines held a joint webinar on the occasion of the European Day on the Protection of Children against Sexual Exploitation and Sexual Abuse on 18 November and provided information on possible courses of action in cases of sexualised violence on the Internet.

The German Safer Internet Centre was again co-funded by the European Union as part of the Connecting Europe Facility (CEF).

Cooperation on youth media protection with other relevant actors

On 1 May 2021, the revised Protection of Young Persons Act (JuSchG) came into force in Germany. As a result, the authority previously known as the German Federal Review Board for Media Harmful to Minors (BPjM) and responsible for indexing was given a new name (Federal Agency for the Protection of Children and Young People in the Media, BzKJ) and additional areas of responsibility (entailing the enhancement of the further development of children and youth media protection and reviews of the compliance with the provider obligations newly stipulated in the law). This provided additional intervention points for the exchange between the eco Complaints Office and the BzKJ.

Growth in Number of Actionable Complaints



The amended German Protection of Young Persons Act (JuSchG) was also an intervention point for further exchanges between the eco Complaints Office and the Commission for the Protection of Minors in the Media (KJM). In addition, at the invitation of the KJM, the eco Complaints Office took part in a workshop discussion on the current developments in the area of technical youth media protection. Technical youth media protection is a core element of the federal states' deliberations on the amendment of the Interstate Treaty on the Protection of Minors in the Media (JMStV).

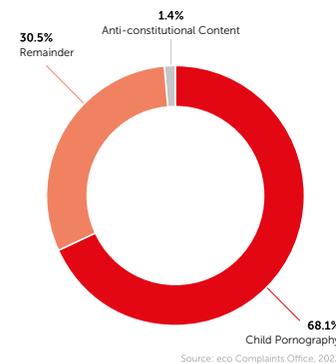
In 2021, the eco Complaints Office maintained a trusting exchange with the Entertainment Software Self-Regulation Body (USK) – both in its general scope, but also with regard to questions in individual cases. Since 2019, Sebastian Fitting, Consultant at the eco Complaints Office, has also been active in assessment committees as a youth protection expert for [USK.online](#).

"Trusted flagging/reporting" is an essential element of the eco Complaints Office's effective work. The special reporting channels for trustworthy reporters enable direct interaction between hotlines and providers, which simultaneously has a positive effect on reaction times. Once again in 2021, cooperation in this area was further expanded and intensified. Five additional online providers have made special reporting channels available to the eco Complaints Office. In addition, the eco Complaints Office was appointed to Twitter's Trust and Safety Council for the area of "Child Sexual Exploitation" in the year under review.

Law enforcement agencies

The eco Complaints Office works within the framework of complaint processing to ensure that illegal content is taken down and that criminal offences are reported. The Complaints Office also cooperates with law enforcement agencies at both the federal and state levels in

Received Complaints 2021 (Excluding Spam)

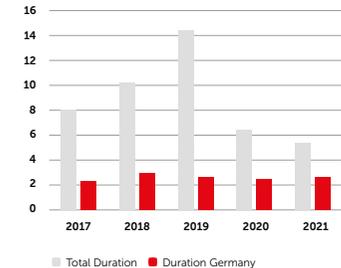


undertaking work over and above complaint processing.

In the fight against depictions of the sexual abuse of children, close and effective cooperation with the German Federal Criminal Police Office (BKA) takes place, with this also reflected in the German federal government's report on the success of deleting Child Pornographic web content. The most recent report, published in July 2021, once again showed that the principle of "take-down instead of blocking" and the cooperation of the hotlines, the BKA, and the Federal Review Board for Media Harmful to Minors (BPjM) (since mid-2021: the Federal Agency for the Protection of Children and Young People in the Media – BzKJ) present very effective means for combatting illegal Internet content.

In the area of state protection offences, the eco Complaints Office cooperates with police

Average Duration until Take-Down in 5-Year Annual Comparison (Child Pornography)



authorities and public prosecutor offices at both the federal and state levels. Since 2019, eco has also been a member of the North Rhine-Westphalian initiative "Prosecute, don't just delete" and thereby actively supports the rigorous criminal prosecution of hate speech on the Internet.

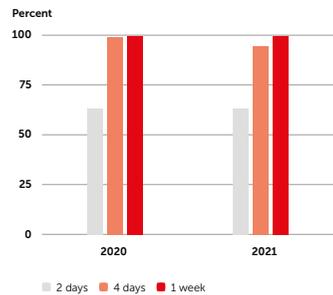
In addition, the collaborative work between the Complaints Office and the police at state level is part of a cooperation agreement between eco, Networker NRW and the North Rhine-Westphalia Criminal Police Office (LKA NRW).

Amendment to protection of minors in the media

While the amendment of the German Interstate Treaty on the Protection of Minors in the Media (JMStV) was instigated by a discussion draft in spring 2020, no official legislative processes were launched in the year under review. Nevertheless, the federal states have further developed their plans to extend technical youth

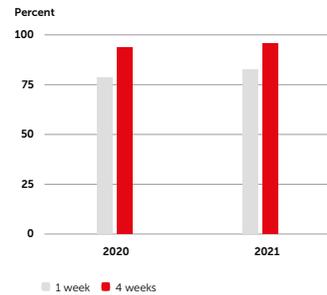
5. Political Representation

Take-Down Rates Child Pornography (German Cases)



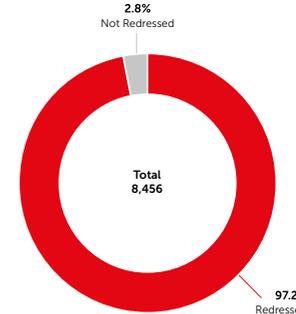
Source: eco Complaints Office, 2022

Take-Down Rates Child Pornography (All Cases)



Source: eco Complaints Office, 2022

Total Success Rate for Web-based Content 2021



Source: eco Complaints Office, 2022



media protection. The eco Complaints Office pressed ahead with the bilateral exchange of views with representatives of the federal states and also looked into the updated ideas of the federal states presented as part of the workshop of the Commission for the Protection of Minors in the Media (KJM) in September 2021.

Annual Report of the eco Complaints Office

Transparency is essential for the work of a hotline. This being the case, in March 2021, eco launched the fifth independent Annual Report of the eco Complaints Office in political event formats. A keynote speaker was Prof. Christian Kastrop, the then State Secretary in the German Federal Ministry of Justice and Consumer Protection (BMJV).

Youth Media Protection Expert Lunch & eco Youth Protection Officer Service

The portfolio of the eco Complaints Office is rounded off by individual services in the area of youth media protection that are offered independently of the general complaints work. As such, when it comes to assessing online offers and necessary measures, members can benefit both from the hotline's fully legally qualified personnel and its circa 25 years of expertise in the field of youth media protection.

Youth Media Protection Expert Lunch

With the "Youth Media Protection Expert Lunch", the eco Complaints Office offers an open forum targeted exclusively at association members who are active in the field of youth media protection, with the aim of enabling the exchange of experiences and sharing information.

Two to three planned meetings are held per year, with additional relevant parties and external experts sometimes also invited to contribute.

eco Youth Protection Officer Service

The roles and functions of the youth protection officers are:

- Advising the provider
- Contact person for users
- Point of contact for official oversight

Youth protection on the Internet is a task for society as a whole. With the eco Youth Protection Officer Service, eco members have the opportunity to make their contribution to this cause. Certain telemedia providers with content that is developmentally impairing or youth endangering, as well as providers of search engines, may also be obliged to appoint a Youth Protection Officer in accordance with Section 7 of the German Interstate Treaty on the Protection of Minors in the Media (JMStV)

With the eco Youth Protection Officer Service, the eco Complaints Office comprehensively supports telemedia providers in the implementation of this obligation or in the voluntary appointment of a Youth Protection Officer. The service offers the following functions and benefits:

- Comprehensive consultation on matters relating to youth protection
- A neutral point of contact vis-à-vis users
- A minimisation of liability risk
- Prevention of official fines and written warnings
- An increase in user trust through effective youth protection
- Current information and updates on developments and legal changes in the area of youth media protection

Further information on the working approach, statistics and services of the eco Complaints Office is available at: complaints-office.eco.de, as well as in the [eco Complaints Office Annual Report 2020](#).



Melanie Busse
Office and Events Manager
Berlin Office

5.4 Events and Highlights of the Policy, Law & Regulations Division 2021

In 2021, the Policy, Law & Regulations division organised 38 virtual and hybrid events in the eco Capital Office premises or in external locations. A total of 2,740 participants took part in the events in 2021.

The events of the Policy, Law & Regulations division are primarily aimed at political representatives and interested stakeholders from the political arena in Berlin and Brussels, as well as eco member companies. The target group focused on by eco includes federal ministers, state secretaries, spokespersons on Internet policy from parliamentary groups,

members of the German Bundestag and their colleagues, and representatives of the ministries and federal states.

In accordance with tradition, the year 2021 also began with the New Year's receptions in Berlin and Brussels, albeit virtually in the form of the eco netTALK und bxTALK. Multiple additional events took place in 2021, such as the roundtables in Berlin and Brussels, netTALKs, and new events such as eco Policy Briefings and Alliance Talks.

An excerpt of the division's event highlights is set out below:

eco annual kick-off netTALK #1 in Berlin

At the first eco netTALK in 2021, State Secretary Prof. Christian Kastrop, from the German Federal Ministry of Justice and Consumer Protection (BMJV), and eco Chair of the Board Oliver Süme spoke about current topics such as responsible use of the Internet, combatting hate speech and right-wing extremism on the Internet, and the Corporate Digital Responsibility initiative. The moderated dialogue focused on the personal priorities and perspectives of the State Secretary, as well as the consumer protection policy aspects of digitalisation.



Wahl/Digital 2021 – Internet Policy Party Checks for the 2021 federal parliamentary election

WHAT ARE THE VARIOUS PARTIES PLANNING IN THE FIELD OF DIGITAL POLICY?

What are the various parties planning in the field of digital policy? What digital policy goals are they pursuing for the coming legislative term? As part of the event series on the occasion of the 2021 federal election, eco conducted the Internet Policy Check among the parties with governmental responsibility at the federal or state level and simultaneously presented its own Internet policy demands. With the format



of the Internet Policy Party Check, eco organised a digital policy campaign under the title of Wahl/Digital 2021 (Election/Digital 2021), which ran until the 2021 federal election. Within the framework of a total of three hybrid events, four members of the Bundestag each presented five quick rounds of questions on the Internet policy plans of the CDU/CSU, the SPD, Alliance 90/The Greens and The Left Party. In the 2017 election year, the format had been so well received by political guests and the public that it kicked off a further round in the year under review. The principle remained the same, with its focus on the heart of digital policy party programmes: In 6 question rounds of

10 minutes each, encompassing 90-second statements per speaker, eco focused on the essentials! All supplemented by facts & figures, voices from the Internet industry and exciting snapshots from digital Germany.

Under the title of "Wahl/Digital 2021 – Digital Agenda 2021 – 2025", at the successful kick-off event of the series of events on 4 May 2021, live discussions took place with the SPD Party Chair Saskia Esken, The Left Party Chair Susanne Henning-Wellsow, as well as other high-ranking panellists, and a look was cast on the coming legislative term.

On the podium of the second Internet Policy Party Check on 23 June, Hansjörg Durz (CDU/CSU), Dr. Jens Zimmermann (SPD), Mario Brandenburg (FDP), Margit Stumpp (Alliance 90/The Greens) and Anke Domscheit-Berg (The Left Party) presented the five quick question rounds on the topic of "digital society". The perspective of the Internet industry was added by eco Chair of the Board Oliver Süme. In advance of this, there was an interview with Christian Lindner, Federal Chairman of the FDP.

Questions on digital security were the focus of the third and last Internet Policy Party Check on 24 August, with Thomas Jarzombek (CDU), Elvan

Korkmaz-Emre (SPD), Manuel Höferlin (FDP), Tabea Rößner (Alliance 90/The Greens) and Anke Domscheit-Berg (The Left Party) as guests. Dr. Katrin Suder, Chair of the German federal government's Digital Council, gave an input on the current issues and perspectives on cybersecurity and digital sovereignty in Germany.

25 Years eco Complaints Office – eco Trust&Safety Summit: Together for the Good of the Internet

The eco Complaints Office of the eco Association has been successfully combatting illegal Internet content for 25 years. In the anniversary year, the team led by Alexandra Koch-Skiba,



Head of the eco Complaints Office, took a look into the future: How can each individual contribute to more responsibility and safety online? Can AI and other digital solutions support us in this regard? Why is it imperative to think beyond national borders for a modern digital policy? And what can we learn from the past 25 years?

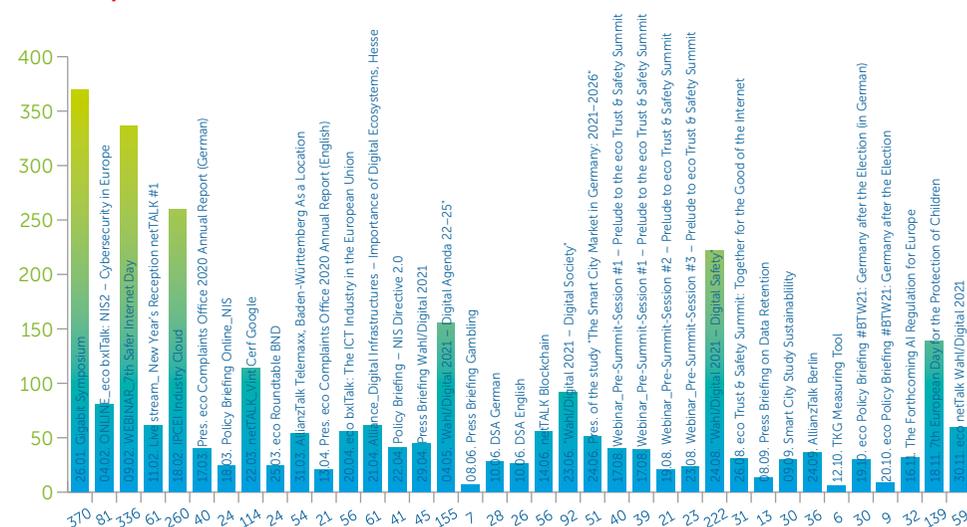
Insights were provided at the eco Trust & Safety Summit, which took place under the patronage of the then Digital Minister of State Dorothee Bär and which involved numerous guests from politics, the industry and long-standing network partners of the eco Complaints Office.

The hybrid event took place live at the Kronprinzenpalais in Berlin on 26 August.

Further momentum was generated by the Pre-Summit Sessions – three online webinars took place between 17 and 23 August on the topics of compliance, prevention & threat prevention and the use of digital technologies in combatting illegal internet content.

Participants at eco Berlin Events 2021

Total 2,733





6. Association Communication

With the Communications team, eco succeeded in further expanding the media reach of important eco core topics and initiatives in 2021.

For example, the number of media clippings for the focus topic IT Security was increased by 20 per cent. In particular, eco was able to contribute its positions to the media debate on Internet policy security issues such as the German federal government's Cyber Security Strategy or the topic of state surveillance.

The topic area of digital infrastructures was also one of the top themes with which eco was able to position itself in the media in 2021. Through targeted and well-founded background information and expert quotes – for example, insights from the Alliance for the Strengthening of Digital Infrastructures in Germany on the

energy efficiency potential of data centres, but also positions on gigabit network expansion and the European cloud initiative Gaia-X – the number of media clippings on this focus topic was increased by 150 per cent compared to the previous year.

With the digital policy agenda-setting campaign "Wahl/Digital 21" (Election/Digital 21) on the occasion of the German parliamentary elections, as well as the media accompaniment of the 25th anniversary of the eco Complaints Office, the Communications team also implemented two very successful campaigns that received a lot of attention in the press and are reflected in the eco Top 5 topics.

In its media work, the Communications team follows the principle of "quality before quantity". It is, therefore, particularly pleasing

that the share of coverage in leading media in 2021 also increased by three percentage points compared to the previous year and has now reached 17 per cent.

In addition to classic media work, social media communication is also becoming increasingly important. Here, the corporate influencer programme launched in the year under review and an enhanced focus on audio-visual content increased the number of followers on Twitter (plus 4 per cent) and, in particular, on LinkedIn (plus 48 per cent).

<i>Sidonie Krug</i> Head of Communications Spokesperson Political Communication	<i>René Bernard</i> PR Editor <i>Hanna von der Au</i> PR Manager
<i>Christin Patricia Müller</i> Senior PR Consultant Deputy Spokesperson Political Communication	<i>Laura Treskatis</i> Junior PR Consultant for Political Communication <i>Hanna Sissmann</i> Communication PR Trainee

6.1 Communication of Industry Topics

The ongoing Covid-19 pandemic and the resulting change in the work situation with new demands on IT security gave eco's Communications team numerous occasions for reports in 2021, which were widely picked up by the media. For example, eco gave seven tips for phishing protection when working from home. The eco New Work Competence Group chose "The New Normal" as a topic throughout the year, with reports on different aspects of the world of work with and after the pandemic. For example, experts from eco and LinkedIn gave tips on virtual onboarding and on how to successfully start a new job in the middle of a pandemic. In addition, eco and its partners published white papers on healthy and safe working from home.

IT security was also one of the most important eco topics in 2021. For the Security Competence Group, the Communications team once again published the annual IT Security Study with several reports on highlighted results. The total number of media reports on IT security increased to 687 compared to the previous year. The Internet Security Days in September 2021 also addressed the pandemic. The security conference, which was once again organised digitally, was accompanied by the Communications team with interviews, press releases and background discussions that were disseminated via eco channels and social media. Numerous media partnerships – especially with heise Events – strengthened the coverage and ensured broad coverage of eco security topics before and after the ISDs. The Internet of Things (IoT) Competence Group also addressed security aspects and called, for example, for

higher security standards for the Internet of Things

Study on revenue growth, sustainability and safety in the Smart City

A communications highlight of 2021 was the publication in June of the study "The Smart City Market in Germany, 2021-2026" in cooperation with Arthur D. Little. The study predicted more than 17 per cent growth per year – from 38.5 billion Euro in 2021 to 84.7 billion Euro in 2026. There were more than 70 publications in online and print media. In particular, there were many reports from regional media and from media with a focus on public administration and municipalities. Increasing networking in Smart Cities means that IT landscapes are becoming increasingly complex. Cities, service providers and citizens are exchanging data across more and more IT systems and interfaces – a quote to

this effect by Norbert Pohlmann, eco's Board Member for Security, was picked up numerous times in the media.

A focus on mobility in the Smart City shows: Investments in mobility solutions based on the Internet will significantly relieve the traffic situation in cities over the next five years. In 2021, the eco Mobility Competence Group regularly published figures, data and facts on multimodal mobility solutions and the mobility of the future. The important role that data plays in this was a communication focus. eco Chair of the Board Oliver Süme, member of the Mobility Data Space Expert Council, addressed this in the press. In the Expert Council, he is working on the sovereign exchange of data as the key to a future-proof European mobility ecosystem.



6. Association Communication


Focus topic "Secure digital identities"

Self-Sovereign Identities (SSI), secure digital identities, are increasingly proving to be a driver of digitalisation. That is why, in 2021, eco addressed this topic using a communications approach. In 2021, the digital vaccination card showed the potential of digital documents and authentication on mobile phones for the first time. Digital identities are a key factor for the further digitalisation of Europe: this was the message of the eco Association, which was picked up on a number of times in the media. The eco Association wants to promote the greater dissemination of related trust services with further communication measures.

For the EuroCloud Native Initiative, eco successfully communicated the publication of the study "ISG Study Pulse Check – Status Quo of the Cloud Native Market in Germany". All relevant

trade media reported on the expert survey, which showed that interest in cloud native solutions is now also widespread in Germany.

Promote sustainable digitalisation

A further publication highlighted the climate protection aspect of digital technologies in the Smart City. Digitalisation enables climate-neutral Smart Cities; this central message was picked up by numerous media. The sustainability trend in the Smart City also supports growth in numerous industries with new business models and investments.

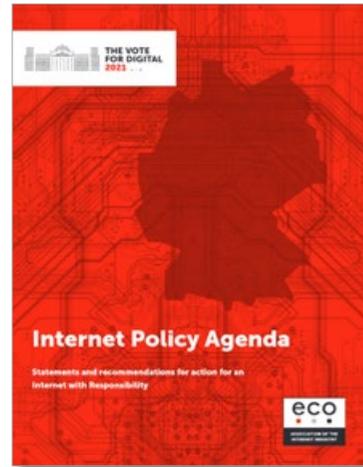
eco also provided communication support for the eco Awards 2021, the presentation of which had to be postponed to 2022 due to the pandemic. In addition to communicating the application phase via media partnerships, one occasion for a press release was the publication



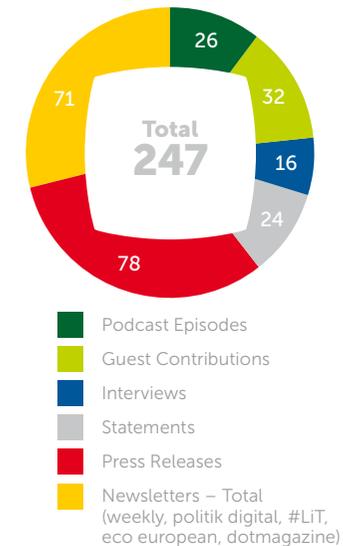
of the nominee shortlist for the award in six categories.

There was exciting news about Gaia-X throughout 2021. As eco reported in May, the project partners, coordinated by eco, were able to complete the specification of the first four Gaia-X Federation Services. A milestone for the European Gaia-X project was announced by eco at the end of the year: The implementation phase of the Federation Services started and the first partner companies began to implement the technical specifications.





PR Activities 2021 in Total (Industry and Political)



6.2 Political Communication

The Wahl/Digital21 (Election/Digital 21) campaign highlighted digital policy themes in the run-up to the German federal elections

The focus of political communication in 2021 was clearly on the German federal elections in September 2021 and the associated goal of marketing the digital policy demands and eco positions sustainably and in the long term, as well as generating attention for the Internet policy interests of the Internet industry and constructively shaping the discussion on the Internet policy records of the former and the new federal government.

The 360-degree campaign Wahl/digital21 (Election/Digital 21), which was designed for agenda-setting purposes, relied on dialogue-oriented communication with the aim of bringing representatives of the Internet industry into a direct exchange with digital politicians from all government parties at federal and state levels on digital policy issues and topics for the upcoming legislative term. This was done within the framework of hybrid live events – the Internet Policy Party Checks – as well as within the framework of accompanying podcasts and NetTalks. These live formats were flanked by social media communication and

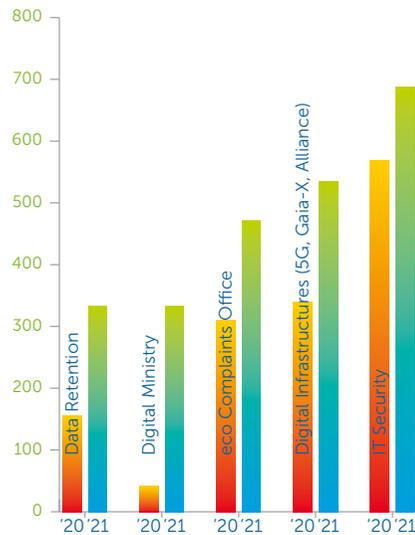
classic media work, which, in addition to the Internet Policy Agenda published by eco, also offered current representative voter surveys on digital policy issues as content. These surveys, conducted in cooperation with the renowned market and opinion research institute Civey, were also visible online on the campaign website in the form of a “digital political opinion barometer” and were presented to the media at the start of the campaign in a very successful press conference together with Civey CEO Janina Mütze, eco Chair of the Board Oliver Säume, and representatives of the corporate partners Leaseweb and Vodafone Institute.

The media reporting shows that eco was able to contribute very intensively, especially to the debate on a digital ministry. In total, well over 500 media clippings were generated.

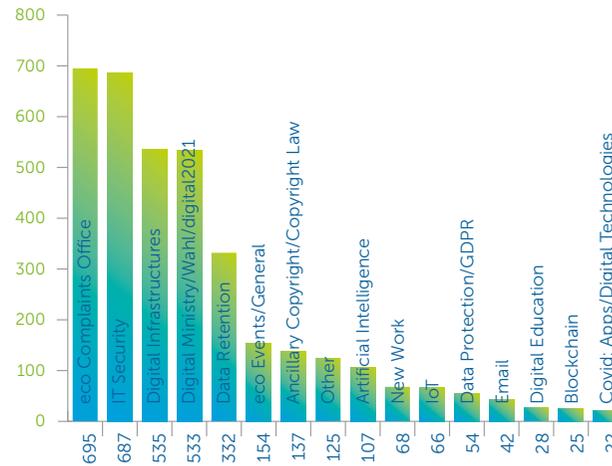
Top theme: Digitalisation & Sustainability

The topic of digital infrastructures has been a focus of eco communication efforts for years, particularly intensively since the founding of the Alliance for the Strengthening of Digital Infrastructures in Germany in 2018 under the umbrella of the eco Association.

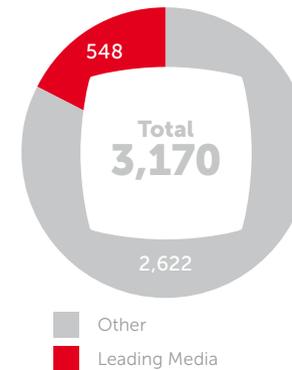
eco Top Themes
2020/2021 Comparison



eco Top Themes 2021



eco Proportion of
Leading Media DACH



The thematic focus on sustainability chosen for the Alliance in the previous year 2020 proved to be the right decision in 2021 as well, since the topic was discussed very intensively in the media debate, not least in the context of the pandemic and the great attention paid to the now increasingly visible importance of digital services and efficient digital infrastructures. eco was able to repeatedly place core messages of the Alliance in leading media and reach the political target group in this context.

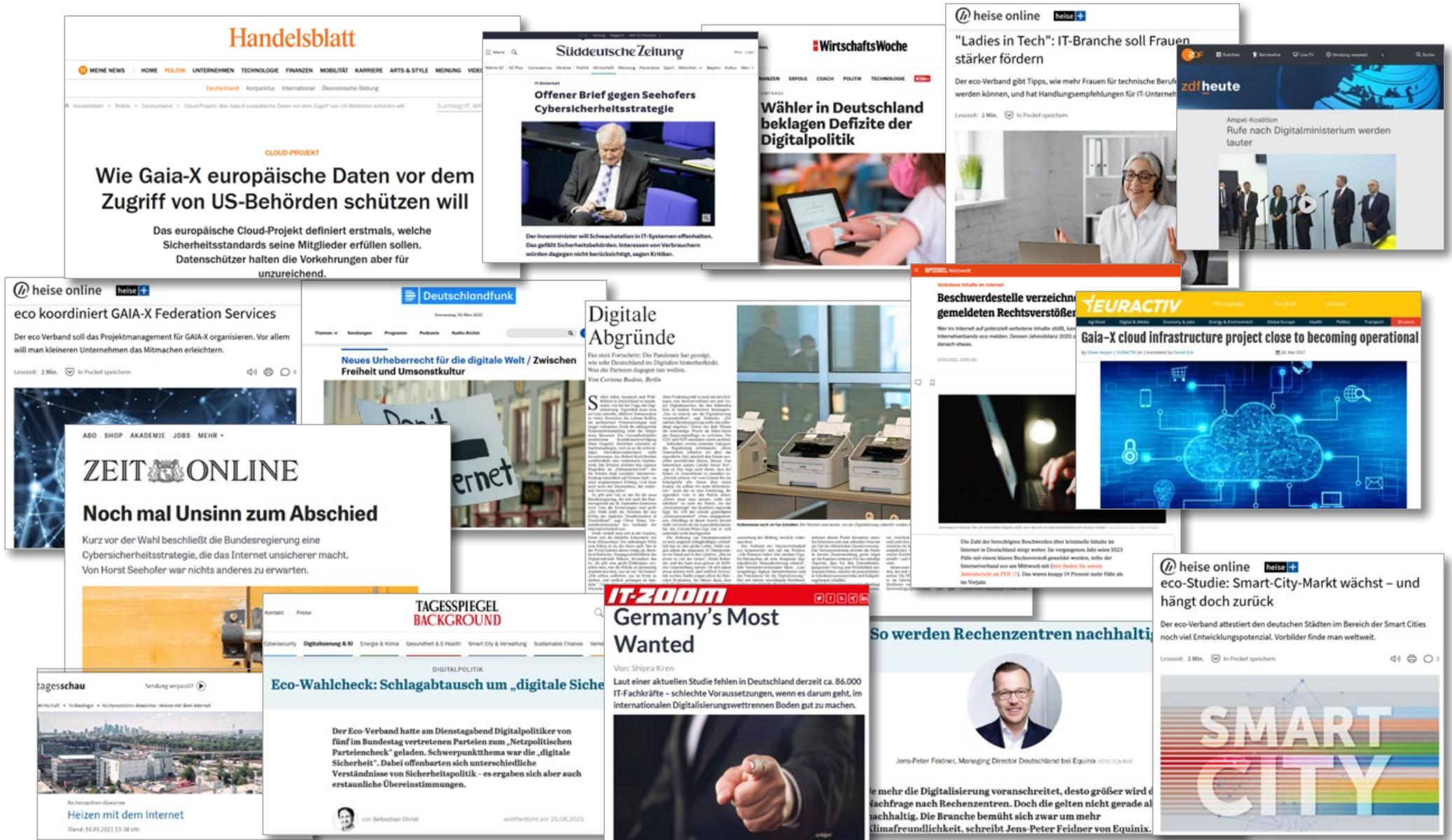
Great media response to the eco Complaints Office's anniversary

In 2021, the valuable work done by the eco Complaints Office was marketed with particular success in the media. The ongoing debate around the topics of hate speech and the German Network Enforcement Act (NetzDG) proved to be an opportune field for communication. This enabled the Complaints Office to be positioned in its 25th anniversary year as a proof point for successful self-regulation and the industry's active responsibility in dealing with undesirable Internet content. Prominent

speakers and patrons such as Minister of State Dorothee Bär at the anniversary congress under the motto of "Trust and Safety" also had a positive effect on media attention. With more than 470 media reports, the number of clippings on the topic of the eco Complaints Office increased by more than 50 per cent compared to the previous year.

6.3 Selected Media Highlights







Benjamin Büttrich
Head of Web Development

6.4 eco Websites

In the second year of the Covid-19 pandemic, the eco websites supported information and exchange for members, partners and all employees even more than in “normal” times.

Hybrid times

Once again, many formats took place exclusively online or hybrid. We were able to integrate proven and new solutions into our online offering, and the number of webinars and online events offered continued to grow. Some fixed components of the eco event calendar had to be postponed at short notice, including

the eco Awards, which will not be presented and duly celebrated again until 2022.

The information offered on existing websites was expanded – and important new initiatives in which eco is involved were given their own websites. These include EuroCloud's Cloud Native initiative (www.eurocloudnative.de) and Gaia-X Federation Services (www.gxf.eu).

Usability and data protection

Although we analyse and optimise the use of our websites, the focus remains on the prudent and self-determined use of all user data. A cookie-based measurement approach will thus never be completely reliable. Even more so than in the previous year, the figures are

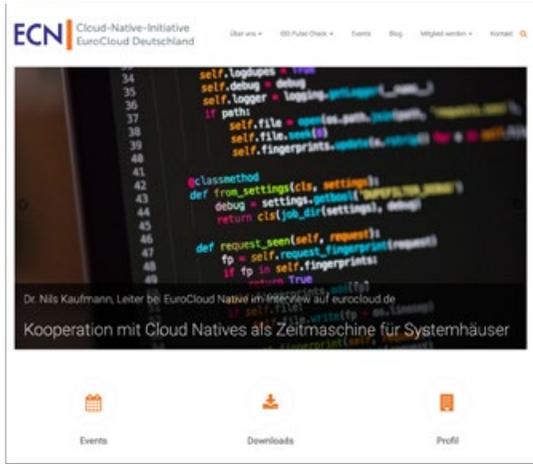
therefore only an indication and should rather be seen as a fraction of the actual use.

In the coming year, we want to rely more on anonymised log file analysis to get a complete picture without any violation of the GDPR. Nevertheless, a user-friendly, sensible replacement for the ubiquitous cookie banners would be very desirable and a real relief for all website operators and their users.

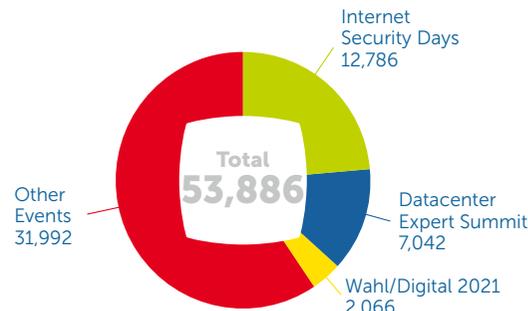
A positive contribution – also to the environment

In 2021, we continued to pursue the topic of sustainable IT infrastructure via the Alliance for the Strengthening of Digital Infrastructures in Germany website

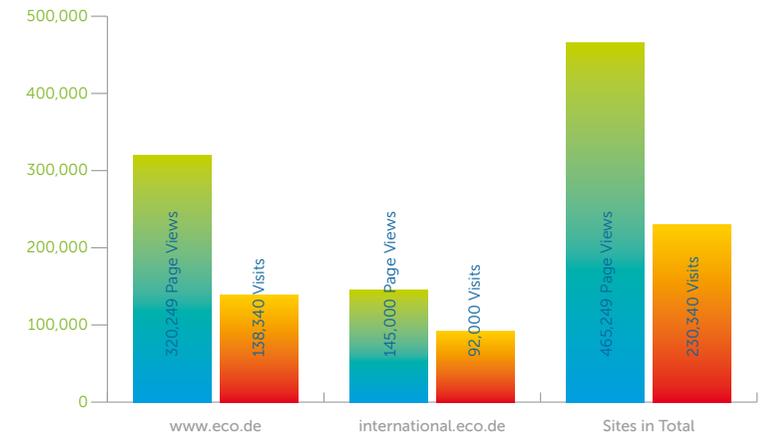
(www.digitale-infrastrukturen.net). The hosting of our own websites and applications is also being put to the test in order to bring us as close as possible to the goal of CO₂-neutral operation. Together with our member companies and partners, we show in many ways how the industry is making its contribution to climate goals.



