

3D
EISCAT

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EISCAT Association

Current Associates



Forskningsrådet,
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Suomen Akatemia,
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Vetenskapsrådet, Sweden



CRIRP, PRC



NIPR, Japan



NERC
UKRI, U.K.

Affiliates



KOPRI & KASI,
S. Korea



DLR-SO, Germany

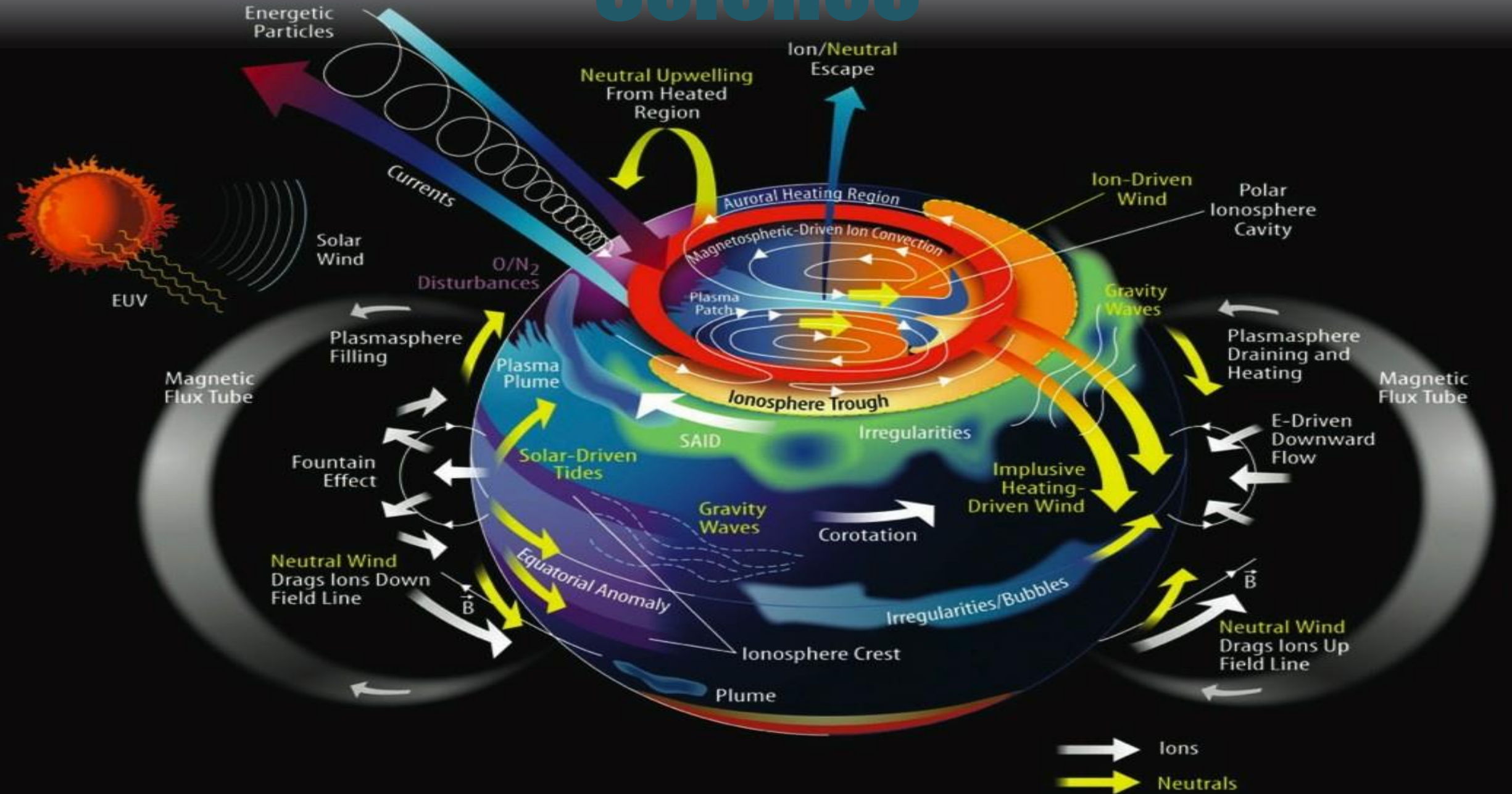


IRA, Ukraine



METI Int, U.S.

