## DE-CIX Global Annual Report



Shaping the Internet of the future – building the foundations for a digital tomorrow

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# 1. Message from the CEO

Ivo Ivanov, CEO and Chair of the Board, DE-CIX Group AG



Dear customers, partners, employees and friends of DE-CIX, interconnection, and digital infrastructure around the globe,

As we review another highly successful year for the DE-CIX Group, this is a perfect opportunity to take stock of what we have achieved as a company and the journey we have taken to get to where we are – both physically and conceptually – today. With a presence in 60 markets, more than 4000 connected networks and 170 terabits of connected customer capacity as of early 2025, DE-CIX is the leading data center and carrier neutral Internet Exchange operator and the leading provider of peering services in the world. And also in 2025, we are celebrating our 30th anniversary. What an incredible journey so far and so much more ahead of us.

## Expanding and developing the DE-CIX footprint in 2024

Looking at the year just past, the growth we see reflects the strategic approach of combining continued expansion with the development of existing locations. Growth continued unabated in all company areas in 2024. In terms of finances, DE-CIX continued on track, with global revenues of all company parts growing by 5.2 million / 8.3% to reach 68.6 million Euro. In line with strategic goals, revenues from international activities grew by 11.7% in comparison to 2023 and represented 25.8% of total revenues in 2024. In terms of growth in 2024, connected networks across our entire global ecosystem rose to over 4000, up 10% on 2023, while global connected customer capacity grew to 170 terabits (Tbits), an increase of 20%. Standout locations in 2024 included the younger North American IXs DE-CIX Phoenix, with 45% growth in connected networks and nearly 500% growth in peak traffic, and DE-CIX Chicago, with close to 30% growth in networks - passing 60 - and close to 170% in peak traffic. UAE-IX in Dubai experienced 80% growth in connected customer capacity and a 40% increase in peak traffic, ending the year with 847 gigabits per second (Gbit/s) and leading the way as the largest Internet Exchange in the Middle East. The Singapore/Johor Bahru metropolitan market saw a rise of close to 70% in connected customer capacity, rising to over 2 Tbits, while across the entire Asian ecosystem capacity jumped by nearly 150% and connected networks by 240%. More on our global and regional growth can be found in Chapter 6 of this report.

In addition, five new exchanges were taken live: from Penang IX in Malaysia and DE-CIX Jakarta in Indonesia, going west to Bengaluru in India and PIE Karachi in Pakistan, and on to IRAQ-IXP in Baghdad (the latter two both powered by DE-CIX under the DE-CIX as a Service model). Technical work was carried out on a further four new IXs, all in the Americas: DE-CIX Mexico, DE-CIX Houston, DE-CIX Sao Paulo and DE-CIX Rio de Janeiro. These expansion activities demonstrate DE-CIX's commitment to continue broadening our reach to new markets. Development of existing locations was evident in numerous technical projects, including the upgrade of the Frankfurt network



#### YEARS OF DE-CIX



and the integration of additional data centers in locations across the globe – including the geographical expansion of three of our US exchanges, DE-CIX Chicago, DE-CIX Dallas, and DE-CIX New York. These activities bring us closer to the edge in each location where we operate. More information on technical projects can be found in Chapter 5.

One special highlight in 2024 was DE-CIX New York, which celebrated 10 years in operation as the youngest exchange in the top 5 largest IXs in the US. In parallel to festivities, a new study, "Navigating the Digital Future: Neutral Internet Exchanges as Catalysts for Ecosystem Growth", was published, highlighting the role of the data center and carrier neutral model in the US. When DE-CIX entered the US market in 2014, there were still only a handful of these neutral IXs, a model more commonly known in the European context. However, the study demonstrates that not only has the neutral model taken the US by storm, with today more than 80% of IXs in the country being operated under the neutral or a hybrid neutral model, but also that the neutral model encourages stronger growth of the local digital ecosystem: Over the ten years from 2014 to 2024, New York - with its data center and carrier neutral IXs demonstrated 30% more growth in networks than Los Angeles, an equivalent market that does not yet boast a neutral IX of standing. This highlights the strength and importance of data center and carrier neutral interconnection ecosystems, an area where DE-CIX maintains strong leadership globally.

#### Celebrating 30 years of peering excellence and community engagement

In 2025, we can look back proudly on 30 years of technical excellence and innovation in the realm of peering – the direct interconnection of networks to exchange data traffic and power digital processes. We can look back on 30 years of fostering the growth of our exchanges and the success of our customers and partners, and 30 years of community engagement.

The DE-CIX family – both the DE-CIX colleagues around the world and the many valued customers and partners we work with on a daily basis - has not only grown beyond all recognition in the past 30 years, but has also evolved continuously, keeping abreast of and ahead of a changing interconnection landscape. One prime example of this in 2024 was the first edition of the Atlantic Convergence, a groundbreaking event dedicated to exploring and advancing transatlantic collaboration and innovation. This conference is a central hub where stakeholders from Africa, Europe, North America, and South America come together to create a unified and interconnected future. A resounding success in its inaugural edition, the Atlantic Convergence shines a light on how important community is in approaching and solving the challenges of the future, with the second edition now eagerly awaited in October 2025.

And so, today, standing proudly as the world's leading operator of peering exchanges – whether we talk about Internet, Cloud, or special application connectivity – we can look both back on a remarkable evolution and forward to an equally exciting future.

#### New peering for a new Internet

Our strategy for the future melds seamlessly with our past evolution. As the world's leading provider of peering services, peering will remain absolutely central to our continued development. We may call our platforms variously Internet and Cloud Exchanges, but what they all have in common is enabling direct network interconnection, or peering. And peering is what drives digital innovation. From the consumption of videos, the streaming of live sports, and the immersion in virtual worlds of online gaming, to e-commerce, cloudbased productivity applications, payment systems, and the smart factory, and on to AI and autonomous robots: Peering is central to almost every aspect of our lives today - and will be even more so in the future.

The further evolution of DE-CIX in 2025 and beyond will continue to be about peering, but we will also see a continued evolution of peering itself. As we have already seen in the past with cloud connectivity, we will see more new and diverse styles of peering, reinvented for the next-generation Internet. At DE-CIX, we are already playing a crucial strategic role in the network planning of both wholesale network operators and enterprises. We will continue to push the boundaries of peering for diverse customer groups, providing efficient, secure, resilient, and high-performance interconnection services for all manner of use cases.

A range of services and use cases from real life are presented in Chapter 7 of this report. One that I wish to highlight here is the Closed User Group (CUG). Peering in a CUG – in which a company can build their own peering environment and connectivity ecosystem goes hand in hand with the new requirements on the market dictated by the specific sector, whether it be automotive, financial services, healthcare, manufacturing, or other industry segments. Each of these requires a highly customized approach in terms of performance, security, and regional and global reach. The CUG stands for this new agile world, enabling companies to invite business partners to peer in a protected and exclusive environment. But it can also be used to peer with clouds as a private cloud exchange, including the DE-CIX Cloud ROUTER for managing multi-cloud set-ups. Or it can be used for a combination of both industry partners and clouds, creating specialized peering environments alongside complex value chains. In such ways, DE-CIX is reinventing and redefining peering for new demands. A further example is multi-AI inference peering on an AI Exchange, which will be dealt with below.

DE-CIX's interconnection services support all types of network operators, from carriers and Internet service providers to content networks and content delivery networks, to cloud service providers, and on to enterprise networks. We will continue to focus on technological and service excellence, offering customers their chosen blend of the DE-CIX advantages in bespoke offerings and automated solutions, in what I call "the new Peering". Advantages of our peering innovations and excellence include price flexibility, automation, security, monitoring and support, community proximity, longtail care, standards, bespoke solutions, enterprise readiness, and ease of doing business.

Whether we look at the needs of our longstanding customers, the wholesale network operators, enterprises, or the relative newcomers to peering, our digital future will demand new ways for all players to engage with infrastructure. Network operations are becoming ever more global in nature, but low-latency consumption requirements demand services closer and closer to the end customer at the Deep Edge. Therefore, at DE-CIX, our strategy for 2025 and beyond will involve integrating local, regional, and global interconnection across our growing number of locations and global backbone. This will enable us to deliver the opportunity for all customers to create their own private ecosystem for their needs in interacting with their suppliers and customers. So that they can control the data journey from end to end. And all this, in a highly automated way. Digital infrastructure and easy interconnection are needed everywhere to serve the evolution of digital services and applications for people, businesses, and institutions.

### Digital Everywhere: Building Al-ready infrastructure for an exciting future

The fundamental importance of connectivity can be illustrated by looking at the current evolution of Artificial Intelligence (AI). There has been a lot of talk in recent months about the data center and hardware booms triggered by advances in AI. And certainly, there is a need for enormous computing power for the many new AI models that are being developed for different purposes. If we look under the hood of a humanoid robot, as an emerging example of multi-Al functionality, we see two Al scenarios that infrastructure providers need to serve: Al training and Al inference. And the massive computing power is really only needed for AI training, and only temporarily. For Al inference, which will make up the vast majority of Alrelated tasks in the future, what is needed is connectivity.

The arrival of the autonomous humanoid robot is just a reflection of a much bigger and more colorful development, the Digital Everywhere phenomenon. Autonomous vehicles, intelligent manufacturing, smart farming, smart logistics, and Al-supported medicine are just a few examples of the exciting developments arriving on the market today. New and emerging transmission technologies like 5G Advanced and 6G mobile technologies and LEO satellite Internet constellations will complement the rollout of fiber on the ground to enable access to the Deep Edge. Technology buzzwords like AI, IoT, Immersive Internet, and Augmented/ Virtual Reality all have one thing in common: They need to be served at the lowest latencies to match the speed of human perception.

The next generation of devices and applications are beginning to emulate how we as humans perceive and understand the world around us. They need to be able to, so that they can interact safely and smoothly with humans and the environment around them. Therefore, they require the seamless interaction of multiple AI models – learning models, movement models, language models, perception models – with reaction times as close as possible to those of the human brain. These smart, real-time applications, being extremely sensitive when it comes to digital architecture, all push the limits of today's Internet, creating new requirements for the next-generation Internet.

## What the humanoid robot can teach us about the future of peering services

Peering provides an answer to how to optimize, control, and increase the efficiency of the data flows needed for multi-AI functionality. Despite having starkly contrasting requirements, both the training and inference scenarios can be enhanced through peering, and as a result the value of AI projects can be increased.

The infrastructure requirements for AI training can be regional or global in scope. High bandwidth and high computing power are essential, whereas latency is less critical in this scenario and the risks involved are minimal. We see a situation where the data can and will be stored anywhere and everywhere – largely in clouds wherever end users live and companies operate. With data everywhere, AI training will source data from all manner or storage facilities – from clouds to hybrid scenarios, and on to connected devices. Equally, the computing power for training AI agents does not need to be located close to the end user. We see that high-performance computing is taking place in polar regions, in deserts, in locations with suitable environmental conditions and plentiful access to power. Today, we are even witnessing the first data centers in space – capitalizing on limitless solar energy and reduced requirements for cooling. But wherever this infrastructure is located, it is necessary to transport the training data to it, making connectivity a central enabler of AI training.

To bring together the data needed to train Al models, interconnection services are needed that enable a seamless multi-cloud environment. DE-CIX's agile, scalable, affordable, and secure Cloud Exchanges are the epitome of cloud peering environments.

#### The triangle of Al inference

For Al inference, or "Al in action" as I like to call it, the goal is to bring the Al model, wherever it sits, as close as possible to the connected device – the robot, car, harvester, etc. The triangle of Al inference consists of three elements: the Al model or its agents, the different transmission technologies, and the connected device. Al inference has contrasting requirements from Al training: Bandwidth and computing power requirements are lower, but latency is critical, and the risks are higher, meaning that network resilience is also fundamental.



An autonomous robot with multi-Al functionality needs to listen to and comprehend what is said to it. It needs to recognize its environment and be able to navigate its way safely around obstacles and to its destination. And, depending on the job, it also needs to be able to feel, to engage on a tactile level with objects or people in its surroundings. This requires the seamless synchronization of multiple AI agents, potentially stored in different clouds. Al inference therefore also demands the interoperability of digital applications and infrastructures. Here, the DE-CIX Cloud ROUTER - an interoperable multi-cloud peering environment that extends to cloud-to-cloud and hybrid cloud connectivity - provides the solution.

In the same way that AI training requires multicloud peering, AI inference demands multi-AI peering to synchronize the different models. Ideally, this would need to happen everywhere on the planet, wherever the robots are operating, as part of a globally integrated multi-AI exchange.

## Expanding services to the Deep Edge – welcome to the age of Zero Latency

In a world of real-time AI inference interactions, it will be necessary for the data to be transmitted at speeds that mirror the speed of human perception. And here we are talking about ultra-low latency – closing in on the concept of Zero Latency. The human brain takes only 20 milliseconds (ms) to process tactile information, 13 ms for visual information and less than one millisecond to recognize auditory information. For organizations to be able to deliver immersive or interactive autonomous applications that feel natural, the infrastructure at the foundation of AI inference needs to meet these latencies. Therefore, the infrastructure will also need to meet these requirements in terms of geography at the Deep Edge, with future applications potentially demanding latencies down to one millisecond or below.

The Deep Edge allows ultra-low – virtually zero – latency data transmission within a metro area, a city and its suburbs or surrounding towns. Therefore, a much greater geographical density of exchanges will be needed in every region to meet the needs of future AI-powered applications. AI inference requires the hyperlocalization and distribution of AI infrastructure, operated and managed by AI exchanges, with the latest transmission and networking technologies, as well as the integration of all other IXs and AI exchanges in the vicinity. And this will be needed wherever end-users and corporate operations are located.

To be clear: This will not replace the network density of major IXs and digital hubs as aggregation points to create network density for all of the use-cases we currently know and love. AI Exchanges at the Deep Edge will need to come on top to support the development of multi-AI functionality. Therefore, we will see a layered approach to infrastructure, integrating the hyper-local, the regional, the pan-regional, and the global. At DE-CIX, we are working towards the realization of this vision to meet the needs of tomorrow.

## Looking forward to the next 30 years of pushing the boundaries of what's possible

In 2025 and beyond, we will continue developing our locations, growing our reach and ecosystem, and expanding our portfolio of specialized peering and interconnection services. We will continue to challenge physics – enabling zero latency to power tomorrow's digital innovations. And we will continue to do so with the needs of our customers and partners as the focal point. Because if there is one lesson we have learned from the last 30 years of technological evolution and digitalization, it is that together we can achieve so much more than any of us can do alone. And that nothing functions without interconnection – and a great community.