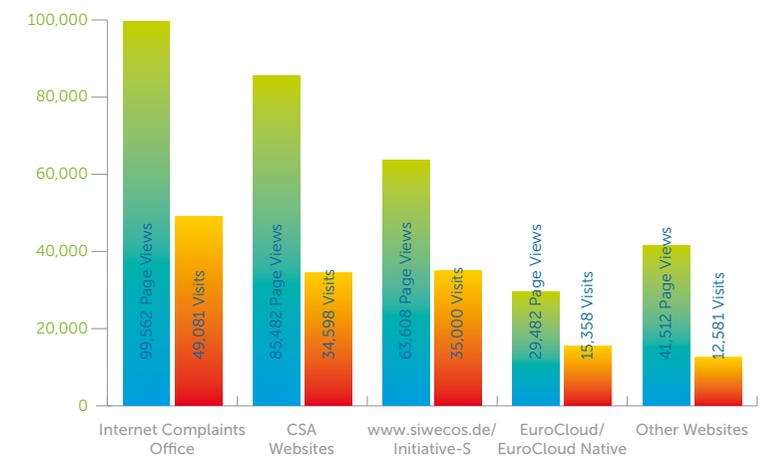
Visits to Events Sites 2021

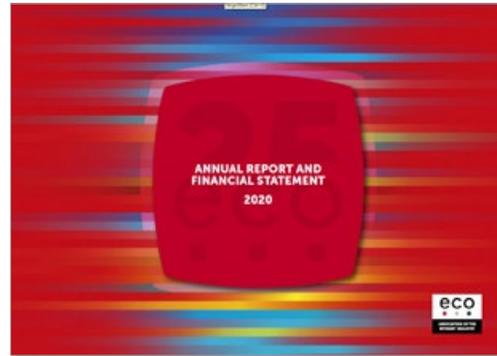


Visits to eco Association Sites 2021



Visits to eco Services & Initiatives 2021 (Selection)





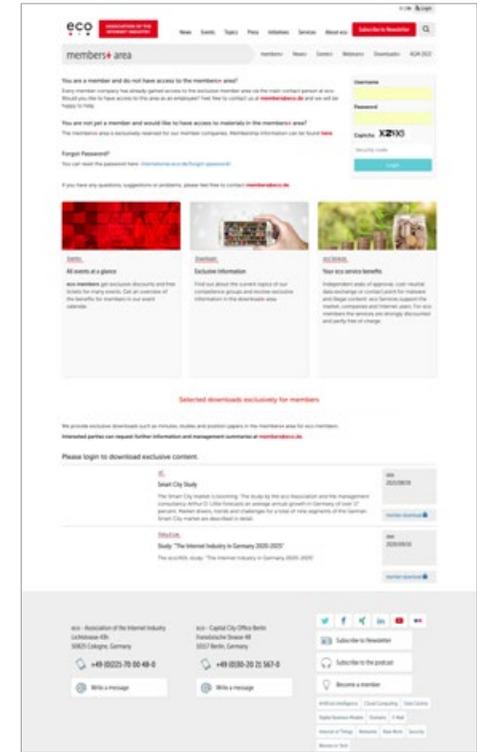
6.5 members+ Area – Exclusive Content for Members Only

For several years now, all eco members have been granted exclusive and free access to members+, the protected online area of the eco website. Here, for example, they can find studies and news exclusively for eco members and thus receive significant added value. The exclusively available offer is constantly being expanded, and thus the attractiveness of eco membership is continuously increasing.

In 2021, the Webinar+ category was further expanded. More than 100 recordings of eco webinars are now available for members. In addition to any CG meetings they may have missed, members have the opportunity here to view recordings on all topics at their leisure.

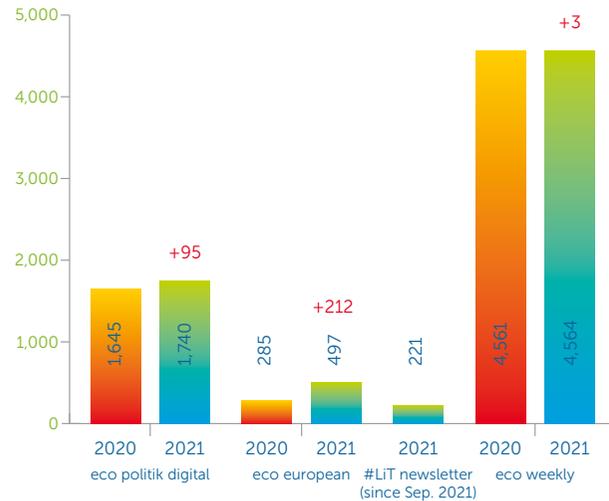
The exclusively available content downloaded in 2021 included, in particular, the study "The Smart City Market in Germany 2021-2026". In addition, further studies, guides, white papers, but also all information on the eco members' meeting and the eco annual reports of the past years are available for download.

In the protected news section, logged-in members benefit from statements, exclusive information and offers. At members+ events, they receive special discounts and free tickets to events.





eco Newsletters 2021



6.6 eco Media

eco newsletters: News from politics and the Internet industry

Every week, the German-language 'eco weekly' newsletter enjoys increasing popularity – as evidenced by the rising number of subscribers and users. The free-of-charge weekly newsletter provides information on news, trends and services from the eco Association, guidelines and surveys on driving topics in the Internet industry, and information on top industry events. eco members have the option of the Newsletter+ extension, which allows them to receive current membership benefits directly in their email inbox.

In addition, the German-language newsletter "eco politik digital" provides all interested parties with political news from the capital every fortnight. The English-language newsletter "eco European" provides free information on current trends in Brussels by email.

Since autumn 2021, we have also been sending out a quarterly German-language newsletter from our #LiT – Ladies in Tech initiative. Whether news or press releases on statistics or opinion polls, inspiring interviews with female role models of the tech world or announcements on networking and tech events: The #LiT newsletter is exclusively dedicated to the topic of "Women in Tech".

Social media: Highly topical and compact

The association's flickr account contains more than 53,000 photos that have already been viewed almost seven million times. eco provides information in a varied and compact form on Twitter, Facebook, LinkedIn, and Xing. More information on this can be found in Chapter 6.7.

Joining the dots in the industry

Published for the first time in 2017, dotmagazine provides information about the entire spectrum of the Internet industry. With monthly focus topics, the English-language online magazine impressively documents the experience and expert knowledge of the association, its members and partners. The content ranges from

infrastructure to the countless applications and business cases that the Internet makes possible. In addition, the newsletter dotmagazine is published twice a month in English and is aimed at interested parties from all over the world. More about this can be found in Chapter 7 on eco International.

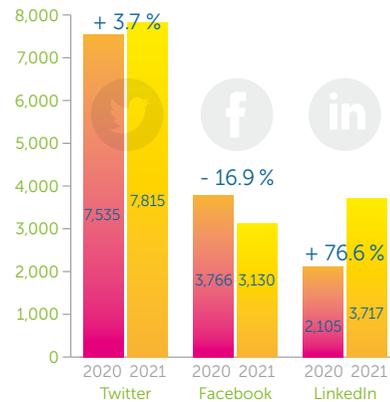
YouTube: Diversity in moving images

eco's YouTube channel illustrates the diversity of the association's activities in the truest sense of the word "vivid": From event documentation to expert interviews and specialist briefings, the videos are informative and entertaining at the same time. In 2020, for example, viewers were given impressions of the online eco://awards ceremony. The eco netTALKs with eminent personalities from politics and business are just as visible here as the congratulatory messages on 25 Years of eco. A highlight was the birthday party in honour of this anniversary. Also very popular are the interesting interviews "dotmagazine meets ...", which offer in-depth insights into the Internet industry. Inspiring female experts and executives from the Internet industry have their say in the series "Ladies in Tech".

Further information is available at:

-  international.eco.de/newsletter
-  www.flickr.com/ecoev
-  www.youtube.com/ecoAssociation

Followers' Trend



Metric	Value
Impressions	4,948
Interaktionen insgesamt	157
Medieninteraktionen	96
„Gefällt mir“-Angaben	28
Detailerweiterungen	17
Retweets	9
Profilklicks	5
Link-Klicks	1
Hashtag-Klicks	1

6.7 Social Media

In 2021, the focus was on the two channels, LinkedIn and Twitter, with the aim of increasing reach and engagement. To do so, the eco Association Communications team increasingly relied on video formats and short clips, audio formats, surveys and slider elements.

Strong growth of followers on LinkedIn

The number of followers developed very positively on LinkedIn and Twitter. We recorded the strongest growth in followers on LinkedIn with a rise of 33 per cent and over 1,000 new followers compared to the previous year. On the platform, the reach per post also increased by

11 per cent. Engagement rates ranged from 2.5 to 8 per cent per month on LinkedIn, and there was an average interaction rate of 1.4 per cent on Twitter throughout the year. Facebook's reach declined slightly, but the channel was increasingly used for communication with employees.

On Twitter, eco placed a strong focus on commenting on and classifying political events. Content from the Competence Groups achieved broad coverage, especially in combination with attention-grabbing facts and figures, and was picked up by external accounts. In addition, the eco Communications team supported employees by offering advice on profile optimisation,

content strategy and content formats to make their topics and project successes more visible via their personal social media profiles.

The German federal election Wahl/Digital 2021 Campaign

eco accompanied the 2021 federal election in Germany with the campaign Wahl/Digital 2021 (Election/Digital 21): High-reach elements were, for example, the digital political election barometer with polls, the video series "Digital Journey through Germany", podcast episodes and voices from politics and the Internet industry. Throughout the year, the association's communication department accompanied the campaign on social media, presented survey

results and pointed out the three highlight events with video teasers. The campaign was remarkably successful on Twitter and generated around 160,000 impressions over the year.

"Twitter chat" as an online discussion format

On the occasion of the 25th anniversary of the eco Complaints Office, eco organised the first Twitter chat on the topic of "How can we defend ourselves against illegal Internet content?" Under the hashtag #FürsGuteimNetz (Together for the Good of the Internet), members such as Deutsche Telekom and Google Germany as well as the entire network of the eco Complaints Office – including, for example,

fragFINN.de, jugendschutz.net and HateAid – provided tips and assistance for users. All interested parties were able to participate on Twitter and discuss justice and freedom of expression on the Internet. The tweets of the eco channel alone received around 45,000 impressions over the entire day and also pointed to the partnership cooperation in the fight against illegal Internet content.

Further information is available at:

- @eco_de
- @eco_en
- @CSA_eco
- www.facebook.com/ecoverband
- www.xing.com/net/ecoassociation
- https://www.linkedin.com/company/eco-association-of-the-german-internet-industry

Top-Tweet 22.000 Impressions bekommen

Heute im Podcast das Ohr am Netz: [@Senficon](#) über Urheberrecht & #Uploadfilter. Wir sprechen über Meinungsfreiheit und die Frage, was in Zukunft mit Artikeln, Memes und Zitaten auf digitalen Plattformen geschieht. #Artikel17

Jetzt #Podcast hören; eco.de/presse-podcast/ pic.twitter.com/N5YFYhaaHi



2 17 45

Heute machen wir eine Reise durchs digitale Deutschland! Denn über 70 Prozent aller Bürgerinnen sind unzufrieden mit der Digitalpolitik der Bundesregierung, wie unser digitalpolitisches Wahlbarometer mit Civvy zeigt. Doch was planen die verschiedenen Parteien im Bereich Digitalpolitik für die nächste Legislaturperiode? Auf dem netzpolitischen Parteieckcheck sprechen wir heute (04.05.) ab 18 Uhr über die verschiedenen digitalpolitischen Positionen mit:

- Susanne Hennig-Wellsow, Bundesvorsitzende von DIE LINKE
- Saskia Esken, Parteivorsitzende Sozialdemokratische Partei Deutschlands (SPD)
- Tankred Schipanski, digitalpolitischer Sprecher der CDU Deutschlands (Fraktion)
- Elvan Kurkmac-Erme, Digitalpolitikerin SPD
- Manuel Höflein, digitalpolitischer Sprecher der FDP-Freie Demokraten
- Konstantin von Notz, stellv. Fraktionsvorsitzender BÜNDNIS 90/DIE GRÜNEN
- Anke Domschke-Berg, parteilose Bundestagabgeordnete in der Linksfraktion

Ab 18 Uhr Livestream einschalten <https://go.eco.de/oa3jY>

Freuen Sie sich auf Stimmen aus der Internetwirtschaft von Inger Paul, Geschäftsführerin des Vodafone Institute und Marcus Busch, Geschäftsführer Lesaweb. Tagesspiegel Background Digitalisation & KI #wahlidg21 #idgitalisation #idgitalpolitik



Reise durchs digitale Deutschland beim Netzpolitischen Parteieckcheck

34 · 3 Kommentare · 832 Ansichten

eco e.V. @eco_de · 20. Dez. 2021

Warum erzielen diversere Teams bessere Arbeitsergebnisse, treffen ausgewogenere Entscheidungen und tragen so zu einem größeren Unternehmenserfolg bei? [@elenaRogi](#), Project Lead #Diversity & Inclusion bei [@MicrosoftDE](#), im Podcast "Das Ohr am Netz". eco.de/news/diverse-u...



1 6 14

Top-Tweet 17.400 Impressions bekommen

Ab 15 Uhr beginnt der eco #netTALK mit [@vgcerf](#), [@ayadoingthings](#), Robert Habeck, [@OSueme](#) und [@KatCeMod](#)!

Zum Livestream: eco.de/event/eco-nett... pic.twitter.com/EZkXlpV17P

Livestream at eco.de March 22, 2021



4 3 9

eco - Verband der Internetwirtschaft e.V. 2.983 Followerinnen · 1 Woche ·

Groß angelegte KI-Modelle sind in Deutschland und Europa Mangelware. Dabei steckt in diesem Bereich sehr viel Potenzial für Wissenschaft, Unternehmen und Gesellschaft!

Die LEAM-Initiative will dieses Potenzial haben und setzt sich für die entsprechenden Ressourcen ein. Gemeinsam mit führenden europäischen KI-Unternehmen sollen beispielsweise Algorithmen entstehen, die auf europäischen Werten und Normen basieren.

Was die Initiative erreichen möchte und warum ihr Engagement für Unternehmen, die mit künstlicher Intelligenz und Machine Learning arbeiten wichtig ist, erzählt [Jörg Bienert](#) im Interview. Er hat die LEAM-Initiative Anfang 2021 mit weiteren Partnern initiiert. Als Vorsitzender und Gründer des KI Bundesverband e.V. setzt sich Bienert schon seit langem für das Thema ein.

Interview lesen: <https://inkl.in/4WpZf6M>

Wir unterstützen die LEAM-Initiative und bringen zum Thema eine kleine Interview-Runde raus. Freuen Sie sich schon auf den nächsten Beitrag! #machinelarning #AI #algorithmen



In Deutschland brauchen wir die Möglichkeit große KI-Modelle zu berechnen. Ansonsten gelangen wir nach und nach in eine Abhängigkeit von den Systemen aus Nordamerika oder China

Jörg Bienert
Gründer & Vorsitzender KI Bundesverband
Christine Neubauer und 5 weitere Personen

2 2 Kommentare

eco - Verband der Internetwirtschaft e.V. 3.151 Followerinnen · 8 Monate · Beantwortet ·

"Die Bundesregierung muss wie ein CEO handeln – Sie braucht eine IT-Strategie", sagt Marcus Busch, Geschäftsführer von Lesaweb Deutschland im Podcast „Das Ohr am Netz“. Herr Busch erzählt aus der Perspektive eines Cloud-Anbieters und gibt spannende Einblicke für den deutschen Mittelstand. Im Interview sprechen wir über Cloud Computing, digitale Infrastrukturen und ein zukünftiges Digitalministerium, das Best Practices und die Tech-Community einbindet.

Neue Folge hören: <https://inkl.in/4XemT9T>

Das Ohr am Netz gibt's auch auf Spotify, Apple Podcasts und Deezer, den Link finden Sie in den Kommentaren. [#podcast #clouds #mittelstand Cloud Expo Europe Frankfurt EuroCloud Deutschland](#)



Das Ohr am Netz
Managing Director
Lesaweb Deutschland GmbH

Podcastfolge mit Marcus Busch: Cloud Computing

3 24 3 Kommentare · 5 Shares



Lars Steffen
Director
eco International

Cáit Kinsella
Project Manager
eco International Communications

Eilín Geraghty
Project Manager
eco International Communications

Ladan Raeisian
Project Assistant
eco International

Judith Ellis
Project Manager
dotmagazine

7. eco International

In the eco International division, the year 2021 continued to be shaped by virtual activities alongside partners and association members. The services which had successfully been established in 2020 – namely the “Policy Alert”, the “Policy Digest” and “The View from Brussels” from the “Policy & Law” division, as well as the “eco european” newsletter – became central pillars of the English-language service offer for international eco members. In combination with the online “eco BXL Talk” formats and the Online Policy Briefings, eco now offers its members a wide range of up-to-date information on political and regulatory developments in Brussels and Berlin.

The association's “Policy & Law” division provided information throughout the year on a range of topics, including the “Digital Services Act”, “The Network and Information Security (NIS) Directive”, and “The European Green Deal”. Since 2020, a further central communication topic – not only with international association members – has been the Gaia-X project. Over the course of the year, eco was present at a large number of events at the international level – such as the Gaia-X Summit or the ICANN meetings. In addition, the Alliance for the Strengthening of Digital Infrastructures in Germany became more active beyond Germany in the context of the founding of the Climate Neutral Data Centre Pact.

International members

In 2021, eco had almost 500 member companies from over 60 countries based outside of Germany. The majority of member companies

are located in the countries of the European Union and North America. With the support of the English-language service offer, which has been expanded in recent years, many members have been able to become even more intensively involved in the active work of the association.

Cooperative activities & events

The eco Berlin and Brussels offices kept members and the entire industry regularly up-to-speed on current topics on the strength of the “eco BXL Talk” online format, involving high-profile speakers from the European Commission and the European Parliament. In February, this format enabled coverage of the topic of “NIS2 – Cybersecurity in Europe”. In April, it facilitated “The ICT Industry in the European Union – Green Deal and the Digital Transformation”; while in November, the focus was on “The forthcoming AI Regulation for Europe – A chance for the digital economy?” Online policy briefings on the NIS2 Directive and the Digital Services Act were an additional offer for members.

7. eco International

The European umbrella organisation EuroISPA also examined and discussed the Digital Services Act from various perspectives in a series of webinars under the title of "EuroISPA – DSA in Focus".

The cooperation between eco and the US partner association Internet Infrastructure Coalition (i2Coalition) continued in 2021 in the form of joint online events and regular content exchanges on Internet policy issues in Berlin, Brussels and Washington.

In September, under the title of "Transatlantic Dialogue on Data Transfer: Standard Contractual Clauses", both associations provided an overview of the newly introduced standard contractual clauses to guarantee the legally secure exchange of data between the European Union and the United States.

As part of i2Coalition's "Best Practices Speaker Series", Alexandra Koch-Skiba was also invited to present the work of the eco Complaints Office in September. Under the title "Addressing Harmful Content Online, Including CSAM", several strategies were discussed on how the industry is working together to combat harmful content on the Internet.

The year 2021 saw a continuation of the intensive cooperation with ICANN, the Internet Corporation for Assigned Names and Numbers. Webinars on the topics "DNS for Internet Service Providers", "DNS Ecosystem Security"

and "DNSSEC 101" were offered on a joint basis, and the readout format for ICANN meetings launched in 2020 was further pursued. After each ICANN meeting, ICANN and eco offer a compact summary of the conference via a webinar in which representatives from various steering and advisory committees report on the current topics. Over the course of the year, Thomas Rickert, Wolf-Ulrich Knoblen and Lars Steffen represented eco members at all virtual ICANN meetings.

At NamesCon Online in September, eco was represented on a total of three panels on different topics: "The Future of Domain Name Registration Data", "New gTLD Subsequent Procedures – The Next Round of TLDs" and "The Future of Intermediary Liability". In March, the long-standing eco members Inter-NetX and Sedo once again presented their annual "Global Domain Report 2021 – The Status Quo of the Domain Industry" to the public via the eco Association.

eco and CENTR, the Council of European National Top-Level Domain Registries, also continued with their existing collaboration and content sharing in 2021. For example, Thomas Rickert and Lars Steffen from eco took part in the virtual Registrar Day and the CENTR General Assembly.

The cooperation between eco and CISPE, the alliance of Cloud Infrastructure Services Providers in Europe, as well as with the Dutch



and Danish Cloud Community, the Dutch and European Datacenter Association and other associations was strengthened within the framework of the founding of the "Climate Neutral Data Centre Pact". The associations exchanged statements and current topics on a monthly basis.

The close cooperation between eco and the Internet Society (ISOC) in 2021 was primarily marked by the many activities of the Global Encryption Coalition. eco's Managing Director Harald A. Summa continues to serve as Co-Chair on the Internet Society's Organizational Member Advisory Council. Lars Steffen was appointed as a member of the Elections Committee, which oversees the annual elections to the ISOC Board of Trustees.

Together with the Dutch Datacenter Association, the eco "Data Centre Expert Group" offered further webinars on the "Data Centre Trends in Europe" series, dealing with current industry topics such as "Trends in Digital Infrastructure Investments". In the eco event calendar, the CSA Summit was once again a highlight for the international community.

International communications

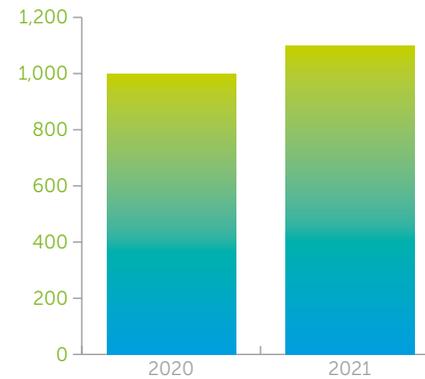
The English-language magazine for members, entitled "**dotmagazine**", continued to enjoy an unabated resonance from eco member readers and authors in 2021. By the end of the year, the 2017-2021 portfolio amounted to almost 500 articles written by members and partners of the association. In 2021, close to 75,000 visitors from all over the world accessed the high-quality articles, interviews, podcasts and

videos. dotmagazine is open to all eco members as a platform for their content. The regularly changing topics cover all relevant areas of the Internet industry's value chain – from the underlying infrastructure to cybersecurity and sustainability, and on to digital business models and online services. To get involved, we invite interested members to contact dotmagazine@eco.de.

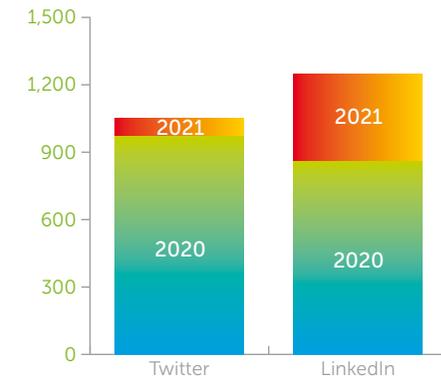
Newsletters

The biweekly newsletter dotmagazine informs subscribers about association activities and always presents the latest articles published in dotmagazine. The readership of the magazine and the newsletter once again markedly grew by more than 10 per cent over the course of the year.

dotmagazine Newsletter Subscriptions



Twitter and LinkedIn Followers



The "eco european" newsletter, which had been launched in 2020, offers the international audience an overview of current topics, events and news from the eco Association, as well as newly published eco white papers and guides which are published in English. Since its launch, the number of subscribers has grown considerably. The exclusive content for association members in English in the form of policy updates and studies is also enjoying rapidly growing popularity.

Social media

The number of Twitter followers of the English-language eco account increased once more by almost 10 per cent over the course of the year. The English-language LinkedIn profile, which was re-launched in October 2019, was again able to gain over 1,200 followers by the

end of 2021. The industry platform CircleID.com regularly publishes contributions on the association's activities.

News, studies, reports and other support

The eco International Team also successfully continued its translation and support work for all fields of the association – which also included DE-CIX, CSA and EuroCloud – with this all managed via remote working. During the year, approximately 200 English-language association news items, interviews and notices were published on international.eco.de.

The publications translated during the year included the annual reports of the eco Association, the eco Complaints Office and DE-CIX, the eco studies "Data Centres in Europe, Parts I+II", "eco Security Study 2021", "Selecting a DNSBL", "eco Smart City Study", the summaries of the "Transatlantic Dialogue" and the "CSA Digital Summit 2021", the updated eco portfolio, as well as a large number of reports,

position papers, contracts, training documents and updated guide-lines.

Further information is available at: international.eco.de and dotmagazine.online





Executive Board of DE-CIX Group AG

Harald A. Summa

CEO

Chair

Ivo Ivanov

COO

Vice Chair

Sebastian Seifert

CFO



8. eco Services & Initiatives

8.1 DE-CIX – The Year 2021 in Figures, Data & Facts

Despite the challenging environment caused by the global Covid-19 pandemic, in 2021, DE-CIX continued to maintain its leading position as the operator of the worldwide largest carrier and data centre neutral interconnection ecosystem with its 32 sites in Europe, North America, the Middle East, India and Asia. DE-CIX connects network operators (carriers), Internet Service Providers (ISPs), content providers and corporate networks, and offers peering as well as cloud connectivity and interconnection services for cloud applications available from more than 500 data centres in over 100 countries.

As expected, after the massive pandemic-related increase in traffic in 2020, overall global growth was more moderate in 2021 as the world gradually adjusted to the "new normal". Nevertheless, DE-CIX was able to increase the bandwidth of all globally connected customers by more than 30 per cent to 96.2 Terabits in 2021, while the number of connected networks increased by almost 20 per cent. At the end of the year, a total of over 2,480 networks worldwide were connected to the various DE-CIX Internet Exchanges (IXs). Global data traffic over the DE-CIX platforms continued to grow strongly, with a global cumulative data throughput of more than 38 Exabytes in 2021 – an increase of around 20 per cent compared to the previous year. Another highlight of the

successful year 2021 was the renewed award of the Global Carrier Award by Capacity Media in the category "Best Internet Exchange Operator", which DE-CIX won for the sixth time since 2015. In addition, for its 25 years anniversary campaign "Without You", DE-CIX was awarded the Best Marketing Campaign 2021.

In the 2021 consolidated financial statements, the global revenues across all parts of the company increased by more than 12 per cent compared to the previous year, rising to over 48.7 million Euro. Revenues from international activities increased by more than 18.5 per cent compared to 2020 and represented more than 18.2 per cent of total revenues in 2021.

International expansion into new markets and regions

DE-CIX has set the important strategic goal of increasing its geographical coverage, i.e., being present in more markets and at more locations. In pursuing this goal, DE-CIX expanded its presence in several new regions in 2021. A total of three new Internet Exchanges (IXs) were commissioned, and seven more IXs were announced. In this context, Barcelona is the fifth DE-CIX-operated Internet Exchange in Southern Europe.

As part of the "DE-CIX as a Service" (DaaS) programme, further new sites were put into operation with Ruhr-CIX in Germany and Borneo-IX in Southeast Asia. Furthermore, the expansion into Northern Europe was announced at the end of 2021, in the course of which new IX platforms will be created in Norway, Denmark and Finland. With these new



DE-CIX Group AG – Supervisory Board

Internet Exchanges in Northern Europe, DE-CIX aims to meet the regional demand for connectivity, which will be strengthened not least by new transatlantic and intercontinental submarine cables connecting the Nordic countries with North America and Asia.

A fifth Internet Exchange in the USA was announced in Phoenix (Arizona) in North America, following on the heels of DE-CIX New York, DE-CIX Dallas, DE-CIX Chicago and DE-CIX Richmond (Virginia). With this new, westernmost location, connectivity in the United States is to be strengthened while improving connections between North America, South America and Europe. DE-CIX also announced plans to deploy three more DaaS IXs for US data centre operator DartPoints in Columbia (South Carolina), Dublin (Ohio) and North Liberty (Iowa), underpinning the importance of the DaaS model for Tier 2 and Tier 3 markets.

Another highlight of 2021 was the announcement of a partnership with the operator of Ellalink, a new submarine cable connecting Europe and South America. The aim of the partnership is to create a new low-latency connection across the southern Atlantic, thus creating a unique ecosystem from Brazil via southern Europe that will benefit users on both continents.

Innovative cloud services, new target groups and increased automation

Throughout 2021, there has been a steady increase in enterprise customers accessing new DE-CIX interconnection services tailored to the digital transformation needs of businesses. Not only the number of connected networks and the connected capacity increased, but also the acceptance of DE-CIX's increasingly diverse product and service portfolio. These now include services such as DirectCLOUD,

Felix Höger
Chair of the Supervisory Board
eco Board Member
CEO Höger Management GmbH

Klaus Landefeld
Vice Chair of the Supervisory Board
Vice Chair of the eco Board

Rudolf van Megen
Member of the Supervisory Board
CEO S.T.O.L. Verwaltung GmbH

Microsoft Azure Peering Service (MAPS) and the so-called Closed User Groups (CUGs). With the CUGs, DE-CIX meets the demand for secure, virtual and private connectivity environments for enterprise ecosystems as well as for the digital value chain. The first prototypes of these CUGs were set up in 2021. They are already in productive use and have connected the first participating companies.

In 2021, the demand for cloud connectivity also strengthened as a result of the increasing cloud transformation of enterprises. This resulted in almost 200 per cent growth in bandwidth (including new on-ramps) for connections to leading global and smaller regional cloud service providers. Around 350 GBit/s of cloud connectivity has already been delivered via the DE-CIX Cloud Exchange, and further strong growth is expected.

Simplified access for businesses to interconnection services is also driven by DE-CIX through continuous investment and innovation in automation. As one example, the DE-CIX Self-Service Portal was introduced for all locations in 2021. It enables customers to book or adjust services flexibly within a very short time – at the touch of a button. Corporate clients can use the portal to scale services such as DirectCLOUD according to their current needs. They also benefit from fully automated provision via API.

In order to better reach the new target group of corporate customers, DE-CIX's partner programme also evolved in 2021. In this regard, a total of 17 new partners were acquired in 2021, focusing exclusively on corporate clients as their main target group. Crucial to this progress is the DE-CIX "Channel Alliance Partner Programme" introduced at the end of 2020, which grew by eleven new partners in the DACH (Germany, Austria and Switzerland) region in 2021 – including, for example, Can-com, Medialine and Acontech. In addition, the first partner in Spain, Kaizen Networks, also signed up in 2021. In the "Channel Alliance Partner Programme", DE-CIX supports system integrators, managed service providers and IT consulting companies in meeting the interconnection needs of enterprise customers. In addition to providing access to its product portfolio for enterprises, DE-CIX supports its partners with onboarding, technical implementation and the training opportunities offered by the DE-CIX Academy.

Global connected capacity

+30%
96+ Tbits



Global connected networks

+20%
2480+



Peak traffic DE-CIX New York

1+ Tbps



Connected networks DE-CIX North America

+20%



One of DE-CIX's most important endeavours is to pass on knowledge about interconnection. In this context, DE-CIX entered into a partnership with the Universitat Pompeu Fabra (UPF) in Barcelona in autumn 2021 to establish the DE-CIX Global Interconnection Academy. The hybrid education and training programme will start in the fourth quarter of 2022 and is aimed at both IT professionals and students. DE-CIX wants to establish a globally recognised certificate for interconnection experts.

DE-CIX in the regions – from North America to Southeast Asia

DE-CIX North America – the largest neutral interconnection ecosystem in North America

2021 was a year full of milestones for DE-CIX North America. DE-CIX Dallas celebrated its fifth anniversary and is now one of the 15 largest Internet Exchanges in the USA. DE-CIX Chicago celebrated its first anniversary at the end of 2021 and DE-CIX Richmond began operations in December 2021 with 20 locally connected networks already in place. In addition, the migration of former RVA-IX customers to the new DE-CIX Richmond switches was successfully completed at the Richmond site, adding almost 50 more connected networks to the North American ecosystem.

DE-CIX New York exceeded the magic mark of 1 Tbit/s with 1.28 Tbit/s data throughput at peak times in December – the second DE-CIX Internet Exchange ever to do so. Among other aspects, this can be attributed to an increased demand for connections with high bandwidths. At DE-CIX New York, there was an increase of more than 50 per cent in 100 Gigabit Ethernet (GE) ports, while at DE-CIX Dallas there was almost double growth (plus 84 per cent). Across the North American DE-CIX ecosystem, the number of connected networks grew by almost 20 per cent. Connected bandwidth increased by almost 60 per cent across all North American locations, reaching a total of 15 Terabits by the end of the year.

DE-CIX in Southern Europe – the largest neutral interconnection ecosystem in the region

DE-CIX 2021 also recorded numerous highlights and milestones in Southern Europe. Launched in 2016, DE-CIX Madrid celebrated its fifth anniversary and has evolved from the world's fastest growing Internet Exchange (IX) to the heart of the largest neutral interconnection ecosystem in Southern Europe.

In addition, DE-CIX expanded its presence into the Catalan capital: DE-CIX Barcelona started operations in October 2021 and had already registered more than 30 connected networks at the start.



Compared to the previous year, the cumulative connected customer capacity at the five DE-CIX sites in Southern Europe (Lisbon, Madrid, Barcelona, Marseille, Palermo) increased by almost 40 per cent to a total of 6.5 Terabits. The number of connected networks also increased – by 17 per cent to 450. A look at the highlights of each Internet Exchange shows that DE-CIX Lisbon increased its connected capacity by 10 per cent in 2021, while DE-CIX Madrid grew by 23 per cent, with the number of networks peering in the Spanish capital increasing by 10 per cent (to 225). DE-CIX Marseille at the

Mediterranean Coast saw significant growth of almost 70 per cent in connected capacity and 9 per cent in connected networks (to 115).

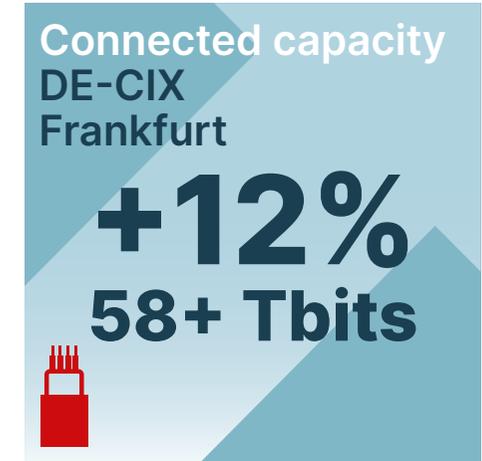


DE-CIX in Germany – steady bandwidth growth in Frankfurt and the regions

The first pandemic year 2020 led to several records in data throughput at DE-CIX Frankfurt. But in 2021, the peak traffic at DE-CIX Frankfurt even exceeded this with over 10.8 TBit/s. The number of connected networks in Frankfurt at the end of the year was 1,078 and the connected bandwidth was over 58 Terabits, an increase of 12 per cent. This, in turn, can be attributed to the increasing demand for 100GE connections (also an increase of 12 per cent) and the first 400GE connections connected and in operation. To meet the demand for ever higher bandwidth connections, DE-CIX upgraded the edge routers in Frankfurt with the latest Nokia technology to future-proof the platform for the coming 800GE era.

