
260924 A Digital Future That Could Be - Speech

A story about a digital future that could be. If we make it so.

Written version of the talk given by Max Schulze (Leitmotiv) on 22 September 2026 at the Data Center Summer School in Frankfurt. It's meant to be read alongside the presentation.

We've now heard everyone's stories, and I'm grateful for how openly you all shared them. Now I want to tell you mine. I want to tell you about the digital future that could be, if we make it so. It's idealistic and very long-term, but I hope it can serve all of you as a north star for the work tomorrow.

There is no such thing as regional digital infrastructure

(Slides 8–9)

Let me start with something that may sound odd at a gathering of regions: there is no such thing as regional digital infrastructure. It's always global, or at the very least European.

Data centers are the back end of value creation. They are local energy transformers. They turn electricity into compute and storage (digital resources) and send it out through fiber cables into a global economy. But most of the value gets created somewhere else.

So European regions don't need to compete for data centers. They need to work together to make this infrastructure the way we want it to be, because it will power our transformation toward a digitalized society and economy. Or, in the words of the EU, "to become an AI continent" and "for our digital decade".

I'll be honest with you: I have tried to bring regions together on this, and it remains difficult. The competition, even within the EU, is still real. In traditional economic development terms it makes sense: you attract the factory, you get the jobs, you get the tax base. But digital economic development doesn't work that way. So I hope that after this summer school you can help me bring European regions together, set requirements and standards together, and shape the infrastructure of Europe's digital future together. I can't do it alone.

With that in mind, let's start.

What the digital economy actually looks like

(Slide 10)

As always, I start with the digital economy itself. What does it actually look like?

At Leitmotiv, we use a simple taxonomy. On the left are the **system inputs**: energy, water, raw materials like rare earths and metals, chemicals like refrigerants, capital, labour and land. These inputs go into **digital resource production**: the digital infrastructure made up of IT equipment (servers, GPUs), network equipment (switches, routers), mechanical and electrical equipment for cooling and power, the data center building, and the fiber connecting it all.

What comes out of this is a **digital resource**: compute and storage. That digital resource is then used for **digital service production**. A business model and a technology combine into the digital services we all use every day.

At the end are the **system outputs**: the number and quality of digital services and digital resources produced, productivity gains in other industries, and environmental impact in the form of carbon emissions, e-waste and resource depletion.

Underneath all of it sits the global market, which is the internet: a free flow of trade that is mostly unregulated.

Localized costs, globalized benefits

(Slide 11)

Seen from a region, one feature of this economy stands out: **the costs of the digital economy are very physical and very local, while the benefits are widely distributed and global.**

- **Mining**, largely in Africa and South America, carries huge environmental costs and serious labour issues.
- **Hardware and chip production** happens mostly in Asia, with its own environmental and labour costs.
- **The facilities** are spread across the world and across Europe, concentrated in a handful of regions. They bring environmental impact, noise, pollution, land use and a great deal of energy use.

The cooling, the electricity, the land and the fiber cables are all local. The value created from the digital resources and the digital services is global.

We've seen this before: the financial markets

(Slide 12)

None of this is new. Global financial markets created something very similar. Through the stock market I can own part of a chemical plant in the United States while sitting in Europe. The costs and impacts stay local to that plant, and the dividends end up with me in Europe.

I'm not here to talk about the problems of global capitalism, but the comparison helps. Notice one difference, though: stock exchanges, and exchanges in general, at least leave some national benefit behind. They create hubs, jobs and side effects in places like Chicago, New York and Frankfurt.

The digital economy works the same way. A European data center produces digital resources for a foreign cloud, which a European or foreign digital service then buys and uses. The costs are local and the benefits are global. In between there's no exchange that leaves anything behind in the region.

Both are enabled by global connectivity

(Slides 13–14)

What matters is that both systems are enabled by the same thing: global connectivity.

The internet, and the fiber networks underneath it, have made global trade possible at unprecedented speed and scale. Global trade plus global connectivity equals global trade at an unprecedented speed and scale.