Best wishes,

#### **Ivo Ivanov,** CEO and Chair of the Board



## **2.30 years of DE-CIX** – the milestone of milestones



All roads lead to DE-CIX



On June 26th 2025, DE-CIX will hit yet another milestone in a long list: the 30th anniversary of the establishment of its very first Internet Exchange (IX), DE-CIX Frankfurt. For the company, this anniversary means so much more than just the accumulation of three decades of business. It means 30 years of community and partnerships, thirty years of technical evolution, thirty years of building the Internet – at first in Germany and then globally. It is a worthy occasion to look back at how DE-CIX has evolved and what the company has achieved in the past 30 years. Against this backdrop, 30 years of DE-CIX means celebrating ...

#### ... strong roots

Since its foundation, DE-CIX is deeply connected to Frankfurt - the city where the first DE-CIX IX was launched back in 1995. Starting out with just three German Internet service providers (ISPs) in a former post office, it was not clear at the outset how relevant the new Internet Exchange would become. However, it soon became evident that the seed planted in the nineties had taken root in the fertile soil of the city of Frankfurt. The possibility to interconnect and peer in Frankfurt was well received by a growing number of ISPs and smaller independent network operators in Germany, and by the early 2000s, already more than 100 networks, largely national, were connected to what had become the central German exchange.

> The DE-CIX team at the Global Carrier Awards 2015

With the first North American networks already connected to the IX, the growth of DE-CIX Frankfurt in the second half of the first decade of the new millennium was strongly accelerated by the connection of many relevant Eastern European networks to the IX. This led to the establishment of Frankfurt as an international hub for the exchange of east-west data traffic. As the international relevance and data gravity of DE-CIX Frankfurt continued to increase, the number of international networks peering at the exchange overtook the national networks for the first time, leading to a significant milestone: In 2012, DE-CIX Frankfurt became the largest IX in the world, both in terms of peak traffic and the number of networks connected.

DE-CIX Frankfurt maintains its global relevance to this day, celebrating 30 years with nearly 1,100 networks connected, a total customer capacity of over 90 terabits, and a current peak traffic record of more than 18 terabits per second.



#### ... expanding horizons

Much like the Internet, the history of DE-CIX is a history of evolution: from a local German Internet Exchange to a global leader in interconnection services. This would not have been possible without the steady growth of the company into new markets.

DE-CIX's expansion started out on a national level with the launch of Hamburg, Munich, and Dusseldorf, as the company developed its capabilities to grow ecosystems in diverse markets. In 2012, DE-CIX ventured beyond the German borders for the first time, partnering with the telecom and data center operator du/datamena to launch the UAE-IX in Dubai as the company's first business venture on foreign soil. This was a major step, marking the beginning of the company's international expansion – with many important milestones to follow.

In 2014, DE-CIX New York went live as the first DE-CIX location in North America, followed by DE-CIX Istanbul in Turkey a year later. DE-CIX Madrid was opened in 2016 as the first DE-CIX IX in Southern Europe. In 2017, the company expanded to Mumbai in India, thus entering an increasingly relevant market, before launching the first locations in Southeast Asia in 2019. Other IXs were subsequently launched in each of these regions – in total, in the five years from 2014 to 2019, DE-CIX launched 13 IXs and became available in further markets through partnerships with trusted IX operators.



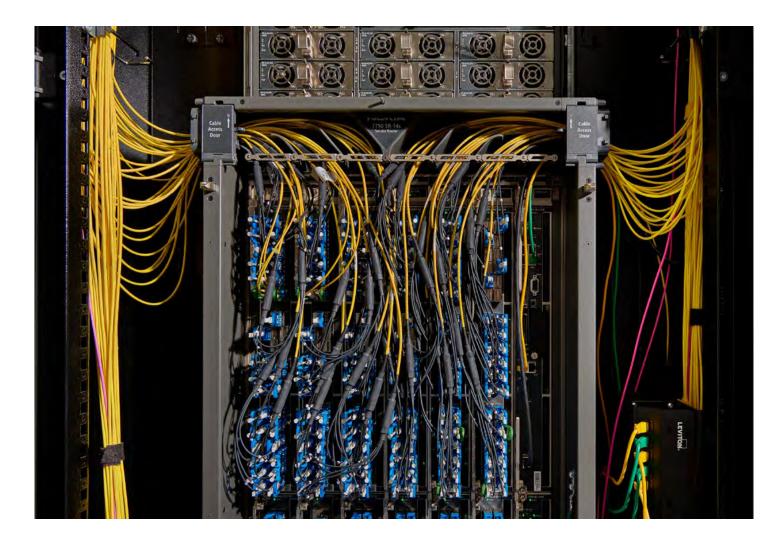
In June 2024 DE-CIX New York celebrated its 10th anniversary with a customer summit and party.



The period 2020 to 2025 was a time of accelerated expansion, with over 30 new Internet and Cloud Exchanges established around the world, including expansion to further regions. Another partnership model, the DE-CIX as a Service (DaaS) program, led to the development of a number of these locations. Beginning with the UAE-IX in Dubai, the DaaS program has resulted in the building and operation of close to ten IXs across Europe, Asia, the Middle East, and, in 2022, the expansion of DE-CIX to the African continent. 2023 saw the integration of the Nordics into the DE-CIX ecosystem, and in 2025 DE-CIX's

services have just arrived on yet another continent, the fifth where DE-CIX is active: South America.

Today, DE-CIX's services are available in 60 markets across the globe. The company interconnects over 4,000 network operators (carriers), Internet service providers (ISPs), content providers and enterprise networks from more than 100 countries, making it the leading data center and carrier neutral IX operator in the world.



Current technical set-up at DE-CIX Frankfurt



DE-CIX founder Arnold Nipper in front of an earlier set-up

#### ... technical and service excellence

A significant part of DE-CIX's success has been the ability to stay at the forefront of interconnection technology. This has enabled the company to contribute substantially to the evolution of the Internet.

Notable technical milestones over the past 30 years include designing the world's largest IX platform, the DE-CIX Apollon platform, which went live in 2012, and the continuous increase in port capacities. In 2013, DE-CIX Frankfurt was one of the first IXs to offer 100 GE ports, while in 2019, DE-CIX became the world's first Internet Exchange operator to offer 400 GE access ports and, in 2022, to become 800 GE-ready. In 2018, DE-CIX launched the world's first-ever patch robot in a data center in Frankfurt. The following year, in cooperation with other major IX operators LINX and AMS-IX, DE-CIX was a leading light in the development of the first Application Programming Interface (API) to provision and configure interconnection services. DE-CIX was also the first IX operator to offer cloud connectivity and fully automated interconnection services. With the interconnection of sites and remote peering opportunities dating back to 2015, DE-CIX's backbone network infrastructure encircled the planet by 2023, providing remote peering at a global scope.

At the same time, being at the heart of the global Internet has also meant that DE-CIX can anticipate changing customer needs and provide new services to meet them. As the importance of digital economies has developed over the last three decades, a growing range of services has become necessary, from local peering to remote peering and private ecosystems in Closed User Groups (CUGs), to cloud interconnection, cloud routing, and special application peering solutions, to bundled and flexible services, self-service options and automation. Today, DE-CIX not only provides peering solutions to wholesale network operators, it also addresses the needs of major enterprise customers, offering interconnection services customized to their individual needs.

It is this steady evolution as a company that has characterized and driven DE-CIX for 30 years, from its foundation through to today. And DE-CIX will continue to grow, innovate, and push the limits of what's possible. DE-CIX will remain at the cutting edge of technology and continue to shape the Internet of the future. Connecting the now, and innovating the next.

## 3. Organization and Corporate Governance

The DE-CIX Group AG management team. From left to right: Sebastian Seifert (CFO and Board Member), Dr. Thomas King (CTO and Board Member), Klaus Landefeld (Member of the Supervisory Board), Ivo Ivanov (CEO and Chair of the Board), Felix Höger (Chair of the Supervisory Board), Harald A. Summa (Member of the Supervisory Board), Christian Reuter (CSO and Board Member), Rudolf van Megen (Member of the Supervisory Board).



#### **Company Structure**

DE-CIX Group AG is headed by CEO and Chair of the Board Ivo Ivanov. All global DE-CIX activities, financial investments, and company parts are consolidated under the DE-CIX Group AG umbrella. eco – Association of the Internet Industry is the sole shareholder of the DE-CIX Group AG.

#### **Executive Leadership and Supervisory Board**

DE-CIX Group AG is led by Ivo Ivanov, as CEO and Chair of the DE-CIX Group AG Board, together with board members Sebastian Seifert (Chief Financial Officer), Dr. Thomas King (Chief Technology Officer), and Christian Reuter (Chief Sales Officer). The DE-CIX Supervisory Board is chaired by Felix Höger, with Klaus Landefeld, Rudolf van Megen, and Harald A. Summa as additional members.

#### **DE-CIX Subsidiaries**

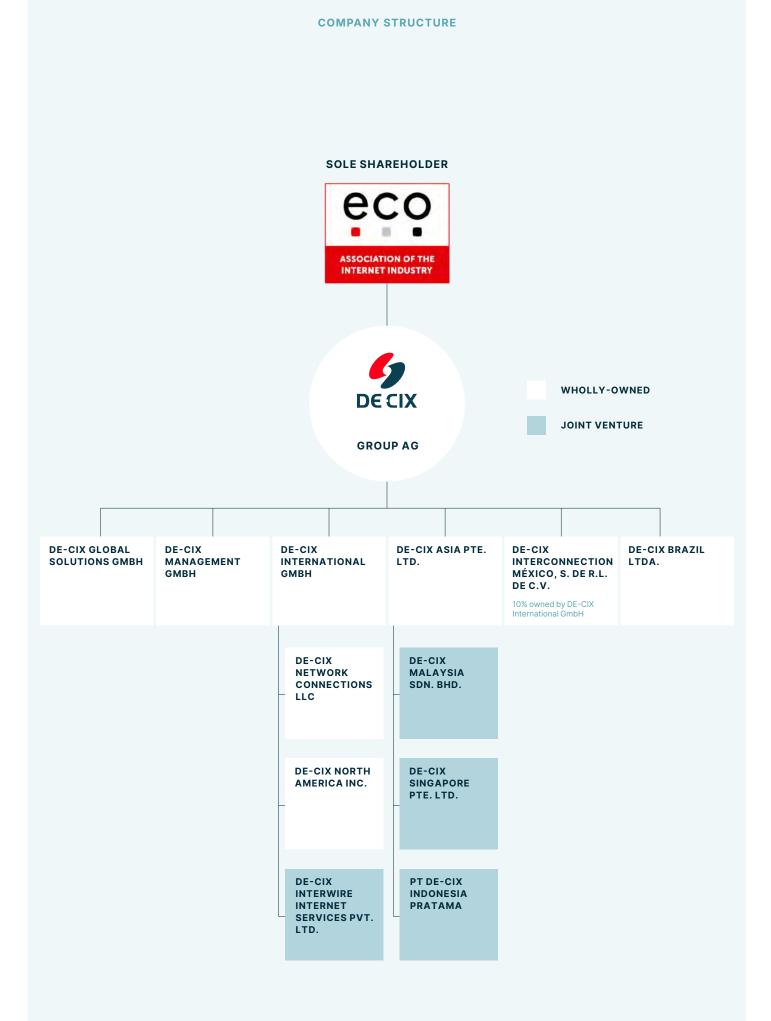
DE-CIX Group AG has five wholly owned subsidiaries. DE-CIX Management GmbH, DE-CIX International GmbH, DE-CIX Asia Pte. Ltd., and the newly established entity DE-CIX Brazil LTDA. are all led by Ivo Ivanov and Sebastian Seifert as Executive Directors. DE-CIX Global Solutions GmbH is led by Ivo Ivanov and Christian Reuter as Executive Directors. In addition, a sixth subsidiary, DE-CIX Interconnection México, S. de R.L. de C.V., shares its ownership between DE-CIX Group AG (90%) and DE-CIX International GmbH (10%). It is led by Ivo Ivanov and Sebastian Seifert. The scope of operations of the six DE-CIX Group AG subsidiaries, and their respective subsidiaries and joint ventures, is structured as follows:

- DE-CIX Management GmbH operates the DE-CIX Internet Exchanges (IXs) in Frankfurt, Hamburg, Munich, Dusseldorf, and Leipzig. The UAE-IX in Dubai and Ruhr-CIX in Germany are operated under the DE-CIX as a Service (DaaS) model in cooperation with local data center and carrier partners in their respective regions.
- DE-CIX International GmbH is responsible for the majority of DE-CIX's international activities, either directly (Barcelona, Madrid, Marseille, Palermo, Lisbon, Kristiansand, Oslo, Esbjerg, Copenhagen, Helsinki, and the dedicated Cloud Exchange in Amsterdam), through subsidiaries in the USA (DE-CIX North America Inc. - operating New York, Dallas, Chicago, Richmond, Phoenix, a new IX in Houston and the Cloud Exchange in Seattle) and in Turkey (DE-CIX Istanbul Network Connections LLC, operating the IX in Istanbul), or on behalf of local partners as DaaS locations. The latter are located in Greece (SEECIX in Athens), Nigeria (AF-CIX in Lagos), the Democratic Republic of the Congo (ACIX in Kinshasa), Iraq (IRAQ-IXP in Baghdad), Jordan (AqabalX in Aqaba), Pakistan (PIE Karachi), and (forthcoming) Qatar (Doha IX). The Angola-based angonix has placed its trust in the consultancy services of DE-CIX International. DE-CIX International is also a partner in the joint venture DE-CIX Interwire Internet Services Private Limited, operating the six DE-CIX

locations in India: Mumbai, Chennai, Delhi, Kolkata, Hyderabad, and since 2024, also in Bengaluru.

- DE-CIX Asia was founded in 2020 to provide an umbrella for the East and Southeast Asian operations. In Southeast Asia, the companies DE-CIX Malaysia Sdn. Bhd. and DE-CIX Singapore Pte. Ltd., established as joint ventures with the Malaysian operator Starwing Technologies Sdn. Bhd., operate the DE-CIX Internet Exchanges in Kuala Lumpur, Johor Bahru, Singapore, and Penang (PIX powered by DE-CIX) respectively. The joint venture company PT DECIX Indonesia Pratama, established together with PT IDMarco Digital Solusi, a subsidiary of the Salim Group, operates an IX in Jakarta, connected to the wider DE-CIX ecosystem in Southeast Asia. A further IX located in Brunei is operated as a DaaS location on behalf of a local telecommunications company. Additionally, in Japan, DE-CIX Asia operates two dedicated Cloud Exchanges, in Osaka and Tokyo.
- DE-CIX Interconnection México, S. de R.L. de C.V. operates the distributed DE-CIX IX which spans Mexico City and Queretaro.
- DE-CIX Brazil LTDA. operates the DE-CIX IXs in Sao Paulo and Rio de Janeiro.