Science



Old



Skibotn, Norway



Skibotn, Norway



Skibotn, Norway



3 sites option for 5
10 000 antennas each
5 MW transmit power
2000 TB / year data
Operation starting 2024
Ready, probably never

Karesuvanto, Finland



Karesuvanto, Finland



Installation work

Antenna structures ready in all sites

Electrical and fiber installations started

- Norway & Sweden ready by mid-summer
- Finland later summer

Container preparations during summer in Norway and then instrument installations starting August.





Transmitters

- One channel 500W peak 25% duty cycle
- First stage 3.5 MW design up to 10 MW peak

Exciter, PSCU

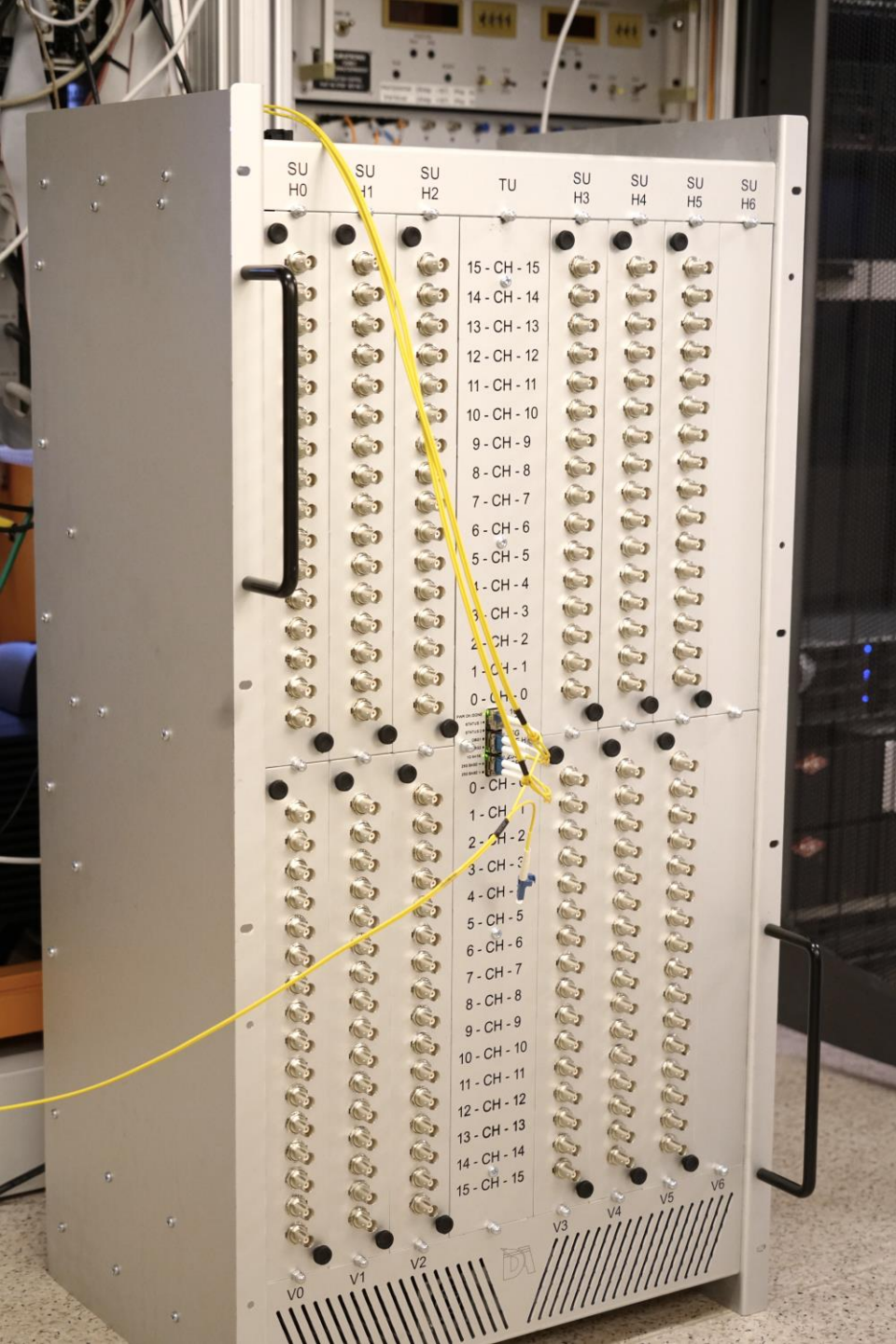
- 16 channel arbitrary waveform generator
- 52 MSPS independently to each polarizations
- Digital upconverter with phase shift

