

Editorial

Are Digital Infrastructures Ready to Scale?

Stephanie Eckermann

Yes, they are. The securities services industry is at a tipping point of its digital transformation and will now see industry solutions to scale. We identify three fundamental drivers being adopted more broadly: cloud migration, data, and digitization. This triage also drives the scaling of Clearstream's digital infrastructure D7, one of the leading digital infrastructures globally.

At Clearstream, technology at scale is at the core of our business. We hold around 40% of all Eurobonds as well as around 10% of all fixed-income assets globally in our custody, and we settle 1.2 million trades each day. More than half of all T2S transactions go through our books.

This kind of scale has been delivered for decades to our clients and our supply chain partners by our own servers on premise ensuring the resilience and high levels of efficiency that are critical to us. Still, we see this

technological context to change now and digital infrastructures to scale. And the triage of cloud migration, data, and digitization will drive this development.

As for many other companies, cloud is the basis of our digital transformation at Clearstream. Though the cloud journey has its challenges, from a technical and a regulatory point of view, our strong conviction remains that, without cloud, unlocking the benefits of data and AI as well as digitization would prove much more challenging. Apart from the rich tooling coming with it, cloud enables us to improve our time-to-market capabilities significantly.

In 2018, we started to move our on-premise hosting to the cloud on a phased basis, starting with development and functional testing. In 2021, we moved to acceptance testing and this year to non-core production. Our initial goals, increased agility and resilience, have been achieved.



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The second driver besides cloud clearly is data. Having migrated much of our infrastructure to the cloud, we wanted to unlock the enormous data benefits as an early deliverable. We started the development of our Clearstream data layer in 2021, delivering data analytics for our business and for our clients.

We transmit around 2 billion pieces of information per year to our clients – an average of almost 8 million per day. It is an enormous data and data transport challenge, and the volume keeps increasing. Our data lake currently holds 40 TB of data volume, yet it is still in its infancy. We are increasing capacity at 0.5 TB per day. To support this, we have established over 160 ETL (extract, transform, and load) pipelines to load data from on-premise to the cloud.

The biggest challenge of our industry though is not the ability to process large amounts of data, but to work with high-quality data. And here the third driver, digitization, plays an

important role to set digital standards with clean sets of data.

While digital assets might be considered as being in a more muted market phase due to the "crypto winter", we are seeing increased interest in successful digitization use cases that offer both the benefits of digital transactions and a regulated environment. With D7 as our digital infrastructure, we invest in use cases to digitize assets in regulated markets together with our clients – be it retail structured products under German eWpG or bonds under MiCA in the EU. Thus, we are one of the leading digital infrastructures in securities services globally with over 7,000 digital issuances and a volume of more than EUR 3 billion to date.

Finally, our conviction is that the triage of cloud, data, and digitization will herald a new era of financial services innovation, both in digital securities and in data services.