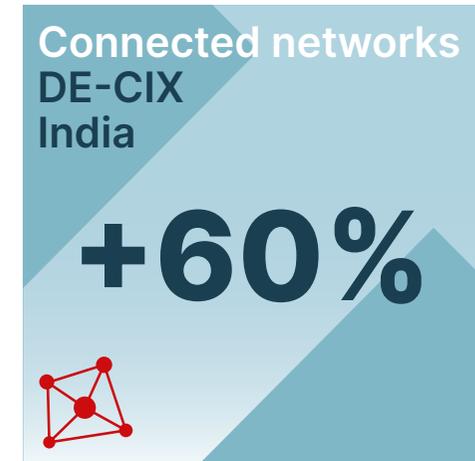
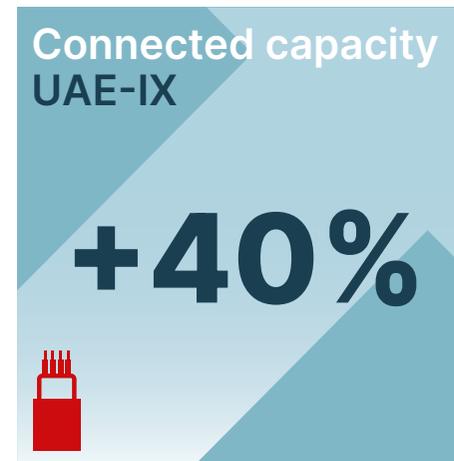


In addition to Frankfurt, DE-CIX also grew strongly in Germany with its regional Internet Exchanges (IXs) in Hamburg, Dusseldorf and Munich. While just over 1,000 networks were connected to DE-CIX Frankfurt, making it one of the most important Internet Exchanges in the world, a cumulative total of more than 700 networks were connected to the regional IXs at the end of 2021. Dusseldorf in particular recorded a strong growth of 16 per cent in connected networks. At Germany's northernmost Internet hub, DE-CIX Hamburg, connected capacity increased by 40 per cent and data traffic at peak times by 70 per cent. DE-CIX Dusseldorf recorded an even more significant growth in connected customer bandwidth of more than 160 per cent compared to the previous year, as well as a 65 per cent increase in peak traffic. The southernmost German Internet Exchange, DE-CIX Munich, increased its data



throughput by 41 per cent at peak times and the connected customer bandwidth by almost 130 per cent. This strong growth in connected customer bandwidth in Dusseldorf and Munich is also a result of the high demand for 100GE ports.

In addition to growth at existing locations, DE-CIX also expanded its presence in Germany. In February 2021, the Ruhr-CIX powered by DE-CIX went into operation in the densely populated Ruhr region as part of the DaaS programme. Also in February, DE-CIX and Stuttgart-IX announced a partnership that will provide local Internet service providers and regionally based enterprise customers from the Stuttgart metropolitan region with access to the DE-CIX Cloud Exchange.



Expansion to Northern Europe

In November 2021, DE-CIX announced its expansion into Northern Europe – Norway, Denmark and Finland. The region is currently experiencing significant growth in data centre investment for traditional hosting, storage, or cloud services, and traditionally has a high concentration of businesses and manufacturing operations, all of which require a competitive interconnection infrastructure. The first new DE-CIX sites in Northern Europe are expected to become operational during 2022 and will be fully integrated into the existing DE-CIX interconnection ecosystem.

DE-CIX Istanbul – the only Internet Exchange that bridges two continents

In its sixth year of operation, DE-CIX Istanbul has become an important link for interconnection between the Middle East and Europe. Internet service providers and network operators from Turkey, Iran, the Caucasus region and the Middle East connect at DE-CIX Istanbul. The Internet Exchange is accessible from data centres in different regions of Turkey such as Istanbul, Ankara, Bursa and Izmir. Demand for high bandwidth connections also increased at DE-CIX Istanbul, which was reflected in a significant growth of booked 100GE ports by almost 170 per cent. As a result, the connected customer bandwidth increased by 90 per cent to a total of over 2 Terabits.

UAE-IX powered by DE-CIX – at the digital crossroads from East to West

Established ten years ago in 2012, UAE-IX powered by DE-CIX in Dubai (UAE) is the leading carrier and data centre neutral Internet Exchange in the Gulf Cooperation Council (GCC) area. In 2021, UAE-IX saw significant growth due to higher bandwidth requirements from customers. Overall, the number of 10GE ports increased by 30 per cent and the number of 100GE ports by 50 per cent. The cumulative connected customer capacity at the end of 2021 was just under 2 Terabits – an increase of almost 40 per cent compared to the previous year.

DE-CIX India grows strongly – Mumbai becomes largest Internet Exchange in APAC

DE-CIX India with Internet Exchanges in the cities of Mumbai, Delhi, Kulkatta and Chennai continued its success story in 2021: DE-CIX Mumbai, for example, became the largest Internet Exchange in the entire APAC region in the middle of the year, according to PeeringDB, and DE-CIX India was named the fastest-growing interconnection platform in the "Global Achievers Award 2021". The cumulative number of networks connected to the DE-CIX India platform grew by more than 60 per cent to a total of over 470. The growth of booked 100GE ports almost tripled across locations. The total capacity of connected customers increased by about 160 per cent to almost 7 Terabits.



The data throughput at peak times at India's largest Internet Exchange, DE-CIX Mumbai, was on the verge of reaching the 1 TBit/s mark at the end of the year. The number of connected networks at DE-CIX Mumbai increased by 40 per cent to 389, while at DE-CIX Delhi it rose to 57, and at DE-CIX Chennai it rose to 25. At DE-CIX Delhi, the first 100 GE ports were also sold in 2021, which was instrumental in increasing connected customer capacity by more than one Terabit. DE-CIX Chennai even saw a tripling here and the total connected customer capacity rose to over 700 GBit.



DE-CIX – Development in Southeast Asia

Following the establishment of DE-CIX Malaysia and DE-CIX Singapore in 2020, the infrastructure of all DE-CIX sites in Southeast Asia – Singapore, Johor Bahru, Kuala Lumpur – was successfully migrated to the award-winning DE-CIX Apollon interconnection platform in 2021. This means that network operators and companies in Southeast Asia can now also access DE-CIX interconnection services, ranging from peering to DirectCLOUD. In addition, DE-CIX established an Internet Exchange on the island of Borneo together with Unified National Networks (UNN), the national network infrastructure operator of Brunei, as part of the DaaS programme. Borneo-IX is based at the Tungku cable jetty in Brunei and serves customers across the island – in Brunei, Malaysia and Indonesia. The DE-CIX Internet Exchanges

in Southeast Asia form a common, interlinked interconnection platform, so that customers at one of the locations can also reach all networks connected at another location without additional costs. In 2021, the total customer bandwidth connected to the DE-CIX interconnection platform in Southeast Asia was 958 GBit and the total number of connected networks exceeded 50.

Further information is available at:
www.de-cix.net



DE-CIX Top 3 Resellers 2021





From left to right:

Julia Janssen-Holldiek

Director

Astrid Braken

Legal Counsel

Stephan Hradek

System Engineer

Sebastian Kluth

Technical Lead

Maïke Marx

Marketing & Event Manager

Florian Mielke

Manager Business Development

Qadir Rostamzoda

Marketing & Business Development

8.2 Certified Senders Alliance

The Certified Senders Alliance (CSA) was founded in 2004 as a central certification body for email senders. The joint project with the German Dialog Marketing Association (DDV) establishes high legal and technical quality standards and certifies companies that meet them. Certification offers numerous advantages: In addition to improving the delivery of emails to recipients, organisations can also counteract poor reputation and dissatisfied recipients, as well as penalties for legal violations.

Growth with an international focus

For the CSA, the year 2021 was a year that was still strongly marked by the economic impact of the Covid-19 pandemic. Especially during the time when physical life was at a standstill, commercial relationships were maintained via email. Compared to the previous year, the CSA once again processed a higher volume of IP addresses. At the end of 2021, the CSA had 151,674 IPs on its positive list, representing a growth of approximately 15 per cent.

Whereas the CSA received 225 requests for certification, only one third of the concrete applications could be concluded with a certification. These figures are proof of the CSA's consistently high standards. Even if international trade fairs and events could not take place as usual, various digital formats formed the basis for intensified cooperation with

mailbox providers and other anti-spam associations. In this way, the CSA was also able to gain a valuable partner. Abusix provides email and network security solutions for mailbox, cloud and hosting providers. Through the partnership and the inclusion of the CSA IP list, certified senders receive advantages in the deliverability of their emails.

Added value for participants

In July 2021, the CSA launched the Certification Monitor. This monitor enables certified senders to independently track spam complaint rates at the company, IP and domain levels. This transparency provides an effective early warning system, with which problematic customers can be identified and informed at an early stage. Certified senders can optimise email strategies together with their customers and protect their platform from abuse and



spammers. In addition to the spam complaint rate, senders can find out about DKIM errors and spamtrap hits that can also damage their reputation. By exchanging data with mailbox providers, the CSA was able to monitor approximately 700,000 individual DKIMs in 2021 and evaluate information on an email volume of approximately 410 billion emails.

Proven effectiveness of spam control

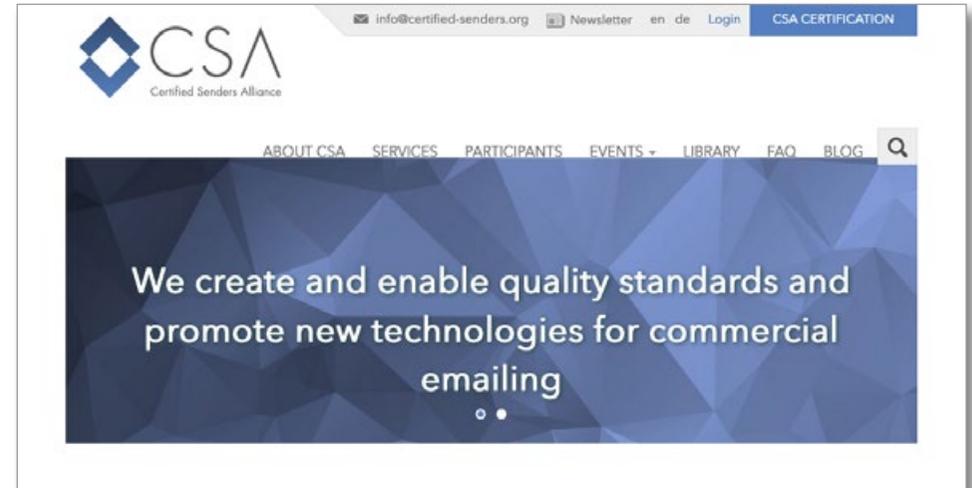
Quality control of the certified IP list is always a top priority for the CSA. The background to this is the promise of quality to mailbox providers and the promise to certified senders to be legally on the safe side and technically up to date with the CSA criteria.

The CSA was proven to reduce spam, relieve mailbox providers and protect users from unwanted messages in 2021. In cooperation with its certified senders, the CSA has been

able to reduce the spam complaint rate among mailbox partners with whom it exchanges data by about 30 per cent. This huge improvement means better protection for email recipients and better future deliverability for certified senders. Even if manual checks of certified senders are largely automated, the individual consultation provided by the eco Complaints Office remains an important pillar for ensuring quality.

Digital formats for a strong network

The email community is international and very active. Various players are uniting to set up technical standards and improve the medium of email. The CSA is part of this and offers certified senders access to this network. Through blog articles on various legal and technical topics and intensive digital communication with its members, content could be conveyed, and the network strengthened.



The Email Summit of the year under review was a great success for the second year in a row. Numerous international speakers from renowned companies provided content on current topics, including Yahoo, 1&1 Mail & Media GmbH, Fieldfisher and many more. The CSA also provided relevant content in several webinars and was able to further establish the CSA Email Summit as an internationally relevant industry event. More details are presented in **Chapter 10.5**.

The CSA looks back on a successful year in 2021, with a growing international focus, and is continuing to work on legal and technical standards and their implementation in order to improve the quality of commercial emails.

Further information is available at:

www.certified-senders.org



8.3 deutsche ict + medienakademie / eco Academy

For more than twenty years, the deutsche ict + medienakademie has dedicated itself as a flagship project to the task of researching and organising discussions on Internet topics that are often complex and also very dynamic, with this taking place at the optimal level for executives. In doing so, current developments in the fields of new media and new communications, IT, telecommunications and the Internet are brought together on a neutral platform on the basis of well-founded studies, reports and experiences of specialist experts.

As a company of the eco Group, it is also responsible for parts of the eco Academy, which offers members of the association and other interested parties the optimal mix of neutral professional development at the highest level and expertise in the daily business of the Internet industry.

To do so, the Academy uses various formats, such as expert roundtables, in-house training & coaching. Since the beginning of the pandemic, it has also increasingly employed hybrid and online formats. After its anniversary celebration had to be postponed several times due to the pandemic, 20+1 years of the deutsche ict + medienakademie could finally be celebrated on a small scale in 2021. On 5 October 2021, high

above the rooftops of Cologne, friends and partners got to chat in a relaxed atmosphere, to enjoy refreshments and to look back at past times. You can find a report on this from [page 103](#).

Expert roundtables, conferences & webinars

With around 300 high-ranking experts acting as stimulators, the Academy has been offering a highly qualified platform for knowledge exchange for many years, which is a unique format in Germany. This "think tank" has addressed topics such as edge computing, digital health, digital resilience, artificial intelligence (AI) and the future mobile communications standard 6G. Many of the

events were organised in the framework of the eco Academy and many others were supported by the eco Association. In 2021, the Academy held more than 20 events, providing around 1,500 executives with solid and in-depth information. A selection of events is highlighted in more detail here:

"Hexa-X" Expert Roundtable

Will 6G bring us even beyond the end of the road? In the context of the EU project Hexa-X, together with the Ericsson, Nokia and Siemens partners, a comparative look was taken under this heading from the direction of 5G to the future 6G mobile communications standard. Features that were presented and discussed included not only the latest research phase and the framework conditions, but also concrete application areas such as "Tele Surgery" (tele-operations with robotics), the development of AR/VR in the direction of holography, or the deployment in Industrial IoT for real-time processes control.

"Next-Gen Internet"

For many observers and users, the open global Internet is the epitome of freedom and diversity. But even in the early days of the Internet, some countries created control mechanisms to shield themselves against overly global influences, not to mention Closed User Groups spanning across websites, involving interest groups on a specific topic. The topic of Closed User Groups (CUGs) is far-reaching and gripping and can certainly be classified as having



the same degree of significance as other cornerstones of the Internet, such as regulation, resilience, security and sovereignty. In this context, with the support of DE-CIX, the Academy held the "Next-Gen Internet" event series in the second half of 2021. Due to the pandemic, the five events took place in partly hybrid form and purely online for sharing. Numerous high-ranking experts discussed topics such as "Closed User Groups", digital health, digital automotive and Industry 4.0. The "Roadshow" was supported by partners such as Heise Medien, Tagesspiegel and TÜV Rheinland.

26th Broadband Forum

For many years, the deutsche ict + medienakademie has dedicated itself to the development of digital infrastructure in Germany within the framework of the Broadband Forum. The 26th Broadband Forum on the topic of "Smart Villages – Wasn't that the promise of

the Internet?" saw knowledgeable speakers from a wide range of industry sectors engaged in discussions both in Kölner MediaPark and online. Supported by Deloitte, Huawei, Sonalake, TÜV Rheinland and other partners, the forum this year welcomed 130 participants. Over the past 20 years, the Broadband Forum has established itself as a meeting place for the industry and offers the opportunity to engage in a direct exchange with experts, away from formal presentations.

Cooperative ventures

As a neutral platform, the deutsche ict + medienakademie cooperates with a wide variety of associations and institutions. Multiple events were implemented as joint events or with the support of partners, including BREKO, DFK, Digital Health Germany, FK TG, Fraunhofer, GIMI, IHK Köln, IfKom, Köln-Business, RFH – University of Applied Science, City of Cologne,

VATM and many more. Within the framework of the cooperation, the Academy was able to design and implement the following events on behalf of others:

- Study presentation "Digital Resilience in Cologne and the Region" (with the German ICT & Media Institute).
- VideoTech2021 – The multidimensional media society as a discontinued model? (with the Cologne Chamber of Commerce and Industry – IHK)

eco Academy corporate training & coaching

The Academy offered various in-house training sessions for clients. The leitmotiv was: Client orientation is the top priority. The clients determine the focus and requirements of the in-house training, while the Academy develops

qualification concepts to precisely fit the requirements. Intensity, content and scope are specifically geared to the previous knowledge and learning objectives of the participants. The focus here is on all topics related to the Internet and communication. In addition, since 2021 the eco Academy, in cooperation with the deutsche ict + medienakademie and TÜV Rheinland, has been able to offer certification courses in the field of artificial intelligence (AI).

Further information (in German) is available at: www.eco.de/akademie



*Markus Schaffrin
Head of Member
Services*



*Cornelia Schildt
Project Manager
IT Security*



*Michael Weirich
Security Analyst*



*Michaela Templin
Project Manager
Information Security/
New Work*

8.4 Cybersecurity Services

8.4.1 Smart and Safe on the Internet (SUSII.nrw)

“SUSII – Smart and Secure on the Internet” is an Internet security portal aimed at both the citizens of Cologne and small and medium-sized enterprises (SMEs) in North Rhine-Westphalia. The project is implemented in cooperation with the local police authorities and complements the existing offers of eco Cybersecurity Services and the eco Complaints Office.

The security portal is a central contact point for victims of cybercrime with a focus on first aid and prevention in all relevant areas of technical security as well as, for example, in matters of youth protection.

It summarises important information on the prevention of cybercrime in simple language and also relies on regional sub-pages with local colour to address the target group.

For example, as a special measure for the Cologne SUSII side, a catchy “Cologne IT Law” was developed, which summarises the most important IT rules in eleven paragraphs.

An overview of all local offers is available on the central website susii.nrw

After its successful kick-off in cooperation with the Cologne Police Department, the initiative has already been expanded since 2016 to include pages for the city of Leverkusen and

the Rhine-Erft district. The latter has gained a new patron in 2021 in the form of the new District Administrator of the Rhine-Erft district, Frank Rock.

The cooperation partners work together beyond the project, even under pandemic conditions. In 2021, for example, the partners organised a webinar for Safer Internet Day in Cologne; the autumn saw a joint online lecture for the Rhine-Erft district and a joint information stand at the weekly market in Hürth.

SUSII is also supported by the North Rhine-Westphalian State Criminal Police Office (LKA). A cooperation agreement has been in place between the LKA, networker NRW and the eco Association since 2017. In the course of this cooperation, SUSII promotes, for example, the LKA's prevention campaign “Strengthen your password!” Further co-operation is



planned for the future in order to expand the SUSII project to other cities and regions in NRW.

Further information is available at: www.susii.nrw



*Clarissa Benner, LL.M.
Attorney-at-Law
Legal & Compliance*

*Ivo Ivanov
Attorney-at-Law / Legal Counsel
Head of Legal & Compliance Division*

**DATA PROTECTION
OFFICER**

8.5 eco External Data Protection Officer

The eco External Data Protection Officer service is aimed, in particular, at small and medium-sized member companies. The eco data protection experts support member companies, especially with regard to adapting their business processes to the requirements of the GDPR. In this context, the service offers assistance with the introduction of new processing procedures, as well as workshops to raise employees' awareness and insights into data protection.

Advantages of an external data protection officer

Companies from the telecommunications and Internet industry are a particular focus of data protection efforts, as data processing for these

companies is associated with great risks. A number of member companies have therefore decided to avail of the services of the eco External Data Protection Officer service. In this way, they can not only save internal resources and avoid conflicts of interest that may arise from the other roles that an internal data protection officer may hold within the company, but also outsource the existing liability risk.

Data protection continues to develop dynamically

In 2021, the eco data protection experts continued to support customers in adapting their business processes to the provisions of the GDPR and the new German Federal Data Protection Act (BDSG-neu) by conducting data protection audits and workshops and advising

them on data protection issues. Data protection law continues to develop dynamically. In particular, last year the ECJ's declaration of the invalidity of the Privacy Shield agreement presented companies with major challenges in terms of data protection law. Companies first had to conduct an inventory of the providers used and check whether data was being transferred to the US. Following on from this, a valid legal basis for the transfer had to be found in order to avert possible risks for their own activities. To this end, the eco External Data Protection Officer services was available to companies in an advisory capacity.

eco External Data Protection Officer service

The eco data protection officers are qualified data protection experts with years of experience in the telecommunications and Internet industries.

In the coming year, eco will continue to support the service's customers with regard to further upcoming new regulations and any questions on the topic of data protection. If member companies have decided to cover the topic of data protection in-house, these members can book workshops and audits via the eco External Data Protection Officer service. In this way, eco helps to make companies even more aware of the relevance and importance of data protection.

The service is implemented in cooperation with Rickert Rechtsanwalts-gesellschaft mbH and dp.institute Data Protection Consulting GmbH.

Further information is available at: international.eco.de/eco-data-protection-service



*Andreas Weiss
Director EuroCloud Deutschland_eco e. V.*

*Peter Koller
Senior Project Manager Cloud Computing*

*Nils Klute
Project Manager Communication Cloud Services*

8.6 EuroCloud Deutschland_eco e. V.

Supporting cloud native providers, transforming system integrators and driving Europe's data economy forward on the strength of Gaia-X – EuroCloud Deutschland centres all of its initiatives around members and their topics. With great success: 34 companies joined the association in 2021.

EuroCloud Native

Either at events, on the web or in the trade press – in its first year, EuroCloud Native (ECN) successfully gave the often smaller-scale and sometimes highly specialist cloud native providers their own voice. The initiative, which was founded in 2020, launched its own website on 1 February: eurocloudnative.de announces

events, introduces members and alliance partners, and regularly publishes specialist articles.

From DevSecOps to FinOps, all the way through to resilience – the ECN frequently published online articles on the topics that catalyse the members' world. All articles were based on one-to-one interviews with the companies involved in the ECN. Through content marketing, the initiative positioned itself as a prime performer not only in the industry, but also in local search engines.

Networking, exchanging views and getting to know each other – numerous events offered the opportunity to do so. For example, Dr. Nils Kaufmann, Head of the ECN, took part in the

Cloud Native Virtual Conference by Vogel IT on 28 January and 19 October. In addition, the ECN organised its own webinars on specialist topics together with members such as Amazon Web Services, claranet, Deepshore, epcan, globaldatanet Google Cloud and Kubermatic. EuroCloud Board member Dr. Jens Eckhardt regularly provided information on legal issues in the Cloud Legal Meet-up. At the monthly ECN meetups, members got acquainted with one another and exchanged information on an informal footing.

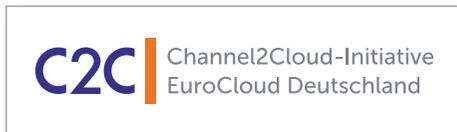
ISG Pulse Check and ECN Summit

The first ECN Summit took place on 28 October. One year after the initiative had been founded, its members finally got to meet up in Frankfurt. Thirty-five participants accepted the invitation for on-site networking. On the agenda was the publication of a study on the Status

Quo of the Cloud Native Market in Germany, which ISG had conducted on behalf of the ECN. Eight members had supported the project and contributed their know-how to its conception: Alice&Bob.Company, CLOUDETEER, Cloudwürdig, Deepshore, GECKO Software, globaldatanet, Kubermatic and tecRacer Consulting. The ISG Pulse Check was also the focus of an online press conference hosted by ECN and the eco Press Centre. The study is presented on a dedicated landing page: eurocloudnative.de/isg-pulsecheck.

Channel2Cloud

For German SMEs, system integrators are the backbone of digitalisation. But the channel finds itself under pressure. With its own initiative, EuroCloud Deutschland supports system integrators who are moving in the direction of managed services: Channel2Cloud (C2C)



positioned itself in the market in 2021 through the networks led by EuroCloud Board Members Bernd Krakau and Felix Höger. Both head up C2C and bring their expertise to bear on the initiative.

Why the system integration market of the future needs a new value proposition, to what extent Buy&Build platforms represent an entrepreneurial alternative, and when the sale of a firm's own business can be worthwhile for founders – in influential thought-leadership articles, the initiative positions itself not among the target group but also in the trade press: For example, in interviews with IT-Business and Channel Partners, Krakau and Höger presented the idea and goal of C2C, while Krakau also presented the initiative at the "Systemhauskongress" (the German System Integrators Congress) on 9 September.

Gaia-X

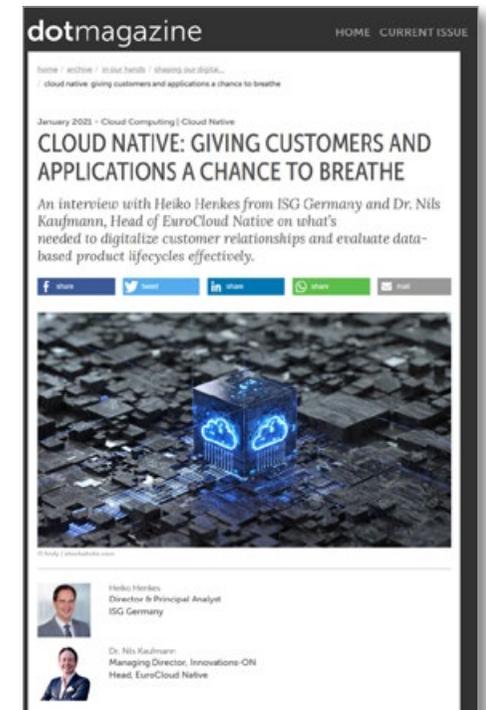
Democratising data marketplaces so that everyone can benefit, not just individuals: With

Gaia-X, Europe is making a difference. Together with its members, EuroCloud Deutschland is driving the initiative and making goals, successes and opinions visible. From cooperative competition to the advantages of open, standardised and interoperable landscapes, right through to digital sustainability – eurocloud.de conducts interviews with top thinkers such as Michael Jochem (Member of the Board at Gaia-X), Dr. Oliver Mauss (the then CEO of the plusserver Group) or Karl-Heinz Land (digital visionary) to explain how the abstract technologies of Gaia-X solve concrete societal issues in a transparent, secure, sovereign and sustainable manner. In addition, Andreas Weiss, Director of EuroCloud Deutschland, was involved in events such as the Hannover Trade Fair Industry Digital Edition on 14 April or the Gaia-X Summit on 18 and 19 November.

Cloud industry viewpoint

In 2021, EuroCloud Deutschland also held numerous webinars on general cloud topics. For example, a joint event series with ITENOS revolved around the virtualisation of data centres. In addition, the association contributed the cloud industry's viewpoint to guides, white papers and publications: For example, EuroCloud Deutschland collaborated on the content of two SME studies by gridscale.

Further information is available at: eurocloud.de





Andreas Weiss
Head of Digital Business Models



Hauke Timmermann
Digital Business Models Consultant

8.7 Service-Meister

Despite the pandemic and its side effects, the Service-Meister project took off. The exciting question: After individually developed AI solutions, how can generic services be provided?

The initial groundwork involved deep dives, summarised concepts on building blocks, and a modular system for the processes in technical service. This was followed by a consideration of the perspectives and requirements of the heterogeneous target group "SMEs". Existing standardisation concepts, such as the principle of the management shell, led to a uniform approach that can be further expanded in parallel with the developments – including Gaia-X.

The result is the first eleven AI services, which offer a preview of the future catalogue.

Intensive cooperation between the partners KEB, Würth, KROHNE and Trumpf with the implementation partners USU, inovex and grandcentrix as well as the scientific institutes and associations in the consortium made this possible.

The use cases of Service-Meister, also called speedboat projects, aim to bring artificial intelligence (AI) closer to SMEs. Despite the Covid-19 pandemic, the milestones set for 2021 were achieved. The results of the five speedboat projects: The tandems from industry and implementation partners solved individual use cases in industrial services on a digital basis.

And whether smart advisors, chatbots, augmented reality applications or apps – this is how an AI ecosystem for technical service in the age of Industry 4.0 is being created. "We are on the cutting edge with Service-Meister", says Hauke Timmermann. "AI is being used more and more often by SMEs." For the transfer to SMEs to be successful, there are still a number of cross-cutting issues to be addressed: the connection to Gaia-X, the consideration of industry standards, data spaces that are just developing, ethics, security and data protection. A very important special mission is the further training of users and AI trainers in the technical service.

On the strength of all of these activities, at the end of the first year Service-Meister can display results and a broad active network with more than 60 Associated Partners. With



numerous events, articles and personal discussions, the project was not only able to achieve wide dissemination, but also to address the requirements of SMEs and new trends. Those interested in the future ecosystem are excited about the federated decentralised system, which will be modelled on Gaia-X.

Further information is available at:
www.servicemeister.org



Roland Broch
Senior Project Manager Digital Infrastructures
Project Lead Datacenter Star Audit



8.8 Datacenter Star Audit

The goal of the Datacenter Star Audit is the assessment of the performance of data centre infrastructure on the basis of an objective catalogue of criteria. The first ideas in this regard were mooted as early as 2005 by the "Data Centre Working Group", which at that time was in the process of being founded. A year later came the market introduction and, since then, numerous data centres have been certified with this independent assessment instrument.

In addition to the overall redundancy assessment of the data centre, the evaluation also includes security aspects from the areas of Organisational Security, Structural Building Security, Supply Security and Technical Security. The evaluation of the data centre is carried out according to predefined criteria and evaluation matrices by at least two independent auditors.

The customers of data centre operators benefit here from increased market transparency. The auditing itself can be used as a basis for assessments by auditors, banks, and insurance companies.

In 2021, several data centres of A1 Telekom Austria AG at the locations in Vienna and Linz were successfully recertified for the second time in the category "Single Site Audit". In addition, the cluster consisting of three data centres at the Vienna location was successfully awarded the "Interconnected Site" audit in the highest category with 5 stars.

In addition to the successfully completed audits of existing data centres, a structural suitability test for a potential data centre location in North Rhine-Westphalia was also carried out as part of a consulting project. Initial preparatory talks have also been held for the recertification of existing data centres scheduled for 2022.

Further information is available at:
www.dcaudit.com



*Matthias Kurzhals
Coordinator CEBRA and
Head of School Development,
Berufskolleg Ennepetal*



8.9 CEBRA

With the CEBRA initiative, eco imparts up-to-date and immediately applicable business knowledge, and the participants qualify with a Certificate of “Counselor for E-Business Related Assignments”.

The accreditation, participant administration, test administration, and certification are processed in cooperation with the Vocational College Ennepetal (Berufskolleg Ennepetal). In addition to the coordination input of Matthias Kurzhals, Head of School Development at the Vocational College Ennepetal, a student assistant supports the administrative processes, as well as the maintenance and further

development of the learning platform and learning content.

On the one hand, the initiative is geared in particular towards vocational schools or comparable educational institutions who choose to provide their students/participants with up-to-date e-business training. On the other hand, it is also aimed at companies seeking further training for their employees working in e-business-related areas.

The practice-oriented CEBRA learning modules allow cloud-based learning over the eco-cebra.de Moodle server.

Certified e-business knowledge – practical and flexible

Applying a case study approach, the training offers practical content and places the focus on imparting competence-oriented action

strategies for solving real problems encountered in e-business. Having acquired the multi-layered learning, the participants demonstrate their progress in regular online tests and in a final examination.

After successfully passing their exam, the participants receive a certificate issued by eco, which certifies their extensive knowledge and skills in the topic of e-business. In 2021, contact with the participating education partners unfortunately took place too rarely on a personal level, but it became apparent that CEBRA is very effective not only as a supplementary offer for face-to-face learning offers, but also as a pure distance learning offer. The number of participants at vocational colleges and other educational institutions fluctuated slightly, but once again about 300 students took advantage of the offer and successfully acquired the certification.

In 2021, further additions were made to the content and users were supported at the two levels of teaching and learning. Teachers were offered training in the use of the platform and support for their first course runs. A regular exchange with the teachers and contact persons at the schools about processes and contents helps in the continuous development of the e-business learning offer.

Further information is available at: www.eco-cebra.de

9. Reports on eco Focus Topics

9.1 Digital Business Models

In 2021, eco further expanded its activities in the Digital Business Models division. In addition to Service-Meister, eco continues to support innovative projects and the shaping of digital infrastructures. Another interesting Industry 4.0 project that builds on Gaia-X has been recently added to eco's portfolio of activities.

Certified AI project

Since 2020, the eco Association has been involved as an associated partner in the Certified AI project, led by Fraunhofer IAIS and with the participation of the German Federal Office for Information Security (BSI), the Universities of Bonn and Cologne, RWTH Aachen and the German Institute for Standardisation (DIN). The project aims to develop technical testing principles for trustworthy AI. In 2021, experts provided a wide range of insights into current requirements and needs in the field of AI testing for project partners, associated partners

and other interested experts in the context of AI workshops, and an AI testing catalogue was presented.

LEAM initiative

Large European AI Models (LEAM) is a European initiative dedicated to developing AI solutions for German and European SMEs. In supporting the initiative, the eco Association fortifies companies who train large AI language models, reflect European values, and who ensure digital sovereignty in Europe. The initiative also advocates for the creation of appropriate computing capacities for training large AI models.

KI.ASSIST project

eco is also active as an Associated Partner in the KI.ASSIST (AI assistance) project, funded by the German Federal Ministry of Labour and Social Affairs (BMAS) through its Equalisation Fund. This project develops assistance services and artificial intelligence in vocational rehabilitation for people with severe disabilities. The

project, which will run until March 2022, is testing AR data glasses with which clients can learn work steps and implement them independently. eco provides support here through networking and dissemination of the content.

SPACER project

The SPACER project stemming from the AI Innovation Competition of the German Federal Ministry of Economics and Climate Action (BMWK) aims to create an ecosystem for scalable, adaptive production systems through AI-based resilience optimisation. SPACER is intended to help save the industry downtime and thus high costs. The eco Association is active as an associated partner.

