

breathe in(novation)

UNCOVER INNOVATIONS THAT MATTER



CLAUDIA NEMAT

Member of the Board of
Management, Technology and
Innovation

Deutsche Telekom AG



BUILDING THE INNOVATIVE TELCO OF THE FUTURE



Deutsche Telekom is one of the world's leading integrated telecommunications companies, with some 248 million mobile customers, 26 million fixed-network lines, and 22 million broadband lines. Deutsche Telekom is present in more than 50 countries with a staff of 216,500 employees. In 2021, Deutsche Telekom generated net revenue of EUR 108.8 billion.

Claudia Nemat has been a member of Deutsche Telekom's Management Board since 2011. Since January 2017 she has been responsible for the Board area "Technology and Innovation", which includes networks, IT, products, as well as information and cyber security. She focuses on digital transformation, the impact of new technologies like artificial intelligence on business models, our work and lives, technology and product innovation, as well as IT transformation, security and crisis management.

INNOVATION IS NOT A DEPARTMENT, BUT A CULTURE, AN ATTITUDE.

Could you elaborate on your current role and responsibilities at Deutsche Telekom?

— I'm the Executive Board Member for Technology and Innovation at Deutsche Telekom. I have accountability for the entire group IT function, central product development and innovation, group technology, supply chain, vendor management, and all international technology delivery functions, as well as cybersecurity and defense.



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INNOVATION ARCHITECTURE AT DEUTSCHE TELEKOM

Can you explain how innovation is governed at Deutsche Telekom?

— First of all, innovation is not a department, but a culture, an attitude. The most important element is to have an environment in which people feel encouraged and supported in pursuing new paths. During the past few years, we have transformed the organization from being hierarchical towards being leaner and agile. Of course, this is an ongoing process, and we need to continue to work on it.

Second, in order to prioritize resources and react quickly to developments, we have established committees that assess funding requests as a priority, depending on achieved milestones and relevance of proposals.

Third, across Europe, in the US, and in Israel, we have set up partnering and venturing organizations to scout for new business and technology partners. We have also created our own incubator – hubraum – and we have our T-Labs research organization that collaborates with academics around the world. Finally, Deutsche Telekom Capital Partners (DTCP) manages around \$1 billion for Deutsche Telekom and other institutional investors and has a portfolio of more than 60 businesses. DTCP pursues two investment strategies: growth equity in Europe, the US, and Asia, and investment in digital infrastructure in Europe. It acquires shares in companies that are in the growth phase and supports their development with a view to selling its stake for a profit later on. DTCP also plays an active role in establishing mutually beneficial business relations between the innovative portfolio companies and Deutsche Telekom and other partner corporations.

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SHIFT IN INNOVATION MODELS

How has the pandemic affected innovation at Deutsche Telekom?

— The pandemic was a big challenge, but also a learning opportunity. One very positive effect was that it accelerated digitization. It also underlined for us that the future of work is hybrid; recognition of this is important for cultural coherence. However, it also made clear that complex problems can be solved only in face-to-face meetings, rather than online. But that does not mean that we need to be in the office five days a week. We all need to be more flexible and output oriented. The pandemic has shown us that we can change and adapt. Interestingly, it has also demonstrated the positive impact of these changes on decarbonization: in principle, if we are all more engaged in hybrid working and living, there will be less traffic and, consequently, fewer CO₂ emissions.

But let's be frank. The pandemic has also shown us what is missing from digitization in terms of tackling real-world challenges. For example, schools could not operate virtually during lockdown in the same way that businesses could. As in any crisis, resilience is paramount. And, in order to be resilient in the future, we have to invest in certain capabilities now.

Where does Deutsche Telekom stand on open innovation models?

— We believe in openness, interoperability, inspiration, collaboration, and sharing. We believe that the future of the telco industry will be built on open, disaggregated, and “softwarized” infrastructure.



SCALING INNOVATION

How do you scale innovation from lab to market?