 DE-CIX Global Solutions GmbH was established to facilitate the provisioning of services from a single source for globally active companies. It does not engage in its own business activities. DE-CIX Global Solutions GmbH can enter into contracts with multinational companies for the sourcing of services from multiple DE-CIX companies and joint ventures around the world. The client company can therefore leverage the global connectivity between the DE-CIX locations not only for peering, cloud connectivity, and the connection to Microsoft's M365, but also for consuming services provided by DE-CIX's partners within the ecosystem.



#### In partnership with our customers – the DE-CIX Customer Advisory Boards

The Customer Advisory Boards mirror the customer and partner base, as their members act as representatives of DE-CIX's diverse ecosystem of network and data center operators, as well as cloud and content providers. While the Customer Advisory Boards do not have decision-making power, their members communicate with the DE-CIX management team and help guide the overall direction of DE-CIX. As of today, there are three Customer Advisory Boards supporting DE-CIX in different markets: Germany, North America, and Turkiye. The Customer Advisory Board of **DE-CIX Management GmbH has five members** representing the global customer reach of the company. One of the Board Members is appointed directly by eco - Association of the Internet Industry. The other four members are elected directly by DE-CIX customers.

#### Germany: DE-CIX Management GmbH Customer Advisory Board



Falk von Bornstaedt, Senior Strategy Consultant, Leitwert GmbH



Malte von dem Hagen, Director Global Infrastructure / Co-Head of Procurement, Anexia



Zaid Kahn Advisory Board Member UC Berkeley (EECS)



Bernhard Krönung, Managing Director and Founder, regio [.NET]



Klaus Landefeld, Board Member, eco – Association of the Internet Industry

#### USA: DE-CIX North America Customer Advisory Board



**Scott Brown,** President, Pixel Factory Data Center, Inc.

#### Turkiye: DE-CIX Istanbul Network Connections LLC Customer Advisory Board



**Cem Çelebiler,** Managing Director, Turknet



Phil Koblence, COO, New York Internet – NYI



**Çağlar Dabanoğlu,** Director Network Architecture, Akamai Technologies



**Steven Schecter,** Senior Director, Network Architecture, Akamai Technologies



Serkan Sevim, Founder & CEO of Medianova



**Carl Williams, Customer Advisory Board Emeritus,** IPv6 Hall of Fame, Adjunct Professor, Temple University

# 4. DE-CIX as an employer

The DE-CIX HR team: Niklas Makulik, Carla Rodtheut, Nathalie Langley, Lucia Falkenberg, Jutta Kroll, Selin Gueldner, Malin Wolber



## Almost three decades of employee excellence and global impact

As DE-CIX approaches its 30th anniversary, one thing is certain: our success story would not have been possible without the employees working every day to make the Internet faster, more reliable, and more secure. Today, more than 250 colleagues from over 35 nations enable enterprises, end users, and all members of the telecommunications community to connect, share data, and thrive.

DE-CIX's work on the Internet opens new opportunities for industries in almost all sectors, from automotive to medicine, from manufacturing to banking. It is the impact of our work, the creation of new possibilities for digitalization and prosperity that motivates us to keep innovating. This effort is reflected in a growing number of locations across the globe. DE-CIX's interconnection services are available today across five continents and accessible from over 600 cities. DE-CIX staff positively impact global Internet quality and foster the development of healthy digital ecosystems everywhere.

## Breaking down barriers to enable digitalization worldwide

The key to another year of worldwide growth lies in DE-CIX's unique approach: we combine the economic security of a world leader in interconnection with the mentality, agility, and spirit of a start-up, enabling us to match the speed of digital innovation. To turn this aspiration into reality, our employees are equipped with state-of-the-art devices and technology. However, what might be even more important is how we work.



"A renewed focus on crossfunctional collaboration unlocks the full potential of the diverse DE-CIX staff. We want everyone to have a clear picture of the different challenges in the various teams and work together to continuously optimize workflows and processes. Inspiring and enabling our colleagues to continue their valuable work on the Internet and the digital future is our goal for 2025 and beyond."

Lucia Falkenberg, Chief People Officer



We value communication between staff, no matter what their level is in the organization, and short decision-making routes. We are proud of an environment built on common trust. It's a sentiment many of the staff share, with 90% reporting in an employee survey that they are happy with the working conditions at DE-CIX. With a reinforced initiative on crossfunctional work, new ideas are flowing and improving not only our effectiveness as a team, but also the results we produce. Our "WE@ DE-CIX" program, for example, focuses on constructive feedback and collaboration across departments, encouraging open dialogue and continuous improvement. Initiatives like these help us build a strong, cohesive team that thrives on mutual respect and shared goals.

At DE-CIX, we embrace innovative forms of collaboration to foster a supportive and inclusive work environment, ensuring equal opportunities for everyone. Our "Ladies at DE-CIX" initiative provides a dedicated platform for our female employees to exchange ideas, share experiences, and receive professional support through career-focused workshops. Additionally, we create opportunities for informal networking and team bonding, fostering a strong sense of community. By addressing structural barriers and providing tailored resources, we aim to empower women so that they thrive in their careers. We are very happy that around 30% of our workforce is female, a high number for a typically male dominated industry. DE-CIX stands for diversity and inclusion, certified by the Charta der Vielfalt (Charter for Diversity). Appreciation, recognition, openness and respect for all have the highest priority - regardless of gender, sexual orientation, heritage, and all other

reasons that can lead to discrimination and exclusion. Diversity Day has been marked on our calendars for years – and for the first time in 2024, we participated in the Cologne Pride parade under the motto "Love Is Interconnection".

We are committed to making a positive impact in our community through various social activities. Some of our staff, for example, volunteered in 2024 to do necessary repairs at a local kindergarten. And during the holiday season, we brought a little joy to children in need by contributing to a Christmas charity outreach program. DE-CIX also actively supports initiatives like Boys' and Girls' Day, providing young students with the opportunity to explore career paths in the telco industry in roles that are typically not associated with their gender. Additionally, we offer school internships, giving students hands-on experience in a professional environment, and inspiring the next generation of interconnection experts.

## Supporting your career, no matter where your journey starts

Our business operates in a dynamic, everchanging industry that requires forwardthinking. That's why we want our staff to be equipped to tackle all the challenges they face.

We value professional growth, regardless of the career path each individual has chosen or when they enter the company. While some join as experts in their fields, others start as working students and rise to leadership roles. We encourage and support the pursual of academic degrees, for example, while working in our excellent research and development department. We strive to support careers as early as possible, which is why we maintain close ties with several German universities and research institutes, such as TU Darmstadt and Goethe University in Frankfurt.

More initiatives to support young telco talents early on are already planned, with more vocational training of employees in 2025 and beyond. And now, to make the start as easy-going as possible, we offer an interactive onboarding computer game that teaches everyone – from marketing to office management, sales, and network design – the basics for getting started at DE-CIX and in the interconnection business.

Of course, a healthy and active lifestyle is important alongside professional development. Our staff regularly participate in various sporting events, such as the B2Run in Cologne, a triathlon in Cologne, and the JP Morgan Run in Frankfurt. Additionally, our colleagues organize a charitable run themselves in the holiday season, combining fitness with philanthropy. These activities not only promote physical well-being but also strengthen our team spirit and community engagement. There are more benefits to accompany your work at DE-CIX: We cover the costs of fitness club memberships, offer employee discounts, support the acquisition of bikes, and improve foreign language skills. Lastly, we value a healthy work-life balance and a family-friendly working environment, which is why we are part of the Erfolgsfaktor Familie (Success Factor Family) network.

During the eco annual general assembly on 20 September 2024, it was decided by DE-CIX's sole shareholder, eco – Association of the Internet Industry, its board, and the members of eco to establish a designated DE-CIX Employee Participation Program.

The program is aimed at motivating and retaining talent within DE-CIX for as long as possible and creating an investment opportunity for those individuals who bear a particularly high level of responsibility for the further development of DE-CIX, and who play a key role in shaping the company's future. It also presents an option to motivate and win new talent for DE-CIX.

With almost 30 years in the industry and impressive growth across the company in recent years, our team now spans from early Internet trailblazers to ambitious undergraduates aiming to become the next leaders in networking. At DE-CIX, we take pride in shaping the Internet's future and driving digital transformation forward.





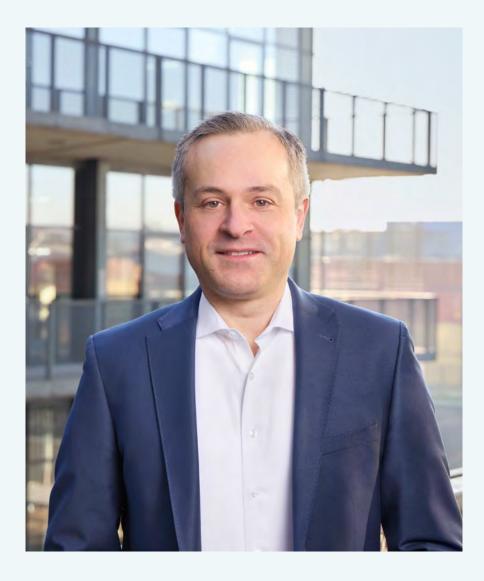




# 5. DE-CIX's technical infrastructure – the beating heart of

the largest neutral interconnection ecosystem in the world

> **Dr. Thomas King,** Chief Technology Officer, *DE-CIX Group AG*



## Increased geographical presence through new IXs and additional sites

2024 was another intensive year for the technical teams at DE-CIX, with new IXs being built and commissioned and constant traffic and port growth leading to the upgrade of existing infrastructure. Five new IXs were taken live during the year and technical work was undertaken on a further four, spanning the globe from Southeast Asia to the Middle East, and across the Atlantic to the Americas. Early in the year, Penang IX in Malaysia, PIE Karachi in Pakistan and IRAQ-IXP in Baghdad, all powered by DE-CIX under the DE-CIX as a Service (DaaS) model, were taken live. In terms of DE-CIX-owned IXs, DE-CIX Jakarta (Indonesia) and DE-CIX Bengaluru (India) were commissioned during the year, while work was undertaken on the establishment and technical readiness of DE-CIX Mexico, DE-CIX Houston, and the two DE-CIX Brazil exchanges in Sao Paulo and Rio de Janeiro.

In addition, together with partners in Germany, two new sites were commissioned to provide interconnection services especially serving enterprise customers in regional locations in Hanover (HAN-CIX, directly connecting the GrassMerkur facility to DE-CIX Frankfurt) and Oldenburg (Nordwest-IX, directly connecting the EWE TEL data center to DE-CIX Hamburg). Another eight new premium-enabled sites were put into operation at various locations throughout 2024, including the expansion of three of the US exchanges, DE-CIX Chicago, DE-CIX Dallas, and DE-CIX New York. DE-CIX Dallas now has 12 premium enabled sites, and New York has 15.

#### Network upgrades to meet growing demand

Peak traffic records were broken at multiple exchanges during the year, with Frankfurt ending the year at over 18 Tbit/s, New York at 1.77 Tbit/s and Dallas at 1.35 Tbit/s, while UAE-IX and DE-CIX Marseille both saw traffic growth of around 40%, rising to 847 Gbit/s and 493 Gbit/s respectively. The largest growth was experienced at the younger North American IXs, with Chicago growing 167% to 223 Gbit/s and Phoenix jumping by 484% to 146 Gbit/s. As a result of this growth, backbones and network infrastructure were high on the list of activities for the year. In particular, the network in Frankfurt was upgraded, providing greater port density for 100 GE and 400 GE access ports to meet continuously growing demand. In the US, network upgrades were carried out in Chicago and Phoenix to implement 100 GE capabilities in further facilities, install routers with greater density of customer access ports, and upgrade the backbones to 400 GE technology. Work was started on equivalent upgrades in New York and Dallas, to be completed in 2025. The infrastructure in Palermo was also upgraded.

#### Introduction of specialized Product Teams

As part of the ongoing process of optimizing workflows within the Engineering team, new Product Teams were created to provide collaborative, cross-discipline teams for the end-to-end implementation of specific product groups. Dedicated customer-facing product teams were built to ensure the seamless implementation of peering and cloud services. Additional teams were also introduced for maintaining the internal platforms used by the Peering and Cloud Services teams to build the products.

#### **Enhancing interconnection services**

During the year, further enhancements were made to DE-CIX's services. In particular, additional features were added to the DE-CIX Cloud ROUTER, including more visibility and filtering options in the customer portal. The customer portal itself was also given new functionalities, including more statistics and monitoring options, also for DaaS partners, as well as two-factor authentication and a new documentation system. Given DE-CIX's API-first strategy, all enhancements are also available in the DE-CIX API.

#### Outlook 2025

Technical tasks for 2025 include finalizing the commissioning of DE-CIX Mexico, DE-CIX Houston, and the two Brazil locations, all carried out early in the year, completing the network upgrade in New York and Dallas, undertaking a network overhaul in Singapore and Malaysia, and building new DaaS exchanges in the UAE (Smarthub powered by DE-CIX) and Qatar (Doha-IX powered by DE-CIX). In terms of services, additional features will be added to the Cloud ROUTER, and we will continue developing our existing services to make it easier for customers to consume them. Work will also be undertaken on the concept of the DE-CIX AI Exchange. TBIT/S PEAK TRAFFIC AT DE-CIX FRANKFURT

#### Infrastructure and Operations



The Global Infrastructure and Operations team is responsible for the building, expansion, and operation of the DE-CIX platforms around the world, as well as for the service environments for applications, such as the self-service portal and the API. The team is divided into the sub-teams **Platform Development, Capacity, Application Platform, Network Operations, and Systems Operations**, two of which – Platform Development and Network Operations – are introduced separately below.

The team is comprised of skilled and experienced network engineers, systems engineers, and site reliability engineers, globally distributed but with the majority centered around the DE-CIX headquarters in Frankfurt, Germany. Alongside technical knowledge and skills, project management skills are an essential component of the work carried out by the team, and two teams – Network Operations and System Operations – work on-call around the clock.

While the team has members on location in Germany, Spain, and the US to take care of local requirements, trusted remote hands are engaged for the infrastructure in other regions,

Bernhard Hahn, Head of Global Infrastructure and Operations

> with the exception of some projects involving the initial building or major expansion of IXs. As such, all technical projects involve coordination and technical project management, logistics, and steering the building and commissioning of individual sites. The operation of our platforms is handled remotely.