Car Repair 4.0 (Autowerkstatt 4.0)

The Car Repair 4.0 (Autowerkstatt 4.0) project successfully prevailed in the 2021 funding competition of the German Federal Ministry of Economics and Climate Action (BMWK), a competition entitled "Innovative and practical

applications and data spaces in the Gaia-X digital ecosystem". A consortium comprised of measurement system providers, AI start-ups, companies from the automotive industry and research institutes is pursuing the goal of advancing the digitalisation of small and medium-sized enterprises (SMEs), in particular. It is developing a Germany-wide platform for the trustworthy data exchange of industry-specific AI models and vehicle data. With the help of the platform, car repair shops can use intelligent error diagnosis systems. Through the support of automotive oscilloscopes and AI-supported methods, targeted troubleshooting is to be simplified and made more precise. The project, which is scheduled to run for three years, is being supported by the eco Association through its broad societal reach and public relations work.



Andreas Weiss
Head of Digital Business Models



Emma Wehrwein
Project Manager
Digital Business Models



Lauresha Memeti
Consultant / Project Manager Cloud
Services & Gaia-X, Digital Business
Models



Vivien Witt
Consultant / Project Manager Cloud
Services & Gaia-X, Digital Business
Models

9.1.1 Gaia-X

With Gaia-X, the German federal government, industry and science are striving for a high-performance, competitive, secure and trustworthy data infrastructure for Europe. Since the project's launch at the Digital Summit in October 2019, several hundred experts have been working on the comprehensive European data ecosystem.

The eco Association has supported the project from the outset. In addition to the continuation of project management for the Gaia-X Federation Services Project (GXFS-DE) and representation on the Gaia-X Architecture Board, the eco Association has also been

represented on the newly founded Expert Council of the Mobility Data Space since autumn 2021.

In 2021, measures for the international outreach of Gaia-X were promoted. This was achieved through various events, podcasts, webinars and communication measures such as participation in the Gaia-X Summit, a Gaia-X. NRW information event on the funding announcement by the German Federal Ministry for Economic Affairs and Climate Action (BMWK), and the BMWK Digital Dialogues with Brazil and India.

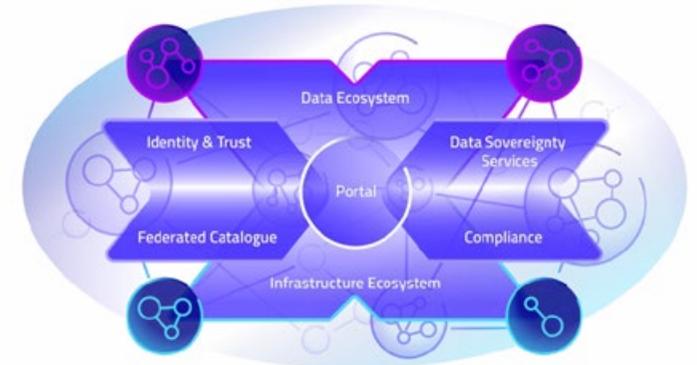
Digital Responsibility Goals: Initial analysis of Gaia-X

In addition, the eco Association and Identity Valley initiated a partnership to develop the so-called Digital Responsibility Goals, a guideline for responsible behaviour in the digital space. The project aims to make digital responsibility measurable. The guiding criteria developed by Identity Valley and the experts were tested out through an analysis of Gaia-X.



Gaia-X Federation Services: Go-ahead for the implementation phase

In spring 2021, the project partners, coordinated by the eco Association, completed the specification of the first Gaia-X Federation Services. These form the technical basis for the development of a European data infrastructure for the secure digitalisation and networking of different participants. In detail, the specifications concern sovereign identities, a catalogue for providers and services, assistance for sovereign data exchange and compliance considerations.



Based on these specifications, the individual lots were awarded in autumn 2021 so that the implementation partners could start implementing the first open-source reference implementation – the so-called GXFS toolbox – at the end of the year.

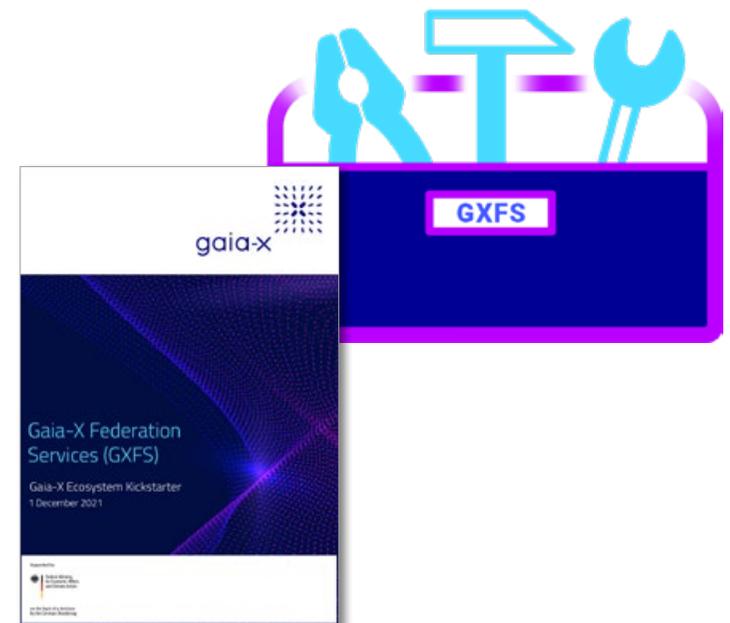
Gaia-X Federation Services: Series of transfer measures launched

In autumn 2021, the eco Association also launched far-reaching transfer activities as part of the GXFS-DE project in order to impart orientation knowledge for the software components and to transfer it to concrete application through targeted measures.

The first workshops with use cases from the AI funding competition took place at the end of 2021. In addition, the first white paper was published, which provides background knowledge on the Gaia-X Federation Services.

Further information is available at: international.eco.de/topics/gaix

www.gxfs.eu





Alexander Rabe
eco Managing Director



Dr. Béla Waldhauser
Spokesperson for the Alliance for the
Strengthening of Digital Infrastructures
in Germany



9.2 Digital Infrastructures

9.2.1 Alliance for the Strengthening of Digital Infrastructures in Germany

The Alliance for the Strengthening of Digital Infrastructures in Germany – an initiative of leading representatives from the digital infrastructures ecosystem, with a focus on the data centre industry – was founded under the umbrella of eco in 2018.

In 2021, the initiative once again highlighted how digital infrastructures can make a decisive contribution to achieving the climate goals in Germany and Europe, whilst also acting as an engine for the functioning of the economy and society.

With the help of 360-degree communication, the eco Alliance was very successful in communicating to politicians, the public and the media that, from the word go, the topics of digitalisation and sustainability must be regarded in tandem with each other.

In 2021, the Alliance members exchanged views with multiple relevant experts from politics and business in panel discussions, background talks, keynote speeches and at their own events. These included exchanges with: Katrin Schütz, State Secretary in the Baden-Württemberg Ministry of Economics, Labour and Housing; Manuel Höferlin, Chair of the Digital Agenda Committee; Kristina Sinemus, Hessian State

Minister for Digital Strategy and Development; Christian Rickerts, State Secretary of the Berlin Senate Department for Economic Affairs and Energy; Dr. Andreas Meissauer, Hessian Ministry of Economics; Stephanie Wüst, FDP Frankfurt; Anke Domscheit-Berg, Member of the Bundestag for The Left Party; and representatives of the responsible federal ministry – which is now the German Federal Ministry for Digital and Transport (BMWi).

1-to-1 talks between policymakers and the industry

Background talks held in 2021 included an exchange on a concept for a possible Data Centre Office with Rolf Wimmer, Counsellor

for Digital Affairs & Data Protection with the Alliance 90/The Greens parliamentary group, with this exchange taking place on 22 September in the federal state parliament of Hesse. Earlier, on 20 May 2021, an internal exchange took place with the Alliance Steering Committee on the tendered establishment of a register for data centres in Germany and the development of an evaluation system for energy-efficient data centres. In addition, two internal coordination meetings with members of the Steering Committee and the Advisory Body of the Alliance for the Strengthening of Digital Infrastructures in Germany took place on 5 February and 4 October 2021.

In the year under review, in the course of the Bundestag elections and the follow-on coalition negotiations, the initiative was also very

successful in communicating its political demands and goals. This was done both in public and in one-to-one talks with politicians and other industry experts. In addition to the national roll-out of digital infrastructures, one of the key demands was that Germany must accelerate the climate turnaround and provide a sufficient quantity of renewable energies.

Increase in media presence by 151 per cent

The Alliance's media presence in 2021 was also strongly marked by the combined topic of digitalisation and sustainability. Of particular merit here was the national and international reporting of the Alliance study "Data Centres in Europe – Sustainability & Digitalisation". This study was published in autumn 2020, with this also bringing the topic of waste heat utilisation

from data centres further into the focus of politics, the media and the public. The Alliance's involvement in signing the Climate Neutral Data Centre Pact also produced a similar resonance. In 2021, the eco Alliance itself was able to generate numerous reports, guest contributions and participation in podcasts, with this involving a wide range of leading media, not only in the DACH region but also internationally.

In this context, the topical focus on sustainability chosen by the Alliance proved to be the right decision, since the topic was discussed very intensively in the media debate, not least in the light of the Covid-19 pandemic and the significant attention paid to the increasingly visible importance of digital services and efficient digital infrastructures. As such, the eco Alliance was able to increase its national and

international media coverage in 2021 by around 151 per cent compared to the previous year.

Reconfigured corporate design

The need to more strongly intertwine the concepts of digitalisation and sustainability is also reflected in the new corporate design of the Alliance: this important aspect was inserted into the website and flyer, both of which were fully updated in 2021.

Newly designed sticker motifs also highlight the topic of sustainable digitalisation. A further motif reflects the issue of the shortage of skilled workers in data centres. For the website and flyer, strong statements by the members of the Steering Committee on Digital Infrastructures consolidated the public presentation of



the Alliance for the Strengthening of Digital Infrastructures in 2021.

Further information is available at: digitale-infrastrukturen.net/en



Roland Broch

*Senior Project Manager Digital Infrastructures
Overall Coordination of the Data Centre Expert Group*

Dr. Béla Waldhauser

*Leader, eco Data Centre Infrastructure Competence
Group*

Marc Wilkens

Leader, eco Data Centre Efficiency Competence Group

9.2.2 Data Centre Expert Group

In 2021, experts from the Data Centre Expert Group were once again active in various Competence Group meetings, workshops and panel discussions. Due to the ongoing Covid-19 pandemic, as in the previous year, almost all of the meetings took place in the virtual space in the form of webinars and online meetings. The kick-off event that took place virtually on 9 February was "Data Centre Trends 2030 – Trends, Technologies & Strategies for the Future". Over the course of a 90-minute webinar, experts exchanged views on current developments in the fields of construction and the technical operation of data centres.

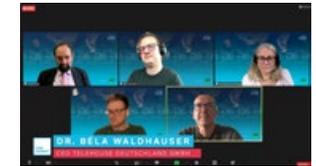
On 16 February, the third session of the webinar series "Data Centre Trends in Europe", held in cooperation with the Dutch Data Center Association, offered participants an insight into the field of "digital infrastructure investments". Renowned experts from the financial sector discussed developments in the global data centre markets. On 9 March, members of the Competence Group took part in a hearing of the German Federal Environment Agency (UBA) on the ecolabel of the "Blue Angel – Climate-Friendly Data Centres (DE-UZ 161)". The award criteria for the revision of the label were discussed over the course of the virtual exchange.

As part of the Twenty2X digital trade fair on 18 March, Dr. Béla Waldhauser, Leader of eco's Data Centre Infrastructure Competence Group, presented a best-practice approach to the utilisation of waste heat in data centres.

The Cloudfest on 24 March offered the Competence Group experts the opportunity to discuss various aspects of the development of data centre markets, both with each other and with the online international participants. At the heart of the discussions were three panels "From Hyperscale to Edge", "What do we need for a sustainable Cloud Infrastructure Solution?" and "Power to the Cloud – it's all about energy and connectivity". The CG Leader Dr. Béla Waldhauser took on the role of moderator for the various topic sessions.

On 31 March, Dr. Béla Waldhauser and other industry experts discussed sustainability aspects of digital infrastructures with Katrin Schütz, State Secretary in the Ministry of Economics, Labour and Housing of the State of Baden-Württemberg, as part of a virtual discussion round of the eco Alliance for the Strengthening of Digital Infrastructures in Germany.

On 21 April, the series of panel discussions on the topic of "Digital Infrastructures – Guarantor for Sustainable Digitalisation of the Economy" was continued; this time with Kristina Sinemus, Minister of State in the Ministry for Digital Strategy and Development of the State of Hesse.



As part of the Net Zero & Sustainability Data Center Summit on 22 April, Roland Broch participated as an eco representative in the discussion on the design and construction of climate-neutral data centres.

“Germany as a Business Location: What does the future of data centres look like?” This was the central question addressed by eco’s Managing Director Alexander Rabe and Jens-Peter Feidner, Managing Director Equinix Germany, during a roundtable discussion at the Hessian “House of Energy” on 26 April.

On 8 and 9 June, the stage was set for the first “eco Data Centre Expert Summit” (see also [chapter 10.1](#)). During the two-day virtual

conference, the moderators welcomed a total of 24 high-profile experts from the data centre industry to six different panels. In addition to the two strategic management panels on the topic of “Digital Pioneer” and “Digital Leader”, further topics revolved around the areas of security, connectivity, and air conditioning and power supply for data centres.

On 24 September, as a representative of the eco Alliance for the Strengthening of Digital Infrastructures in Germany, Günter Eggert from NTT Global Data Centers discussed the “Significance of Digital Ecosystems for Berlin as a Business Location” together with Christian Rickerts, State Secretary in the Berlin Senate Department for Industry, Energy and Operations.

Corporate digital responsibility was at the top of the agenda of the first CDR Summit on 21 October, which the CG Leader Dr. Béla Waldhauser attended together with other experts.

On 16 November, the CG Leader Dr. Béla Waldhauser and other eco colleagues took part in the final conference, “Climate Protection Potentials of the Digital Transformation”. The aim of the project, launched by the Borderstep Institute, was to research both microeconomic and macroeconomic evidence on the role of changes in demand and relocation of production in the use of ICT.

At the joint roundtable of eco Association and DENEFF e.V. on 18 November, the discussion

focused on “Practical Examples en Route to Energy-Efficient Data Centres”. The CG Leader Dr. Béla Waldhauser presented the “Westville” project, a best-practice example of waste heat utilisation in data centres. In the subsequent workshop session, the participants discussed possible solutions for climate-neutral operation of IT infrastructures on the virtual whiteboard.

Further information is available at: international.eco.de/datacenter



Lorenz Grehlich
Leader, Networks Competence Group

Roland Broch
Senior Project Manager Digital Infrastructures
eco Contact for Networks



9.2.3 Networks Competence Group

The Networks Competence Group's 2021 agenda included topics related to network security as well as issues around connectivity, Smart City, business model development, and regulatory issues.

On 31 August, specialists from the Networks Competence Group participated in the thematic talk "The New Normal – Safe & Secure Technology and Tools in the Hybrid World of Work", which was organised by the New Work Competence Group. Frank Weismüller, CORNING Optical Communication, reported together with Jan-Werner Kern on the challenges of hybrid working from a network point of view.

As part of the digital 5G.OWL week, eco's Roland Broch was available on 8 September as a representative of the Networks Competence Group to answer interested participants' questions about sustainable and climate-neutral network operation.

"High-Security and High-Performance Applications for the Networks of the Future" – under this motto, Lorenz Grehlich, Leader of the Networks Competence Group, and Oliver Dehning, Leader of the Security Competence Group, welcomed the participants to a joint meeting of both Competence Groups on 24 November. Within the framework of six short presentations with subsequent discussion, current developments, as well as future trends from

the networking world, were on the agenda of both Competence Groups.

Uli Schlegel, ADVA Optical Networking, informed the participants about the possibilities of secure end-to-end encryption. Andre Egners, Rohde & Schwarz, explained the top six risk factors for safe working in the private working-from-home network. Björn Schwarze, ADDIX Internet Services, gave an outlook on the project "Förde 5G", which deals with autonomous ferry shipping as well as the integration into the Smart City concept of the city of Kiel.

Nick Bustin, Akamai, addressed various fraud scenarios in the network in his presentation and showed corresponding solutions for protection against ransomware and other threats. How much legacy is there in the cloud? This question was posed by Thilo Hospe from Men@Net GmbH. Andreas Reinhardt, Ellwanger&Kramm, showed the network specialists possible liability risks with autonomous driving systems from an insurance law perspective.

At the end of the meeting, eco's Nicolas Goss took the specialists through current regulatory issues of the German Federal Network Agency (BNetzA).

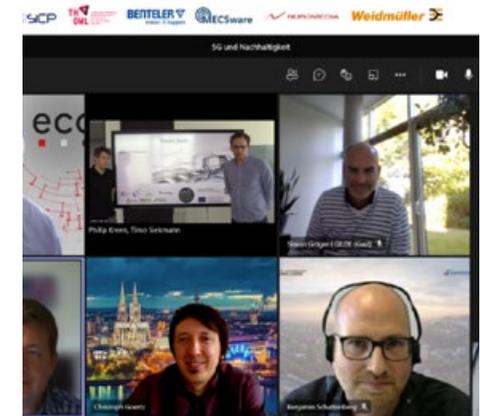


In addition to the activities of the Networks Competence Group, representatives of the CG took part in a seven-part webinar series, which was held in cooperation with ITENOS GmbH and other partners from 16 March to 16 November. The individual webinar episodes covered topics such as connectivity, market development, edge computing and the use of AI and robotics in the data centre.

In addition to Lorenz Grehlich as Leader of the Networks Competence Group, Falk von Bornstaedt will, in future, actively support the CG with his expertise as another network specialist. Various coordination meetings already took place in 2021.

Further information is available at: international.eco.de/topics/networks

The expert round table "City Carrier: Between Global Market Demands and Local Smart City Policies?" on 23 June, organised by the deutsche medien-akademie GmbH in cooperation with the eco Academy, was also actively supported by the Networks Competence Group as a partner event.





*Thomas Rickert, Attorney-at-Law
Director Names & Numbers
Leader, Names & Numbers Forum*

*Lars Steffen
Director eco International*

*Wolf-Ulrich Knoben
DE-CIX Advisor, ISPCP Chair*

9.3 Names & Numbers

The eco Names & Numbers Forum is one of the world's largest interest groups for the domain industry. The forum has more than 150 member companies, which includes registries, registrars, back-end providers, consultants and experts from the secondary market, covering the entire spectrum of the industry. The eco Names & Numbers Forum works with a broad network of partners. Thomas Rickert, Wolf-Ulrich Knoben and Lars Steffen represented eco members at all virtual ICANN meetings throughout the year.

In the year under review, further work was pursued on the "Expedited Policy Development

Process (EPDP Phase 2) on the Temporary Specification for gTLD Registration Data" in order to implement the GDPR for the WHOIS of domain names. In addition to this initiative, a further key element shaping the work of the eco Names & Numbers Forum at the Internet Corporation of Assigned Names & Numbers (ICANN) involved the ongoing discussion on the topic of "DNS Abuse".

As a long-standing member of the ICANN community, Thomas Rickert represents the interests of eco members in the Generic Name Supporting Organization (GNSO) and was heavily involved in the IANA Stewardship Transition. He currently represents the Internet Service Providers and Connectivity Providers Constituency (ISPCP) in

both the GNSO Council and the EPDP Phase 2 process. In order to drive the EPDP Phase 2 process forward, a "Registration Data Accuracy Scoping Team" has been set up, with Thomas Rickert serving as one of its members. The Scoping Team will evaluate the measures used by ICANN Compliance to monitor, measure, enforce and report on the accuracy obligations set out in the Registry Agreements (RA) and the Registrar Accreditation Agreement (RAA).

Wolf-Ulrich Knoben was re-elected as Chair of the ISPCP in autumn and will represent the interests of eco members in the Constituency for another term.

For the Competence Group, other central topics both within and outside of the ICANN setting included the discussions about the European Commission's Network and Information Security (NIS2) Directive, as well as liability issues for

intermediaries in the context of the Hamburg Regional Court case taken against the public DNS resolver and eco member Quad9. The eco Association supports Quad9 in these proceedings. Regarding the latest drafts of the NIS2 Directive, the Names & Numbers Forum compiled and published its own position paper on the effects on the DNS industry.

70th ICANN Meeting

As in the previous year, all ICANN meetings in 2021 were held on a purely virtual basis. Data protection in the context of WHOIS, the development of a Unified Access Model for the provision of WHOIS data – now also against the background of the Network and Information Security (NIS2) Directive – and the preparation of the next application round for new top-level domains and Universal Acceptance: these were just some of the topics on the meeting's broad agenda. In the year under review, the ongoing

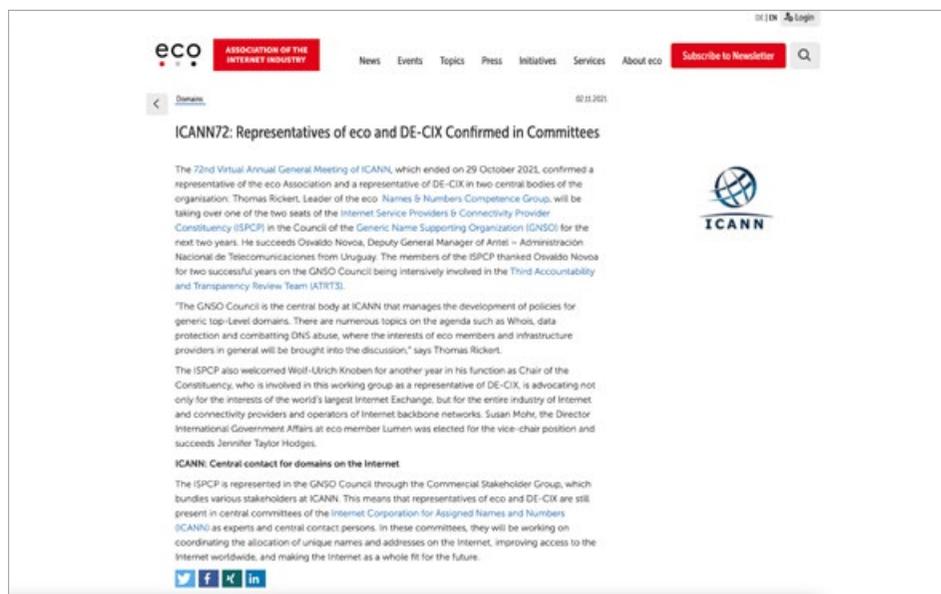
9. Reports on eco Focus Topics

discussion about attacks on and abuse of the DNS infrastructure, in short "DNS Abuse", gained an even higher level of attention from the ICANN community.

Webinars

On 3 March, in an eco webinar, the member companies InterNetX and Sedo delivered an international presentation on the second edition of the "Global Domain Report". The cooperation with ICANN in offering online training and webinars continued in an intensive mode in 2021. Joint training sessions were offered on the topics "DNS for Internet Service Providers", "DNS Ecosystem Security" and "DNSSEC 101" and there was a continuation of the readout format for ICANN meetings which had been launched in 2020. Following on from each ICANN meeting, ICANN and eco regularly offer a compact summary of the conferences in a webinar in which representatives of the various steering and advisory committees report on the current topics.

At NamesCon Online in September, eco was represented on three panels concerning different topics: "The Future of Domain Name Registration Data", "New gTLD Subsequent Procedures – The Next Round of TLDs" and "The Future of Intermediary Liability". The panel discussions were attended by a wide range of members. On 20 December, a webinar took place in which Competence Group members discussed the transposition of the Fair Consumer Contracts Act, which will come into force in 2022.



71st ICANN Meeting

One of the central topics of the policy meeting was the increasing degree of regulation that will affect ICANN and the community in the future. In particular, the Network and Information Security (NIS2) Directive, the Digital Services Act and the announcement of the European Commission's DNS4EU project were in focus. A session was also dedicated to the role of the ICANN multi-stakeholder model in the Internet governance ecosystem.

DNS over HTTPS

The eco discussion paper on the topic of "DNS over HTTPS", which had already received

significant attention in the previous year, constituted a further part of the association's activities in 2021. On 9 February, CENTR and the eco Association organised a joint hands-on workshop online on the configuration of DNS resolvers using DoH and DoT. In April, the translated Spanish edition of the paper was also published.

72nd ICANN Meeting

Following on from two years of virtual ICANN meetups, in this instance the community discussed the future of virtual and hybrid meetings. Experiences and best practices were shared in order to ensure that the meetings would remain effective and outcome-oriented.

At this meeting, the discussion on "DNS Abuse" was also taken on board by the Country Code TLD (ccTLD) community. During a two-and-a-half-hour workshop, several aspects were discussed and agreed upon concerning how ccNSO positions and engages itself on the topic of DNS Abuse. The results of the evaluation are to be presented in spring 2022.

The City of Hamburg, DENIC and eco also availed of the meeting as an opportunity to once again apply to host an ICANN meeting, given that the ICANN69 meeting in 2020 could only take place virtually due to the pandemic. During a virtual meeting, the representatives of the host team, eco Chair of the Board Oliver Süme, DENIC Board member Andreas Musielak and Rolf-Barnim Foth from the City of Hamburg officially handed over the application to ICANN CEO Göran Marby.

Further activities

In order to serve and represent association members, Thomas Rickert and Lars Steffen participated in other virtual events throughout the year, such as IGF Germany, EuroDIG and the Internet Governance Forum. The popular Domain-stammtisch.nrw took place in Düsseldorf in September after a long break. We are already looking forward to the next opportunity to once again meet our members in person in the coming year.

Further information is available at: international.eco.de/names-numbers



*Henning Lesch, Attorney-at-Law
Head of the Capital Office
Head of Policy, Law & Regulations Division*

9.4 Law & Regulations Competence Group

The Law & Regulations Competence Group is a platform for discussion and information for eco member companies. It is where content coordination is organised, position papers are prepared, enquiries on legal and regulatory topics are answered, and where eco's general positioning on the relevant Internet and network policy topics and questions is discussed. Through the Competence Group, members are given the opportunity to actively participate in legislation at the German federal and state level, as well as at the EU level, and thus to participate in the development of legal policy.

In the year under review, the Law and Regulations Competence Group had numerous points of contact with the political and regulatory arena. The meetings of the Competence Group were used to provide an overview on current legal policy issues and legislative projects and to discuss these together with the member companies.

The run-up to the German federal elections triggered many intervention points for the Competence Group. For example, the political positions and demands for an Internet Policy Agenda of the eco Association were developed and agreed upon together with the member companies. The election programmes of the parties represented in the German Bundestag,

and the coalition negotiations of the SPD, The Greens and the FDP also provided an opportunity for exchange, information, assessment and evaluation of the political plans with regard to their implications for the member companies.

In the year under review, the Competence Group focused in particular on the implementation of the revised German Telecommunications Act (TKG). This resulted in various opportunities to keep members informed and to provide a platform for discussions. Topics of the associated events included: the new right for consumers to a reduction in price in the event of deviations in data transmission rates, in interaction with the measuring tool of the German Federal Network Agency (BNetzA); and the obligation to provide telecommunication services (formerly universal service) in order to ensure a basic service in Germany. The

Telecommunications Act's requirements for protecting infrastructures and services and strengthening their resilience also stimulated discussions.

At the European level, the Digital Services Act, the Digital Markets Act, and the Network and Information Security (NIS2) Directive were of particular interest. The "Fit for 55" package presented by the EU Commission in summer 2021 gave rise to climate and energy policy issues for the member companies regarding the associated challenges and necessary framework conditions for sustainable and climate-neutral digitalisation.



André Görmer
Leader, E-Mail Competence Group

Patrick Ben Koetter
Leader, E-Mail Competence Group

Michael Weirich
Security Analyst
eco Contact for E-Mail

9.5 E-Mail Competence Group

The E-Mail Competence Group is an integral part of the German Internet industry with regard to the development of common standards for sending and receiving emails.

Via the group, technical problems of all kinds are solved informally and unbureaucratically, and agreements on new developments are reached. It is a closed group, as the handling of email is a sensitive subject. The data is valuable and needs protecting, and in order to find solutions to new challenges, participants have to be able to talk more openly about their systems than would be possible in a public forum. However, participation in the group is open to all eco ISPs.

Furthermore, invitations for other qualified participants can be issued by the group.

The E-Mail CG is led by recognised experts: André Görmer, Mapp Digital Germany GmbH, represents the side of the senders (ESPs) and Patrick Ben Koetter, sys4 AG, the side of the ISPs. At the beginning of 2021, the Competence Group consisted of 91 participants from 52 companies.

The revision of the published documents, which had started in the previous year, continued in 2021. In this field, the expert opinion on the compatibility of DMARC with the GDPR was reviewed, and assistance was provided for the selection of a DNSBL.

In order to work cooperatively on documents with a widely varying number of people, the E-Mail Competence Group relies on Gitlab to tackle the various projects. In addition to versioning, this enables eco to work on its documents simultaneously with different working groups.

In this context, the Competence Group started to work on the topic of DMARC and alignment, driven by the developments in the field of sender authentication on the part of its CG members.

The privacy features introduced with IOS 15 were discussed in advance by the Competence Group, and their implications for an email

marketeer were also the subject of discussion. Here the Competence Group is of the opinion that measuring the open rates of an email cannot be a reliable measurement of reach.

Many members of the E-Mail Competence Group are also involved in the Certified Senders Alliance. Therefore, the Competence Group has set itself the goal of inviting an official representative of the CSA to each of its meetings. This will both advance the topic of email and safeguard the interests of both the recipients and the sending companies.



*Lucia Falkenberg
eco Chief People Officer
Leader, New Work Competence Group*

*Michaela Templin
Project Manager
Information Security / New Work*



9.6 New Work Competence Group

In the hybrid working world, the advantages of flexible, digital working models are combined with the benefits of a customised workplace culture. This means that, even when the Covid-19 pandemic is over, any number of IT companies will in the future instil the good experiences of digital collaboration into new, hybrid working models and offer their employees a blend of in-the-office work alongside flexibility regarding time and location. Because, in spite of the numerous advantages that working from home brings, such as work-life balance and the elimination of long commutes and regular business trips, a lack of direct exchange with colleagues in the office can be a real disadvantage. A good two-thirds of employees would therefore like to see so-called flex-work

models in the future. Furthermore, the possibility of location-independent work is also becoming increasingly important in the competition for the best talents. For this reason, in 2021 the New Work Competence Group focused on the "new normal" of the working world and explored a series of topics on different aspects of digital collaboration. The emphasis was placed less on new technologies and more on the question of how work can be rethought and redistributed with technical tools, and how bridging the gap between colleagues can be achieved with digital tools.

Topic talks – the new normal

To fulfil the association's goals of accompanying our members on their path into the hybrid

world of work, presenting best practices and providing a better understanding of the opportunities and possibilities of the digital world of work, the New Work CG held a series of digital events:

- Hybrid recruiting
- Recipe for success for hybrid onboarding
- Mental health and stress management
- Safe & secure technology and tools in the hybrid world of work

As usual, an emphasis was set on questions and suggestions from members, and the events were rounded off with encouraging examples and success stories from the New Work community. The CG is pleased that it was able to generate very concrete recommendations for action and tips from each of the events:

- **Guide** to onboarding new employees, with checklists for onboarding and 10 practical tips, such as virtual onboarding
- **Report** on the latest developments in recruitment, incorporating innovative HR technologies
- The most important **tips for IT security** in the hybrid world of work
- **Guide** to building stress resilience

Do not hesitate to send any future wishes, questions or suggestions to: new-work@eco.de

Further information is available at: international.eco.de/new-work



Dr. Bettina Horster
Leader, Internet of Things Competence Group

Martin Kumstel
Leader, Mobility Competence Group

Tatjana Hein
Project Manager Internet of Things and Mobility

9.7 Internet of Things / Mobility

There were a number of focal topics and issues that the Internet of Things Competence Group examined and discussed in 2021, ranging from security in IoT to the infrastructural foundation for IoT applications, right through to the Smart City. In this regard, the publication of the study “The Smart City Market in Germany: 2021-2026” was a central project.

Security by Design – New security testing standard for IoT devices

The topic of security in IoT was a central aspect in 2021, which gained in importance with the new security test standard EN 303 645.

At a cross-competence group roundtable for the IoT and Security CGs on 25 February, together with the German Federal Office for Information Security (BSI), members had the opportunity to discuss the new testing standard, its implications for manufacturers, and the benefits for users.

IoT in healthcare – How can hospitals be protected from hacker attacks?

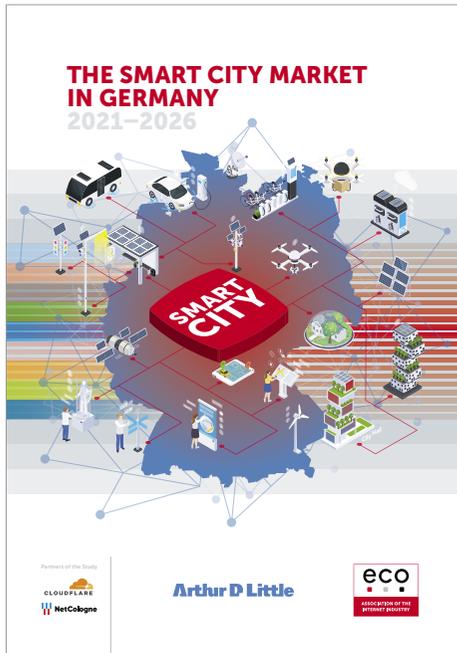
Especially in the hospital environment, the surge in digitalisation has opened up new potential. However, the possibilities of networking also offer new attack prospects for cybercriminals.

But how can hospitals protect themselves against cyberattacks and what measures should be taken if a hacker attack has occurred? The IoT CG was able to get to the bottom of this question with various speakers on 22 April.

IoT business trends 2020 Smart Neighbourhoods – essential building blocks on the way to a Smart City

Smarter, more sustainable and more social: The requirements of the inhabitants of urban living spaces are constantly changing. To meet the new needs, the development of Smart Neighbourhoods is a crucial factor.

Under the direction of Dr. Bettina Horster and Thorsten Stuke, the speakers at the IoT Business Trends discussed challenges and implementation, as well as decisive aspects of a Smart Neighbourhood.



Together with the consultancy Arthur D. Little, the eco Association published a study on the Smart City market in Germany. The study outlines drivers, trends and challenges in detail for a total of nine segments of the German Smart City market.

The 56-page study "The Smart City Market in Germany 2021-2026" contains valuable insights into the development and potential in the coming years. Special thanks also go to eco's members and supporters NetCologne, Cloudflare, Uber and Vodafone, who provided pivotal support for the study.

Executive roundtable on Smart City Cologne – sustainable infrastructure as a central basis for Smart City development

The City of Cologne laid the foundations for its Smart City early on. With one of the largest shares of fibre optics in Germany, the best conditions exist for the digital transformation. On this basis, around 15 experts and decision-makers from business, society and politics discussed possible drivers and concrete measures for the smartification of Cologne on 7 October. They were invited to the Club Astoria by the eco Association. The event in Cologne marked the start of a series of events to launch the Smart City study in different cities and with different focal topics in the Smart City context.



