

100Gbps Ring Connection Around the Globe Supercharges EU-Japanese Science Collaborations

Scientific communities across Europe and Japan are set to benefit from the recent interconnection upgrade to 100Gbps between the pan-European GÉANT network and the Japanese Science Information Network (SINET), operated by the National Institute of Informatics (NII).



Picture SINET international connectivity development (before / after 1 March 2019) - courtesy of NII



Globe-Spanning High Capacity

The new GÉANT-SINET interconnection in Amsterdam is part of the deployment of NII's globe-spanning ring of 100 Gbps links from Tokyo to Los Angeles, across to New York, on to Amsterdam and from there back to Tokyo.

In addition, NII has also upgraded SINET's intraregional capacity within Asia at 100 Gbps between Tokyo and Singapore, contributing capacity to the regional TEIN backbone.

Demand-Driven Upgrade

The capacity boost comes in response to the increasing data transfer requirements of cutting-edge large-scale research projects, along with the demands from cloud computing and developments in artificial intelligence (AI)

and Internet of Things (IoT) research.

The capacity upgrade from 20 to 100 Gbps is set to accelerate in particular EU-Japanese collaborative scientific research on the Large Hadron Collider (LHC) experiments, the Belle II electron collider facility due to become operational next year at KEK in Tsukuba, with large parts of computation and storage resources being hosted in Europe, the ITER energy fusion reactor, the worldwide e-VLBI radio-astronomy network, and the Hayabusa2 and BepiColombo satellite missions, jointly operated by the European Space Agency Operation Centre (ESOC) and the Japanese Aerospace Exploration Agency (JAXA).

More information:

www.sinet.ad.jp

“Over the last few years we have come a long way. Up to 2016, connections between GÉANT and SINET had been achieved by peering in North America. Subsequently, SINET brought 2 x 10 Gbps directly to GÉANT which meant that we could jointly support European and Japanese researchers in their cutting-edge scientific endeavours with faster and higher capacities as well as lower latency. As anticipated, we have since seen a major ramp-up of traffic exchanged over our networks as further EU-Japan user projects have come to fruition. We therefore welcome this substantial capacity upgrade in support of these exciting scientific ventures.”

Erik Huizer, CEO GÉANT

“With its 100 Gbps full-mesh backbone, SINET5, the current network iteration launched in 2016, has opened up new possibilities for 3 million users at over 900 connected universities and research centres across Japan. Enhanced international connectivity, including a direct, high-capacity connection to Europe, is a vital element of NII's strategy to support our user communities. We are very proud to have implemented this ultra-high-speed global network infrastructure, a milestone that will undoubtedly contribute to advancing global scientific research.”

Shigeo Urushidani, Deputy Director General of NII