#### 2024 in Review

The team was busy with building the five new IXs Jakarta, Bengaluru, and the DaaS IXs in Penang, Karachi, and Baghdad, as well as working on the IXs in Houston and Mexico, and enabling the regional locations HAN-CIX and Northwest IX in Germany. Alongside these projects, work was also carried out on expanding the scope of existing exchanges. At DE-CIX Istanbul, the Ankara IXpanse data center was interconnected, bringing the number of facilities to seven. In Barcelona, a fourth facility was added, the Barcelona Cable Landing Station. In Lisbon, two new data centers were incorporated into the IX - Altice LDV in Lisbon and Start Campus in Sines bringing enabled sites to three and extending the geographical coverage of the IX to a new city. A third site was taken live in Kuala Lumpur, at the NTT data center. In the US, additional sites were enabled in Chicago (Equinix CH1, bringing the IX to a third data center) and Dallas (Equinix, the 12th facility connected). Later in the year, work was undertaken on enabling the DataVerge facility in Brooklyn, increasing the geographical scope of DE-CIX New York even further. In addition, technical upgrades were carried out at several locations.

#### **Platform Development**



Ingo Voss, Head of Platform Development

> Project Management, for managing collaborative projects, including other teams like Network Design, Software, Customer Service, Product Management, Network and Systems Operations, and handling thirdparty suppliers as well as customers and partners.

#### 2024 in Review

The Platform Development team is responsible for the technical rollout of new IXs and cloud locations, and the expansion of DE-CIX locations to additional sites. In addition, the team takes care of the integration of new products or features into our platforms, and technical project management to coordinate and organize all working areas in the team. The team is distributed across Germany, Austria, Spain, Belgium, and the USA. Critical implementation work is carried out during night shifts in the relevant local region by engaging remote hand services from the data centers or sending our own engineers on-site. The work of the team comprises:

- Network engineering, needed for the configuration of routers, switches, and servers, and skills in programming in this area are required to automate processes and production steps.
- Systems engineering, the knowledge of which is needed to set up all the servers, virtual machines, and the DE-CIX services running on them for our end customers.

Along with the technical commissioning of all IXs and enabled sites mentioned above, the Platform Development team was also involved in projects to upgrade multiple locations. In Frankfurt, XRS routers were replaced with Nokia's 7750 SR line-up, including 800 GE support and a significant reduction in power consumption, and over 1000 customers were migrated to the new hardware. In addition, three sites in Frankfurt - Equinix FR2, Maincube, and Telehouse – underwent a technical upgrade to increase port density. In Dusseldorf, Madrid, Lisbon, and Dallas, the old management network platform was replaced with the new Service Connect Platform (SCP). This brings the management network platforms to a common standard worldwide, reducing operating costs and increasing efficiency due to the consolidation of the technology stack.

## **Network Operations**



The Network Operations team is made up of Network Operations Engineers and one Principle Network Reliability Engineer, and is based in Frankfurt, Germany, from where all global operations are conducted. The central responsibility of the team is the stable and reliable operation of the DE-CIX network services. Among these are the global backbone, metro networks, and optical networks. The team is on-call 24/7 to handle incidents at any time and ensure high service quality. One of the strengths of the team is its people: All team members have the same responsibilities and share duties. In this way, they are able to support each other in any way necessary.

While incidence response relating to hardware or configuration issues and 3rd party services is the core task of Network Operations, collaboration with other teams, such as Customer Service and Platform Development, is also an important aspect of the work. The Network Operations team supports the Customer Service team with troubleshooting when customers experience issues. The team also supports the rollout of new locations and expansions, so that potential errors can be

Robert Finze, Head of Network Operations

> detected and remedied early, in order to ensure a seamless transition from build to operations. The team is also developing its own software tools to increase the level of automation and further improve overall service quality.

#### 2024 in Review

The Network Operations team supported other teams in the rollout of a range of expansion and upgrade projects in 2024, including the locations Barcelona, Lisbon, Jakarta, Mexico, Istanbul, Dallas, and Frankfurt. In addition, alongside handling day-to-day incidents, including the Red Sea cable outages at the beginning of year, the team focused on streamlining processes and tools. This included migrating to a new logging platform, migrating operational software/tools to Kubernetes, and beginning the upgrading of the routing and optical platforms.

## Software



Marcos Sanz, Head of Global Software

The Software team is responsible for developing and running the software that drives the DE-CIX interconnection platform: This software is at the engine of each IX, enabling the interaction of users and customers with the platform and the orchestration of servers, network equipment, and service providers, like cloud providers, in the background. The secret to the success of the team lies in its highly skilled cross-functional staffing and the so-called "DevOps" approach: joint activities of development and operation of software. This creates a tight loop in which productive issues can be found and fixed faster and new needs quickly identified, thus creating better software and happier customers in the long run.

#### 2024 in Review

In 2024, the software team was active on several fronts to optimize products and self-service features for customers. Work was undertaken on developing new features for the Cloud ROUTER, giving more flexibility to customers to control their inbound/outbound BGP policies and filters. In addition, optimizations were made to access ordering - for new services and upgrades - through the Portal and API, with online Letter of Authorization generation and instant provisioning. The capabilities of the Service Insights tool in the Customer Portal were extended to include new metrics, statistics, telemetry, and analysis. In addition, the team undertook an expansion of the security features in our Customer Portal, by strengthening authentication and authorization processes, including the launch of Multifactor Authentication (MFA).

## **Research and Development**



The Internet ecosystem is constantly evolving and is subject to rapid development and innovation, driven by a variety of stakeholders. DE-CIX plays an integral role in this ecosystem, as we interconnect hundreds of networks at our Internet Exchanges. In close cooperation with industrial and academic partners, the DE-CIX Research & Development team works on projects to seek new technical opportunities to further drive innovation in the Internet Exchange market. This includes externallyfunded projects by the public sector.

Research and Development at DE-CIX works on adopting novel technology paradigms for developing and designing a next-generation Internet Exchange. DE-CIX shares the results with the Internet operational and scientific communities and makes solutions available as open source. The team actively contributes to international standardization bodies, e.g., IETF, ENISA, or the German industry working group on Internet infrastructure. The R&D team also works very closely with the DE-CIX Product team to ensure that innovations can be effectively implemented and productized.

**Dr. Christoph Dietzel,** Head of Global Products & Research



#### Current focus areas of the DE-CIX R&D team

In 2024, DE-CIX Research & Development worked on numerous internal and external research initiatives to bridge the gap between fundamental problem solving and real-world applications, nurturing ideas with long-term potential, and fueling product development to accelerate the translation of novel concepts into customer-ready solutions.

A hot topic remains global BGP routing security, particularly Autonomous System Provider Authorization (ASPA), a BGP extension addressing vulnerabilities in AS path validation to mitigate route hijacks. By enhancing ASPA adoption and refining validation mechanisms, we aim to strengthen global routing security and promote industry-wide adoption. Besides security, our research on BGP latency optimization examined the diversity of routing paths at IXs, revealing opportunities for performance enhancements that improve network efficiency and reduce delays. Both efforts are embedded in collaborations with academic and industry partners.

**Dr.-Ing. Matthias Wichtlhuber,** Team Lead Research & Development

> Additionally, we explored future network architectures, including quantum communications in the Q-Net-Q project, where we assess the feasibility of Quantum Key Distribution (QKD) for secure data transmission. The project consortium, consisting of a large number of relevant industry and academic players, is designing and deploying a QKD testbed spanning from Berlin to Frankfurt. In parallel, our participation in OFELIAS, in collaboration with the German Aerospace Center (DLR) and the European Space Agency (ESA), is investigating the terrestrial integration of LEO constellations into the wider Internet, contributing to the development of a resilient European satellite communication network. These efforts aim to bridge the gap between terrestrial and space-based networking, enabling seamless global connectivity.

Finally, the Tellus project will come to a conclusion in early 2025, but the main deliverables were presented in 2024, with the project supplying a key component for the collaborative data economy. The Tellus consortium has developed a prototype interconnection infrastructure that provides fully automatic and virtual access to networks to provide end-to-end connectivity for sensitive, real-time applications across distributed cloud environments. Tellus covers the entire supply chain of interconnection services and integrates offerings from various providers based on the decentralized and distributed data infrastructure of Gaia-X.

#### Outlook 2025

Latency optimization and security remain key focuses in the coming year. We will continue industry collaborations to drive ASPA adoption and refine performance-aware BGP routing. In addition, we will enhance our efforts in standardization bodies and regulatory discussions to ensure our innovations gain traction across the global Internet community.



# 6. Global and Regional Growth 2024

Christian Reuter, Chief Sales Officer, DE-CIX Group AG



2024 was another successful year for DE-CIX. Growth in customers, capacity, and traffic reflect the rising demand for high-performance, secure and scalable interconnection services around the globe. Along with wholesale network providers, more and more enterprises are recognizing the value of direct interconnection via Internet and Cloud Exchanges. For this reason, DE-CIX has been working on a transformation process to set the company on the pathway to the next decade of growth. With an increasing number of markets and a growing portfolio of services, together with relationship-building with an ever-wider variety of partners, and operational transformation to develop bespoke services for both the wholesale and enterprise sectors, DE-CIX is changing what it means to be an interconnection service provider.

To fully meet the needs of the changing landscape of interconnection, DE-CIX redesigned its long-standing Partner Program in 2024 to include enterprise-facing partners – the first data center and carrier neutral Internet Exchange (IX) operator in the world to take this approach. Additionally, further projects were undertaken to create bespoke interconnection solutions for new and existing enterprise customers. These and other customer successrelated initiatives can be found in Chapter 7 of this report. This chapter reports on the growth of DE-CIX owned and DE-CIX operated Internet and Cloud Exchanges. DE-CIX also provides connectivity to further markets via our trusted IX Partners (Berlin, Germany; Prague, Czech Republic; Warsaw, Poland; Sofia, Bulgaria; Bucharest, Romania; and Manila, the Philippines), which can also be integrated into the design of interconnection solutions via the DE-CIX self-service portal and API. In total, DE-CIX today offers its world-spanning services in 60 markets on five continents.

**EXABYTES OF DATA** 

**GLOBALLY IN 2024** 

**EXCHANGED** 

In 2024, connected customer capacity grew by 20% to more than 170 terabits (Tbits) across its global locations. Connected networks (including India) rose to more than 4000, representing the largest data center and carrier neutral interconnection ecosystem in the world. Global peak traffic from peering finished the year just shy of 25 terabits per second (Tbit/s), with a total global volume of data traffic of 68 exabytes shared across the interconnected platforms throughout 2024. Globally, over 1300 100 GE ports were operational in 2024, with more than a doubling of sales of 400 GE ports. On the enterprise services front, cloud connectivity remains an important and futureoriented growth area, and connections via the DE-CIX Cloud ROUTER, including cloud-tocloud and between clouds and other networks, more than doubled during the year, supporting enterprise customers with their multi-cloud management.

From west to east around the globe, every region saw excellent growth and exciting highlights in 2024. In North America, milestones included powerful growth in the US, with DE-CIX Dallas experiencing 25% growth in customer bandwidth and 50% growth in peak traffic, while Chicago and Phoenix experienced a peak traffic increase of 167% and 484% respectively, with significant growth in networks and capacity at both locations. In Europe, highlights included a new peak traffic record at our flagship IX, DE-CIX Frankfurt, strong growth of the dedicated Cloud Exchange in Amsterdam in its first year of operations, and the growth of DE-CIX Marseille, with an increase of more than 25% in customer capacity and a 40% increase in peak traffic.

The IXs in Africa (both powered by DE-CIX for different partners) enjoyed close to a 60% increase in connected networks combined. In the Middle East, we saw nearly 20% growth in networks at DE-CIX Istanbul, while the UAE-IX powered by DE-CIX in Dubai experienced a powerful 80% growth in connected capacity and 40% in peak traffic. IRAQ-IXP powered by DE-CIX also made a strong start in its first year of operations.

In India, connected capacity exceeded 10 terabits, reaching 11.4 terabits for the first time, and steady growth was experienced across the ecosystem with a new location in Bengaluru opening during the year. Strong growth was also visible in Southeast Asia, with a 60% rise in connected customer capacity and networks growing by nearly 15%. The DE-CIX Asia distributed exchange finished the year with over 160 networks connected and peering.

Below is a more detailed breakdown of the figures, region for region.

## **The Americas**



**Ed d'Agostino,** Vice President DE-CIX North America

#### DE-CIX North America: 10 years in New York and growing geographical coverage

DE-CIX North America continued to grow strongly in 2024, with increases in networks, booked capacities, and data traffic, as well as new locations. Across the entire North American ecosystem, in excess of 7000 petabytes of traffic were flowing over the platforms during the year.

At DE-CIX New York, which celebrated its 10th anniversary in June, peak traffic grew by 10% to 1.7 Tbit/s during the year and connected customer capacity rose to more than 15 terabits. The first 400 GE ports were sold in 2024, with strong growth anticipated in 2025. The IX, already the largest in the Northeast and the fourth largest in the US, further expanded its geographical presence during the year through the interconnection of DataVerge in Brooklyn, with implementation finalized in early 2025. This move further broadens the reach of the DE-CIX platform, now covering an area spanning Long Island to the east and Piscataway and Edison to the south and west. Growth was also impressive at DE-CIX Dallas, with nearly 160 networks connected and a 25% increase in connected customer capacity, bringing the IX to almost 9 terabits. Data throughput at peak times crossed the 1 Tbit/s milestone and reached 1.35 Tbit/s by the end of the year. The IXs in Chicago and Phoenix also experienced healthy growth in 2024: Chicago's connected capacity rose by 55% to 3.5 terabits, with 61 networks connected (up 27%) and close to 170% more traffic at peak times, rising to 223 gigabits per second (Gbit/s). In Phoenix, there was 40% growth in connected customer capacity, rising to more than 2 terabits, with 35 connected networks, up 45%. Peak traffic increased by a factor of 5, and reached 146 Gbit/s.

Geographically, the seventh location in the USA, DE-CIX Houston, DE-CIX's second IX in Texas, was announced in late 2024 and is set to go live in early 2025. Houston is geographically close enough to Louisiana to serve low latency connectivity across the southern half of the state, helping to close a significant connectivity gap. The IX establishes a new interconnection corridor in the south of the US, providing seamless interconnectivity between Houston

## **The Americas**

and Dallas and enabling local networks to access regional and international networks in Dallas in low latency.

In 2024, partnerships and relationships with strategic customers were also strengthened. In particular, the strategic partnership with PacketFabric was extended in early 2024, with PacketFabric becoming the first new global reseller signed under DE-CIX's newly launched R3 Partner Program. The strategic partnership bundles the strengths of both operators to serve enterprise connectivity needs in a holistic manner. Through the partnership, networks in a further 28 markets across North America can gain turnkey access to the DE-CIX platforms via PacketFabric. In addition, the partnership with Connected Nation IXP (CNIXP) hit a new milestone in 2024, with funding granted for the establishment of a new IX in Wichita, Kansas, to be built and operated by DE-CIX on behalf of CNIXP.