— In the past five years, we at Deutsche Telekom have switched priorities. Number one is: start small and get early feedback from customers. We had to get away from spending months and months on creating plans in PowerPoint, planning everything in detail, and then building up an organization that is dramatically oversized.

Then, it is very important to analyze the customer feedback; for instance, to look at the Net Promoter Score of a product. Do our customers really have a good experience? From the very beginning, together with our NatCo companies across Europe, we agree on priorities and joint objectives in terms of scaling. For instance, when we develop a router operating system, what is our target in terms of homes where that is implemented by year-end? Without the markets agreeing on scaling parameters, this would not work. It's not perfect yet but we have more and more success stories.

How do you promote a culture that motivates employees to innovate?

— As I said earlier, innovation is not a department. It's a mindset and a culture that runs through the company. You find innovation everywhere.

I also believe it is not about motivating people to innovate, it's about making them feel free to do so. We must create boundary conditions, which give space for outside-the-box thinking, giving people some money to play with. Conditions in which the focus is clear and where failure is accepted. We have created a fluid, modern setup called a Chapter Tribe organization. Under these conditions, all employees within the IT, product, and central technology units are allocated to capability chapters, and from there assigned to projects. If a given project doesn't fly, the individual can move on to a different one. This model creates a culture of psychological safety, which I believe is critical.

INNOVATION AND SUSTAINABILITY

What is the role of innovation in improving sustainability?

— It is key. Let me touch on green sustainability first. Without digital technologies, we would never be able to become a carbon-neutral society. Think about hybrid work. Think about technology like IoT that allows targeted application of fertilizers, for example. Think about the need to

measure CO₂ in supply chains. We obviously need digital technologies, but technology alone will not solve all our problems.

Innovation is necessary, but is not sufficient. In Germany, we sometimes have this ideological fight about whether innovation is driving us towards sustainability or if it is about changing our usage patterns and agreeing to change certain practices. I guess the honest answer is: it's both. It's about innovation, but it's also

about changing our habits. It's the combination that will enable us to save our planet.



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"Sustainability is about innovation but also about changing our habits."

FUTURE OUTLOOK

What will the telco of the future look like?

— It will be software-defined, and it will put human beings into the center of what it does. It will be a telco that is guided by the commitment to do things that are good for human beings. It is very important to establish a governance system built around stakeholder value, rather than purely shareholder value. For the tech community, we need a strong commitment to humane, ethical technology development.



**[The future network]:
A sensing and self-healing network
that can quickly adapt
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From a technology perspective, the future production model will follow a template of rigorous automation, supported by cloud-native principles. It will be data-enabled, based on algorithms. And it will be more disaggregated than today; it will be a more open ecosystem, with – I hope – more relevant innovation. But that is just the logic in the production model. If we think further into the future, I would expect networks of networks to develop, almost like organic mechanisms, like our human brain. The networks would need to function like our brains

function: fully autonomous, but deeply reactive towards the application it serves. A sensing and self-healing network that can quickly adapt to different and new requirements.



Which technology will have the most lasting impact on our society in the next five years?



In the next decade, I see mass democratization of services. "

— Any technology that helps us to deal with the big issues: radical decarbonization, managing future pandemics, or combating cancer. In the next decade, I see mass democratization of services. Historically, only wealthy people had their own drivers, or kitchen help, or gardeners, etc. In the future, autonomous machines and robots and sensing networks will make those services available to everyone. We saw this in the last century with the invention of tools such as the washing machine, which freed our grandmothers from washing everything by hand.

Looking into the future, will these innovations necessarily lead to a better world? No. It is up to us to make the most of the opportunities and the extra time. My utopian vision is that we use it empathetically, to take care of each other. And to learn and get smarter. I believe the future can be bright, if we want it to be.

What would be your top three recommendations to help organizations become more innovative?

— First, advice for leaders: don't take yourself too seriously! Second, understand that the aim is not to invent everything yourself but to create an environment that fosters risk-taking and entrepreneurship. And, last but not least, I would say: be curious, look outside, get to know other companies, other countries, other people. Never stop being curious! And humor always helps.

**NEVER STOP
BEING CURIOUS!**



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