Virtual MWC – Smart City Forum, Smart City Workshop, Bits & Currywurst (Digital Week Dortmund)

With its Smart City focal topic and the related study, the IoT CG was able to present itself at various events. On an international level, the "Smart City Forum" of the virtual MWC provided a fitting platform to present the study results. In the context of energy suppliers and the real estate industry, the study results met with great interest at the "Smart City Workshop" in Cologne. In the course of the Digital Week Dortmund, eco was able to present the study at the event "Bits & Currywurst" with a focus on the aspect of sustainability. This could be deepened in a subsequent panel discussion.



Mobility Competence Group

In 2021, the eco Association decided to shift the topic of mobility from the Internet of Things Competence Group to an individual Competence Group under the leadership of Martin Kumstel, Uber Germany GmbH.

The aim of the Mobility Competence Group is to establish an exchange platform for members and interested parties on mobility topics along the value chain. Innovative business models, new concepts for intermodal mobility and new technologies are to be presented and discussed.

Mobility of tomorrow – Where is the journey heading in the future?

The official start of the Mobility Competence Group was the first CG meeting on 25 November. In addition to the presentation of the Competence Group, Martin Kumstel and various speakers, such as Dr. Tobias Miethaner, German Federal Ministry of Transport and Digital Infrastructure, started the discussion on the content. The topic of the event was the mobility of tomorrow and how the mobility industry will change. Various aspects discussed included the digitalisation of mobility from the perspective of the German federal government, smart municipalities with innovative mobility concepts, and the use of mobility data with regard to intermodal mobility solutions.



Photo: @antispameurope



Oliver Dehning
Leader, Security Competence Group

Cornelia Schildt
Project Manager IT Security

Michaela Templin
Project Manager Cybersecurity
Member Services

9.8 Security

In order to increase trust in the Internet, the topic of security is of the utmost importance to eco. In addition to a broad range of initiatives and services, a dedicated Competence Group deals with current issues of security with regard to the industry. A further Competence Group called the Anti-Abuse CG serves as a forum for member-internal exchange on current abuse topics. Once a year, for its "IT Security Study", eco asks experts about their most important security topics, the threat situation, and current trends.

9.8.1 Security Competence Group

In 2021, the Security Competence Group dealt with four main topics: "Security in the IoT", "Secure Software", "Quantum Computing" and "Secure Networks". In addition, together with member companies, webinars on the topics of "Cybersecurity", "Ransomware", "Fake on the Internet" and "Artificial Intelligence" were offered to interested parties. The Competence Group delivered comments on current affairs, and also contributed to the development of the Internet Policy Agenda. Arising from a meeting of the Advisory Board, the State-of-the-Art Working Group was established at the beginning of 2021, with this group meeting regularly in 2021.

Security by Design for the Internet of Things

On 25 February, a roundtable – Security by Design – on the New Security Standard for IoT Devices (ETSI EN 303 645) was held together with the IoT Competence Group. Thomas Gilles, who is involved in the standard and the test specification for the German Federal Office for Information Security (BSI), presented the current status, which was then discussed with 20 members of the two CGs. This resulted in the compilation and publication of eco's calls for more security in the IoT. After the publication of the associated test standard (mid-2021), the topic was further prepared for the members and discussed with experts on two panels over the course of the Internet Security Days.

Secure software right from the start

On 28 April, the Competence Group met on the topic of "Secure Software from the Start". Dr. Steven Arzt, Fraunhofer SIT, presented the status of secure software engineering from a research perspective. Representatives of eco member companies complemented this with reports from their companies. Sebastian Schäffer, Alice&Bob.Company GmbH, reported on how the step from Higher Walls to Security as Code can succeed. Martin Heilandt, OpenX-change AG, shed light on the aspect of how open source can lead to more security in software. The meeting was accompanied by the media.

9. Reports on eco Focus Topics

Post-quantum cryptography

On 30 June, a virtual meeting was held together with the Anti-Abuse Competence Group on the topic of "Towards a Quantum-Safe Future". Various experts reported on the current developments in the field of quantum computing, and the members discussed the implications for the industry. First, Dr. Joachim Schäfer, IBM, reported on the current state of quantum computing. Dr. Falko Kötter, Fraunhofer IAO, illustrated the effects of this from a research perspective. Dr. Stavros Kousidis, BSI, presented the developments in the field of post-quantum cryptography. In the discussion that followed, the participants agreed that some precautions must already be taken now to prepare for further developments in this area. The meeting was accompanied by the media.

Secure networks of the future

On 24 November, an exchange on the topic of "High-Security and High-Performance Applications for the Networks of the Future" took place together with the Networks Competence Group. In six short presentations followed by a discussion, experts from eco member companies (ADVA Optical Networking, Rohde & Schwarz, ADDIX Internet Services GmbH, Akamai, Men@Net GmbH, Ellwanger & Kramm GmbH & Co. KG) addressed current technological developments as well as future trends in the post-Covid era. Topics such as zero trust, network encryption, performance management, network solutions for autonomous driving, liability risks and an analysis of network traffic

in times of the pandemic were the focus of the discussion. In addition, current regulatory developments were addressed.

Security Expert Talks and webinars

The eco webinar offer was already expanded in 2020 with Security Expert Talks. With this format, eco offers member companies a platform for presenting their competencies while presenting eco as a knowledge platform for interested new contacts. Due to the good response from member companies and participants in the previous year, the series was continued in 2021.

On 25 January, an English-language webinar was held together with member Odix on the topic of "Cyber Security – From Theory to Practice". Odix CEO and former commander of the Israeli Defence Forces Cyber Defence Unit, Dr. (col) Oren Eytan, spoke about current cyber threats and countermeasures.

On 23 February, the first Security Expert Talk of the year addressed the topic of ransomware. With Tim Berghoff, G Data CyberDefense, Anne Arians, FUJIFILM Recording Media GmbH, and Peter Weisz, odix, three member companies showed their expertise in the preventive and reactive handling of security incidents related to ransomware.

In the Security Expert Talk "Everything is Fake" on 18 May, security experts showed how easily counterfeits can be made and what means the industry uses to protect itself. Niklas

Hellemann, Sosafe, showed how deception is possible with the help of deep fakes. Joachim Feist from the INSPECTION project presented a method for detecting fake shops and fake websites. Ester Makaay, Signicat, showed how domain registration can be secured using electronic identities and how this project is being implemented in various European countries.

On 2 June, the Management Systems Working Group, in cooperation with the German SME federation BVMW, hosted the webinar "A Day Like No Other". A real-life case was used to illustrate the processes of a ransomware attack in a manufacturing company, from the attack to its discovery and complete recovery.

At the Security Expert Talk on 31 August, security experts showed how AI and machine learning are already being used today and what developments can be expected in the next few years. Prof. Köster, Founding Director of the Institute for AI Security and the German Aerospace Center (DLR), and Dr. Thomas Krüger, Head of Business Unit Development & Networks, Institute for AI Security, German Aerospace Center (DLR), presented the state of cybersecurity in the context of AI-based security-critical applications. Thorsten Urbanski, Head of Communication & PR DACH, ESET, asked the question "AI in IT Security? Balancing Act Between Advertising Bubble and Reality". David Baggerd, Head of Data Science at 1&t1 Mail & Media GmbH, showed how artificial intelligence will influence future business.

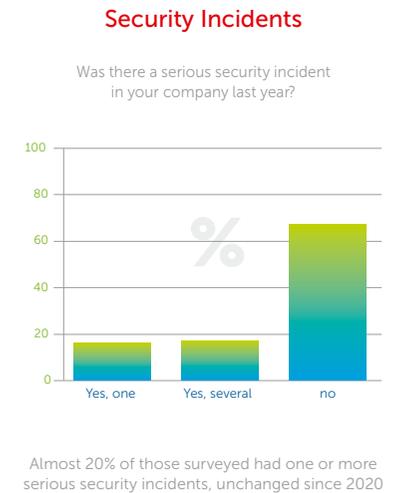
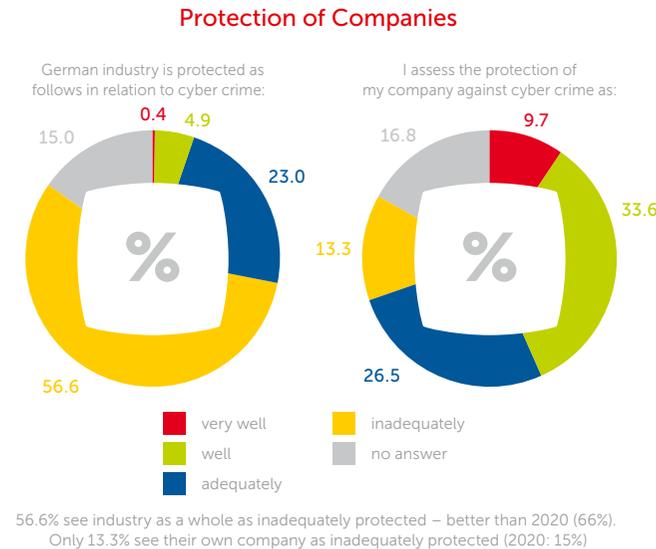
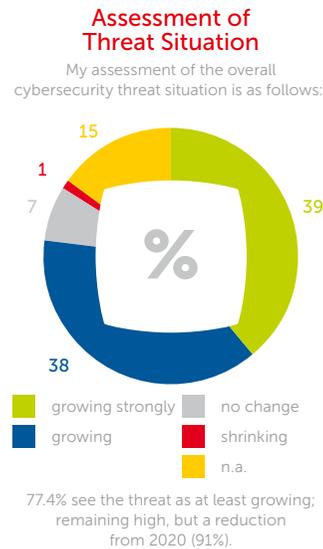
Positioning on current incidents

Based on the work in the Security Competence Group, communication and publications were prepared on both a regular and incident-related basis. Emergency management and patch management guidance were published in relation to the exchange vulnerability. Tips and tricks were published on the topics of smartphone protection, phishing protection in working from home, and "Safely Through the Summer". In connection with the ransomware attack on the IT service provider Kaseya, eco once again pointed out the importance of risk management and emergency preparedness in companies.

9.8.2 Study on IT Security

Germany's IT security experts also saw a high potential threat from cybercrime to the German economy in 2021. But there were also indicators that were cautiously positive: 77 per cent of the experts, and thus fewer than in the previous year, assumed that the threat would continue to increase. In the previous year, 91 per cent of the respondents had assumed that the threat situation would at least increase. This was shown by eco's IT Security Survey 2021. The eco Association surveyed 175 security experts from September to December 2020 and published the results in the [eco IT Security Study 2021](#).

"Even against the backdrop of this threat, many companies do not protect themselves adequately against cybercrime attacks," says Oliver Dehning, Leader of the Security Competence Group at the eco Association.



In fact, according to the eco survey, around 57 per cent of the experts surveyed believed that the German economy is inadequately prepared. One comparison with the previous year gives cause for cautious optimism: In 2019, 66 per cent and thus 9 per cent more experts agreed with the statement that the economy was inadequately prepared.

IT security also needs top priority in the pandemic

Oliver Dehning cautions that the slightly positive tendencies of the survey results should be correctly classified. "There continues to be a clear majority of IT security experts in Germany that assume that the IT security situation for German

companies will continue to deteriorate. Those responsible must continue to give IT security the highest priority; the pandemic must not be used as an excuse for a lack of IT security," says Dehning. Small and medium-sized enterprises, in particular, are still massively threatened by international cybercrime. For companies that are already weakened by the pandemic, a targeted attack by hackers could even threaten their existence.

A figure from the IT Security Survey confirms Dehning's thesis that many CEOs simply underestimate the danger: Only 13 per cent of those responsible see their own company as insufficiently positioned in view of cyber threats. In

fact, however, one in five companies (20 per cent) had one or more serious security incidents last year.

In the subsequent discussion and Q&A session, the background and the advantages of the security label for industry and consumers were discussed.

It was welcomed that the planned security label can make a meaningful contribution to transparency about the IT security level of products and services and thus offer added value for consumers.



Patrick Ben Koetter
Leader, Anti-Abuse Competence Group



Michael Weirich
Security Analyst

Joshu Wiebe, Head of the "Issuing of IT Security Labels" (SZ 35) unit in Dresden, gave an overview of the planned IT security label for the members of the Competence Group in his presentation on 18 August. In the subsequent discussion and question session, the background and the advantages of the security label for industry and consumers were discussed.

The planned security label was welcomed, given that it can make a meaningful contribution to the transparency of the IT security level of products and services and thus offers added value for the consumer.

In light of the upcoming elections, the members of the Competence Group discussed their view of the threat situation and compared it with the trends identified by the German Federal Office for Information Security (BSI) in 2021. What measures can service providers take against disinformation campaigns, hate speech and manipulation attempts – is this the responsibility of the platform providers?

As soon as the coalition agreement was announced, the Competence Group assessed and discussed the topics and aspects that were relevant to its members. The Competence Group identified important intervention points, with these including future projects and cooperation with authorities such as the German Federal Office for Information Security (BSI), with these points to be maintained and expanded in the future.

9.8.3 Anti-Abuse Competence Group

The eco Anti-Abuse Competence Group is comprised of representatives from the anti-abuse departments of German web hosting companies and Internet Service Providers, as well as selected experts from the anti-abuse field.

The Anti-Abuse CG has a particularly strong culture of confidentiality, and this allows a positive and open exchange between the specialist units of companies, many of whom are ordinarily each other's competitors.

At the beginning of 2021, the Competence Group comprised 74 participants from 39 companies and institutions. Due to the ongoing exceptional circumstances in 2021, no face-to-face meetings could be held, with the Anti-Abuse CG meetings therefore being held on a purely virtual basis.

At a total of four virtual meetings, the experts of the Anti-Abuse teams could network with each other and discuss developments and trends in their field.

The founding of the German "Clearing House Copyright on the Internet" (CUll) was investigated and discussed by the Competence Group. Both the Competence Group's opinion and the

ISPs' decision-making on the pros and cons of the Clearing House were discussed in detail and examined from both a technical and a business point of view.

In addition, the Competence Group took up the topic of RDAP as a possible alternative to WHOIS, a topic that is to be further explored in cooperation with DENIC in the future.

Together with the Security CG, the Anti-Abuse CG prepared a webinar "Toward a Quantum-Safe Future". This webinar involved a presentation on the current development in the field of encryption and a discussion on questions regarding post-quantum cryptography and how to prepare for it.



*Lucia Falkenberg
eco Chief People Officer
Head of Human Resources Division*

*Hanna von der Au
Association Communication
PR Manager*

9.9 #LiT – Ladies in Tech

Under the motto of “#LiT – Ladies in Tech”, the eco Association founded a networking initiative in 2019 that offers female professionals and managers in the digital industry and digital professions a platform for exchange. With the support of leading tech companies such as Salesforce and GoDaddy, the initiative is committed to making women from all digital disciplines more visible, to promoting their active participation in shaping the digital transformation, and to sustainably counteracting the shortage of skilled workers.

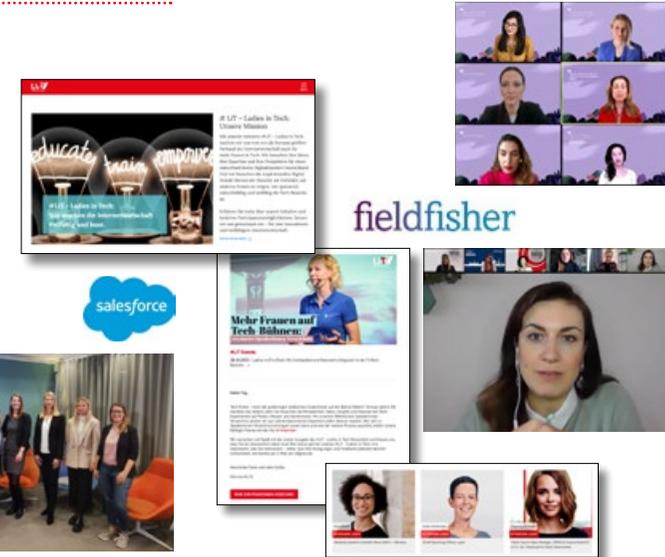
A digital hub for Women in Tech: launch of the lit.eco.de website, #LiT newsletter, interview series and #LiT LinkedIn group.

In 2021, we continued to expand our initiative and added a number of new activities. To this end, a new website was launched in 2021 as a content hub on the topic of women in tech. In addition to facts and figures and inspiring quotes, interested parties can find news, press releases and best practices on the site. At the end of September, we also sent out the first issue of the #LiT newsletter, which is exclusively dedicated to the women in tech topic. We also expanded our social media activities in 2021 with the participation of selected #LiT – Ladies in Tech and within the framework of our

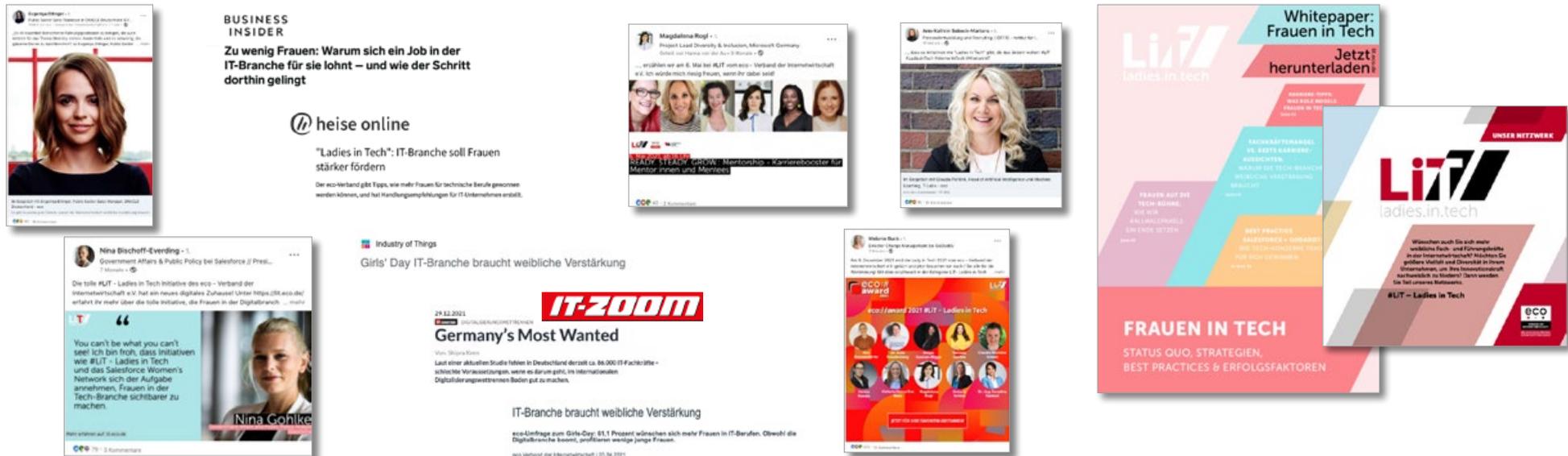
#LiT LinkedIn group, where women from the digital industry get to network and exchange experiences and opinions.

Online events with #LiT – Ladies in Tech and powerful partners

A total of three digital events were held in 2021 under the umbrella of #LiT – Ladies in Tech – in each case in cooperation with an eco member company or with powerful partners such as Hamburg@work. On 8 March, with an online event, Salesforce and #LiT – Ladies in Tech celebrated International Women’s Day and the first anniversary of Salesforce’s “Bring Women Back to Work” programme. Role models from the tech scene took part in the event, including Tijen Onaran, CEO and Founder of



Global Digital Women, Lucia Falkenberg, Chief People Officer with the eco Association and DE-CIX Group AG, and Petra Jenner, Senior Vice President EMEA, Salesforce. In May, the focus was on the topic of “Mentorship – Career Booster for Mentors and Mentees”, with this involving Magdalena Rogl, Head of Digital Channels at Microsoft, among others. The visibility of (and for) women in FinTech was the focus of the online event in cooperation with Fieldfisher. Panelists included Maria Mann, Founder of Financery, and Lea Frank, CEO of anybill.



Role models are the be-all and end-all: Interview series with role models

In keeping with the motto "If she can see it, she can be it", in 2021, there was a successful continuity of the interview series with role models from the digital industry. In total, ten interviews with inspiring female professionals and executives in the Internet industry were published in the 2021 series. Among the interview partners were: Vanessa Gentile, Salesforce; Sara Weber, LinkedIn; Claudia Pohl, Telekom; Jutta Horstmann, eyeo; and Margit Stumpp, Member of the German Bundestag, spokesperson for media and education politics, Alliance 90/The Greens. Several of these interviews were also published in the English-language dotmagazine.

Women in tech remain underrepresented: White paper on the topic of women in tech

In order to counteract the shortage of skilled workers, to get more girls and women excited about the tech world, and to provide impetus to the debate and recommendations for action, in autumn 2021, eco published a white paper as part of the #LiT – Ladies in Tech initiative. The paper is entitled "Women in Tech. Status Quo, Strategies, Best Practices & Success Factors".

The 35-page white paper highlights the proportion of women in the tech world with current facts & figures and focuses on the visibility of female professionals and managers in the tech world. In the white paper, the ambassadors of

eco's #LiT initiative, Salesforce and GoDaddy, provide insights into their best practices. These include, for example, measures such as flexible working hours, mobile working, internal company women's networks, and the monitoring and implementation of the "equal pay for equal work" principle.

The white paper is available here for download.

The nomination and voting for the eco://award in the #LiT – Ladies in Tech category also took place in 2021. However, due to the pandemic, the award ceremony had to be postponed to 2022. The ten finalists include: Kim Dressendörfer, IBM; Dr. Julia Freudenberg, Hacker School; Deepa Gautam Nigge, SAP;

Vanessa Gentile, Salesforce; Claudia Nicoleta Grimm, Grimm Academy; Hanna Kamijo, Vodafone; Victoria Hanna Eva Riess, Cambridge MBA Candidate; Magdalena Rogl, Microsoft; Melanie Schüle, Bechtle Cloud; and Dr. Fereshta Yazdani, Lufthansa Industry Solutions.

Further information is available at: lit.eco.de [dotmagazine](https://dotmagazine.com) [Diversity Page](#)



Christiane Skiba
Branch Manager Cologne
Head of Marketing & Events



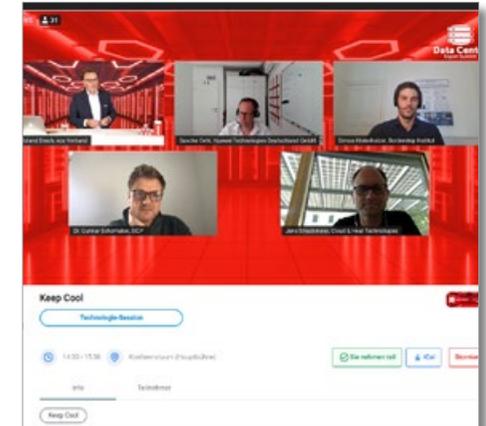
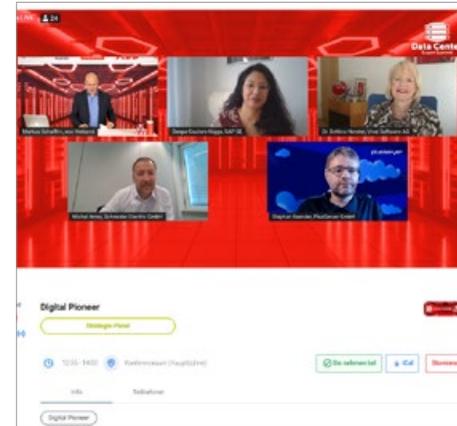
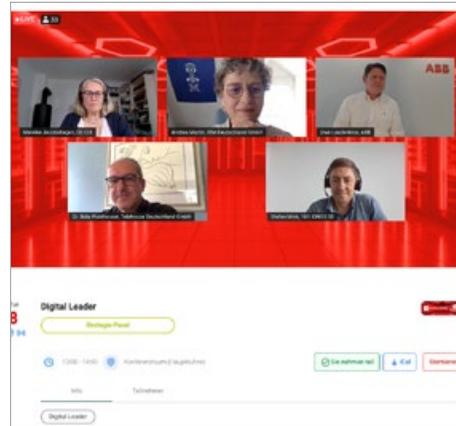
10. eco Events 2021

Even in the Covid-19 pandemic year 2021 with its many restrictions, we were able to hold multiple events and thus further capitalise upon one of the greatest advantages of our association: the lively and open-hearted exchange of bright minds. Even under these difficult conditions and with many events in purely digital formats, we remained constantly engaged in discussion and could therefore also underline our role as a pioneer of digital solutions.

An event highlight in early summer 2021 was the digital Data Centre Expert Summit, while in September, the Internet Security Days (ISDs) were hosted in a purely digital format for the second time running. Both events were organised via the new "talque" platform, which offered a wide range of networking opportunities. As the year moved on, in autumn it was good to see that some events were able to take place on-site once more in familiar surroundings. This included, for example, the "Music in the Houses of the City" series, which was hosted by the Cologne office; for many years, eco has been a member of the Cologne Art Salon due to its aim to promote art & culture alongside the Internet industry. On 5 October, the deutsche ict + medienakademie (dma) finally

got to celebrate its 21st anniversary on the 30th floor of the approximately 150-metre-high KölnTurm – one of the landmarks of the city and the Mediapark. Unfortunately, our participation in Cloud Expo Europe as well as the eco://kongress and the eco://award ceremony had to be cancelled at short notice after long-standing planning – Covid-19 threw a spanner in the works. But all that will definitely be made up for this year! For that we remain very confident.





10.1 Data Centre Expert Summit

For the first time, on 8 and 9 June, the Data Centre Expert Summit took place as a two-day online conference. The aim of the event was to share information about current developments and strategies for secure, high-performance and sustainable data centre operation. In the course of two top-class strategy panels and four technology sessions, all relevant aspects of the technical operation of a data centre were illuminated and examined in depth.

Digital Leader

What global market developments will we see in the post-Covid era? Where are the claims for the coming years currently being staked? How

can we exploit the potential that technologies such as IoT, 5G or artificial intelligence hold for us? These and other questions were dealt with in detail by the experts during a 60-minute discussion.

In the discussion: Uwe Laudenklos (ABB), Andrea Martin (IBM), Stefan Mink (1&1 IONOS) und Dr. Béla Waldhauser (Telehouse Deutschland). The panel was moderated by Mareike Jacobshagen, DE-CIX.

Digital Pioneers

The strategy panel "Digital Pioneers" opened the second day of the conference and addressed the question of how the Internet has become what it is today. What are the lessons

we can learn from the past for the further development of the Internet and what future developments should we keep an eye on?

In the discussion: Michael Arres (Schneider Electric), Dr. Bettina Horster (VIVAI Software), Stephan Ilaender (Plusserver) and Deepa Gautam-Nigge (SAP). The moderator was Markus Schaffrin, eco Association.

Keep Cool

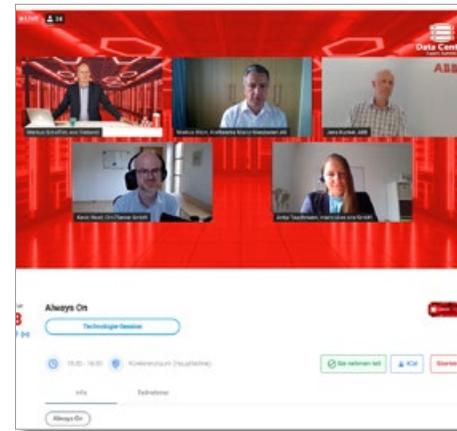
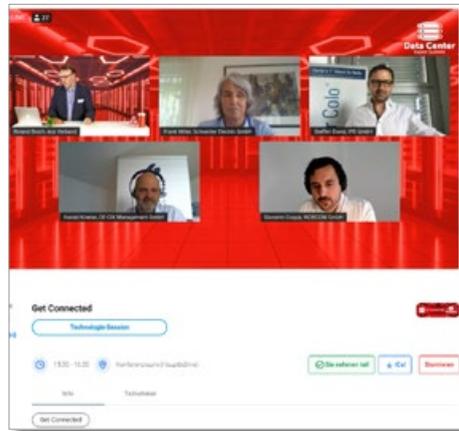
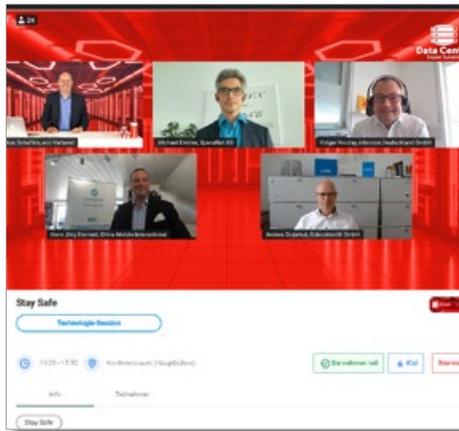
The experts on the panel "Keep Cool" discussed the highly innovative and optimised cooling concepts required to put the necessary power services for the IT servers on the road. Energy-efficient system components are the decisive factors for positively influencing the

energy efficiency benchmark PUE. The experts on the panel presented, among other points, various solutions for waste heat recovery and their savings potential.

Panel Experts: Simon Hinterholzer (Borderstep Institute), Sascha Oehl (Huawei Technologies), Dr. Gunnar Schomaker (SICP – Software Innovation Campus Paderborn) and Dr. Jens Struckmeier (Cloud&Heat Technologies). The panel was moderated by Roland Broch, eco Association.

Stay Safe

Hackers often gain access via data lines – but sometimes they also get into the server room through an open door. Many data centres are



classified as critical infrastructures (CRITIS) and are therefore subject to special requirements in terms of technical operation, but also in terms of staff and customer access. In addition to aspects of unauthorised access, the experts also discussed requirements for infection control and pandemic regulation.

Panel experts: Michael Emmer (SpaceNet AG), Hans Jörg Emmert (China Mobile International), Andres Dickehut (ColocationIX) and Holger Nicolay (Interxion Germany). The moderator was Markus Schaffrin, eco Association.

Get Connected

The panel "Get Connected" discussed, among other topics, what potential AI and IoT have for optimising data centres – how operators can still achieve streamlined processes in service management despite increasing complexity, and how automation can get a grip on data growth.

In the discussion: Giovanni Coppa (WOBKOM), Steffen David (IPB Internet provider in Berlin), Frank Miller (Schneider Electric) and Harald Kriener (DE-CIX). The panel was moderated by Roland Broch, eco Association.

Always On

A prolonged power blackout can mean the economic end for a number of data centre operators. Today's data centres are therefore no longer feasible without a highly secure, available and redundant power supply. Both power supply and distribution as well as the associated emergency concepts, which are embedded in business continuity processes, were discussed in detail by the experts on the "Always On" panel.

Panel experts: Markus Blüm (KWM AG), Jens Kunkel (ABB), Kevin Read (Om7Sense) and Antje Tauchmann (maincubes one). The event

was moderated by Markus Schaffrin, eco Association.

Further information is available at: dces.eco.de





10.2 eco Trust & Safety Summit

In 2021, the Trust & Safety Summit was the centrepiece of the campaign “Together for the Good of the Internet” for the 25th anniversary of the eco Complaints Office. The hybrid event took place on 26 August at the Kronprinzenpalais in Berlin, under the patronage of Dorothee Bär, who at that time was the German Minister of State for Digitalisation in the Federal Chancellery. The event’s content consisted of three virtual pre-sessions on the topics of compliance, prevention and security, in addition to the use of new technologies for combatting illegal Internet content.

The summit thus formed a successful exchange platform between policymakers and the Internet industry on current challenges in the prevention, take-down and prosecution of illegal Internet content.

After a video greeting by Dorothee Bär and a keynote speech by Prof. Dr. Christian Kastrop, the then State Secretary in the German Federal Ministry of Justice and Consumer Protection (BMJV), a panel discussion was held with representatives from politics, supervisory authorities and the industry on how the good of the Internet can be jointly strengthened. Participants included: Sebastian Gutknecht, Director of the Federal Centre for the Protection of Minors in the Media; Felix Reda, Head of

Project Control ©, Society for Freedom Rights; Eveline Metzen, Director, Government Affairs & Public Policy for Germany, Austria and Switzerland, Google; Kai Michael Hermsen, Co-CEO, Identity Valley; and Renate Künast, Member of the Bundestag, Alliance 90/The Greens.

In a further discussion round, the Association of the Internet Industry reviewed the past 25 years of the eco Complaints Office and presented an overview of an outlook into the future. The following were involved in the discussion on eco’s motivation and important milestones: eco’s Managing Director Harald A. Summa, eco Honorary President Prof. Michael Rotert, Head of the Complaints Office

Alexandra Koch-Skiba, and Attorney-at-Law Thomas Rickert.

At the three preceding virtual events, key network partners of the eco Complaints Office exchanged views on the topics of compliance, prevention and security, in addition to the use of new technologies for combatting illegal Internet content. Participants included Twitter, Instagram, the Central Bureau and Contact Office for Cyber Crime North Rhine-Westphalia (ZAC NRW), T3K-FORENSICS, the Entertainment Software Self-Regulation Body (USK) and the State Media Authority of North Rhine-Westphalia. Google, Facebook and Microsoft supported the event.



10.3 ISDdigital

There were two parallel-themed tracks full of presentations, discussions and networking on the topic of cybersecurity: From 16 to 17 September 2021, over 150 security experts and more than 60 speakers met at the second digital ISD via the event tool talque.

How can we boost cybersecurity in an increasingly connected world? The Internet Security Days (ISDs) were once again the meeting place for top security experts on 16 and 17 September. For the second year in a row, the ISDs took place as a purely online event via the conference tool talque, while in previous years it was held in Phantasialand near Cologne. However, the focus on cybersecurity remained the same:

In more than 40 online sessions, experts provided strategies for more IT security in our increasingly connected world. The ISDs 2021 were made possible through the kind support of DomiNIC, Huawei Technologies Germany and numerous other partners and sponsors.

The two daily parallel thematic tracks were opened by top-class keynote speakers, which included the German Federal Commissioner for Data Protection, Prof. Ulrich Kelber. As the organisers, eco – Association of the Internet Industry and heise Events welcomed around 150 participants to the panels and presentations. In the panel discussions on four thematic blocks over two days, as well as during the wide range of lectures, everyone had the

chance to ask questions and join in the discussion. In addition, as in previous years, the agenda offered numerous networking opportunities. The networking platform SpatialChat invited the participants to visit different rooms during the abundant number of breaks and to exchange ideas privately and make new contacts.