What the digital economy adds

(Slide 15)

The digital economy adds two new things to global trade: **digital resources**, meaning compute and storage, which are at heart commodities, and **digital services**, which need those commodities to function.

The factories that produce digital resources are data centers. They turn energy into digital resources using hardware made predominantly in Asia. The factories that produce digital services are the tech startups and conglomerates around the world, heavily concentrated in the capitals and financial centers: Silicon Valley, New York, London, Berlin, Paris, Frankfurt.

For Europe, data centers produce environmental, social and political costs, and the real returns are made elsewhere, by turning those digital resources into digital services. The digital services don't pay for those local costs, because the costs aren't priced into the digital resources.

As regional governments, only you can make sure those costs get priced in, by making sure data centers pay adequately for the impact they create. But doing that makes you less competitive against other regions. That's why it matters so much that, at least in Europe, we harmonize how data centers compensate for their local impact.

A concrete example: where the value goes

(Slide 16)

To make this tangible, take one example: an AI product like Claude from Anthropic. The subscription is paid to a US entity. The proprietary models run on digital resources bought from Amazon Web Services. AWS in turn relies on IT equipment from manufacturers such as Quanta, HPE and Supermicro, and on network equipment from Juniper, Nvidia and others. The building may be developed and operated by a company like Yondr.

Only at the very bottom of this chain do we reach the region: the data center building, the cooling, the electricity, the land and the fiber cables. That's where the costs land. Almost all the value is created and captured in the layers above.

Issue #1: compensating local impact

(Slides 17–18)

This is the first issue: **how do we make sure data centers compensate for the costs of the local impact they create?** In other words, how do we get local costs priced into the digital economy?

And with that comes the first dilemma: **we have competition, not consensus**. European regions are competing for data centers instead of harmonizing their requirements.

There's an opportunity coming from the European Commission here, through the Delegated Act under the Energy Efficiency Directive, which we'll look at together tomorrow.

The alternative: localize the benefits

(Slide 19)

Pricing in local costs is a band-aid, though. The real question, and the 'leitmotiv' (vision) I want to share with you today, is how we can also **localize the benefits**, both from producing digital resources and from digital services, so that the value creation stays in the region.

If our bet is to digitalize our economies and societies, and it seems it is, then securing local benefits from that process is essential. It's how we get engagement, progress, and the political and social will to go through this transformation. That will is exactly what's missing right now. When people are told to adopt AI to be more productive, more and more Europeans ask: What's in it for me? How does this improve my quality of life? How do I benefit?

At the end of the day, productivity on an individual level is about individuals competing against each other, and that's not what Europe is about. We are social democracies. We act together, and the state makes sure we benefit together.

Imagine a different data center

(Slides 20–24)

So let's sketch out the alternative. Because this summer school is about data centers, let's start with the one we might actually want in our regions.

Instead of an anonymous warehouse on the outskirts of town, with large fans, chillers and a high security fence, imagine the data center **in the middle of town**. It's a smaller building, green and well integrated into the town's living environment. Maybe it's partly underground, or spread over two or three levels, with one level for offices and education.

Its heat is reused right there, in the public space or in the buildings next door, without needing a large district heating system. It isn't really a data center anymore. It's more of an educational center, where people learn skills for building digital services and learn about the region's plans for its digital transformation.

Maybe it's owned partly privately and partly by the region. Maybe it's **owned by the citizens themselves**.

We'll probably still need some large facilities in the countryside. But what if they weren't fenced-off anonymous warehouses, and were instead part of an industrial or agricultural ecosystem built around them? They could share a grid connection and a battery park that supports the grid, and transform energy back and forth between electricity, heat, steam and motion. Think of **energy hubs** where the data center is the anchor: the stable energy storage and heat-generating facility. It might be **co-owned** by the surrounding industries, or by a consortium of local businesses with the state as a minority shareholder. Who knows?

That already sounds better. And I'm sure many of you can imagine something even better.