Equally, DE-CIX's Turnkey Connectivity Program, designed especially to cater to the needs of network and data center operators in regional areas of the US, was formalized in 2024. DE-CIX's Turnkey Connectivity solution for data centers and IXs makes it possible for facilities outside of the major metropolitan hubs to partner with DE-CIX and provide their customers with access to relevant regional, national, and international networks at DE-CIX's North American IXs. The Data Center Turnkey Connectivity Program - which highlights DE-CIX's data center and carrier neutrality - offers operators of regional data center facilities a significant competitive advantage by enabling access in particular to content networks that are not available locally, as well as helping to

close gaps in the national connectivity map. The solution enables in-region data centers to extend to DE-CIX's regional cores, providing instant access to the entire DE-CIX carrier and data center neutral interconnection ecosystem in North America and beyond. The prototype of this partnership model was the interconnection of the NOCIX data center in Kansas City with the DE-CIX Internet Exchanges in New York City and Dallas. Work was also undertaken towards the IX Turnkey Connectivity Program, which enables customers of partner IXs in North America to seamlessly connect and peer with networks in DE-CIX's IXs, without the need for third-party transport solutions or remote cross connect charges. The first partnership, with SAT-IX in San Antonio, Texas, was announced in early 2025 and provides low-latency access to a vast majority of major content providers.

## **Regional Highlights**

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The number of 100 GE ports grew by **23%** across the North American ecosystem, underlining the demand for high bandwidth access.



Total connected customer capacity increased by **23%** to over 30 Tbits.

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Aggregated network connections in North America exceeded **570** by the end of the year.

### **New York**

Peak data traffic increased by **10%** and amounted to 1.7 Tbit/s by the end of 2024.

The first **400 GE** ports were sold in 2024.

Total connected customer capacity at DE-CIX New York grew by **11%**, adding up to 15 Tbits, with close to 290 networks connected.

## Chicago

DE-CIX Chicago saw an increase of **67%** in 100 GE ports sold during 2024.

Total connected customer capacity grew by **56%** to 3.5 Tbits and connected networks increased by 27% to 61.

Peak data traffic rose by 167% to 223 Gbit/s.

#### Dallas

At DE-CIX Dallas, data throughput at peak times increased by **50%** to 1.35 Tbit/s by the end of 2024, crossing the 1 Tbit/s threshold early in the year.

The number of 100 GE ports grew by **30%**.

Connected customer capacity at the IX grew by **25%** to close to 9 Tbits, with close to 160 networks connected.

### Phoenix

At DE-CIX Phoenix, the total connected customer bandwidth increased by **40%** to over 2 Tbits.

The number of connected networks rose **45%** to 35.

Peak traffic jumped nearly **500%**, ending the year at 146 Gbit/s.



#### **DE-CIX Mexico begins operations**

The DE-CIX Mexico distributed platform, with locations in Mexico City and Queretaro, was taken live in early 2025, with direct connectivity to DE-CIX Dallas. The infrastructure of the IX was built during 2024, and the team began connecting customers early in the new year. DE-CIX Mexico, operated by the wholly owned DE-CIX subsidiary DE-CIX Interconnection México, S. de R.L. de C.V., is set to act as a gateway for traffic flows between North and Central America and serves the needs for interconnection and cloud connectivity of network operators and enterprises in Mexico.

**Omar Vega,** Regional Sales Manager Mexico

> A NEW IX IN CENTRAL AMERICA

## Europe



Theresa Bobis, Regional Director Southern Europe

# DE-CIX in Southern Europe: Strong growth in bandwidth and traffic across the ecosystem

The year 2024 was filled with highlights for DE-CIX in Southern Europe. Counting Lisbon, Madrid, Barcelona, Marseille, Palermo, and SEECIX powered by DE-CIX located in Athens, **DE-CIX** operates six Internet Exchanges in the region and thus forms the largest neutral interconnection ecosystem in Southern Europe, distributed across 17 data centers. Southern Europe offers a unique combination of digital connectivity and business infrastructure. Its strategic geographical position as a central node in global data traffic, coupled with its rapidly growing digital hubs, makes it a prime location for businesses seeking to optimize their operations and enhance connectivity resilience.

Overall, connected customer capacity in the Southern European ecosystem increased by 14% to 13.3 terabits. Also, 100 GE ports in operation increased by over 20%. In 2024 there were over 500 networks connected and connecting to the exchanges. DE-CIX Madrid, at the heart of the Southern European interconnection ecosystem, offers the largest diversity of local, regional, and international networks in the region. The exchange has a connected customer capacity of 7.7 terabits, and peak data throughput of 1.5 Tbit/s, with a 16% increase in sold 100 GE ports and 226 networks connected and connecting by the end of 2024. DE-CIX Barcelona, the company's second Spanish hub, increased its connected customer capacity by nearly 20%, with peak data throughput rising by 30% over the year. The IX ended the year with 47 connected and connecting networks.

DE-CIX Marseille saw a 26% increase in connected customer capacity, reaching 3.6 terabits, with 115 networks now connected and connecting to the exchange. The number of 100 GE ports grew by 38%, while peak data throughput surged by 40%, exceeding 494 Gbit/s. The largest IX in Portugal based on network count, DE-CIX Lisbon, celebrated its fifth anniversary in 2024. Peak data throughput increased by 14%, and the exchange counted 62 connected and connecting networks at the end of 2024. In fall, the company expanded its footprint in Portugal with the expansion of DE-CIX Lisbon to the SINES Data Center, Europe's largest data center campus, marking a significant expansion of its presence in Portugal. This collaboration further strengthens DE-CIX's ability to deliver high-performance interconnection solutions in the region.

Reinforcing DE-CIX's distributed platform ecosystem and Lisbon's role as a key interconnection hub, the company announced its strategic partnership with Altice Wholesale Solutions, which develops and manages international telecommunications services. The integration of the Altice LDV data center, which serves as an open, carrier neutral interconnection hub, offering seamless connectivity to cable landing stations, teleports, data centers, and long-haul networks, further emphasizes the importance and the reach of DE-CIX Lisbon for transatlantic and trans-European traffic flows.

Also in Lisbon in the fall, DE-CIX initiated and organized the first edition of the new conference Atlantic Convergence, dealing with transatlantic infrastructure and connectivity topics. Atlantic Convergence reflects the growing importance of digital infrastructure in connecting the continents around the Atlantic Ocean. The event served as a platform where representatives from Africa, Europe, and North and South America converged to discuss and shape a more interconnected future. More than just an event, Atlantic Convergence was a highly successful forum for enterprises, institutions, and providers within the Atlantic digital infrastructure ecosystem to engage in discussions and foster collaboration. The inaugural edition brought together more

than 500 participants from 300 different companies, marking a milestone in transatlantic cooperation for the industry. In parallel to the conference, DE-CIX published two studies highlighting the Iberian Peninsula as a future mega hub for transatlantic dataflows and identifying Madrid as its digital heart.

## **Regional Highlights**

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The interconnection ecosystem of DE-CIX in Southern Europe saw an increase in connected customer capacity of **17%** to 13.3 Tbits.



There were over **500** network connections across the ecosystem by the end of 2024.

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The number of 100 GE ports across the regional ecosystem enjoyed significant growth of over **20%**.

### Madrid

Connected customer capacity at DE-CIX Madrid increased to **7.7 Tbits**.

Peak data throughput amounted to **1.5 Tbit/s**.

The number of 100 GE ports in Madrid increased by **16%**.

#### Barcelona

DE-CIX Barcelona saw an increase in customer bandwidth of almost **20%**, with connected networks growing to 47.

Data throughput at peak times increased by **30%** during 2024.

#### Lisbon

Peak data throughput increased by 14%.

Connected networks grew to **62** by the end of the year.

#### Marseille

Connected customer capacity at DE-CIX Marseille increased by **26%** to 3.6 Tbits, with 115 networks connected to the Exchange.

The number of 100 GE ports in Marseille increased by **38%**.

Peak data throughput increased by **40%** at DE-CIX Marseille, exceeding 494 Gbit/s.



DE-CIX Central Europe: Impressive growth in Frankfurt and beyond

2024 was filled with highlights for DE-CIX's seven Internet and Cloud Exchanges in Central Europe. This includes IXs in Dusseldorf, Frankfurt, Hamburg, Leipzig, Munich, and the Ruhr-CIX powered by DE-CIX in Germany and the dedicated Cloud Exchange in Amsterdam, The Netherlands. In 2024, the DE-CIX ecosystem in Central Europe comprised more than 1800 network connections and counted 102 terabits of connected customer capacity. DE-CIX Central Europe witnessed growth of nearly 16% in the number of 100 GE ports, rising to 814, and 18% growth in connected customer capacity.

In terms of network density and data throughput, DE-CIX Frankfurt is the largest and most important Internet Exchange in Europe, with a decisive influence on the global interconnection ecosystem. Its exceptional position as a hub for connectivity in Central Europe makes it a global leader in digital networking. Over the course of 2024, DE-CIX Frankfurt saw two new peak traffic milestones: The IX crossed the 17 Tbit/s in April followed by 18 Tbit/s at the end of November. This marks an increase in peak traffic at the company's flagship exchange of 9% over the course of the year. Overall, 45 Exabytes of data were exchanged at DE-CIX Frankfurt in 2024, an increase of 13% compared to 2023. Additionally, the number of 400 GE ports at DE-CIX Frankfurt increased by 80%, reflecting growing demand for high-capacity connections.

Frankfurt was not the only location in Central Europe that saw growth in 2024. All regional DE-CIX Exchanges registered a growing demand for bandwidth and thus increasing numbers of 100 GE ports sold, as well as an overall increase in connected customer capacity. At DE-CIX Munich, the largest of the regional IXs in Germany, peak data throughput of the 228 connected and connecting networks increased by almost 26%, and the number of 100 GE ports doubled compared to 2023. The connected customer capacity increased by 60%, reaching a total of 3.2 terabits.

Andreas Sturm, Chief Business Development Officer, Sales Central Europe DE-CIX Dusseldorf reached 2.7 terabits in connected customer capacity, with 279 networks connected to the IX. DE-CIX Hamburg is the most important IX in Northern Germany and a gateway to the North, interconnected with DE-CIX's exchanges in the Nordics. With the number of 100 GE ports rising by 68%, DE-CIX Hamburg saw an increase of 41% in connected customer capacity, reaching 2.4 terabits by the end of the year.

Steady growth at DE-CIX Leipzig and the accelerating development of Ruhr-CIX highlight the rising demand for localized networking infrastructure. As enterprises throughout Central Europe increasingly require regional connectivity to optimize performance and reduce latency, DE-CIX continues to expand its interconnection ecosystem across the region. Two further locations added in 2024 strengthen the regional footprint in Germany: HAN-CIX, powered by DE-CIX, was launched in April 2024 at the GRASS-MERKUR data center in Hanover, providing enterprises with lowlatency, secure connections to cloud service providers. As part of DE-CIX's interconnection ecosystem, HAN-CIX offers a direct link to the DE-CIX hub in Frankfurt, enabling efficient and secure data exchange. Together with our partner EWE Tel GmbH, Northwest IX was established in 2024 in Oldenburg, connected directly and integrated into DE-CIX Hamburg, further enhancing interconnection opportunities in the region.

Amsterdam has long been one of Europe's most important cloud hubs, attracting global cloud service providers and enterprises seeking to leverage the advantages of cloud computing. The city's well-established digital ecosystem makes it a key location for cloud connectivity, and the DE-CIX Cloud Exchange in Amsterdam plays a crucial role in supporting this demand. Launched in 2024, the platform experienced rapid growth, reaching a connected customer capacity of 1.6 terabits by the end of the year. This significant growth in its first year reflects the strong demand for dedicated cloud connectivity.

### **Regional Highlights**

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The number of 100 GE ports at the DE-CIX IXs in Central Europe increased by **16%** during 2024. <u>8</u>

The total connected customer capacity in Central Europe rose by 18% to **102 Tbits.** 

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Network connections grew to **1840** across the ecosystem in Central Europe.

### Frankfurt

At DE-CIX Frankfurt, peak data throughput increased by 9% and reached **18.1 Tbit/s** in November 2024.

Connected customer capacity increased by 14%, totaling **91.2 Tbits** by the end of the year.

The number of 400 GE ports almost doubled compared to 2023, reaching 27 during the year.

### Munich

The number of 100 GE ports doubled compared to 2023.

At DE-CIX Munich, peak data throughput increased by **26%** to 303.75 Gbit/s.

Connected customer capacity increased by **60%**, totaling 3.2 Tbits.

#### **Dusseldorf**

Connected customer capacity increased by **19%** and reached 2.7 Tbits.

#### Amsterdam:

DE-CIX Cloud Exchange Amsterdam reached a connected customer capacity of **1.6 Tbits** in its first year of operation.

With 14 active 100 GE ports by the end of 2024, the platform demonstrated solid initial uptake.



#### **Erik Norup,** Business Development Manager, Cloud & Interconnection Services

# DE-CIX in the Nordics: Expanding interconnection

After the 2023 launch of our presence in Norway, Finland and Denmark, DE-CIX can look back at a year of steady growth in the Nordic region. Over the course of 2024, the total connected customer capacity in the Nordics more than tripled to 300 gigabits. Oslo and Kristiansand in Norway, and especially Helsinki in Finland experienced the most growth during the year.

To unlock further potential, DE-CIX broadened its strategic approach in the Nordics in 2024, expanding our offerings from enterprise services to also include peering services. As an outcome, we have seen ISPs from several countries joining the DE-CIX Nordics Internet Exchanges.

Another highlight of 2024 was a case study conducted by one of our customers, Genesis Cloud, that illustrated the relevance of DE-CIX's products and solutions for their business. As a cloud provider in the Artificial Intelligence (AI) and high-performance computing (HPC) sector, Genesis Cloud relies on data centers in Northern Europe supplied directly and cheaply with green electricity. One of the main challenges for Genesis Cloud and their customers was the ever-growing need for connectivity and the large fluctuations in bandwidth demand resulting from their reliance on transit providers. It was DE-CIX's infrastructure that enabled Genesis Cloud and its customers to peer remotely from Kristiansand to Frankfurt and gain access to close to 1,100 regional and global networks. As Genesis Cloud's case study shows, this ultimately made their data exchange more secure, reliable, and at least 50% faster than previously - a great result that demonstrates how DE-CIX's expansion to the Nordics is actively helping to solve problematic bandwidth bottlenecks for enterprise customers.

In the future, our locations in the Nordics are likely to become even more important as due to a massive data center buildout, data traffic in the region is expected to grow which will especially benefit Copenhagen and Esbjerg in Denmark.

## Africa and the Middle East



**Darwin da Costa,** Business Development Manager, SE, Africa & LATAM

## DE-CIX in Africa – Continuous growth and development

After their launch in mid-2023, the two DE-CIX as a Service (DaaS) IXs on the African continent continued to grow steadily in 2024.