On 15 September, prior to the event, the registered participants already had the chance to practise IT security in optional workshops using practice-based examples. For instance, the participants of the IT Forensics Readiness workshop were "Attackers Hidden on the Track". This was followed by the workshop "Cyber Risks in Transition – Designing New Working

Environments Safely" and a workshop on analysing security messages in manufacturing networks.

On both days of the event, Cornelia Schildt, Senior Project Manager IT Security, and Markus Schaffrin, Head of Member Services at the eco Association, masterfully moderated the topic tracks and expertly guided the participants through the programme. The participants departed from the ISDs with the certainty that they had also exchanged valuable know-how in the digital space and made numerous new contacts.



10.4 20+1 years Anniversary of the deutsche ict + medienakademie

Founded as a non-profit project of the Bertelsmann Foundation and the state of North Rhine–Westphalia – and under the umbrella of eco Association since 2018 – the deutsche ict + medienakademie (dma) celebrated its 21st anniversary on 5 October 2021. A little different, but almost better than a conventional jubilee, it demonstrated the project's outstanding approach to problem-solving in its communication – that is, how to transmit balanced and in-depth information about complex and dynamic Internet topics to executives. In a typical format, before eating, drinking and celebrating on the 30th floor of Cologne's highest office building, the approximately 100 guests had to get down to hard work together with the speakers. After welcoming addresses had been

shared via pandemic-related video messages by the founder and long-time Managing Director of dma, Ekkehart Gerlach, as well as Cologne's Lord Mayor Henriette Reker and NRW's Minister of Economic Affairs Andreas Pinkwart, the event got down to business. Under the expert moderation of Stefanie Kemp, Country Leader Oracle Germany and eco Board Member, the following entered the stage: ex-LfM CEO Prof. Norbert Schneider; Vodafone Managing Director Anna Dimitrova; TÜV Rheinland Board Member Markus Dohm; and Prof. Matthias Jarke, former Director of long-time dma partner Fraunhofer FIT.

Prof. Schneider, known from his theological background as a creator of intricate propositions, set out to clarify where the semantic advantages of an academy such as the medienakademie lies – the audience listened to him with enraptured concentration followed by rapturous applause (which was not only due to the double rainbow that simultaneously appeared in the sky over Cologne). Anna Dimitrova looked at the advantages/disadvantages of Cologne (medienakademie and Kölsch) compared to Düsseldorf (Vodafone and Alt) from the special perspective of telecommunications. Markus Dohm referred to the paradox of life-long learning: Fast-moving Internet knowledge cycles would be confronted head-on with the increasing tendency of Internet users towards



convenience, be it by looking things up in Google instead of knowing things themselves or by communicating in quantity (e.g., Messenger Staccato) instead of quality (e.g., formulated emails). Finally, Prof. Matthias Jarke added to this with the all-embracing topic of AI, which is sure to accelerate the breadth and depth of its application in society and the economy over the next few years. It was no wonder that the medienakademie convened an expert roundtable with Fraunhofer under the title: "Does 'digital' make everything more complex – until only AI can save us?"

After the learning sessions, relaxation was the order of the day. This involved delicious food and drink, followed by the slicing of a huge birthday cake, which was ceremoniously handed over by eco CEO Harald A. Summa to his new subsidiary, the medienakademie. All of this was accompanied by live music and plenty of networking between new and old Internet experts.





10.5 CSA Digital Email Summit 2021

What do commercial senders of emails need to know in order to get the most out of emails as a communication and marketing tool? The CSA Digital Email Summit 2021 responded to this question and more in a series of webinars.

Bringing Email Education to the Masses

In her webinar, Mauren Meyer, EVP of Product Marketing & Brand Strategy at SocketLabs, shared tactics to educate key decision-makers (or customers) on the true value that can be unlocked by following basic email best practices and making deliverability, compliance and security a priority.

Competitive Tracking

In developing an email marketing strategy, it can be helpful to look at the competitors and learn from them. Jessica Hill, SparkPost's Customer Success Manager, is convinced that tracking engagement metrics, subject lines, email design, market segmentation and sending frequency will lead to improvements in a company's own campaigns.

A Day in the Life of a Consumer Mail User

According to Marcel Becker, Director Product at Yahoo, and Christian Schäfer-Lorenz, Head of Product Management Applications at 1&1 Mail & Media GmbH, 97 per cent of all emails are commercial. Emails connect us to services, enable us to communicate and store the history of all our interactions. But 50 per cent of the emails received are unwanted – they are spam or perceived as spam.

Email Tracking and EU Privacy Laws

Stephan Zimprich, partner at Fieldfisher, gave an overview of the challenges and current developments in email tracking and email advertising in Germany and Europe to email service providers, advertisers, publishers and technology providers.

DMARC is here to stay ... Now what?

Criminals can abuse the reputation of brands to deceive their victims. In this context, Alex Brotman, Comcast, and Patrick Koetter, sys4 AG, explained the role of DMARC (Domain-based Message Authentication, Reporting, and Conformance).

Rethinking Compliance and Enforcement for Modern ESP

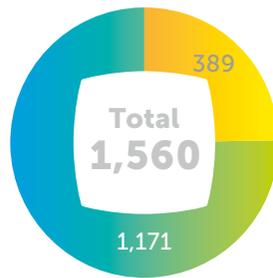
Laura Atkins, Cofounder of Word to the Wise, opened her webinar with a question: Why do compliance desks work and what role do they play for ESPs? Some of the underlying assumptions behind standard compliance metrics were discussed, such as how they do not apply to a modern ESP and how there is a need to adapt to the modern ecosystem.

CSA Review 2021 – What Happened in the Email Industry?

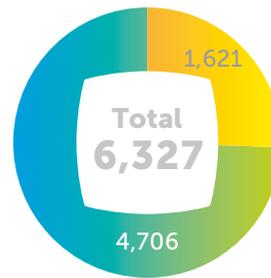
Sebastian Kluth, Technical Lead CSA, and Alexandra Koch-Skiba, Head of the Complaints Office CSA, rounded off the webinar series with a look back at 2021 in email marketing.

10.6 Webinars and other eco Events

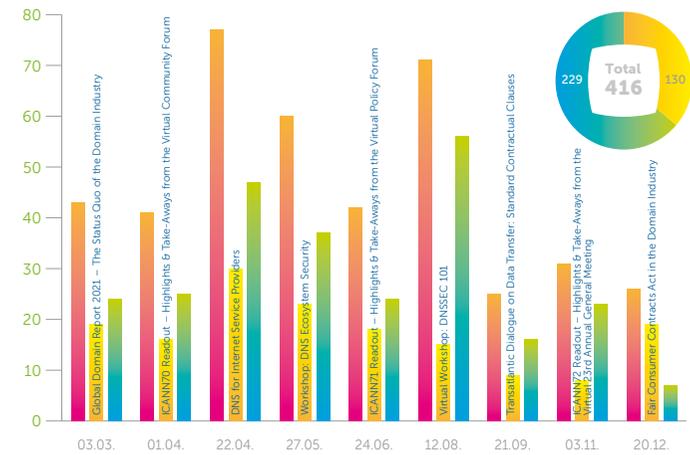
Participation Webinars 2021



eco Events 2021 Total



Names & Numbers CG 2021

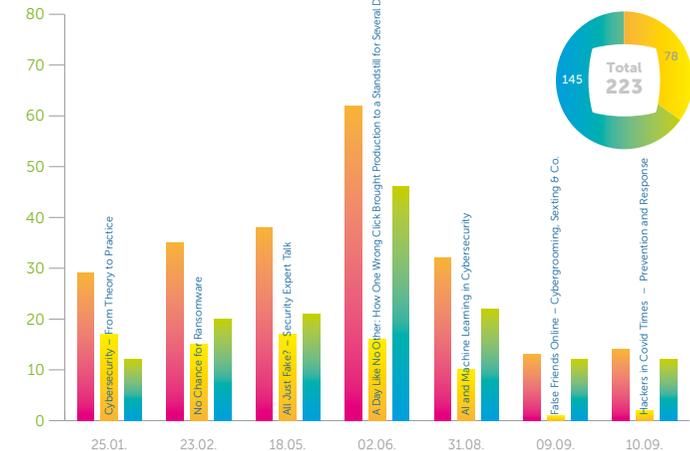


Total participants Members Non-members

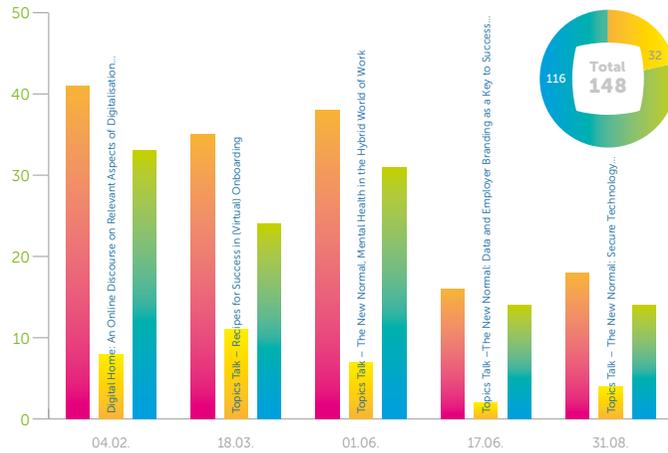
Data Center CG 2021



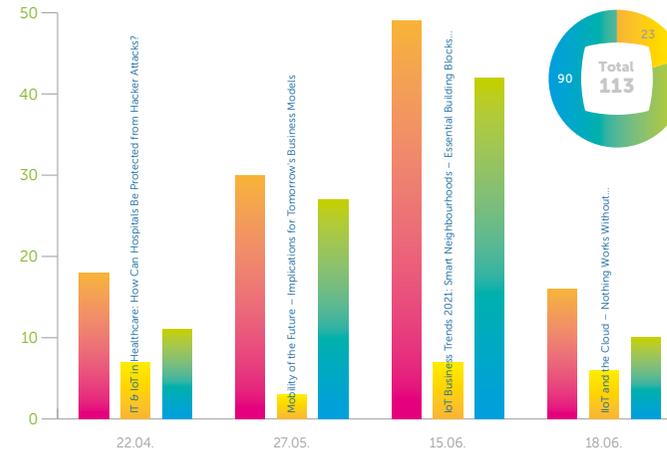
Security CG 2021



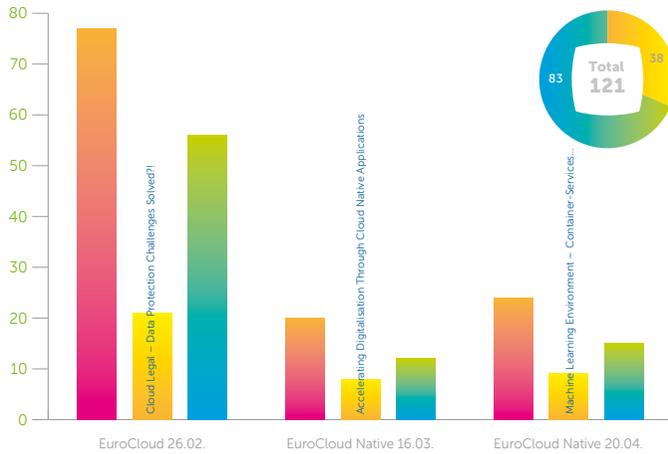
New Work CG 2021



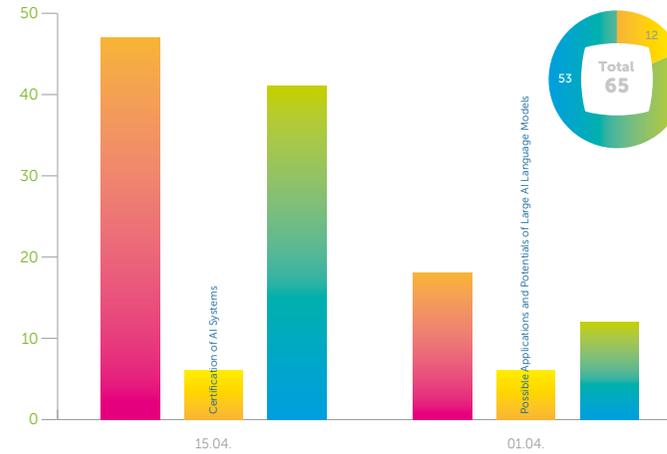
IoT CG 2021



Cloud Computing CG 2021



Artificial Intelligence CG 2021





eco Events 2021

Date	Event	Topic	Location
13.01.21	eco Academy	Industry 4.0: Implementation Deficits?	Webinar
21.01.21	EuroCloud Native (only for EuroCloud Native members)	1st Meet-Up	Online
21.01.21	Security CG	State of the Art (Kick-Off)	Webinar
25.01.21	eco Webinar/Security CG	Cybersecurity – From Theory to Practice	Webinar
27.01.21	eco Academy	Gigabit Race: Wifi 6x5g Campus	Webinar
03.02.21	E-Mail CG	DKIM/DMARK // DKIM Policies From T-Online	Online
04.02.21	eco Webinar/New Work CG	Digital Home: An Online Discussion on Relevant Aspects of Digitalisation	Webinar
04.02.21	eco bxlTALK (Policy & Law)	NIS2 – Cybersecurity in Europe	Online
09.02.21	eco Complaints Office	7th Safer Internet Day – “Who Do I Believe? Opinion Formation Between Fact and Fake”	Online
09.02.21	Names & Numbers CG & CENTR	DNS Over HTTPS Tech Webinar – How to Upgrade Existing DNS Resolver	Webinar
09.02.201	eco Webinar/Data Center	Data Centers 2030 – Trends, Technologies & Strategies for the Future	Webinar
10.02.21	eco Academy	Optimising Between Gigabit Hype and Narrowband Economics?	Webinar
11.02.21	netTALK	Start of the Year	Online
16.02.21	eco Webinar/Datacenter CG	Data Center Trends in Europe – Part 3: Trends in Digital Infrastructure Investments	Webinar
17.02.21	Abuse CG	Meeting CG – Threat Situation	Online
18.02.21	EuroCloud Native (only for EuroCloud Native members)	2nd Meet-Up	Online
18.02.21	eco Gaia-X	IPCEI Industry Cloud – A Joint European Digital Infrastructure Initiative	Online
23.02.21	eco Webinar/Security CG	No Chance for Ransomware	Webinar
25.02.21	Security CG	Roundtable – Security By Design – New Security Standard for IoT Devices	Webinar
26.02.21	eco Webinar/eco Academy & EuroCloud	Cloud Legal – Data Protection Challenges Solved ?	Webinar
03.03.21	eco Webinar/Names & Numbers CG	Global Domain Report 2021 – the Status Quo of the Domain Industry	Webinar
08.03.21	LiT with Salesforce	Women in Tech: How We #Choosetochallenge	Webinar
10.03.21	eco Academy	Big Data-Hype: Out of Sight, Out of Mind?	Webinar
16.03.21	eco Webinar/Data Center & EuroCloud with ITENOS	Virtual Data Center – Episode 1: Hybrid Cloud	Webinar



eco Events 2021

Date	Event	Topic	Location
16.03.21	eco Webinar/EuroCloud Native	Accelerating Digitalisation Through Cloud Native Applications	Webinar
17.03.21	eco Complaints Office	Pres. eco Complaints Office 2020 Annual Report (German)	Online
18.03.21	EuroCloud Native (only for EuroCloud Native members)	3rd Meet-Up	Online
18.03.21	eco Webinar/Policy & Law	Online Policy Briefing: NIS Directive 2.0	Webinar
18.03.21	eco Webinar/New Work CG	Talk Topics – Recipes for Success for (Virtual) Onboarding	Webinar
22.03.21	eco Complaints Office	Youth Media Protection Expert Lunch (Members Only)	Online
22.03.21	netTALK	25 Years of the Internet: Visions of the Past and the Future	Livestream
23.03.21	EuroCloud Native & Gaia-X	Q&A "Gaia-X" (only for Eurocloud Native Members)	Online
25.03.21	eco Webinar/eco Roundtable	Between Protection and Surveillance – Current Developments and State of Affairs on Surveillance Policy	Webinar
26.03.21	EuroCloud Native	Eurocloud Native Workshop "Cloud Native Leader Quadrant"	Online
31.03.21	Data Center CG with Telemaxx/ VKU /VKU Publisher	Digital Infrastructures – Guarantor for Sustainable Digitalisation of the Economy	Online
01.04.21	eco Webinar/Names & Numbers CG in cooperation with ICANN	ICANN70 Readout – Highlights & Take-Aways From the Virtual Community Forum	Online
13.04.21	eco Complaints Office	Pres. eco Complaints Office 2020 Annual Report (English)	Online
14.04.21	Abuse CG	RDAP/CUI	Online
14.04.21	EuroCloud Native Members/ EuroCloud Members)	1st Cloud Legal Meet-Up	Online
14.04.21	eco Academy	Sensorik + Data Analytics = Smart Maintenance	Online
15.04.21	EuroCloud Native (only for EuroCloud Native members)	4th Meet-Up	Online
15.04.21	eco Webinar/Artificial Intelligence CG	Certification of AI Systems	Webinar
16.04.21	eco Webinar/Gaia-X.NRW	Information on the Funding Announcement of the BMWI	Webinar
20.04.21	eco bxITALK	the ICT Industry in the European Union	Online
20.04.21	eco Webinar/Data Center CG & EuroCloud with ITENOS	Kubernetes-As-A-Service – Transform Your Business! With ITENOS	Webinar



eco Events 2021			
Date	Event	Topic	Location
20.04.21	eco Webinar/EuroCloud Native	Machine Learning Environment – Container Services in Cloud Infrastructure (AWS)	Webinar
21.04.21	E-Mail CG	DMARC Rollout 1&t1 /CSA	Online
21.04.21	Digital Infrastructures Alliance	Digital Infrastructures – Importance of Digital Ecosystems for Hessen As A Business Location and for Sustainable Digitalisation of the Economy	Online
22.04.21	Policy & Law	Online Policy Briefing: NIS 2 Directive	Webinar
22.04.21	eco Webinar/IoT CG	IT & Lot in Healthcare: How Can Hospitals Be Protected From Hacker Attacks?	Webinar
22.04.21	eco Webinar/Names & Numbers CG with ICANN	Workshop: DNS for Internet Providers @ICANN	Webinar
28.04.21	Security CG	Secure Software Right From the Start	Webinar
29.04.21	Wahl Digital 2021	Online Press and Policy Talk: Wahl/Digital 2021	Online
04.05.21	Wahl Digital 2021	Digital Agenda 2021-2025	Online
05.05.21	eco Academy	IoT – Billions of Things and Added Value Without End?	Online
06.05.21	LIT with hamburg@work	READY.STEADY.GROW.: Mentorship – Career Booster for Mentors and Mentees	Webinar
11.05.21	eco Webinar/Data Center with ITENOS	Hyperscale Or Fail	Webinar
12.05.21	eco	"Twitter-Chat" – Together for the Good of the Internet	Twitter
18.05.21	eco Webinar/Security CG	All Just Fake? – Security Expert Talk	Webinar
19.05.21	eco Academy	Next-Gen-Payment: Facts & Fiction?	Webinar
20.05.21	EuroCloud Native (only for EuroCloud Native Members)	5th Meet-Up	Online
27.05.21	eco Webinar/IoT CG	Mobility of the Future – Implications for Tomorrow's Business Models	Webinar
27.05.21	eco Webinar/Names & Numbers CG with ICANN	Workshop: DNS Ecosystem Security @ICANN	Webinar
01.06.21	eco Webinar/New Work CG	Talk Topics – the New Normal: Mental Health in the Hybrid World of Work	Webinar
02.06.21	eco Webinar/Security CG with BVMW	A Day Like No Other: How One Wrong Click Brought Production to a Standstill for Several Days	Webinar
02.06.21	EuroCloud & EuroCloud Native (only for EuroCloud Native members/ EuroCloud members)	2nd Cloud Legal Meet-Up	Online



eco Events 2021

Date	Event	Topic	Location
08.06.21	Policy, Law & Regulations Division	Press Briefing: Online Gambling – Current Developments and Changes Due to State Restriction	Online
08–09.06.2021	Data Center Expert Summit 2021	Current Developments and New Strategies for Future Data Centre Operation	Online
09.06.21	eco Academy	Redispatch 2.0: Smarter Energy Against Grid Volatility	Online
10.06.21	E-Mail CG	BSI Standardisation of Abuse Reports // DMARC Alignment	Online
10.06.21	Policy & Law	Online Policy Briefing on the Digital Services Act: the Digital Services Act (DAS)	Online
14.06.21	netTALK	The Potential of SSI & Blockchain	Online
15.06.21	eco Complaints Office	Expert Lunch on Media for the Protection of Minors	Online
15.06.21	eco Webinar/IoT CG	Lot Business Trends 2021: Smart Quarters – Essential Building Blocks on the Way to the Smart City	Webinar
17.06.21	EuroCloud Native (only for EuroCloud Native members)	6th Meet-Up	Online
17.06.21	eco Webinar/New Work CG	Topics Talk – the New Normal: Data and Employer Branding As the Key to Success in A Hybrid World of Work	Webinar
18.06.21	eco Webinar/IoT CG with Plusserver	Lot and Cloud – Nothing Works Without the Digital Twin!	Webinar
21.06.21	eco Complaints Office with Sports Youth NRW	Digi-Dates	Webinar
22.06.21	IoT CG & EuroCloud with ITENOS	Roundtable: Is Connectivity the Next Crude Oil?	Webinar
22.06.21	netTALK	The Cloud Native World of Google	Webinar
23.06.21	Wahl Digital	Digital Society	Online
23.06.21	eco Academy	City Carrier: Between Market Requirements and Local Smart City Policies?	Online
23.06.21	IoT CG	Launch of "The German Smart City Market"2021-2026" study	Online
24.06.21	eco Webinar/	Names & Numbers CG with ICANN	Webinar
30.06.21	Security CG & Abuse CG	Towards A Quantum-Safe Future	Online
30.06.21	eco Academy	Roundtable: Goodbye Tapping and Swiping, Goodbye Natural Language?	Online
01.07.21	eco Webinar/Artificial Intelligence CG	Possible Applications and Potentials of Large Language Models	Webinar
15.07.21	EuroCloud Native (only for EuroCloud Native members)	7th Meet-Up	Online



eco Events 2021

Date	Event	Topic	Location
28.07.21	eco Academy	Roundtable: Hexa-X: With 6G Further to the End of the Line ?	Online
04.08.21	E-Mail CG	E-Mail Monitoring, CSA – BIMl	Online
11.08.21	eco Academy	Roundtable: EDGE: Cloud Continuum Or Revolution?	Cologne/Online
12.08.21	eco Webinar/Names Et Numbers CG with ICANN	Virtual Workshop: DNSSEC 101 @ICANN	Webinar
17.08.21	eco Complaints Office	Pre-Summit Session #1 – Prelude to the eco Trust&Safety Summit	Online
18.08.21	Abuse CG	Meeting CG – IT Safety Mark	Online
19.08.21	EuroCloud Native (only for EuroCloud Native members)	8th Meet-Up	Online
19.08.21	eco Complaints Office	Pre-Summit Session #2 – Kick-Off of the eco Trust&Safety Summit	Online
23.08.21	eco Complaints Office	Pre-Summit Session #3 – Kick-Off of the eco Trust&Safety Summit	Online
24.08.21	Wahl Digital 2021	Policy Et Law Election/Digital 2021 – Digital Security	Online
25.08.21	eco Academy	Next-Gen Networks: Change of Tide?	Frankfurt/Online
26.08.21	eco Complaints Office	eco Trust&Safety Summit: Together for the Good of the Internet	Berlin
31.08.21	eco Webinar/New Work CG	Topic Talk – The New Normal: Secure Technology Et Tools in the Hybrid World of Work	Webinar
31.08.21	eco Webinar/Security CG	Security Expert Talk: AI and Machine Learning in Cybersecurity	Webinar
02.09.21	Names Et Numbers CG	6th Domain Stammtisch.NRW	Düsseldorf
07.09.21	eco Webinar/Data Center CG	Digital Ecosystems – Potential for the Rhine-Erft District	Webinar
08.09.21	EuroCloud Et EuroCloud Native (only for EuroCloud Native Members/ EuroCloud members)	3rd Cloud Legal Meet-up	Online
08.09.21	Policy Et Law	Press Background Talk – SpaceNet AG vs. BRD	Online
09.09.21	eco Webinar/Security CG Et eco Complaints Office	False Friends Online – Cybergrooming, Sexting Et Co.	Webinar
25.11.21	Mobility CG	Mobility of Tomorrow – Where Is the Journey Heading to in the Future ? Concepts, Projects, Trends, Business Models	Webinar
30.11.21	eco netTak Wahl/Digital 2021	What's Next: Does Germany Need A Ministry for Digitalisation?	Online

10. eco Events 2021

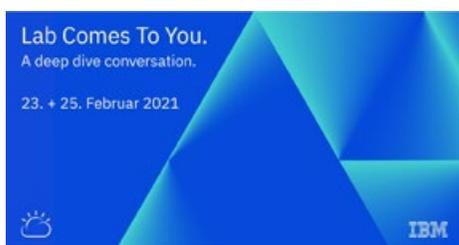


eco Events 2021			
Date	Event	Topic	Location
01.12.21	EuroCloud & EuroCloud Native (only for EuroCloud Native members/ EuroCloud Members)	4th Cloud Legal Meet-up	Online
07.12.21	eco Webinar /Policy & Law	TTDSG – Redesigning Data Protection for Telecommunications and Telemedia?!	Webinar
15.12.21	eco with networker NRW e.V. and Bochum Economic Development	Sharing Productive Data Across Companies With Blockchain and AI	Online
16.12.21	EuroCloud Native (only for EuroCloud Native members)	12th Meet-up	Online
20.12.21	eco Webinar/Names & Numbers CG	The Law for Fair Consumer Contracts in the Domain Industry	Webinar

10.7 Events in cooperation with eco



Events in cooperation with eco 2021			
Date	Event	Organiser	Location
19.01.21	Let's get digital: Digital solutions for logistics	Disrupt Network	Online
26.01.21	Gigabit Symposium 2021	ANGA, eco und VATM	Online
27.01.21	Gaia-X Vision: Kick-off	Closerstill Media	Online
28.01.21	CLOUD NATIVE Virtual Conference	Vogel IT-Akademie Et Crisp Research	Online
10.02.21	Roundtable IoT/Narrowband	deutsche ict + medienakademie	Online
12.02.21	E-Invoicing Series (Part 1)	SEEBURGER AG	Webcast
15.02.21	TEC event: Digitalisation in German SMEs – Covid-19 as a fire starter?	TEC	TEC
18.02.21	Aiming high with norms and standards – AI Focus	Deutsches Institut für Normung	Online
19.02.21	E-Invoicing Series (Part 2)	SEEBURGER AG	Webcast
23.+25.02.2021	Lab Comes To You	IBM	Online
23.–25.02.2021	seclT	Heise	Online
25.02.21	eco & EuroCloud ©Global DIGITAL FUTUREcongress virtual	AMC Media Network GmbH Et Co. KG	Online
26.02.21	E-Invoicing Series (Part 3)	SEEBURGER AG	Webcast



Events in cooperation with eco 2021

Date	Event	Organiser	Location
03.03.21	eco @Germany Kann Digital	Bundesverband IT-Mittelstand e.V.	Online
03.03.21	IT Trends 2021 DIGITAL & Secure: Tackling the Nursing Crisis With Digitalisation	networker NRW e.V.	Online
05.03.21	E-Invoicing Series (Part 4)	SEEBURGER AG	Webcast
08.-09.03.2021	Empolis Executive Forum 2021	EMPOLIS	Online
10.03.21	Roundtable Smart Data	deutsche ict + medienakademie	Online
11.03.21	Symposium Knowledge Transfer and Continuing Education	mainproject digita	Online
12.03.201	E-Invoicing Series (Part 5)	SEEBURGER AG	Webcast
16.-18.03.2021	3-Day eBGF Book Printing Workshop	ifis	Online
18.03.21	Use of artificial intelligence in the energy industry	IBM	Online
19.03.21	Study presentation: From Cologne decision-makers out of the crisis – digital resilience for the future	deutsche ict + medienakademie	Online
19.03.21	E-Invoicing Series (Part 6)	SEEBURGER AG	Webcast
22.03.21	Startup-Corner	networker NRW e.V.	Online
22.03.21	VideoTech 2021: The multidimensional media society as a discontinued model?	deutsche ict + medienakademie	Online
22.-26.03.2021	DIGITAL FUTUREcongress virtual national	AMC Media Network GmbH Et Co. KG	Online
23.-25.03.2021	Cloudfest 2021	WHD	Online
23.-25.03.2021	Lab Comes To You – A deep dive conversation	IBM	Online
26.03.21	E-Invoicing Series (Part 7)	SEEBURGER AG	Online
30.03.21	iWelt Webinar: Shopware 6 – When is the right time to switch ?	iWelt Et Shopware	Webinar
14.04.21	Roundtable IoT/Smart Maintenance	deutsche ict + medienakademie	Cologne/Online
14.04.21	eco @ Gaia-X - for manufacturing @HM21 Digital Edition	Deutsche Messe	Online
15.04.21	Digital Resilience Final Conference	deutsche ict + medienakademie	Cologne/Online
16.04.21	E-Invoicing Series (Part 8)	SEEBURGER AG	Online
22.04.21	Net Zero & Sustainability European Data Center Summit	Data Centre World Frankfurt Et UptimePunks	Online
23.04.21	E-Invoicing Series (Part 9)	SEEBURGER AG	Online
28.04.21	e-Marketingday Rheinland	IHK Rheinland	Online
28.04.21	IT Trends 2021 – What is important for telcos now	TEC	Online



Events in cooperation with eco 2021

Date	Event	Organiser	Location
29.04.21	ICONOS Cloud Up!	IONOS by 1&t1	Online
30.04.21	E-Invoicing Series (Part 10)	SEEBURGER AG	Online
05.05.21	Roundtable IOT2/XYZ TECH	deutsche ict + medienakademie	Cologne/Online
07.05.21	E-invoicing Series (Part 11)	SEEBURGER AG	Online
12.05.21	IT Trends 2021 DIGITAL & Secure: Hidden Costs in Everyday Business – Optimising the Procurement Process with Digitalisation	networker NRW e.V.	Online
19.05.21	Roundtable Smart Finance	deutsche ict + medienakademie	Cologne/Online
19.05.21	Service Provider Virtual Conference 2021	Vogel IT-Akademie	Online
21.05.21	E-Invoicing Series (Part 12)	SEEBURGER AG	Online
26.05.21	CSA Email Summit digital – Bringing Email Education to the Masses	CSA	Online
26.05.21	eco @ App in the Gaia-X Cloud	epcan	Online
28.05.21	Migration from on-premise systems to the cloud	iWElt	Online
31.05.21	Online panel talk on the topic "Update for Digital Education in Germany"	mediamet EXCHANGE	Online
02.06.21	CSA Email Summit digital – Competitive Tracking	CSA	Online
05.06.21	Crypto Rockstars	Kryptonauten UG	Cologne
08.06.21	IT Outsourcing Trends in Western Europe in 2021	COMARCH	Online
08.06.21	Working digitally. How to lead?	GFS	Online
09.06.21	Roundtable Smart Energy	deutsche ict + medienakademie	Düsseldorf/Online
09.06.21	Gaia-X Summit Round 2: Use case update	German Tech	Online
15.-17.06.2021	eco @TWENTY2X PowerWeek	Deutsche Messe	Online
16.06.21	What every SME needs to know about SEO!	united domains	Online
16.06.21	Become Data-Driven in an exponential World	SoftServe	Online
16.06.21	Deep Tech Award 2021	Berliner Senatsverwaltung für Wirtschaft, Energie und Betriebe	Online/Berlin
22.06.21	Digital Resilience – Learning from the Crisis	deutsche ict + medienakademie	Online
23.06.21	Second IPCEI Industrial Cloud Information Event	Bundesministerium für Wirtschaft und Energie	Online
28.06.21	CSA Email Summit digital – Email Tracking and EU Privacy Laws	CSA	Online
28.06.-01.07.2021	5G.NRWeek at MWC Barcelona 2021	5G.NRW Competence Center	Online



Events in cooperation with eco 2021

Date	Event	Organiser	Location
29.06.21	eco @ MWC Barcelona: Study Presentation "The German Smart City Market 2021-2026"	GSMA	Barcelona/Online
17.08.21	Shaping digitalisation sustainably	BMVI	Online
30.-31.08.2021	Gaia-X Hackathon #1	hopin	Online
01.-03.09.2021	solutions x DILK – Congress for digital transformation	solutions	Hamburg Kampnagel
06.09.21	Roadshow Cyber Crime with LKA NRW Prevention	networker NRW e.V.	Online
06.-10-09.2021	Gaia-X: Benefits for SMEs	Gaia-X Hub Deutschland	Online
06.-10.09.2021	5G.NRWeek Annual Conference	5G.NRW Competence Center	Online
08.09.21	Secure data infrastructures for SMEs in the multi-cloud era	networker NRW e.V.	Online
09.-10.09.2021	System House Congress CHANCE 2021	IDG Business Media GmbH	Online
14.09.21	Business Breakfast: The way to a self-learning company with AI – for industry, logistics and manufacturing	Hamburg @work	Online
14.09.21	IGF-D 2021: Call for Proposals	IGF-D	Hybrid
15.09.21	TEC Annual Conference: Strategic Outlook for the TC Market 2022	TEC	Online
21.-22.09.2021	IBM Automation Summit	IBM	Hybrid
21.-23.09.2021	Container Days 2021	Containerdays	Hamburg/Online
22.09.21	Music in the houses of the city @eco	KUNSTSALON	Cologne
23.09.21	2nd Virtual Symposium at the TH Aschaffenburg	mainproject hybrid	Online
28.09.21	Webcast: Data Center Local Instead of Global - How to Secure Your Company Data in Germany	COMARCH	Online
28.-30.09.2021	eco @ DIGITAL FUTUREcongress virtual national	AMC Media Network GmbH & Co. KG	Online
29.09.21	26th SmartHome NRW Expert Roundtable	SmartHome Deutschland Initiative	Online
30.09.-01.10.2021	AI Trade Journal Summit	Handelsblatt	Online
01.10.21	Cyberwomen 2021 – The event for women in IT security	Cyberwomen	Online
06.-07.10.2021	Empolis: Exchange Summit	EMPOLIS	Online
07.10.21	Farewell to the Internet as-we.know-it?	deutsche ict + medienakademie	Frankfurt/Online
07.10.21	Trailblazer Connect Career Fair	Salesforce	Online
12.-14.10.2021	eco @ it-sa 2021	it-sa - Die IT-Security Messe und Kongress	Nuremberg



Events in cooperation with eco 2021

Date	Event	Organiser	Location
16.10.21	Crypto Rockstars – DLT Ft Blockchain Conference	Kryptonauten UG	Cologne
19.10.21	CLOUD NATIVE 2021 Conference	Vogel IT-Akademie	Online
20.10.21	Gender bias in AI – just a utopia? Business Breakfast	Hamburg @work	Online
27.10.21	eco@Smart City Workshop Compact	sig Media GmbH & Co. KG	Hybrid
27.10.21	Future Digital Automotive: Which Prios – Automated Driving, Broadband in the Car, New Services?	deutsche ict + medienakademie	Online
27.10.21	Intelligent automation - the telecommunications factory of the future	TEC	Online
27.-28.10.2021	Payment Summit 2021	Ebner Media Group GmbH @co. KG	Hamburg/Digital
03.11.21	Networked Health: Everyone talks about data...	deutsche ict + medienakademie	Cologne/Online
10.11.21	26th Broadband Forum: Smart Villages – Wasn't that the promise of the Internet?	deutsche ict + medienakademie	Cologne/Online
16.11.21	Global Province: On the History of Digitalisation in Germany	Gesellschaft für Informatik e.V	Berlin
17.-18.11.2021	Serverless Summit 2021	globaldatanet	Online
18.-19.11.2021	Gaia-X Summit 2021	Gaia-X European	Online
23.-24.11.2021	dikomm – Future digital community virtual	AMC Media Network GmbH & Co. KG	Online
25.11.21	Cybercrime Roadshow with LKA NRW	networker NRW e.V.	Essen
02.12.21	Strategic Partnership 2.0	TEC	Online
07.12.21	27th SmartHomeNRW Expert Roundtable	SmartHome Deutschland	Online
09.12.21	mediamet KNOW-HOW: The use of cloud & Kubernetes-based digital solutions in practice	mediamet berlinbrandenburg	Online
09.12.21	Out of the analogue mode – into a future-oriented digitalisation!	Hamburg @work	Online
15.12.21	Still no reason for Industry 5.0?	deutsche ict + medienakademie	Online

11. Memberships and Cooperations

11.1 Representation in Pivotal Committees

As an association, one of eco's most important tasks is the representation of its members' interests vis-à-vis politics and in both national and international committees. Along with the main office in Cologne, eco has its own Capital Office in Berlin and an office in Brussels, so that it can be in situ at all relevant political decision-making processes.

eco represents the interests of its members in these committees and initiatives, among others:



11.2 Council for Digital Ethics

The Council for Digital Ethics of the German federal state of Hesse – which, in addition to Harald A. Summa, includes 24 other high-ranking thinkers – is a strategic advisory and reflective body for current digitalisation projects in the federal state of Hesse. It also focuses on societal challenges of digital transformation in order to reflect on and evaluate the impact of new technologies and applications on people from the word go.



