

A commentary by Ivo Ivanov, CEO of the Internet exchange operator DE-CIX

Infrastructure with a future: Why prosperity and the economy need a new Internet

This month, the Mobile World Congress is again sounding out the newest technological frontiers. From the question of how we will live and work with artificial intelligence (AI) through to the opportunities of 6G, Barcelona is redefining the rules of the game for the digital society and economy. A game that, in terms of the digital economy, is worth around 23% of the host country's gross domestic product, as a recent [study by the Spanish digital association Adigital](#) shows.

Digital and Internet-based applications are the basis of future value creation. There is no doubt about that, anywhere in the world. Another two facts are equally certain: On the one hand, that data-intensive AI applications, collaborative business models, and the immersive Internet will secure the prosperity of tomorrow. And secondly, that today's infrastructure is not sufficient for the applications of the future, because the speed at which data will soon have to be exchanged will make one particular metric the new currency of every digital economy: latency.

Every millisecond counts

Latency is the time that elapses during a data transfer. And wherever milliseconds matter, this makes latency a critical factor. In concrete terms: Those who travel in autonomous vehicles, for example, entrust themselves to on-board computers that have to decide within a fraction of a heartbeat where obstacles, people, or free lanes are located. The same goes when AI is supposed to ensure that people and machines work together safely in factories, or when human senses encounter immersive worlds such as in the metaverse.

Feeling, seeing and hearing – our brain needs 20 milliseconds to process haptic impressions. In 13 milliseconds the central nervous system decides what our eyes show us, and in less than 1 millisecond it is clear what our ears are perceiving. When it comes to latency, our perception is incorruptible. So incorruptible that it will be the judge of the success or failure of the metaverse. Why this is the case? Because we only fully engage with immersive applications when we experience them in the way that feels natural. In other words, if the image and audio are not synchronized, it is not simply annoying – it is unacceptable.

Less latency, more prosperity

In the Internet of the future, more and more devices must be able to transfer more and more data faster and faster. Short latency times are therefore necessary to ensure that self-driving cars are safe on the road, that robots and engineers in factories can work together without any problems, and that at least one in four Euros in Spain continues to come from the digital economy.

What is needed for the next generation Internet? Whether fiber optic, mobile or satellite network – if we want to exchange more data packets faster on the current infrastructure, then we need to pick up the pace. It is about wide-scale collaboration that places the focus on customers and applications. And not just between the network and the user, but also between different networks themselves. For example, we can do this by moving large data lines and high-performance computers closer to the places where life and work depend on intelligent applications. The goal: A dense, globally distributed and interconnected infrastructure. An infrastructure with a future, because it can be networked on a neutral and open basis via interconnection services. This creates a robust mesh network that can provide computing and storage resources with the agility that society and the

economy require – from the cloud to the server room in a factory, to the tiny edge unit in the on-board computer of a smart car.

Less latency for more prosperity – a look at the markets in which we are present with our ecosystem shows how these two concepts are connected. In Dubai, for example, latency was reduced from 200 to 3 milliseconds between 2012 and 2022. A plus in speed that inspires regional entrepreneurship: In the same period, the number of on-site data centers tripled and the number of networks increased eightfold. The same can be seen on the Iberian Peninsula: While there were 20 data centers in the Madrid metropolitan region in 2016, there are already over 30 today; 15 more are planned. And a recent study, which we conducted together with Digital Realty and the market researchers from IDG and which we will shortly be presenting in Spain, confirms this: Wherever networks interconnect, data centers are established – and this creates jobs, strengthens the economy, and secures prosperity. Every Euro invested by the Spanish data center industry contributes 7 Euro to the gross domestic product, according to the experts at IDG.

Collaboratively creating the conditions for progress

One thing is certain: Given that digitalization affects every company, it will only be successful if we as an industry solve challenges collaboratively – whether as a partner, a supplier, or an Internet service provider. Only if we create the technological prerequisites today will we be equipped for the coming years of digital progress. And only then will the immersive Internet be a sensory and economic success. The potential is there: According to an [analysis by the German statistics institute Statista](#), the metaverse is expected to generate sales of EUR 468 billion in 2030.

About Ivo Ivanov

Ivo Ivanov has been Chief Executive Officer at DE-CIX and Chairman of the Executive Board of DE-CIX Group AG since 2022. Previously, Ivanov was Chief Operating Officer at DE-CIX and was also responsible for the international business of the Internet Exchange operator as Chief Executive Officer DE-CIX International. Ivanov has more than 20 years of experience in the legal and regulatory aspects of the Internet industry.