AF-CIX (African Cloud Interconnection Exchange) powered by DE-CIX in Lagos, Nigeria, performed well in 2024, increasing its connected customer capacity by 58% to reach 229 gigabits. At the same time, the number of networks connected and connecting at AF-CIX rose to 38, a growth of 81% during the year.

ACIX (Africa Congo Internet Exchange) powered by DE-CIX in Kinshasa, Democratic Republic of the Congo, also developed well. By the end of 2024, the connected customer capacity stood at 115 gigabits, and the number of networks connected and connecting to ACIX had increased to 16 – a growth of 23%. Overall, DE-CIX has performed well in a still relatively new market. In total, the figures for both IXs added up to 54 connected and connecting networks and a connected customer capacity of 344 gigabits by the end of 2024. This marks an increase of 59% in connected and connecting networks – including Internet service providers, carriers, mobile operators, and systems integrators supporting enterprise digitalization in Africa – as well as a growth of 29% in connected customer capacity. In the future, we expect AF-CIX and ACIX to experience further growth and to continue their development as strong African ecosystems.



DE-CIX in the Middle East: Committed for continued success

DE-CIX's IXs in the region remained firmly on the growth track in 2024. Total customer capacity across the entire ecosystem jumped by 59% to 10.1 terabits. The number of network connections grew by 20% to more than 210. Furthermore, the number of 100 GE ports increased by 74% to 75. Figures like these underscore the success of DE-CIX's commitment to the Middle East and the high demand for neutral interconnection services in the region.

A demand which is also being fueled by new locations: The first and only neutral IX that serves all Iraqi regions went live in February, in partnership with IRAQ-IXP. At the end of its first year of operation, IRAQ-IXP powered by DE-CIX had 24 networks connected and connecting, and was achieving peak traffic of more than 70 Gbit/s. The total customer bandwidth amounted to 741 gigabits. At Aqaba-IX powered by DE-CIX, the development is just as positive: In its second year of operation, the total customer bandwidth grew by 51% to 321 gigabits. 17 networks were connected and connecting to the IX at the end of December 2024.

#### DE-CIX Istanbul: The Thriving Interconnection Hub Linking Europe and the Middle East

The importance of DE-CIX Istanbul for connectivity between Europe and the Middle East continues to grow, with another year of strong development. This is reflected in the increasing number of connected and connecting networks at the Exchange. Over the course of the year, the number of ASNs exchanging traffic grew by a resounding 18.5%. The year also showed impressive growth in terms of data traffic at DE-CIX Istanbul. 726 petabytes of traffic volume were exchanged at the IX, marking an 11% increase since 2023. At peak times, data throughput in Istanbul reached 376 Gbit/s, setting a new record for this location and tripling the data traffic compared to 2020.

Bülent Şen, Regional Director Middle East This upward trend is the result of the recognition of the value of DE-CIX Istanbul by international networks, in particular. Direct access to local networks is one of many reasons to connect to this exchange. With an increasingly diverse range of networks connected from all over the world, connecting to the IX in the Turkish metropolis will become even more attractive in the future as a gateway connecting the Middle East with Europe and the US. Equally, an increasing number of resellers are connecting enterprise customers to DE-CIX's vibrant ecosystem at DE-CIX Istanbul. With more enabled sites and data centers adding to the redundant set-up of the IX, we're already looking forward to another strong year.

2025 is not only the 30th anniversary of DE-CIX, but also the 10th anniversary of DE-CIX Istanbul. It's a worthy occasion to celebrate the growth of this location and its valuable contribution to the interconnection ecosystem overall.

## UAE-IX powered by DE-CIX: A powerhouse among IXs in the Middle East

Following 12 years of operation and continuous growth, the UAE-IX powered by DE-CIX in Dubai reached new heights in 2024. The total number of networks connected and connecting grew to 108, and the customer capacity at UAE-IX nearly doubled from 3.4 to 6.1 terabits over the year, with a substantial number of customers upgrading their connection capacity. Compared to the previous year, the number of 100 GE ports increased strongly, rising 125% to 45, while the number of 10 GE ports also grew by 17% from 134 to 157.

A special highlight in December 2024 was a new peak traffic record of 847 Gbit/s. This marks a 42% growth compared to the 2023 traffic peak and reinforces UAE-IX's position as the leading IX in the Middle East.

As in previous years, DE-CIX was present at important local events such as MENOG and Capacity Middle East. In addition, 2024 saw another successful iteration of the UAE-IX Peering Workshop & Cruise organized by DE-CIX, featuring keynote speeches and the opportunity for fruitful exchange.

## **Regional Highlights**



Total customer capacity across the Middle Eastern ecosystem increased by **59%** to 10.1 terabits. ക

The number of network connections grew by **20%** to more than 210.



Furthermore, the number of 100 GE ports increased by **74%** to 75.

## **DE-CIX Istanbul**

At DE-CIX Istanbul, data traffic throughput at peak times reached **376 Gbits/s**.

The total connected customer capacity grew to **2.9 terabits** by the end of the year, with a total of 726 petabytes of data traffic volume being exchanged in 2024.

The number of networks connected and connecting at DE-CIX Istanbul increased by 18.5% to 64.

## IRAQ-IXP powered by DE-CIX

In its first year of operation, total customer capacity reached **741 gigabits**.

**24** networks were connected and connecting to IRAQ-IXP powered by DE-CIX by the end of the year.

The data traffic throughput peak at the end of the year rose to more than **70 Gbit/s**.

### UAE-IX powered by DE-CIX

At UAE-IX powered by DE-CIX, data traffic throughput at peak times increased by **42%** to 847 Gbit/s.

Total customer capacity grew by **81%** to 6.1 terabits by the end of 2024.

Demand for 100 GE ports increased by 125%.

The number of connected and connecting networks increased to **108**.

#### Aqaba-IX powered by DE-CIX

Total customer capacity increased by **52%** to 321 gigabits.

**17** networks were connected and connecting to Aqaba-IX by the end of the year.

## Asia



Sudhir Kunder, Chief Business Officer – DE-CIX Interwire, India

New locations, strategic partnerships, and strong demand for neutral interconnection services have been instrumental in keeping DE-CIX on a steady growth trajectory across Asia. Four new IXs were launched in 2024, in Karachi (Pakistan), Bengaluru (India), Jakarta (Indonesia), and Penang (Malaysia), bringing DE-CIX's presence to 16 markets across South, Southeast, and East Asia.

#### **DE-CIX** expands to Pakistan

The Pakistan Telecommunication Company Limited (PTCL) and DE-CIX inaugurated the Pakistan Internet Exchange (PIE) powered by DE-CIX, the country's first carrier neutral IX, in January 2024. Housed in the PTCL data center in Karachi, the IX is operated by DE-CIX under the DE-CIX as a Service (DaaS) model and offers local peering, as well as remote access to DE-CIX Frankfurt. By year-end, seven networks were connected and peering on the platform.

## DE-CIX in India: New opportunities to interconnect

DE-CIX India remains on the fast track. This is also because India is one of the fastest growing and most digitalized economies in the world. Data-based services not only drive life and work on the subcontinent but also the demand for neutral interconnection services. For example, the total customer capacity connected in the entire DE-CIX Indian ecosystem rose by 19% in 2024 to 11.4 terabits, and the number of 100 GE ports grew overall by 23%.

At DE-CIX Mumbai, total customer bandwidth increased by 18% to 7.4 terabits and the number of 10 GE ports increased by 55% to 265. Furthermore, data throughput grew by 14%, reaching 1.7 Tbit/s at peak times and underlining the importance of the location as DE-CIX's regional flagship IX. A claim that is also reflected in the increase in the density of 100 GE ports and the upgrade of the IX to 400 GE access technology in 2024. At DE-CIX Chennai, DE-CIX India established a new Point of Presence (PoP)at Digital Connexion's MAA10 data center in 2024. Throughout the year, the total customer capacity increased by 29% to 1.6 terabits, and data traffic at peak times nearly tripled to 310 Gbit/s at the IX, located in the southeast of the subcontinent. At DE-CIX Delhi, total customer bandwidth increased by 18% to 1.9 terabits, and data throughput at peak times grew by 73% to 424 Gbit/s. At DE-CIX Kolkata, demand for 10 GE ports continued to rise, and customer capacity amounted to 351 gigabits by the end of the year. In addition, DE-CIX India expanded its reach with a second PoP in Hyderabad, as well as introducing the sixth location, Bengaluru, the Silicon Valley of India, with a new IX at NTT DC3.

In 2024, DE-CIX India introduced new services specifically for enterprises that complement the existing peering and DirectCLOUD offering. At the beginning of the year, the Microsoft Azure Peering Service (MAPS) was introduced on the subcontinent. Developed by DE-CIX and Microsoft in close collaboration, MAPS provides companies with a reliable, SLAguaranteed direct connection to Microsoft cloud services, optimizing latency and improving user experience. Furthermore, the **DE-CIX Cloud ROUTER became available in the** region in November 2024, making it easier to manage hybrid and multi-clouds by exchanging data directly, privately, and at high speed between cloud environments. In summer 2024, the DE-CIX Academy - a knowledge base of topics related to peering and interconnection kicked off with localized material in India. An inaugural session explored the criticalities of UDP and Ethernet.

In 2024, DE-CIX India received the National Long Distance (NLD) license, enabling the company to provide more comprehensive and resilient connectivity solutions to support the growth of businesses, communities, and individuals across the country. In September, DE-CIX India announced the launch of its Data Center Interconnection Services to enable the seamless exchange of data between different locations. The new offering links two or more data centers over varying distancesshort, medium, or long—using high-speed packet-optical connectivity. Enterprises can dynamically access resources across multiple sites and optimize their network infrastructure. In November 2024, DE-CIX and submarine cable operator GCX signed a strategic partnership agreement to enhance global connectivity. This agreement allows GCX to resell DE-CIX India's services to their end customers across the Middle East, Europe, USA, and Asia, while creating opportunities to connect with a rapidly growing Indian audience. In addition, global technology group e& and DE-CIX laid the foundations of a new partnership in 2024 to implement a UAE-India Internet Corridor, providing access to the DE-CIX India ecosystem and enhancing network coverage and peering performance for e& customers in 2025.

## Highlights for DE-CIX India

## **Regional Highlights**



The total connected customer capacity increased by **19%** and grew to 11.4 Tbits in 2024.

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The number of 100 GE ports grew by **23%.** 



MAPS and DE-CIX Cloud ROUTER became available in the region.

#### Mumbai

Total customer bandwidth increased by **18%** to 7.4 Tbits.

The number of 10 GE ports increased by **55%** to 265.

Data throughput grew by **14%** reaching 1.7 Tbit/s at peak times.

## Delhi

In 2024, total customer bandwidth increased by **18%** up to 1.9 Tbits.

Data throughput at peak times grew by **73%** to 424 Gbit/s.

#### Chennai

Throughout the year, the total customer capacity increased by **29%** to 1.6 Tbits.

Data traffic at peak times nearly tripled to **310 Gbit/s**.

#### Kolkata

Demand for **10 GE** ports continued to rise throughout 2024.

Total customer capacity amounted to **351 Gbits** by the end of the year.

## Southeast Asia



**Ocean Oh,** Regional Sales Manager Asia

## The DE-CIX Asia platform – distributed peering across Southeast Asia

Customer bandwidth on the DE-CIX Asia platform rose by 61% to 3.1 terabits during 2024, while network connections stood at over 160 connections at the end of the year. At DE-CIX Kuala Lumpur, customer capacity increased by 41%, reaching 683 gigabits, with 50 networks connecting locally to the platform. Figures from the Singapore / Johor Bahru metropolitan market also reflected sustained regional growth. Connected networks increased by 19% to 87, while demand for 100 GE ports tripled during the year. Total customer capacity grew by 67%, reaching 2.2 terabits. To foster further connectivity, Chief Telecom and DE-CIX entered a strategic partnership in June 2024, allowing customers of the leading data center and IX operator to access the DE-CIX ASEAN platform in Singapore and engage in remote peering with DE-CIX Frankfurt.

Early in the year, DE-CIX Malaysia and Digital Penang successfully launched the Penang IX (PIX), marking a significant milestone in reshaping the region's digital landscape. By the end of 2024, 11 networks were connected to PIX. In Brunei, at Borneo-IX powered by DE-CIX, customer capacity grew by 66%, reaching 123 gigabits and marking a steady progression in regional interconnection services.



**Frank P. Orlowski,** Executive Vice President Corporate Development

#### Indonesia

May 2024 saw the launch of DE-CIX Jakarta, a joint venture between DE-CIX and PT IDMarco Digital Solusi, a subsidiary of the Salim Group. By the end of its first year, 118 networks were connected, and total customer bandwidth had reached 1.2 terabits.

## **East Asia**

#### **DE-CIX in Japan**

Launched in late 2023, the first networks were connected at the two dedicated Cloud Exchanges in Tokyo and Osaka in 2024. Work was also undertaken towards sealing an agreement, announced in early 2025, between DE-CIX and GLBB, a Japanese Internet Service Provider. The agreement enables GLBB to offer its customers access to the DE-CIX Cloud Exchanges in Tokyo and Osaka and the distributed DE-CIX Asia platform, as well as the possibility to peer remotely with networks at DE-CIX Frankfurt.

### **Regional Highlights**



Across the DE-CIX Asia platform, total customer bandwidth jumped up by **61%** to 3.1 Tbits.

Singapore / Johor Bahru metropolitan market

Customer capacity increased by **67%** to 2.2 Tbits.

Number of network connections grew by **19%** to 87.

**100 GE** ports tripled throughout the year.

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The number of network connections grew to over **160**.

#### **Kuala Lumpur**

Total customer capacity increased by **41%** to 683 Gbits.

#### Jakarta

**118** networks were connected to the IX in its first year of operation.

Connected customer capacity reached **1.2 Tbits** by the end of 2024.

# 7. Customer Success – Excellence in services and support





## Interdisciplinary collaboration to drive success for all DE-CIX customers

Beyond the pure technical potential of the DE-CIX platforms, the intensive collaboration of multiple DE-CIX teams serves to drive the individual success of connected customers. both from the wholesale telecommunications sector and from the enterprise sector. DE-CIX provides consulting services, network design and technical implementation, the integration of partners and partner services, 24/7/365 customer service, and the development of innovations on the product side. Together, these offer customers the best of the best: cutting-edge technology, tailor-made for the individual use case or network set-up. Along with the technical teams introduced in Chapter 5, this also includes a range of teams and programs introduced in this chapter: the Customer Success Management, Presales and Consulting, Customer Service, and Products teams, and the DE-CIX Partner Program.