The Council for Digital Ethics meets in private sessions twice a year. At each of its meetings, members address a focus topic of their choosing. Aside from a contribution from a Council member, an external expert is also invited to provide inspirational input. The Council for Digital Ethics regularly presents its thesis papers to the members of the Hessian Parliament and the public.

In 2020, the Council published its thesis paper, "Trust in AI", in which it explores solutions to many societal challenges such as climate change, medical treatments, traffic flows, and more. Council members caution that the potential of AI solutions can only unfold if people have confidence in their development and use.

11.3 KI Bundesverband

Through various projects, the eco Association and the German KI Bundesverband (AI Association) are extending their strategic cooperation, which they entered into in 2019. Together, they are shaping framework conditions for a beneficial and value-oriented application of artificial intelligence.

AI Innovation Service-Meister Project, funded by the German Federal Ministry for Economic Affairs and Energy (BMWi)

Since the inception of the Service-Meister project, the KI Bundesverband has supported the initiative as an Associated Partner. In the project, the Bundesverband focuses on strengthening the economically key service sector through an AI-based ecosystem. Due to the digitalisation of machines and systems, services are becoming increasingly complex and, from a competitive perspective, can no longer be solely offered with the necessary quality and time by individual service employees or even companies. For this purpose, an AI-based platform is to enable the digitalisation of service knowledge and thus the provision and easier distribution along the service chain.

DIN Steering Group Standardisation Roadmap on Artificial Intelligence

As is the case with the eco Association, the KI Bundesverband is also significantly involved in the development of standards for artificial intelligence as a member of the Steering Group of the Standardisation Roadmap on Artificial Intelligence, led by the German Institute for Standardisation (DIN). The Standardisation Roadmap on Artificial Intelligence is the first global exemplar of a comprehensive analysis of the status of and need for international standards and specifications for the key technology of AI. This not only takes the technical aspects of standards in AI into account but also, in equal measure, its ethical and societal aspects.



Daniel Brans
CEO networker NRW e.V.



11.4 networker NRW

In 2021, the “Expert Network of Personal Contacts for IT Enterprises in North-Rhine Westphalia” met primarily in the digital sphere, with new technologies and formats helping to facilitate these meetups. Nonetheless, the view was confirmed that the form of networking which takes place during on-site events cannot be completely replaced by digital means. With this being the case, the office of networker NRW increasingly acted as a point of contact for members who had not met up with each other online.

Together for the IT industry in NRW

In summer 2021, the two IT associations, eco and networker, intensified their shared work with an update of their cooperation agreement. Their aim is to support digitalisation even more strongly at the North-Rhine Westphalian (NRW) level through more joint events, webinars, conferences, joint funding projects and closer cooperation with regional partners, as well as to represent the interests of IT companies in NRW even more extensively through steady growth.

The networker’s enterprise members receive multiple benefits from the cooperation. As such, a wide range of companies have already decided to become additional eco sponsor

members and to also join EuroCloud Deutschland. “Over the years, there has been a growth in the synergies for assisting members, organising events and implementing joint projects”, says Mann Banse, Chair of the Board of networker NRW. “Based on this foundation, we will now steadfastly expand our cooperation.”

Where there is shadow, there must also be light

The breakdown of spatial access barriers led to more networker members being able to participate in eco events and eco Competence Groups. This also applied in the other direction: for example, inspiring presentations were delivered by eco members at the regular networker format “IT-Trends DIGITAL & SECURE: Online

Stage”. In addition to IT security and data protection topics, interesting cases of industrial IT, e-health and digital marketing were also presented on this stage over the course of the year. Other joint events, such as the Cyber Crime Roadshow with the LKA Dusseldorf, could be continued on a digital basis and with an increased number of participants. At the IT’s Breakfast, in addition to online presentations, at least one on-site meeting could also take place on the G DATA Campus. In the field of information security management systems, first joint discussion rounds took place with members of both associations.

Relocation

In 2019, networker NRW rented larger office premises in order to offer its members a drop-in centre. After a successful start, the pandemic threw a spanner in the works. In 2021, there was a new move, with the office now conveniently located in the Triple Z in the north of Essen, where it benefits from flexible room concepts.

11.5 Cooperation Partners

eco cooperates intensively with a large network that actively supports the association's work. The partners include, among others:



12. The eco Team 2021



Stephanie Bender
HR Representative
stephanie.bender@eco.de



Clarissa Benner LL.M.
Attorney-at-Law
Legal & Compliance
clarissa.benner@eco.de



Michel Ast
System Engineer,
Enterprise IT
michel.ast@eco.de



Susi Behrens
Office Manager
susi.behrens@eco.de



Alexander Boden
Executive Assistant
alexander.boden@eco.de



Astrid Braken
Legal Counsel CSA
astrid.braken@eco.de



René Bernard
PR Editor
rene.bernard@eco.de



Thomas Bihlmayer
Policy Adviser
Brussels Office
thomas.bihlmayer@eco.de



Melanie Busse
Office and Event Manager
Berlin Office
melanie.busse@eco.de



Larissa Deichmann
Financial Accountant
larissa.deichmann@de-cix.net



Roland Broch
Senior Project Manager
Digital Infrastructures
roland.broch@eco.de



Benjamin Büttrich
Head of Web Development
benjamin.buettrich@eco.de



Philipp Ehmann
Legal Consultant Internet
Law and Telemedia
Regulation
philipp.ehmann@eco.de



Judith Ellis
Project Manager &
Team Head International
Communications
judith.ellis@eco.de



Michelle Demant
Junior Marketing
Manager/Event Manager
michelle.demant@eco.de



Sabine Dorn
Accountant Debtors/
Creditors International
sabine.dorn@eco.de



Lucia Falkenberg
Chief People Officer
Head of Human Resources
lucia.falkenberg@eco.de



Sebastian Fitting
Attorney-at-Law (Legal
Counsel)
Consultant Complaints
Office
sebastian.fitting@eco.de



*Benedikt Gauer
Event Manager
benedikt.gauer@eco.de*



*Laura Gather
Legal Consultant, Policy,
Law & Regulations Team
laura.gather@eco.de*



*Eilin Geraghty
Project Manager
eco International
eilin.geraghty@eco.de*



*Nicolas Goß
Consultant
Telecommunications Law
and Regulation
nicolas.goss@eco.de*



*Kerstin Guthaus
Finance/Controlling
Accountant
kerstin.guthaus@eco.de*



*Rosa Hafezi
Attorney-at-Law
Professional Services
Division
rosa.hafezi@eco.de*



*Tatjana Hein
Consultant / Project Man-
ager Internet of Things
and Mobility
tatjana.hein@eco.de*



*Stephan Hradek
System Engineer CSA
stephan.hradek@eco.de*



*Ivo Ivanov
Attorney-at-Law/
Corporate Counsel
Head of Legal &
Compliance
ivo.ivanov@eco.de*



*Julia Janssen-Holldiek
Director CSA
julia.janssen-holldiek@
eco.de*



*Peter Joniec
Head of Sponsoring &
Member Recruiting
peter.joniec@eco.de*



*Malena Kalhöfer
Student Assistant
Marketing & Events
malena.kalhoefer@eco.de*



*Cait Kinsella
Project Manager
eco International
cait.kinsella@eco.de*



*Daniela Klinck
Senior Controller
daniela.klinck@eco.de*



*Nils Klute
Project Manager
Communication Cloud
Services, Member Services
nils.klute@eco.de*



*Sebastian Kluth
Technical Lead CSA
sebastian.kluth@eco.de*



*Alexandra Koch-Skiba
Attorney-at-Law
Head of Complaints Office
alexandra.koch-skiba@
eco.de*



*Peter Koller
Senior Project Manager
Cloud Computing
peter.koller@eco.de*



*Sidonie Krug
Head of Communications
& Spokesperson for
Political Communication
sidonie.krug@eco.de*



*Christian Kubiak
Attorney-at-Law (Legal
Counsel)
Consultant Complaints
Office
christian.kubiak@eco.de*



Dr. Katharina Kuechler
Attorney-at-Law
Legal & Compliance
katharina.kuechler@eco.de



Aileen Kurnoth
Junior Controller
aileen.kurnoth@eco.de



Jamal Lammert
Legal Consultant, Policy,
Law & Regulations Team
jamal.lammert@eco.de



Nathalie Langley
HR Representative
nathalie.langley@eco.de



Henning Lesch
Attorney-at-Law
Head of Capital Office
Head of Division
Policy, Law & Regulation
henning.lesch@eco.de



Maike Marx
Marketing & Customer
Relations CSA
maike.marx@eco.de



Lauresha Memeti
Consultant / Project
Manager Cloud & Gaia-X,
Digital Business Models
lauresha.memeti@eco.de



Claus Meteling
Screen Designer
claus.meteling@eco.de



Florian Mielke
Manager Business
Development CSA
florian.mielke@eco.de



Katrin Mielke
Membership Manager
katrin.mielke@eco.de



Christin Patricia Müller
Senior PR Specialist for
Policy and Law
Deputy Spokesperson
Political Communication
christin.mueller@eco.de



Christine Neubauer
Member Services
Project Manager AI and
Industry 4.0
christine.neubauer@eurocloud.de



Kira Peek
Attorney-at-Law
(Legal Counsel)
Consultant Complaints
Office
kira.peek@eco.de



Alexander Rabe
Managing Director
alexander.rabe@eco.de



Ladan Raesian
Project Assistant eco
International
ladan.raesian@eco.de



Gregor Reinhold
Head of Commercial
Services
Head of Finance
gregor.reinhold@eco.de



Qadir Rostamzada
Marketing & Business
Development CSA
qadir.rostamzada@eco.de



Joon Sames
Software Developer
joon.sames@eco.de



Markus Schaffrin
Head of Member Services
markus.schaffrin@eco.de



Cornelia Schildt
Project Manager
IT Security
cornelia.schildt@eco.de



Annette Schwartze
Sponsoring & Member
Recruiting Manager
annette.schwartze@eco.de



Hanna Sissmann
Junior PR Manager
hanna.sissmann@eco.de



Axel Skiba
Head of Accounting
axel.skiba@eco.de



Christiane Skiba
Branch Manager Cologne
Head of Marketing &
Events
christiane.skiba@eco.de



Lars Steffen
Director eco International
lars.steffen@eco.de



Harald A. Summa
Chief Executive Officer
harald.summa@eco.de



Johanna Tantzen
Policy, Law & Regulations
Legal Consultant Policy & Law
johanna.tantzen@eco.de



Tobias Tauch
Project Manager
Marketing
tobias.tauch@eco.de



Michaela Templin
Project Manager
Cybersecurity
Member Services
michaela.templin@eco.de



Nane Thomas
Office Manager
nane.thomas@eco.de



Hauke Timmermann
Project Manager
Digital Business Models
Member Services
hauke.timmermann@eco.de



Laura Treskatis
PR Consultant for Political
Communication
laura.treskatis@eco.de



Peter-Paul Urlaub
Attorney-at-Law
(Legal Counsel)
Consultant Complaints
Office
peter.urlaub@eco.de



Hanna von der Au
Communication Writer
hanna.vonderau@eco.de



Emma Wehrwein
Project Manager
New Work and Webinars
Member Services
emma.wehrwein@eco.de



Michael Weirich
Security Analyst
michael.weirich@eco.de



Andreas Weiss
Head of Digital Business
Models
andreas.weiss@eco.de



Vivien Witt
Consultant / Project
Manager Cloud & Gaia-X,
Digital Business Models
vivien.witt@eco.de



Mareike Zeisig
Marketing Manager
mareike.zeisig@eco.de

13. eco Members 2021

@-yet GmbH, Leichlingen; [netzquadrat] Gesellschaft für Telekommunikation mbH, Düsseldorf; 1&t1 Versatel GmbH, Düsseldorf; 20C, Chicago, United States of America; 23M GmbH, Münster; 31173 Services AB, Malmö, Sweden; 3S S.A., Katowice, Poland; 3T Com, Sofia, Bulgaria; 4Brain GmbH, Oberhausen; 4Sellers GmbH, Rain **[A]** A1 Bulgaria EAD, Sofia, Bulgaria; A1 Telekom Austria AG, Wien, Austria; A2A Smart City, Cremona, Italy; ABB STOTZ-KONTAKT GmbH, Heidelberg; ABSOLIT Consulting, Waghäusel; active-servers, Hamburg; Adacor Hosting GmbH, Essen; ADDIX Internet Services GmbH, Kiel; adesso SE, Dortmund; Adista, Maxeville, France; adRom Media Marketing GmbH, Dornbirn, Austria; ADVA Optical Networking SE, Meiningen; Advanced Micro Devices, Sunnyvale, United States of America; Afiliias, Inc., Horsham, United States of America; AFNIC/NIC-France, Montigny le Bretonneux, France; AGILE ANTS GmbH, Essen; ahd GmbH & Co. KG, Ense; aicovo gmbh, Rosenheim, Oberbayern; Aiticon GmbH, Frankfurt am Main; aixit GmbH, Frankfurt am Main; aixvox GmbH, Aachen; Akamai Technologies GmbH, Garching; Akamai Technologies Inc., Cambridge, United States of America; akquinet outsourcing gem. GmbH, Hamburg; Alexander Thamm GmbH, München; Alice&Bob.Company GmbH, Berlin; All for One Group SE, Filderstadt; all-connect

Data Communications GmbH, München; AlpineDC SA, Lausanne, Switzerland; Altitud S.r.l., Barletta, Italy; AltusHost B.V., Amsterdam, Netherlands; Amazon Web Services Germany GmbH, Berlin; amcm GmbH, Bonn; ANEXIA Deutschland GmbH, München; Angola Cables, SA, Luanda - Talatona, Angola; ANKA Rechtsanwalts-gesellschaft mbH, Essen; anw.net GmbH, Bechhofen; Aossia Bulgaria EAD, Sofia, Bulgaria; AppNexus Inc., New York, United States of America; APTIS GmbH, Uedem; A-Quadrat Werbeagentur GmbH, Essen; Arendar IT-Security GmbH, Wittlich; Arthur D. Little GmbH, Frankfurt am Main; Arvato Systems GmbH, Gütersloh; Ascio Technologies, Inc. Denmark, Copenhagen, Denmark; Ashampoo GmbH & Co. KG, Rastede; AT&T Global Network Services Deutschland GmbH, Böblingen; atene KOM GmbH, Berlin; Atman sp. z o.o., Warszawa, Poland; Atos SE, Bezons, France; Audatex UK Ltd, Theale, United Kingdom; audatis Consulting GmbH, Herford; Automattic Ltd., San Francisco, United States of America; Avallon GmbH, Aurich; AVERDIS e. K., Mechernich; Avira GmbH & Co. KG, Tett nang; AV-Test GmbH, Magdeburg; AXA Konzern AG, Köln; Axians Cloud & IT-Automation, Ulm; AZ International, LLC, Port Reading, United States of America **[B]** BACKCLICK GmbH, Braunschweig; Badoo Technologies Limited, Limassil, Cyprus; Bahnhof AB, Stockholm, Sweden; BBCC.NRW i.Hs. FH Südwestfalen

Breitbandkompetenzzentrum NRW, Meschede; BCT Deutschland GmbH, Aachen; Bdot Blue Infrastructure (Germany) GmbH, Frankfurt am Main - Seckbach; BE IT-Systeme GmbH, Bochum; Bechtle AG, Neckarsulm; Belcenter, Bruxelles, Belgium; BelWue-Koordination Universität Stuttgart, Stuttgart; Berlin University of Digital Sciences, Berlin; bevuta IT GmbH, Köln; beyond.pl, Poznan, Poland; Bfz-Essen GmbH, Essen; Bharti Airtel Limited, New Delhi, India; BICS SA, Brussels, Belgium; Big Data World Europe GmbH, Berlin; Binary Please UG, Berlin; BioCampus Cologne Grundbesitz GmbH & Co. KG, Köln; Bisping & Bisping GmbH & Co. KG, Lauf an der Pegnitz; BIT BV, Ede, Netherlands; BITEL Gesellschaft für Telekommunikation mbH, Gütersloh; Bitobito GmbH, Stuttgart; BitPoint AG, Rosenheim; BlackBerry Limited, WATERLOO, Canada; Blacknight Internet Solutions Ltd., Carlow, Ireland; Blizzard Entertainment SAS, Versailles, France; bn:t Blatzheim Networks Telecom GmbH, Bonn; BNMG Brandenburgische Netz- und Media-Service GmbH, Brandenburg an der Havel; Bouygues Telecom, Meudon-la-Forêt Cedex, France; Box Inc., Redwood City, United States of America; brain4kom AG, Gaggenau; Brandl Services GmbH, Pavelsbach; Brand's Mill GmbH, Oerlinghausen; Brandwatch, Brighton, United Kingdom; Brennercom AG, Bozen, Italy; bridge4IT®, Geldern; Bringe

Informationstechnik GmbH, Karlsruhe; BroadGroup, London, United Kingdom; Bulgarian Telecommunications Company EAD, Sofia, Bulgaria; Bundesverband IT-Mittelstand e.V., Aachen **[C]** C.C.D. Cogent Communications Deutschland GmbH, Frankfurt am Main; Cablenet Communication Systems PLC, Engomi, Nicosia, Cyprus; CacheNetworks, LLC, Chicago, United States of America; Campaignmonitor, Sutherland, Australia; CANCOM Managed Services GmbH, München; Capitalonline Data Service Co., Ltd, Peking, China; Career-Women in Motion e.V./PepperMINT, Köln; cargo-partner GmbH, Hallbergmoos; CARMAO GmbH, Limburg; carmasec GmbH & Co. KG., Essen; CastLake, Tallinn, Estonia; Caucasus Cable System Bulgaria Ltd., Sofia, Bulgaria; CCNST Deutschland GmbH, Teisnach; CDP Netia Sp. z o.o., Warschau, Poland; Celeste, Champs sur Marne, France; Cellcom Israel Ltd., Netanya, Israel; CENTR asbl, Bruxelles, Belgium; CentralNic Group PLC, London, United Kingdom; centron GmbH, Hallstadt; Certified Security Operations Center GmbH, Bornheim; Certivation GmbH, Lingen (Ems); CETIN a.s., Praha, Czech Republic; cgb.consulting Management- und Organisationsberatung, Essen; China Mobile International (Germany) GmbH, Frankfurt am Main; China Telecom (Europe) Ltd., London, United Kingdom; Cinia Group Ltd., Helsinki, Finland; CIRA - Canadian Internet Registration

Authority, Ottawa, Canada; Cisco Webex, Milpitas, United States of America; CITIC Telecom CPC Netherlands B.V., Amsterdam, Netherlands; CJ2 Hosting BV, Groningen, Netherlands; Claranet GmbH, Frankfurt am Main; CleverReach GmbH & Co. KG, Rastede; CLOUD & HEAT Technologies GmbH, Dresden; Cloud Mates GmbH, Düsseldorf; Cloudeteer GmbH, Hamburg; Cloudflare Inc., San Francisco, United States of America; cloudKleyer Frankfurt GmbH, Frankfurt am Main; Cloudsigma AG, Zürich, Switzerland; cloudSME UG, Duisburg; Cloudwürdig GmbH, Magstadt; CMS Garden e.V., Berlin; CNR – Istituto di Informatica e Telematica – Registro .it, Pisa, Italy; CNS E-Business Services GmbH, Witten; ColocationIX GmbH, Bremen; COLT Technology Services GmbH, Frankfurt am Main; Comarch AG, Dresden; JSC „COMCOR“ Otdel Mezhpoperatorskogo Vzaimodeistvia, Moscow, Russian Federation; ComHem AB, Härnösand, Sweden; COM-IN Telekommunikations GmbH, Ingolstadt; Commercial Network Services, San Diego, United States of America; communicode AG, Essen; Comnet International BV, Amsterdam, Netherlands; Con PlanA Beratung, Essen; Concedra GmbH, Bochum; Connectivity Architects Ltd. CMC Networks, Port St. Luis, Mauritius; Connectivity I.T, Warragul, Australia; Connesi s.p.a., Foligno, Italy; conova communications GmbH, Salzburg, Austria; Consultix GmbH, Bremen; Contabo GmbH, München; Contagi Digital Impact Group GmbH, Frankfurt am Main; Content Flow GmbH, Berlin; Continuum AG, Freiburg; CoolSolution GmbH, Köln; COOLtec Systems Klima Kälte GmbH,

Otterlo; CORE Association, Genève, Switzerland; Core-Backbone GmbH, Nürnberg; Corning Optical Communications GmbH & Co. KG, Berlin; Cosmonova LLC, Kiev, Ukraine; Crucible IT Consulting GmbH, Paderborn; CSB-System SE, Geilenkirchen; CSC®We are the business behind businessSM, Wilmington, United States of America; CSR Gesellschaft für Unternehmenswerte & Nachhaltigkeit in Personal, IT, Beschaffung und Kommunikation GmbH, Nürnberg; Cyando AG, Wollerau, Switzerland; Cyberlink AG, Zürich, Switzerland; cyberways Informationsdienste GmbH, Augsburg; Cyta, Nicosia, Cyprus [D] D2 CLOUD COMMUNICATIONS LTD, London, United Kingdom; Daisy Corporate Services Trading Limited, Brierfield, United Kingdom; DAM United AG, Essen; DARZ GmbH, Darmstadt; Datacenter One GmbH, Stuttgart; DATAGROUP Frankfurt GmbH, Neu-Isenburg; DATAGROUP SE, Pliezhausen; dataheads, Austin, United States of America; Dataline LLC, Kiev, Ukraine; Datatech UK Ltd, Alvechurch, United Kingdom; DATATREE AG, Düsseldorf; dc-ce RZ-Beratung GmbH & Co. KG, Frankfurt am Main; DC-Datacenter-Group GmbH, Wallmenroth; DE-CIX Management GmbH, Köln; DEEDS Dr. Esins Datenschutz, Barnekow; Deepshore GmbH, Hamburg; Delta Telecom Ltd., Baku, Azerbaijan; DEMANDO GmbH, Kaiserslautern; Derra, Meyer & Partner Rechtsanwälte PartGmbH, Düsseldorf; DeRZ – Deutsche Rechenzentren GmbH, Melle; detlef baukenrodt.beratung, Dortmund; Deutsche Glasfaser Wholesale GmbH, Borken; Deutsche Herzstiftung e.V., Frankfurt am Main; Deutsche Telekom AG, Bonn; Deutsche Welle Anstalt des

öffentlichen Rechts, Bonn; Deutscher Fachverlag GmbH, Frankfurt am Main; Deutscher IPTV Verband e.V., Potsdam; Deutscher Online Casinoverband e.V., Kiel; Dial Telecom S.r.l. Digital Cable Systems S.A, Bucuresti, Romania; Dialog Axiata PLC, Colombo, Sri Lanka; Die Ausbrecher, Bonn; Digital Ocean Inc., New York, United States of America; Digital Telecommunication Services SRL, Siena, Italy; Digitale Stadt München e.V., München; Dimension Data Holdings plc, Johannesburg, South Africa; diva-e Datacenters GmbH, Frankfurt am Main; DMI GmbH & Co. KG, Münster; DNS:NET Internet Service GmbH, Berlin; dnsXperts UG, Bonn; DOKOM Gesellschaft für Telekommunikation mbH, Dortmund; DomainFactory GmbH, Ismaning; domainworx Service & Management GmbH, Wien, Austria; Donuts Inc., Bellevue, United States of America; dotBERLIN GmbH & Co. KG, Berlin; doTHIV gemeinnütziger e.V., Berlin; DOTRO Telecom, Bucuresti, Romania; DOTZON GmbH, Berlin; Dr. Ellwanger & Kramm Versicherungsmakler GmbH & Co. KG, Stuttgart; Dr. Hörtkorn München GmbH, Heilbronn; dr. limper gmbh next level IT consulting and services, Essen; Dr. Vanessa Giese – Innovationsbegleitung, Dortmund; DraftKings UK Services Ltd., London, United Kingdom; Dropbox International Unlimited Company, Ireland; dtm Datentechnik Moll GmbH, Meckenbeuren; DTS Systeme GmbH, Herford; Duisburger Versorgungs- und Verkehrsgesellschaft mbH, Duisburg; DVPT, Offenbach; DWF Germany Rechtsanwalts-gesellschaft mbH, Köln; e.discom Telekommunikation GmbH, Potsdam; E4A s.r.l., Isola Vicentina, Italy; eBay Inc., San Jose, United

States of America; ebuconnect GmbH, Grevenbroich; Eclipse Foundation Europe GmbH, Darmstadt; ecotel communication AG, Düsseldorf; Eritel, Clichy, France; ecsec GmbH, Michelau; EDV-Unternehmensberatung Floß GmbH, Vermold; Efficient Energy GmbH, Feldkirchen; eGovernment Consulting and Development GmbH (eGovCD), Berlin [E] ELBRACHT-COMPUTER Netzwerk & Grafik Service GmbH, Alsbach-Hähnlein; Eletronet SA, Sao Paulo, Brazil; Elisa Corporation, Helsinki, Finland; Emango Internet Services BV, Schinnen, Netherlands; emarsys eMarketing Systems AG, Wien, Austria; EMC HostCo GmbH, München; Emirates Integrated Telecommunications Company PJSC, Dubai, United Arab Emirates; empaction GmbH, Frankfurt am Main; Empolis Information Management GmbH, Kaiserslautern; Enreach GmbH, Dortmund; Entanet International Ltd., Telford, United Kingdom; ENTEGA Medianet GmbH, Darmstadt; Enterprise Ireland, Düsseldorf; Entreprise des Postes et Telecommunications – EPT, Luxembourg, Luxembourg; envia TEL GmbH, Markkleeberg; EPAG Domainservices GmbH, Bonn; epan GmbH, Vreden; epic Ltd., Nicosia, Cyprus; Episerver GmbH, Berlin; Epix, Bytom, Poland; Epsilon Telecommunications Ltd., London, United Kingdom; equada GmbH, Alzenau; Equinix (Germany) GmbH, Frankfurt am Main; EQUINIX (SERVICES) LTD, London, United Kingdom; Ertl & Groß OG, Stainz, Austria; ESET Deutschland GmbH, Jena; Esports Pte Ltd., Singapore, Singapore; ESTRACOM SPA, Prato, Italy; Etix Everywhere, Luxembourg, Luxembourg; e-Trado GmbH, Mülheim an der Ruhr; EUC Online Service

GmbH, Köln; euNetworks GmbH, Frankfurt am Main; EURid vzw, Diegem, Belgium; EVOLINK AD, Sofia, Bulgaria; EWETEL GmbH, Oldenburg; eww ag ITandTEL, Wels, Austria; Exaring AG, München; EXATEL S.A., Warsaw, Poland; Expereo International BV, Amsterdam, Netherlands; ExperTeach Gesellschaft für Netzwerkkompetenz mbH, Dietzenbach; Exponential-e Ltd., London, United Kingdom; eyeo GmbH, Köln; ezNetworking Solutions Pte. Ltd., Singapore, Singapore **[F]** F.I.R.M. CONSULT, Essen; Fabasoft Deutschland GmbH, Frankfurt am Main; Facebook Inc., Menlo Park, United States of America; Fandom, Inc., San Francisco, United States of America; Fastweb SpA, Milano, Italy; faveo GmbH, Essen; Feral Hosting, London, United Kingdom; FHE3 Datacenter GmbH & Co KG, Karlsruhe; Fiber Optics Bulgaria OOD, Sofia, Bulgaria; Fiberax Networking & Cloud Ltd, London, United Kingdom; Fiberway Sp. z o.o., Niepolomice, Poland; Fidelis Cybersecurity GmbH, Berlin; Fieldfisher Plog Partnerschaft von Rechtsanwälten mbB, Hamburg; Filanco Europe Ltd. Citytelecom, London, United Kingdom; Filiago GmbH & Co. KG, Norderstedt; Filoo GmbH, Gütersloh; Findustrial GmbH, Schörfling am Attersee, Austria; FNE-Finland Oy, VANTAA, Finland; FNOH-DSL Südheide GmbH, Uetze; Forcepoint, Unterföhring; Formware GmbH, Nußdorf am Inn; FORTHnet S.A., Athens, Greece; Frama Deutschland GmbH, Ratingen; Frank Wassong - CertMobile, Bedburg-Hau; Fraunhofer-Verbund IuK-Technologie, Berlin; Fredonia Trading Ltd., Limassol, Cyprus; FREE S.A.S., Paris, France; freenet AG, Büdelsdorf; FreiNet GmbH, Freiburg;

FRESH INFO +++, Hennef; Frey - International Business Consulting, Heusweiler; Friedrich Böhm Consulting e.K., Bochum; Fuchs macht, Odenthal; Fujifilm Recording Media GmbH, Kleve **[G]** G DATA CyberDefense AG, Bochum; G&L Geißendörfer & Leschinsky GmbH, Köln; G3 Comms Ltd., London, United Kingdom; Gameforge 4D GmbH, Karlsruhe; Gandi.net, Paris, France; GasLINE GmbH & Co. KG, Straelen; GBI HQ Coöperatief UA, Amsterdam, Netherlands; GCI Network Solutions, Lincoln, United Kingdom; G-Core Labs S.A., Luxembourg, Luxembourg; GÉANT Vereniging, Cambridge, United Kingdom; GECKO mbH – ein Mitglied der Release42 Gruppe, Rostock; GELSEN-NET Kommunikations-gesellschaft mbH, Gelsenkirchen; Gemnet LLC, Ulaanbaatar, Mongolia; Genesis-Software GmbH, Bochum; Gesellschaft für wissenschaftliche Datenverarbeitung mbH Göttingen (GWDG), Göttingen; G-FIT Gesellschaft für innovative Telekommunikationsdienste mbH & Co. KG, Regensburg; GFN Glasfasernetz Olfen GmbH, Olfen; GFOS Technologieberatung GmbH, Essen; GG Software AS, Sandefjord, Norway; GGEW net GmbH, Bensheim; Giants For Renting Computer Systems Company W.L.L., Salmiya, Kuwait; Gitoyen, PARIS, France; GleSYS AB, Hägersten, Sweden; Global Access Internet Services GmbH, München; Global Cloud xChange, Dublin, Ireland; global IP action AG, Pfäffikon, Switzerland; Global Switch FM GmbH, Frankfurt am Main; Global Village GmbH, Voerde; GlobalConnect A/S, Taastrup, Denmark; GlobalConnect NN A/S, Glostrup, Denmark; globaldatanet GmbH, Hamburg; GlobalDots

Services and Support GmbH, Berlin; GLOBE Development GmbH, Münster; Globe telecom, Taguig, Philippines; GlobeNet Cabos Submarinos America, Inc., Fort Lauderdale, United States of America; GNC-Alfa CJSC, Abovyan, Armenia; Go for the 100 - Beratung, Essen; GoDaddy.com, LLC, Tempe, United States of America; Google Germany GmbH, Hamburg; grandcentrix GmbH, Köln; GRASS-MERKUR GmbH & Co. KG, Hannover; Green Mountain Datacenter GmbH, Düsseldorf; greenSec GmbH, Unterhaching; gridscale GmbH, Köln; GTT Communications, Inc, Mc Lean, United States of America; GTT GmbH, Frankfurt am Main; Gulfnet Communications Co, Mubarakia, Kuwait; Gutschild.de Eduard Reinhardt, Weitenstadt **[H]** Haak GmbH, Heiligenhaus; HALLAG Kommunal GmbH, Hall in Tirol, Austria; Hambach & Hambach Rechtsanwälte PartG mbB, München; Hamburg Top-Level-Domain GmbH, Hamburg; Hamburg@work e.V., Hamburg; Hasso Plattner Institut für Softwaresystemtechnik GmbH, Potsdam; Hawe Telekom sp. z o. o. w restrukturyzacji, Warsaw, Poland; Hees Bürowelt GmbH, Bochum; Heficed, London, United Kingdom; Heidelberg iT Management GmbH & Co. KG, Heidelberg; Heinlein Support GmbH, Berlin; Heise Medien GmbH & Co. KG, Hannover; HeLi NET - Telekommunikation GmbH & Co. KG, Hamm; Herbst Datentechnik GmbH, Berlin; HERE Global B.V., Eindhoven, Netherlands; Herman IT Ltd., Kajaani, Finland; Hetzner Online GmbH, Gunzenhausen; Heuking Kühn Lüer Wojtek PartGmbH, Köln; Hewlett-Packard GmbH, Böblingen; Hexanet, Reims, France; HEXONET GmbH, Homburg; Heyn Online Group UG & Co.