But that's still only a small fraction of the value

(Slide 25)

Yet none of this really localizes the benefits. The biggest benefits come from what gets produced inside the facility: the digital resources traded across the globe over the internet, and the digital services built on them and used by people locally.

Those benefits can be localized at many levels of value creation, starting with the data center itself.

Seven ways to localize the benefits

(Slides 26–32)

Option 1: Locally owned digital infrastructure. The data center could be locally owned, so the profits from rental and electricity sales stay in the region. The fiber cables could be locally owned, by the municipality or the state.

Option 2: Localized materials and construction. It could be built with local materials, reused, recycled or new, from a local supply chain, and built and maintained by local businesses, even when the owners are foreign.

Option 3: Local IT equipment and e-waste refurbishment. Data centers generate a lot of IT equipment waste. It could be refurbished or recycled in the region by local businesses and sold on secondary markets inside or outside the region, or even back to the data center itself.

Option 4: Local businesses add value to locally produced digital resources. Traditional businesses going through their own digital transformation could use the locally produced digital resources to build their own digital services.

Option 5: Local IT businesses create and sell services on local digital resources. Local IT companies could run the services they build, for customers inside and outside the region, on locally produced digital resources. That can give them a competitive advantage, support local value creation and integration, and reduce compliance risk under GDPR and the Data Act.

Option 6: Local entrepreneurs create new digital services for the region. Local entrepreneurs could build digital services specifically for their region, as startups running on local digital resources. Global digital services could simply be re-created locally, by local entrepreneurs using local IT services and capacity: food delivery, taxi ordering, public transport apps, social media.

Option 7: Global digital services served from local infrastructure. Global digital services could be required to localize, delivering their services from a local data center and bringing part of the value creation into the region. Uber, or any other digital service, can deliver its service from local digital infrastructure and share more of that value.

Especially with AI, the cost of building digital services has become very low. Nothing is stopping us from re-creating services locally. As a whole system it's less efficient, but it keeps the benefits local and lets each region tailor services to its own culture and needs. These services could also be made interoperable, something that has been blocked for a long time, so that when someone moves from one region to another, their services keep working in the new local context.

All of this is possible

(Slide 33)

Building good, local data centers: possible. Producing digital resources locally, in a regional cloud: possible. Re-creating digital services locally: possible.

It sounds complex, but it really isn't. Yes, it requires capacity in a region, and some regions won't have it or won't want to invest in building it. Mostly, though, it requires making room in today's highly concentrated digital economy and infrastructure for alternatives to emerge.

What it takes

(Slide 34)

- **Political will**, first and foremost.
- **Capacity building** for entrepreneurs, digital services, data center construction, IT refurbishment and more.
- **Good policies** that create space for a local digital economy to emerge and grow, with encouragement, incentives, new ownership structures and clear requirements for anyone who wants to operate in the region.
- **Community**.

Many regions across Europe already have some of these pieces. Few have brought them together into a local digital economy strategy that is systemic enough to localize benefits in a market this concentrated, one dominated by a handful of companies that outweigh even nation states in heft, power and wealth. So the extraction continues. The costs stay local, the benefits go elsewhere, and people feel more and more left out.

But an alternative is possible. I've worked on digital services and infrastructure for most of my life, and I can tell you with complete certainty that this is achievable. Ten or fifteen years ago it wasn't. Today it is. All the building blocks and tools exist, and most of them were built by volunteers as open source, free to use without a licence. What's needed is someone to build the nest a local digital economy can grow from, and to nurture a long-term strategy until it blossoms.

Let's make the possible, possible

(Slide 35)

The experts in this room and I are all here to help. Tell us what you need. Tomorrow we'll work through what it takes, where you need help, and which policies and actions you can take home. Do you need political support or political will? Tell us, and we'll do what we can to create it.

We have to create our own digital future: one that is sustainable, in line with our values, and centered on the needs of our people and our regions.

Let's make the possible, possible.

Contact Max Schulze, Leitmotiv, a think-and-do-tank for an alternative digital economy
m@leitmotiv.digital · leitmotiv.digital