## How DE-CIX products support customer success for wholesale networks

Wholesale network operators and other digital infrastructure operators – from data center operators to cloud service providers – benefit from DE-CIX's range of connectivity and Infrastructure as a Service offers. As the leading provider of data center and carrier neutral peering services in the world, DE-CIX has solutions for infrastructure providers to optimize their service offering, create a competitive advantage, and unlock new revenue streams.

#### Connectivity Solutions – Wholesale: Creating the Predictable Internet

#### **Peering Management**

Peering management has been taken to the next level at DE-CIX, with new tools to support networks to get the most out of their access to the DE-CIX platform. Smart telemetry analysis provides a detailed guide of how networks can better identify missing traffic streams over their services and ports to improve the quality of their traffic streams and increase the potential throughput by lowering the latency of these paths. With the forthcoming addition of AS metrics, DE-CIX is in the process of revolutionizing the analysis of how well an AS is peered, including dimensions like route server peering, security, relevant networks available locally and remotely, among others. Dashboard peering recommendations were integrated into the customer portal in Q4 2024, and our peering managers are available to assist those who need help in ensuring optimal peering settings. This service makes dataflows both more secure and more predictable, offering wholesale networks greater value from their peering at DE-CIX IXs around the world.

#### **Remote Peering**

With DE-CIX's GlobePEER Remote service, customers can use their existing access in one of the DE-CIX Internet Exchanges to peer remotely at other interconnected locations. A fully redundant service with predictable latency and jitter values, GlobePEER Remote enables a connected network to peer over a VLAN on their existing access. This can be used to solve a specific demand to improve connectivity from a given PoP to a defined region, for example for the sake of better application performance. The service is easy to set up, and no additional hardware is required at either end.

One customer using Remote Peering at DE-CIX is Genesis Cloud, a GPU cloud solution provider offering services at scale for EnterpriseAI, GenAl, ML workloads, and rendering. Headquartered in Europe, they are building the next-generation public cloud tailored to the needs of modern Artificial Intelligence (AI) training and inference, and they currently serve more than 20,000 customers. With AI and highperformance computing (HPC) enabled data centers in the Nordics and a customer base in central Europe, Genesis Cloud uses GlobePEER Remote to gain direct access from the BULK data center in Kristiansand in Norway to the peering infrastructure at DE-CIX Frankfurt. Data exchange is significantly more secure, more reliable, and at least 50% faster. Peering has reduced latency from a sometimes unstable 40 ms to a stable 20 ms, remaining consistently low even as load increases.

#### Infrastructure as a Service

#### **Premium Enabled Site**

For colocation and managed service providers, connectivity is key to creating a competitive advantage and unlocking new revenue streams. Data center operators without their own interconnection platform or cloud exchange can become part of the DE-CIX ecosystem by implementing their facilities as a DE-CIX Premium Enabled Site. This is possible also for Tier 2 and Tier 3 facilities that are not local to the markets where DE-CIX operates its exchanges. For example, several Premium Enabled Sites of DE-CIX Frankfurt are well outside of the metropolitan region of Frankfurt - in fact, one is close to 400 km from the hub, but still seamlessly connected to the IX. Equally, DE-CIX New York has a footprint spanning Long Island to the East and Piscataway and Edison to the South and West, while DE-CIX Lisbon is accessible from the Start Campus in Sines, at a distance of 160 km. In this way, these data center operators can offer their customers Cloud Exchange capabilities as well as access to the global DE-CIX ecosystem, comprising thousands of networks, directly from their facilities.

Data center operators around the globe have enhanced the attractiveness of their facilities with the addition of DE-CIX's interconnection services. Today, close to 200 data center facilities, across 60 markets, offer their customers seamless interconnection via DE-CIX, including remote peering and cloud services via DE-CIX's global backbone.

# Infrastructure as a Service



Marco Brandstaetter, Global Program Manager DE-CIX as a Service

**DE-CIX as a Service (DaaS)** allows both telecom operators wanting to develop a regional relevance in the interconnection landscape and national/regional governments wanting to enhance interconnectivity in their markets to build their own interconnection platform, fully operated by DE-CIX.

An Internet Exchange has been shown not only to reduce latency for locally bound traffic, but also to encourage increased network density, fuelling the development and expansion of a local digital ecosystem and digital economy. Establishing a DE-CIX as a Service Internet Exchange gives the owner the capability to offer customers a fully functional interconnection platform, from peering to cloud connectivity and more. The owner brings in the local knowledge and sales power, while DE-CIX provides the Internet Exchange as a fully managed service – from customer service and operations to sales and marketing support for the partner. DE-CIX operates nine DaaS locations around the globe under the "powered by DE-CIX" label, and several more as white-label IXs. One outstanding example is the UAE-IX powered by DE-CIX – the largest IX in the Middle East, with over 100 connected networks and peak traffic of 847 Gbit/s in 2024 – operated on behalf of partner du/datamena.

## How DE-CIX products support customer success for enterprises

More and more multinational enterprises have placed their trust in DE-CIX's technology, design, consulting, and implementation. When enterprises and organizations have understood the importance of managing their dataflows better, ensuring data sovereignty and security, and interconnecting with external networks securely and with the best possible performance and agility, they can turn to DE-CIX to find the best solution for their individual needs. With our concept of "build your own Internet", DE-CIX builds bespoke technical possibilities for interconnecting companies beyond the boundaries of their corporate LAN.

Leveraging DE-CIX's global backbone and its presence in 60 markets worldwide, as well as its unsurpassed ecosystem of network operator and data center partners, DE-CIX can design a resilient and secure network environment, tailor-made for the specifics of the business case. Whether a company needs to interconnect securely with its ecosystem of business partners, build up a resilient and seamless multi-cloud environment across national borders or continents, connect global branches and plant locations and provide low-latency access to enterprisegrade applications, or overcome any other interconnectivity challenge - DE-CIX makes interconnection easy, anywhere.

Below is a selection of use cases from real life – providing a snapshot of how DE-CIX enables enterprises to "build their own Internet".

#### **Connectivity Solutions – Enterprise**

The DE-CIX Cloud ROUTER, a Network as a Service solution, enables the direct interconnection of clouds and other networks distributed over multiple data centers and regions, for seamless, low latency, and highly scalable cloud-to-cloud communication, as well as the integration and interoperability of hybrid cloud scenarios. The Cloud ROUTER enables interoperability and high-performance interconnection between multiple cloud service providers, acting as a central data hub directly on the DE-CIX platform. Scalable up to 400 GE bandwidth, the service brings together disparate infrastructure islands, including onpremise hardware to create an environment as seamless as a single cloud environment. This enables companies to cherry-pick the best in class cloud services for individual use cases, and still have the performance normally associated with a single cloud scenario. The solution can be further expanded using the InterconnectionFLEX bundled service.

One customer using DE-CIX's Cloud ROUTER is a multi-national retailer active in Central, Eastern, and Southern Europe, with revenues of more than 12 billion Euro in the 2023/4 financial year. The customer uses the solution to support its distributed shop system and data landscape, with the integration of multiple payment methods and loyalty programs and geo-redundant data center neutral access to cloud onramps, with the option in the future of embedding the company's cloud-based SAP implementation.

The **DE-CIX Closed User Group** product enables a company to interconnect securely with selected business partners, with full control over participating networks and data pathways. In a Closed User Group, each partner is free to decide how they connect themselves to the infrastructure – either directly via Layer 2 from one of the hundreds of data centers connected to DE-CIX, or via a DE-CIX partner who bundles its transport service with access to this Closed User Group. This means that the central administration and laborious set-up of MPLS or VPN is history, and we are able to provide fast, ideally on-demand switching. The possibility to connect to DE-CIX and thus also to a Closed User Group from any DE-CIX or DE-CIXpartner location worldwide is an unparalleled advantage for companies operating globally.

One customer using DE-CIX's Closed User Group service is a large commercial vehicle manufacturer with global operations and revenues of around 1.6 billion Euro in 2023. This company uses the service to enable business partners to interconnect in a separate and exclusive environment established on the DE-CIX platform to exchange data along their value chain.

The **DE-CIX API** enables automated provisioning at the click of a button for agile cloud connectivity.

The DE-CIX API ensures unsurpassed user experience for cloud interconnection. In the in-house provisioning portal, the necessary preparatory work is carried out and approvals are obtained which, after confirmation, are automatically provisioned via the DE-CIX infrastructure – all within a few minutes. The connections to the cloud can be established on-demand at any time, but can also be decommissioned again automatically. This setup contributes significantly to increasing efficiency and standardization, as well as supporting new innovations through cost reductions and agility.

One example from real life of a DE-CIX API implementation is that of a globally operating automotive manufacturer with revenues of more than 150 billion Euro (2023) and a workforce of close to 170,000. This manufacturer uses the DE-CIX API interfaces globally to establish cloud connections from its own software to Azure, AWS, Google, and IBM via DE-CIX DirectCLOUD.

DE-CIX's InterconnectionFLEX service enables the bundling of connectivity services to ensure a flexible global network.

InterconnectionFLEX is a complete interconnection package, with services individually adjustable at any time as a company's interconnection needs evolve. The package bundles cloud connectivity, peering, and private interconnects, distributable within a metro region, all under one contract. The global connectivity between DE-CIX locations (e.g. New York > Frankfurt or Seattle > Singapore) also offers first-class interconnection of company locations. Simple scaling, transparent knowledge of cable routes and redundancies, best-of-interconnection at each location, agreed under one contract, the InterconnectionFLEX service bundle provides the optimum package for interconnecting multiple continents to simplify globally operating network infrastructure. Enabling interconnection everywhere.

One DE-CIX customer availing itself of the service is a multinational company present on all continents and operating globally, with revenues of around 56 billion Euro (2023) and a workforce of over 100,000. The company uses the DE-CIX infrastructure not only for peering, the connection to Microsoft's M365, and cloud connectivity, but also for consuming services provided by DE-CIX's partners within the ecosystem. This includes, on the one hand, IP-Transit provided by the IP-Transit partner via the interconnection platform using Layer-2. On the other hand, in regions where DE-CIX peering is not available, peering via local non-DE-CIX IXs is integrated via the DE-CIX platform.

**DE-CIX AS A SERVICE IXS** 

#### Customer Success Management, Presales and Consulting



Harald Kriener, Head of Global Presales, Consulting and Customer Success Management

Enterprise needs for excellent connectivity are growing rapidly. However, this requires not simply the services of a Cloud Exchange. Today, and even more so in the future, a holistic cloud connectivity scenario also requires peering with clouds, between clouds, and between single devices. The pathways that enterprise data takes between networks as well as to and between clouds need to be controlled, and enterprises require transparency as well as business continuity built into their solutions.

The DE-CIX Customer Success Management, Presales and Consulting team supports the delivery of high quality DE-CIX services for enterprise and large-scale customers. The team works with other DE-CIX teams as well as partners throughout the sales and implementation process. It supports with solution design and value engineering in order to visualize the value of DE-CIX interconnection services for individual customers. In this way, the team provides customers with transparency as to how the source and destination of data are interconnected.

#### **Customer Success Management**

The Customer Success Management team ensures that customers are able to harvest the greatest value from DE-CIX's interconnection solutions. Beyond the mere delivery of services, the team provides a holistic approach to customer success, including a seamless onboarding experience, the ongoing optimization of a customer's service usage, and continual support for a customer to manage their digital infrastructure in the most efficient way possible. The Customer Success Management team offers wholesale customers and resellers support in ensuring they can drive the success of their enterprise customers, as well as offering directly connected enterprise customers a one-stop shop for all areas of customer success in their consumption of interconnection services.

The team acts as a human translator, bridging business requirements and technology to maximize business value for customers and ensuring enhanced service quality with solutions that improve stability, transparency, and performance. Proactive assistance from **Customer Success Management enables** the early identification of optimization potential, ensuring long-term success with the solutions. The team takes care of optimizing network integration with intelligent interconnection solutions for efficient and secure network consolidation and ensuring maximum operational stability, guaranteeing uninterrupted operations and high performance. In short, the team supports customers in achieving their goals in the best possible way and in making the most of their network infrastructure.

DE-CIX's Customer Success Management provides the link between technology and business success to ensure the greatest value from interconnection services.

#### **Presales and Consulting**

The Presales and Consulting team offers consulting and design for enterprise and largescale customers across its four sub-teams: Value Engineering, Solution Design, Cloud Connectivity, and Peering Management. Insights from the team lead to insights for new services, as well as new implementation designs, which can then be transformed into a more generalized service offering.

With Value Engineering, DE-CIX supports enterprise customers in gaining the greatest value out of the usage of DE-CIX connectivity services across the platform. Through our close engagement with enterprises and through analyzing their needs, new ideas emerge as to how DE-CIX can simplify and secure interconnection for enterprises and their digital business.

The Solution Design team translates the value statements from either the Value Engineering team or the customer directly into feasible technical requirements. Based on these, the team builds a solution and makes it easy for the customer to consume. The added value of this process is that it also enables the delivery of a transparent view of where the data flows, as well as alternate pathways in the event of outages. The solutions designed by the team are then executed either by the DE-CIX technical team or by our valued partners. DE-CIX is unique in the enterprise market in offering such a service.

The Cloud Consulting team is a dedicated team working on cloud connectivity, not only to individual clouds, but also between clouds. Cloud-to-cloud connectivity is the foundation of future workloads like AI because the lowest latency is required for such applications to work efficiently.

Peering Management lies at the foundation of DE-CIX's success. The team increases the quality of customer peering, thereby reducing the latency of connections and ensuring that traffic can flow seamlessly. Active peering management is statistically proven to lead to much faster growth in data traffic, as it brings the traffic to the locations where it is needed – both on the receiving and delivery side. Therefore, the next step is to automate and simplify peering management with intelligent tools, creating AI-supported peering management to increase efficiency.

In addition, for new (premium) enabled sites, Presales and Solution Design develop the benefits and unique selling point of the specific data center in combination with DE-CIX interconnection services to create the foundations of success upfront.



#### **Customer Service**



Antoinette van der Stouwe, Head of Global Customer Service

DE-CIX's 24/7 Customer Service exemplifies excellence in customer support within the digital connectivity landscape.

When clients reach out to DE-CIX Customer Service, they encounter a dedicated team of network service engineers ready to address their needs. These skilled professionals not only manage the installation of ordered services but also handle troubleshooting issues across all DE-CIX locations and products. By allocating colleagues in various countries, DE-CIX ensures that customers receive support tailored to their local time zones. This strategic deployment enhances accessibility and responsiveness, fostering stronger relationships with customers worldwide.

Moreover, DE-CIX Customer Service goes beyond reactive problem-solving by actively participating in DE-CIX projects. Whether it's project support for installing new sites or executing upgrades to meet evolving customer demands, the team is integral to enhancing service capabilities and driving innovation within the organization.