KG, Barby; Hivane, Paris, France; HKN GmbH, Krefeld; HL komm Telekommunikations GmbH, Leipzig; Hochschule Düsseldorf, Düsseldorf; Hofmeier Media GmbH, München; Hofnetz IT und Services GmbH, Berlin; Höger Management GmbH, Bornheim; HomeTV Pro Ltd., Riga, Lithuania; Hornetsecurity GmbH, Hannover; Horst Görtz Institut für IT-Sicherheit, Bochum; Host Europe GmbH, Köln; Host Virtual Inc., Santa Monica, United States of America; hosting.de GmbH, Aachen; hostNET Medien GmbH, Bremen; HostPalace Web Solution Private Limited, Suri, India; Hostserver GmbH, Marburg; Hostsharing eG, Hamburg; Hostway Deutschland GmbH, Hannover; HOT-NET Internet Services Ltd., Kibbutz Yakum, Israel; House of Finance - Goethe Universität Frankfurt, Frankfurt am Main; htp GmbH, Hannover; HUAWAI TECHNOLOGIES Deutschland GmbH, Düsseldorf; Hub Network Services Ltd., Bristol, United Kingdom; Hurricane Electric Int. Service, Fremont, United States of America; hurtig informationssicherheit, Bochum **[I]** I NET Bulgaria EOOD, Sofia, Bulgaria; I.T.E.N.O.S. GmbH, Bonn; I/P/B/ Internet Provider in Berlin GmbH, BERLIN; i3D.net B.V., Capelle aan den IJssel, Netherlands; IBM Deutschland GmbH, Ehningen; IDKOM Networks GmbH, Kempten; IDNet LTD, Hitchin, United Kingdom; IDNT Europe GmbH, Linden; IDS-GmbH, Herne; ielo, Paris, France; IfKom – Ingenieure für Kommunikation e.V., Dortmund; IGN GmbH, München; IKB Innsbrucker Kommunalbetriebe AG, Innsbruck, Austria; ILK Internet GmbH, Karlsruhe; Image Transfer GmbH, Essen; ImagineOn GmbH, Köln; IMPERVA Inc., Redwood Shores, United States

of America; Incas GmbH, Krefeld; Index Exchange Inc., Toronto, Canada; inexo Informations-technologie und Telekommunikation GmbH, Saarlouis; Infinera Limited, London, United Kingdom; INFOnline GmbH Forum Bonn Nord, Bonn; INFORENT GmbH, Frankfurt am Main; Information Management Institut IMI, Aschaffenburg; Infotech EDV-Systeme GmbH, Ried im Innkreis, Austria; InfraBurst B.V., Bloemendaal, Netherlands; Infradata GmbH, Dortmund; Ing.-Büro DaTeCom e.K., Duisburg; Ingenico e-Commerce Solutions SPRL/BVBA, Bruxelles, Belgium; ingenit GmbH & Co. KG, Dortmund; Init7 (Schweiz) AG, Winterthur, Switzerland; INM - Insitut für Neue Medien, Frankfurt; inno-focus businessconsulting gmbh, Berlin; Innovations ON GmbH, Ulm; inovex GmbH, Karlsruhe; INST-IT GmbH- Institut für IT-Sicherheit, Bochum; Institut für Internet-Sicherheit - if(is), Gelsenkirchen; INTEON GmbH, Duisburg; Interactive Network Communications GmbH, Frankfurt am Main; InterCloud S.A.S., Paris, France; International Business Consulting, Eberswalde; INTERNET AG, Frankfurt am Main; Internet Central Ltd, Stoke on Trent, United Kingdom; InterNetX GmbH, Regensburg; Interplanet S.r.l, Montecchio Maggiore, Italy; Intersaar GmbH, Saarbrücken; Interxion Deutschland GmbH, Frankfurt am Main; Invitech Solutions Zrt, Budapest, Hungary; Inxmail GmbH, Freiburg; ion2s GmbH, Darmstadt; IONOS by 1&1, Berlin; IONOS SE, Montabaur; IoT Inspector GmbH, Bad Homburg; IP Serverone Solutions Sdn. Bhd., Kuala Lumpur, Malaysia; IP Telecom Bulgaria Ltd., Bourgas, Bulgaria; IP Transit, Inc.,

Fort Lauderdale, United States of America; IPA Institut für Personalentwicklung und Arbeitsorganisation, Köln; IPACCT ODD, София, Bulgaria; IPHH Internet Port Hamburg GmbH, Hamburg; ip-it consult GmbH, Klagenfurt am Wörthersee, Austria; iPlace Internet & Network Services GmbH, Rankweil, Austria; IP-Max S.A., Genève, Switzerland; iQ Global AS, Oslo, Norway; IRF GmbH, Köln; IRIDEOS S.p.A., Milano, Italy; isits AG International School of IT Security AG, Bochum; ISP Service eG, Stuttgart; IT Sachverständigen Büro Marcel Schäfer, Erfstadt; IT square Marcel Hader und Tobias Wiedow GbR, Essen, Ruhr; IT Union Holding GmbH, Düsseldorf; IT-Consult Ralf F. Emons e.K., Münster; ITgration GmbH, Hilden; ith Kommunikationstechnik GmbH, Plattling; ITM Südwestfalen GmbH, Freudenberg; it-motive AG, Duisburg; IT-Point Eckert, Velbert; IT-SEAL GmbH, Darmstadt; iWelt GmbH + Co. KG, Eibelstadt; IX Reach LTD, Cheadle, United Kingdom **[J]** JAGUAR NETWORK SAS, Marseille, France; JasTel Network Co., Ltd., Nonthaburi, Thailand; JL-Automation GmbH, Bochum; Johannes Gutenberg-Universität Mainz Zentrum für Datenverarbeitung, Mainz; JWE SARL, Luxembourg, Luxembourg **[K]** KAEMI GmbH, Berlin; Kakao Corp., Seongnam-shi Gyeonggi-do, Republic of Korea; KAMP Netzwerkdienste GmbH, Oberhausen; Kantonsschule Zug, Zug, Switzerland; Kentix GmbH, Idar-Oberstein; Keppel Data Centres Holdings Germany GmbH, Frankfurt am Main; KEVAG Telekom GmbH, Koblenz; Keycom PLC, Stafford, United Kingdom; Key-IT Geßner-Steiner GbR, Bochum; Key-Systems GmbH, St. Ingbert; keyweb AG, Erfurt; KEYYO,

Clichy, France; KidsCircle UG, Berlin; Klaus vom Ende - Dianet, Duisburg; KLESYS Consulting GmbH, Kalkar; Knipp Medien und Kommunikation GmbH, Dortmund; Kölner Studierendenwerk AÖR, Köln; KomMITT - Ratingen GmbH, Ratingen; Komro GmbH, Rosenheim; Konica Minolta Business Solutions Europe GmbH, Langenhagen; KOOMBA UG (haftungsbeschränkt), Wuppertal; K-Opticom Corporation, Osaka, Japan; Korbank S.A., Wroclaw, Poland; KPMG IT Service GmbH, Berlin; KPN EuroRings B.V., Frankfurt am Main; KPS digital GmbH, Dortmund; KraftCom e.U., Göstling an der Ybbs, Austria; Kraftwerke Mainz-Wiesbaden AG, Mainz; kreuzwerker GmbH, Berlin; Kroll Strategieberatung GmbH, Dortmund; KSG Kraftwerks-Simulator-Gesellschaft mbH, Essen; KT Corporation, GyeongGi-Do, Republic of Korea; KT-NET Communications GmbH, Behamberg, Austria; Kubermatic GmbH, Hamburg; KUMA IT-Solutions GmbH, Moers; KünzlerBachmann Directmarketing AG, Winterthur, Switzerland; KVANT-TELECOM CJSC, Voronezh, Russian Federation **[L]** Larsen Data ApS, København, Denmark; Lasotel, Villeurbanne, France; Leaders Academy Köln - Aachen - Bonn, Köln; Leadinfo B. V., Capelle aan den IJssel, Netherlands; LeaseWeb Deutschland GmbH, Frankfurt am Main; Leaseweb Global B.V., Amsterdam, Netherlands; Leaseweb Netherlands B.V., Amsterdam, Netherlands; LeaseWeb Network B.V., Amsterdam, Netherlands; legitimis GmbH, Bergisch Gladbach; Leitwert GmbH, Ingolstadt; LEMARIT GmbH - Business Domain Management, Harslee; LEON Sp. z o.o., Rybnik, Poland; Lepida SpA, Bologna, Italy; LIMEBIRD GmbH, Ketsch;

Limelight Networks Inc. - Int'l HQ, Tempe, United States of America; Link11 GmbH, Frankfurt am Main; LinkedIn Ireland Unlimited Company, Dublin, Ireland; Linode, LLC, Philadelphia, United States of America; LinzNet Internet Service Provider GmbH, Linz, Austria; Liquid Telecom, London, United Kingdom; LLC Wnet Ukraine, Kyiv, Ukraine; LLHost Inc., Belize, Belize; LSEC - Leaders in Security, Leuven Heverlee, Belgium; luckycloud GmbH, Berlin; Lumen Technologies Germany GmbH, Frankfurt am Main; LuxConnect S.A., Bettembourg, Luxembourg; Luxembourg Online SA, Luxembourg, Luxembourg; LUXNETWORK S.A., Herperange, Luxembourg; LWLcom GmbH, Bremen **[M]** M247 Europe SRL, Bucharest, Romania; m2m-Tailors, Lünen; Machine Zone, Palo Alto, United States of America; macworx GmbH & Co. KG, Dortmund; Magna International (Germany) GmbH, Sailauf; Magnite, Los Angeles, United States of America; maincubes one GmbH, Frankfurt am Main; Mainova Webhouse GmbH & Co. KG, Frankfurt am Main; MAMEDO IT-Consulting GmbH, Dortmund; Manx Telecom Ltd., British Isles, United Kingdom; Mapp Digital Germany GmbH, München; Marc Torke Social Media Marketing, Xanten; Marx & Marx Versicherungsmakler GmbH & Co. KG, Dortmund; maxspot GmbH, Landau in der Pfalz; McAfee Germany GmbH, Unterschleißheim; MDlink online service center GmbH, Magdeburg; Meanie, Voorburg, Netherlands; Media Exchange GmbH, Unterföhring; Media Network Services AS, Oslo, Norway; media.net berlinbrandenburg e.V., Berlin; mediaBEAM GmbH, Ahaus; Mediainvent Service

GmbH/ fonira Telekom GmbH, Wien, Austria; Medianova Internet Hiz. Tic. A.S., Istanbul, Turkey; Megapixel Entertainment Ltd., Ta'Xbiex, Malta; Megaspaces Internet Services GmbH, Landau; Melbikomas UAB, Vilnius, Lithuania; MEN@NET GmbH, Lübeck; Menerga GmbH, Mülheim an der Ruhr; MEO - Serviços de Comunicações e Multimédia, S.A., Lisboa, Portugal; Metliance ISP Systems e.K., Berlin; mgm technology partners GmbH, München; MGT-COMMERCE GmbH, Berlin; mib Mittelstand in Bayern e.V., Landsberg am Lech; Michalski · Hüttermann & Partner Patentanwälte mbB, Düsseldorf; Micron21 Datacentre, Kilsyth South, Australia; Microsoft Deutschland GmbH, München; Minds + Machines Group Ltd., Seattle, United States of America; Mittwald CM Service GmbH & Co. KG, Espelkamp; MIVITEC GmbH, München; MK Netzdienste GmbH & Co. KG, Minden; M-net Telekommunikations GmbH, München; MoBerries GmbH, Berlin; Mobifone Global JSC, Hanoi, Viet Nam; Mobile Telecommunications Limited, Windhoek, Namibia; mobile.international GmbH, Kleinmachnow; Modern.Work GmbH, Essen; MOLDTELECOM S.A., Chisinau, Moldova; Monzoon Networks (Deutschland) GmbH, Hohentengen am Hochrhein; msg systems AG - Niederlassung Essen, Essen; MTX Connect S.a r.l., Pontpierre, Luxembourg; Multimedia Polska S.A., Gdynia, Poland; MVM NET Ltd., Budapest, Hungary; myLoc managed IT AG, Düsseldorf; myNET gmbh, Landeck, Austria; Myra Security GmbH, München; mywire Datentechnik GmbH, Mannheim - Käfertal **[N]** n@work Internet Informations-systeme GmbH, Hamburg; Naitways, Paris,

France; Naukowa Akademicka Siec Komputerowa (NASK), Warszawa, Poland; Naver Business Platform Europe GmbH, Frankfurt am Main; Naver Webtoon Ltd., Seongnam-si, Gyeonggi-do, Republic of Korea; NDIX bv, Enschede, Netherlands; NELEX AG, Köln; neoalto GmbH, Köln; neomatt GmbH, Essen; neotel DOO, Skopje, Macedonia; NESSUS GmbH, Wien, Austria; Net at Work GmbH, Paderborn; net services GmbH & Co. KG, Flensburg; net.DE AG, Hannover; NET1 Ltd., Sofia, Bulgaria; NetAssist Ltd., Gibraltar, United Kingdom; NetCologne GmbH, Köln; NetCom BW GmbH, Ellwangen; Netcom Kassel Gesellschaft für Telekommunikation mbH, Kassel; netcup GmbH, Karlsruhe; Neterra Ltd., Sofia, Bulgaria; netgo group GmbH, Borken; NETHINKS GmbH, Fulda; NetIX Communications Ltd., Sofia, Bulgaria; NetLan, Vratza, Bulgaria; NETPLANET GmbH, Wien, Austria; netplus.ch, Sierre, Switzerland; Netrouting, Spijkenisse, Netherlands; Netsign networks GmbH, Berlin; Netskope UK Ltd., London, United Kingdom; NetUSE AG, Kiel; Network Platforms, Johannesburg, South Africa; networker NRW e.V., Essen; Networx-Bulgaria Ltd., София, Bulgaria; Neue Medien Münnich GmbH, Friedersdorf; Neupart GmbH, Ratingen; Neuronnexion, Amiens, France; neusta software development West GmbH, Essen; Neustar, Inc., Sterling, United States of America; New Continuum Holdings, Chicago, United States of America; NewTelco GmbH, Frankfurt am Main; Nexeon Technologies, Inc., Stafford, United States of America; nexiu GmbH, Wehrheim; next layer Telekommunikationsdienstleistungs- und Beratungs GmbH, Wien, Austria; nextindex GmbH

& Co. KG, Bochum; nfon AG, München; NForce Entertainment B.V., Roosendaal, Netherlands; nGENn GmbH, Wehrheim; nic.at GmbH, Salzburg, Austria; NMMN New Media Markets & Networks IT-Services GmbH, Hamburg; Node Pole, Lulea, Sweden; Nokia Solutions and Networks GmbH & Co. KG, München; noris network AG, Nürnberg; NortonLifeLock Deutschland GmbH, Tettnang; NOVATEL EOOD, Sofia, Bulgaria; NOVELLUS Integrierte Dienste GmbH, Appenweier; NRM Netzdienste Rhein-Main GmbH, Frankfurt am Main; NTT Germany AG & Co. KG, Bad Homburg; NTT Global Data Centers EMEA GmbH, Hattersheim am Main; NTT United Kingdom Limited, Hampshire, United Kingdom; numetris AG, Essen; NürnbergMesse GmbH, Nürnberg; NYNEX satellite OHG, Darmstadt **[O]** odix Ltd., Rosh Ha'ayn, Israel; ODN OnlineDienst Nordbayern GmbH & Co. KG, Fürth; OFIGO GmbH & Co. KG, Essen; oja.at GmbH, Klagenfurt am Wörthersee, Austria; Oliver Dehning - freiberuflicher Berater, Burgwedel; Om7Sense GmbH, Niederbergkirchen; OMCnet Internet Service GmbH, Quickborn; one.com, København, Denmark; oneclick Group AG, Zürich, Switzerland; ONECOM Global Communication Ltd., London, United Kingdom; OneSpan International GmbH, Glattbrugg, Switzerland; Onstage Online GmbH, Wien, Austria; Ooredoo, Muscat, Oman; Ooredoo Qtel aka Qatar Telecom, Doha, Qatar; Oosha Limited, Wolverhampton, United Kingdom; Open Peering B.V., 'S-Gravenhage, Netherlands; Open Systems Germany GmbH, Düsseldorf; OpenDNS, San Francisco, United States of America; Open-Xchange AG, Olpe; Opteamax Infrastructure

GmbH, Rheinbreitbach; Orange Romania SA, Bucharest, Romania; Oriental Power Holdings Ltd., Shenzhen, China; ORTHOS Consult GmbH & Co. KG i.G., Essen; OSN Online Service Nürnberg GmbH, Nürnberg; OTEGlobe S.A., Athens, Greece; OVH GmbH, Saarbrücken; OVH SAS, Roubaix, France; OXSEED Logistics GmbH, Bielefeld **[P]** Pacnet Global Headquarter Singapore, Singapore; Pakistan Telecommunication Company Limited, Islamabad, Pakistan; Pallas GmbH, Köln; Palo Alto Networks GmbH, München; PartnerGate GmbH, München; PE Besman Anastasia Aleksandrovna, Bobruysk, Belarus; Peaq Technology GmbH, Berlin; Peering GmbH, Berlin; Penta Infra, Amsterdam, Netherlands; Perfect-ID GmbH, Köln; Peter Rauter GmbH, Neumarkt am Wallersee, Austria; Petricore Systems UG (haftungsbeschränkt), Düsseldorf; PFALZKOM GmbH, Ludwigshafen; Phibee Telecom SARL, La Grand Croix, France; pir.org The Public Interest Registry, Reston, United States of America; PJSC Datagroup, Kiev, Ukraine; plaarconsult - Unternehmens- und IT-Beratung, Erfstadt; plan b digitation GmbH, Berlin; PLDT Global Corporation, Makati City, Philippines; Plume Design, Inc., Palo Alto, United States of America; Plus.line AG, Frankfurt am Main; Plusnet GmbH, Köln; PlusServer GmbH, Köln; pme Familienservice GmbH, Berlin; Polkomtel Sp. z o.o., Warszawa, Poland; pop-interactive GmbH, Hamburg; portrix Systems GmbH, Hamburg; Poznan Supercomputing and Networking Center PSNC, Poznań, Poland; Previder BV, BE Hengelo, Netherlands; Prime Telecom S.r.l., Bucharest, Romania; PrimeTel PLC, Limassol, Cyprus; Private

Layer, Panama City, Panama; Probe Networks, Merzig; proIO GmbH, Frankfurt am Main; Proleagion GmbH, Wiesbaden; PROTOS Technologie GmbH, Berlin; provalida GmbH, Bochum; PR-TELECOM Zrt., Miskolc, Hungary; Purtel.com GmbH, München **[Q]** QAware GmbH, München; qbee AS, Trollåsen, Norway; Quad9 Foundation, Zurich, Switzerland; Quadratwissen, Düsseldorf; Quickline AG, Nidau, Switzerland; Quines Capital GmbH, Düsseldorf; Qwest Germany GmbH, Frankfurt am Main **[R]** RACCOM AD, Sofia, Bulgaria; Rackspace Germany GmbH, München; Ralf Bender RB C+C, Muehlal; ratiokontakt GmbH, Hallstadt; Raucamp Consulting, Wülfrath; RCS&RDS S.A., Bucureşti, Romania; Realtime Register B.V., Zwolle, Netherlands; Rechtsanwalt Dörre, Berlin; Redder Telco SRL, Camisano Vicentino, Italy; regio[.NET] Upstream GmbH & Co. KG, Ebersburg; regiodot GmbH & Co. KG, Essen; RegioNet Schweinfurt GmbH, Schweinfurt; RelAix Networks GmbH, Aachen; Rendszerinformatika Zrt., Budapest, Hungary; RENTALOAD, Montbard, France; resch media - web your business, Dortmund; retarus GmbH, München; Retelit Digital Services S.p.A., MILANO, Italy; RETN GmbH, Frankfurt am Main; rh-tec Business GmbH, Bad Oeynhausen; Richard Seidl Group GmbH, Essen; Rickert Rechtsanwaltsgesellschaft mbH, Bonn; Riot Games, Ltd., Santa Monica, United States of America; Rittal GmbH & Co. KG, Herborn; R-KOM GmbH & Co. KG, Regensburg; RLT IT- und Systemprüfung GmbH WPG, Essen; rockenstein AG, Würzburg; Rohde & Schwarz Cybersecurity GmbH, München; root360 GmbH, Leipzig;

Rosami : Agentur für Vertrieb, Marketing und Digitalisierung, Dortmund; Rosenberger-OSI GmbH & Co. OHG, Augsburg; RSM Freelassing Michael Reiner Rack, Freelassing; RTS GmbH, Düsseldorf; ruhrIT, Bochum **[S]** Salam, Riyadh, Saudi Arabia; Salesforce.com Germany GmbH, München; SALSUP GmbH, Ergolding; SAP Deutschland SE & Co. KG, Walldorf; Sapphire Networks, Gibraltar, United Kingdom; SaSG GmbH & Co. KG, Schmiechen; Saticon GmbH, Bochum; Saudi Telecom Company - STC, Riyadh, Saudi Arabia; SBB - Serbia Broadband Srpske Kablovske Mreze d.o.o., Beograd, Serbia; ScaleUp Technologies GmbH & Co. KG, Hamburg; Scaleuplab.io, Bochum; ScanPlus GmbH, Ulm; Schleifenbauer Deutschland GmbH, Hertogenbosch, Netherlands; Schneider Electric GmbH, Ratingen; schönwälder datenmanagement, Rheurdt; SCHUFA Holding AG, Wiesbaden; Schwarz IT KG, Neckarsulm; SDS Rechtsanwälte Sander Schöning PartG mbB, Duisburg; sdt.net AG, Aalen; SDV Plurimedia, Strasbourg, France; SE „Special Telecommunications Center“, Chisinau, Moldova; SEACOM Ltd., Curepipe, Mauritius; Seal Systems AG, Röttenbach; Sedo GmbH, Köln; SEEBURGER AG, Bretten; Selectus GmbH, Schenefeld; SEMPACON GmbH & Co. KG, Hilden; Sendinblue GmbH, Berlin; SentinelOne, Paris, France; Serverel Corp., Sunnyvale, United States of America; Serverius B.V., Meppel, Netherlands; servicenaut GmbH, München; Services Industriels de Geneve SIG Telecom, Le Lignon, Switzerland; SevenShift GmbH, Köln; SFR SA, Lille, France; SG.GS Pte Ltd, Singapore, Singapore; Shenzhen WE Trans, Hong Kong, Hong Kong; SIA Tet, Riga,

Latvia; SIDN, Arnhem, Netherlands; Sify Technologies Ltd., Taramani, India; Signal Spam, Paris, France; Silknet JSC, Tbilisi, Georgia; Simple Carrier LLC, Chicago, United States of America; SIPARTECH SAS, Paris, France; Sirius Technology, Quarrata, Italy; Six Degrees Technology Group Ltd., Warwickshire, United Kingdom; sixclicks GmbH, Recklinghausen; SK Broadband, Seoul, Republic of Korea; Skylogic S.p.A. Unipersonale, Roma, Italy; Slashme BV, Schalkhaar, Netherlands; Slovanet a.s., Bratislava, Slovakia; SlyCon GmbH, Saarbrücken; smartlutions GmbH, Köln; SmartNIC GmbH, München; SMB GmbH, Bochum; SMK Energy Plc., Sofia, Bulgaria; Soco Network Solutions GmbH, Düren; Sofia Connect EAD, Sofia, Bulgaria; Softlayer Dutch Holdings B.V., Amsterdam, Netherlands; Softnet d.o.o., Trzin, Slovenia; SoftServe GmbH, Frankfurt; SolNet - Internet Solution Provider BSE Software GmbH, Solothurn, Switzerland; Sony Interactive Entertainment LLC, San Mateo, United States of America; SoSafe GmbH, Köln; SpaceNet AG, München; Sparheld International GmbH, Berlin; Sparkassen-IT GmbH & Co. KG, Calw; Spectrum, Sofia, Bulgaria; SPLIO, Paris, France; Sportfox Holding GmbH, Dortmund; Spotify GmbH, Berlin; SprintLink Germany GmbH, Neu Isenburg; Sri Lanka Telecom PLC, Colombo, Sri Lanka; Stackable GmbH, Wedel; StackPath, LLC, Winter Park, United States of America; Stadtnetz Bamberg Gesellschaft für Telekommunikation, Bamberg; Stadtwerke Feldkirch, Feldkirch, Austria; StarHub Ltd, Singapore, Malaysia; StarNet Solutii SRL, Chisinau, Moldova; STARTPLATZ Köln, Köln; Stella Telecom, Valbonne, France; Stenle GmbH,

Essen; Stofa A/S, Tranbjerg, Denmark; Storecove GmbH, Düsseldorf; Storm Reply GmbH, Dortmund; STRATO AG, Berlin; Subspace Inc., San Francisco, United States of America; süc//dacor GmbH, Coburg; Summa Unternehmensberatung, Köln; Sunrise Communications AG, Urdorf, Switzerland; superluminar GmbH, Hamburg; Superonline Iletisim Hizmetleri A.S., Istanbul, Turkey; SurfRight B. V., Hengelo, Netherlands; SWAN, a.s., Bratislava, Slovakia; Swisscom IT Services Finance S.E., Zürich, Switzerland; SwissSign AG, Glattbrugg, Switzerland; SWN Stadtwerke Neumünster GmbH, Neumünster; Symphony Communication Public Company Ltd., Bangkok, Thailand; Synapse Networks GmbH, Gau-Algesheim; Syncier GmbH, München; sys4 AG, München; SysEleven GmbH, Berlin **[T]** Taqnia Space Co., Riyadh, Saudi Arabia; TARR KFT, Szekszárd, Hungary; Tata Communications Deutschland GmbH, Frankfurt am Main; T-CIX, Sofia, Bulgaria; TE@MCONSULT Solutions & People GmbH, Wuppertal; Technische Universität München, Garching; tecRacer Consulting GmbH, Hannover; TELE AG, Leipzig; Telecom Egypt, Cairo, Egypt; Telecom Infrastructure Company of the I.R., Tehran, Iran; TeleData GmbH, Friedrichshafen; Telefónica Germany GmbH & Co. OHG, München; Telehouse Deutschland GmbH, Frankfurt am Main; Telehouse EAD, Sofia, Bulgaria; TELEKOM ROMANIA COMMUNICATIONS S.A., Bucureşti, Romania; TELEKOM SLOVENIJE d.d., Ljubljana, Slovenia; Telekom Srbija Business Customer Division, Belgrad, Serbia; TelemaxX Telekommunikation GmbH, Karlsruhe; Telenor Norge AS, Fornebu, Norway; TeleTrust -

Bundesverband IT-Sicherheit e.V., Berlin; Telia Carrier Germany GmbH, Frankfurt am Main; Teliko GmbH, Limburg; Telkom SA SOC Ltd., Pretoria, South Africa; Telxius Cable España, S.L., Madrid, Spain; TENET Scientific Production Enterprise LLC, Odessa, Ukraine; Tenzir GmbH, Hamburg; tetraguard systems GmbH, Euskirchen; The Cloud Networks Germany GmbH, München; The Mindful Leader, Berlin; Thüga SmartService GmbH, Naila; Thüringer Netkom GmbH, Weimar; TI Sparkle Germany GmbH, Frankfurt am Main; TIMOCOM GmbH, Erkrath; TIRASTEL GmbH, Wiesbaden; Titan Networks, Hofheim am Taunus; TMR - Telekommunikation Mittleres Ruhrgebiet GmbH, Bochum; TMT GmbH & Co. KG, Bayreuth; TNG Statnetz GmbH, Kiel; toplink GmbH, Darmstadt; TOT PUBLIC COMPANY LIMITED, Bangkok, Thailand; Tradelite Solutions GmbH, München; TrafficPlex GmbH, Bremen; Trafo2 GmbH media engineering, Essen; Train Consult GmbH Peter Gross, Essen; Transatel, Neuilly-sur-Seine, France; TRANSDATA, Oslo, Norway; Transworld Associates (Pvt) Ltd., Islamabad, Pakistan; Tremf & Sturm Datentechnik GmbH, Offenbach a. M.; Trivago N.V., Düsseldorf; tronet GmbH, Troisdorf; Trovent Security GmbH, Bochum; Company TransTeleCom JSC, Moscow, Russian Federation; Trusted Network GmbH, Unterschleißheim; T-Systems International GmbH, Frankfurt am Main; Türk Telekom International HU Kft., Budaörs, Hungary; Turk Telekomunikasyon A.S., Ankara, Turkey; TÜV Rheinland Akademie GmbH, Dortmund; TÜV Rheinland Cert GmbH, Köln; TV1 GmbH, Unterföhring; DWDM.RU LLC, Moscow, Russian Federation; Twitch Interactive

Inc., San Francisco, United States of America; Twitter International Company, London, United Kingdom; TWL-KOM GmbH, Ludwigshafen am Rhein; tyntec GmbH, München; TYPO3 Association, Baar, Switzerland **[U]** UAB Nacionalinis telekomunikacijų tinklas, Vilnius, Lithuania; Uber Germany GmbH, Berlin; Ucom CJSC, Yerevan, Armenia; UIMC Dr. Voßbein GmbH & Co KG, Wuppertal; Unikrn Ltd., Douglas, Isle of Man, United Kingdom; Union Betriebs-GmbH, Rheinbach; GlobalNet JSC, St. Petersburg, Russian Federation; unique projects GmbH & Co. KG, Duisburg; Uniscon GmbH - A member of TÜV SÜD, München; united-domains AG, Starnberg; Universität zu Köln Seminar für Medien- und Technologiemanagement, Köln; Upcloud Ltd, Helsinki, Finland; USU Software AG, Karlsruhe; uvensys GmbH, Linden **[V]** Vectra S.A., Gdynia, Poland; Vereinigte Stadtwerke Media GmbH, Nusse; VERISIGN Sarl, Villars-sur-Glane, Switzerland; Verizon Deutschland GmbH, Dortmund; VERIZON MEDIA EMEA Ltd., Dublin, Ireland; Veronym Holding GmbH, Berlin; Vietnam Telecommunications International (VNPT-I), Hanoi, Viet Nam; Viettel Telecom Corporation International Business Center, Hanoi, Viet Nam; ViewQwest Private Limited, Singapore, Singapore; MTS PJSC, Moscow, Russian Federation; Virtual Internet (UK) Ltd, Manchester, United Kingdom; VISTEC Internet Service GmbH, Wiesbaden; vitroconnect GmbH, Gütersloh; VIVAI Software AG, Dortmund; PJSC MegaFon, Moscow, Russian Federation; Rascom CJSC, Saint Petersburg, Russian Federation; Vodafone BW GmbH, Köln; Vodafone Enterprise Germany GmbH, München;

Vodafone GmbH, Düsseldorf; Vodafone Hessen GmbH & Co. KG, Köln; Vodafone Kabel Deutschland GmbH, Unterföhring; Vodafone NRW GmbH, Köln; VODAFONE Ukraine, Kyiv, Ukraine; Voxility GmbH, Frankfurt am Main; VSE NET GmbH, Saarbrücken; Vshosting s.r.o., Praha, Czech Republic; VTEL GmbH, Wien, Austria **[W]** Wagner Group GmbH, Langenhagen; WeAre GmbH, Berlin; Webdiscount GmbH & Co. KG, Münster; weber. digital GmbH, Balingen; webgo GmbH, Hamburg; Webstrategy GmbH, Kronberg im Taunus; VimpelCom PJSC, Moscow, Russian Federation; West Indian Ocean Cable Company, Ebende, Mauritius; Westcon Group Germany GmbH, Berlin; Wharf T&T Limited, Hong Kong, Hong Kong; Whitelabel, Landgraaf, Netherlands; Whow Games GmbH, Hamburg; Wifiweb s.r.l., Altavilla vinentina, Italy; WIK Consult GmbH, Bad Honnef; WILDE BEUGER SOLMECKE Rechtsanwälte, Köln; wilhelm.tel GmbH, Norderstedt; wintercloud GmbH & Co. KG, Heidelberg; WirtschaftsEntwicklungs-Gesellschaft Bochum mbH, Bochum; Wirtschaftsförderung Frankfurt - Frankfurt Economic Development GmbH, Frankfurt am Main; WIRULink Pty Ltd, Roodepoort, South Africa; WISPONE SRL, Chiaravalle, Italy; WitCOM Wiesbadener Informations- und Telekommunikations GmbH, Wiesbaden; VKontakte Ltd., Saint-Petersburg, Russian Federation; WOBCOM GmbH, Wolfsburg; Workonline Communications (Pty) Ltd., Johannesburg, South Africa; World Streamedia, Inc., New Rochelle, United States of America; WUPNET IT-Lösungen, Wuppertal; WVNET GmbH, Zwettl, Austria; WWZ

Telekom AG, Zug, Switzerland **[X]** Xantaro Deutschland GmbH, Hamburg; x-ion GmbH, Hamburg; xmera Solutions GmbH, Essen; XO International Inc., Herndon, United States of America; XQueue GmbH, Offenbach **[Y]** Yandex Europe B.V., Schiphol, Netherlands; Ynvolve B.V., Nijmegen, Netherlands; young targets GmbH, Berlin **[Z]** Zain Group Head Office, Safat-Kuwait, Kuwait; Zajil International Telecom Company KSCC, Kuwait City, Kuwait; Zattoo AG, Zürich, Switzerland; Zayo France (AS8218), Paris, France; Zayo Group, LLC., London, United Kingdom; Zscaler Germany GmbH, München; ZTE Deutschland GmbH, Düsseldorf

As of December 2021

eco



2021

eco

Association of the Internet Industry
Lichtstrasse 43h, 50825 Cologne, Germany
phone +49(0)221/700048-0
fax +49 (0)221/700048-111
info@eco.de
international.eco.de

eco

ASSOCIATION OF THE
INTERNET INDUSTRY