#### 2024 in review

Global expansion and process improvement – overcoming customer service challenges

In 2024, the Customer Service team underwent a change process to transform the way we work with customers. Expanding into international markets brings immense opportunities to DE-CIX — new revenue streams, diversified audiences, and enhanced brand presence. However, it also presents a host of DE-CIX customer service challenges, including:

 Cultural Nuances: Every market comes with its own set of cultural expectations. Understanding and addressing these differences is critical for effective customer service.

- Language Barriers: Multilingual support becomes essential to bridge communication gaps and provide seamless assistance.
- Time Zone Coverage: Offering 24/7 support across different time zones can strain resources.
- Regulatory Compliance: Navigating varying laws and regulations related to data privacy and consumer protection is crucial.

DE-CIX is adopting scalable and flexible customer service strategies to address these complexities.

#### Streamlining DE-CIX Customer Service Operations

Process improvement is essential to delivering consistent, high-quality customer service. Process improvement initiatives in 2024 have further transformed DE-CIX customer service in the following ways:

- Performance Metrics and Feedback Loops: Data-driven insights help to identify areas for improvement, refine workflows, and optimize team performance.
- Centralized Knowledge Management: A well-organized knowledge base ensures customer service representatives can quickly access accurate information, improving first-contact resolution rates.

 Automation of Repetitive Tasks: By automating routine inquiries and ticketing processes, businesses can free up human agents to focus on complex, high-value interactions.

## Outlook 2025: How AI is transforming DE-CIX Customer Service

Al is at the forefront of customer service innovation, offering tools that improve efficiency, personalization, and scalability. However, while AI offers numerous advantages, the human element remains critical in customer service. Emotional intelligence, empathy, and creativity are irreplaceable qualities that human agents bring. DE-CIX is constantly reviewing initiatives on how AI can bring positive benefits to our teams and our customers.

#### **Products**



Dr. Christoph Dietzel, Head of Global Products & Research

DE-CIX is a world leader in interconnection. Alongside traditional peering, which has been a hallmark of DE-CIX's services for decades now, the DE-CIX service portfolio also encompasses additional interconnection services especially designed for enterprises and organizations. Several of these are described in the customer use-cases at the beginning of this chapter. These and other related services form the foundation of transformation and cloudification for companies and institutions and enable improved connectivity performance and flexibility to clouds, applications, and other networks, with security and data sovereignty built in. The service portfolio at DE-CIX includes the following categories and products:

- Peering, including GlobePEER and GlobePEER Remote, Closed User Groups for creating your own private Internet Exchange, the Microsoft Azure Peering Service (MAPS) for direct connectivity to the MS365 and MS Dynamics clouds, and DirectROUTES, for direct access to high-quality networks with a restrictive peering policy.
- Private interconnect, connecting any two networks across the global or local infrastructure of DE-CIX, such as the VirtualPNI.

- Cloud connectivity, including DirectCLOUD and DirectCLOUD Remote, for dedicated, direct and secure access to your chosen cloud service providers on the DE-CIX Cloud Exchange, and the DE-CIX Cloud ROUTER, for high performance and private data exchange between cloud environments in a multi-cloud set-up.
- Bundles and flexible offers, such as InterconnectionFLEX, which enables cloud and peering services to be combined at a fixed price across global locations, adjustable on a daily basis, and DirectCLOUD Flex, offering as many cloud connections as you want, flexibly, within your chosen total bandwidth.
- Infrastructure, including DE-CIX as a Service, the provision of a fully functional interconnection platform operated by DE-CIX for partners, and FlexPOP, enabling carriers to create virtual Points-of-Presence to increase their on-net coverage without the need to invest in their own expensive infrastructure.
- Security, including Blackholing and Blackholing Advanced.

Most services are consumable via the DE-CIX Customer Portal and the DE-CIX API, enabling provisioning and scaling at the click of a button, with traffic insights and peering recommendations available. The Products team at DE-CIX is closely associated with the Research and Development team (see Chapter 5). The Products team makes use of innovations achieved in research, such as in the area of the automation of interconnection, and creates consumable solutions based on them.

#### 2024 in review

The DE-CIX Cloud ROUTER, designed to facilitate low-latency and efficient routing between clouds in a multi-cloud environment, was further advanced in 2024, with the incremental addition of a range of new and customized features based on research results and actual usage. The number of multi-cloud connections over the Cloud ROUTER more than doubled in 2024. The Cloud ROUTER more than doubled in 2024. The Cloud ROUTER enables the customer's Network as a Service journey, alleviating the need for networking equipment to route between cloud providers and onpremise infrastructure.

Work was also undertaken on further enterprise-tailored connectivity solutions similar to MAPS with other major providers, while the team also worked on a design and conceptual level for specific enterprise customers and prospects.

### Partner Business and the DE-CIX R<sup>3</sup> Partner Program



Mareike Jacobshagen, Head of Global Business Partner Program

#### Resell – Refer – Reach

DE-CIX's long-established Partner Program was expanded and restructured in 2024 to pay credence to changing interconnection needs and the evolving interconnection landscape. The new program, now titled 'R3' (R cubed) for Resell-Refer-Reach, increases the options for enterprise-facing partners. The R3 program's extended scope brings benefits to managed service providers (MSPs), systems integrators, and IT consultancies, alongside the traditional wholesale partners and resellers. DE-CIX is the only data center and carrier neutral IX operator worldwide to cater to enterprise-facing partners in its partner program.

In addition, the program further incentivizes partners to work intensively with DE-CIX. The R3 program now offers advantageous pricing and incentives for premium partners for the company's entire portfolio of services. This includes not only peering, but also connectivity to 50+ cloud providers using the DE-CIX DirectCLOUD service, MAPS, and the virtual and highly scalable DE-CIX Cloud ROUTER, as well as virtual private point-to-point connections.

Managed service providers and systems integrators can enrich their portfolios with DE-CIX's enterprise-grade services, coupled with global 24/7 customer service and DE-CIX's support in solution design and value engineering if required. The world leader in peering solutions, DE-CIX brings together a global ecosystem of more than 4,000 carriers, ISPs, cloud service providers, and other network operators – including enterprise networks – that MSPs can capitalize on to provide bespoke and specialized connectivity solutions to their customers.

More than ever before, business value chains need a robust digital infrastructure. DE-CIX enables the cloudification of enterprises by providing an easy, flexible, efficient, and highly secure path into any cloud. Enterprise customers are beginning to see the relevance of holistic connectivity solutions in their migration to the cloud, encompassing cloud connectivity and access to applications like DE-CIX'S MAPS solution. In turn, partners are beginning to realize that they need access to the network and connectivity as-a-service business stack. Our partner network can leverage the DE-CIX platform and customized network design to support their customers with the best possible solutions for all their interconnection needs.

#### 2024 in Review

Alongside the launch of the R3 program, the partner team was engaged in a process of optimizing partner relationships in 2024. The initial set of new Premium Partners was announced early in the year, and further Premium Partners have been added to the list based on their achievement of assessment criteria throughout the year.

The new DE-CIX Premium Partners reflect the global nature of DE-CIX's partner activities:

#### Epsilon, Hong Kong

Epsilon is a leading global softwaredefined network provider with offices in London, Singapore, and Sofia. They provide a comprehensive suite of end-to-end connectivity and communication solutions, including colocation and voice services, to hundreds of network operators, managed service providers and businesses around the world. Their mission is to provide an easier alternative to buying, managing, and optimising network services through our proprietary Network-as-a-Service (NaaS) platform. Combined with a high-performance and farreaching global network that spans across Europe, the Middle East, the United States, and Asia including mainland China and Korea, they aim to empower customers with complete agility and reach, truly interconnecting their digital world.

#### **GRASS-MERKUR**, Germany

GRASS-MERKUR offers reliable solutions (colocation, managed services, cloud services, network services, SIEM/SOC, consulting) in its own ISO-certified security data center in Hanover with specialists who have many years of experience to ensure the successful implementation of customers' IT strategy. GRASS-MERKUR is an innovative and continuously growing IT service provider where customers can combine a secure and highly available data center with excellent network connections.

#### **IP-Max, Switerland**

Founded in Geneva in 2005, IP-Max SA offers its network services across Europe and beyond. With over 20 years of experience in its fields, IP-Max provides the solutions in a wide range of network technologies like Internet access, point-to-point connectivity, remote peering, Cloud connectivity and security. The pan-European footprint allows IP-Max access to the best European networks available, giving the ability to design and quickly provision solutions which best match the customers' needs.

#### Angola Cables, Angola

With a robust transport infrastructure and a highly interconnected IP network, Angola Cables provides access to the largest Internet Exchange Points (IXPs), Tier 1 operators and global content providers. Through the SACS, Monet and WACS submarine cable systems they connect the Americas, Africa and Europe, ensuring connections to Asia through their partner connections. They manage the Tier III Data Center, AngoNAP Fortaleza (Brazil) and AngoNAP Luanda (Angola) as well as PIX and Angonix, one of the largest IXPs in Africa. They provide digital services across multiple industries and offer customized Cloud and gaming resources.

In addition, existing Premium Partners include:

Arelion solves global connectivity challenges for multinational enterprises whose businesses rely on digital infrastructure, offering the world's #1 ranked IP backbone and a unique ecosystem of cloud and network service providers and connecting directly to cloud services across North America, Europe, and Asia.

As a Hybrid IT Service Provider, **CANCOM** accompanies organizations into the digital future. CANCOM supports customers in/ by simplifying complex enterprise IT and increasing their business success through the implementation of modern technology. In order to comprehensively meet the IT needs of companies, organizations, and the public sector, CANCOM delivers tailor-made IT end to end from a single source.

**Core-Backbone GmbH** is an established and successful carrier, headquartered in Germany, which operates a global network on three continents.

**envia TEL** is a leading provider of digital infrastructure in Central Germany.

**RETN** is one of the fastest growing independent Eurasian network service providers, with unique resources to connect Europe and Asia. Offering a wide range of connectivity services, such as IP transit, Ethernet & VPN, Capacity, Remote peering to major IXPs, Colocation and Cloud Connect, RETN's network encompasses more than 132,000km across 865+ PoPs, with maximum control of its physical network.

**TelemaxX** is a leading regional provider of holistic solutions in the areas of telecommunications, data centers, cloud services and managed services, headquartered in Karlsruhe, Germany.

**Türk Telekom International** is a leading telecommunication operator in the Central and Eastern European (CEE) region, Turkey, Caucasus, Middle-East and Asia, providing a full range of Internet/data services, infrastructure, and wholesale voice services.

**VTAL** is an end-to-end digital infrastructure solutions company and holder of the largest neutral fiber optic network in Brazil, serving telecom operators, Internet providers and OTTs. They have an integrated portfolio of connectivity and infrastructure solutions. Currently, in addition to ground-based fiber optic infrastructure, which connects several municipalities in Brazil, they also have 26,000 kilometers of subsea cables that connect Brazil to Argentina, Chile, Venezuela, Colombia, Bermuda, and the United States, as well as edge data centers distributed between Brazil and Colombia. **ANNUAL REPORT 2024** 

**Premium Partners** 



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# 8. Financial Results 2024

Sebastian Seifert, Chief Financial Officer, DE-CIX Group AG



The DE-CIX Group AG performed very well in the 2024 financial year and was able to achieve an increase in revenues of 8.3% through further growth in service utilization and the expansion of their global IX presence.

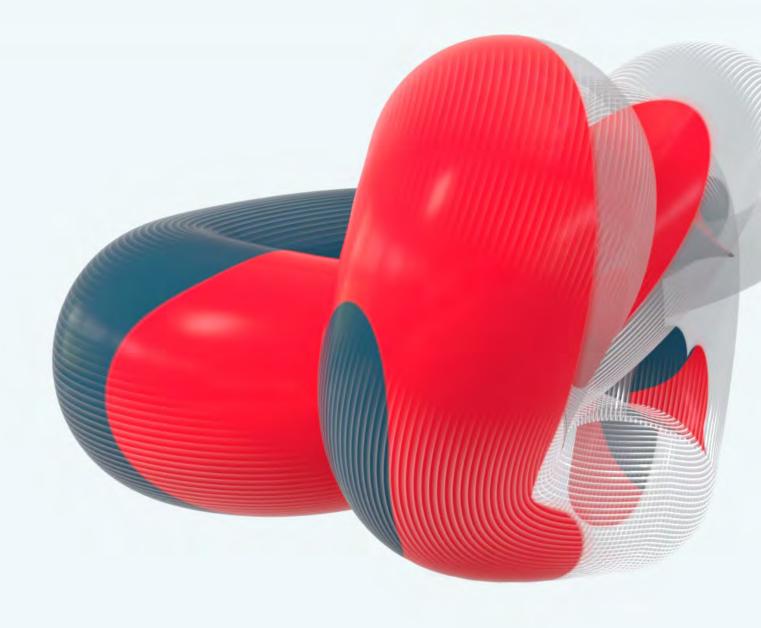
In the consolidated annual financial statement for 2024, the global revenues of all company parts grew by 5.2 million to 68.6 million Euro, in comparison to the previous year's 63.3 million Euro. Revenues from international activities jumped by 11.7% in comparison to 2023 and represented 25.8% of total revenues in 2024. The EBIT for 2024 amounted to 2.5 million Euro and the EBITDA to 4.0 million Euro. In the 2024 financial year, no use was made of debt capital.

The Profit and Loss statement below provides further details on the consolidated global results of the DE-CIX companies in 2024.

#### **DE-CIX Global Consolidated Profit and Loss Account 2024**

In thousands of EUR	2024	2023
Revenue	68,588	63,341
Inventory Change	-288	398
Operating Result	68,300	63,739
External Services / Cost of Goods	-699	-1,394
Gross Income	67,602	62,345
Other Operating Income	2,810	2,363
Personnel Costs	-25,233	-21,678
Depreciation	-1,512	-1,791
Other Operating Costs	-41,147	-37,418
Operating Result/EBIT	2,520	3,821
Financial result	482	549
EBT	3,002	4,370
Тах	-1,727	-1,552
Annual Profit/Loss	1,275	2,818
EBITDA	4,032	5,612

# 9. Publication details



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#### About DE-CIX

DE-CIX is the world's leading Internet Exchange (IX) operator and celebrates its 30th anniversary in 2025. The company offers its peering, cloud, and other interconnection services in 60 locations in Europe, Africa, North and South America, the Middle East, and Asia. Today, accessible from data centers in over 600 cities world-wide, DE-CIX interconnects thousands of network operators (carriers), Internet service providers (ISPs), content providers and enterprise networks from more than 100 countries. DE-CIX Frankfurt is one of the largest Internet Exchanges in the world, with a data volume of over 45 Exabytes per year (as of 2024) and close to 1100 connected networks.

#### Find out more at de-cix.net.

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