Receiver

- 182 channels
- 104 MSPS ADC Nyquist sampling
- 233 MHz +/- 15 MHz analog bandwidth
- First level of beamforming in FPGA
- 10 independent beams
- One 25 GbE link for both polarizations
- True Time Delay filters

Timing & synchronization

- CERN White rabbit network synchronization
- 9.6 ns resolution <100 ps uncertainty to master clock
- All times are UTC



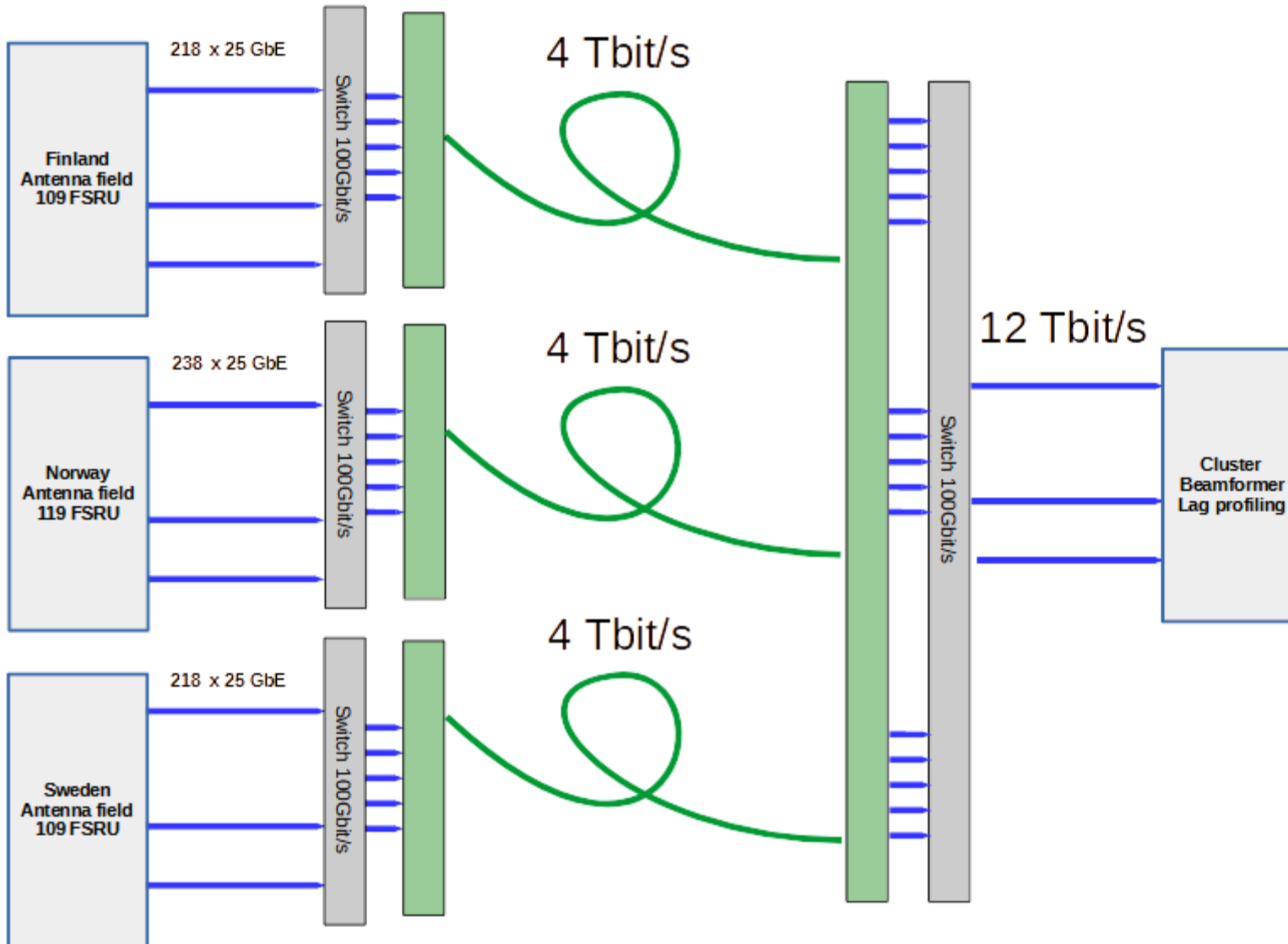
Transmitters, SAT



Computing network

Sites

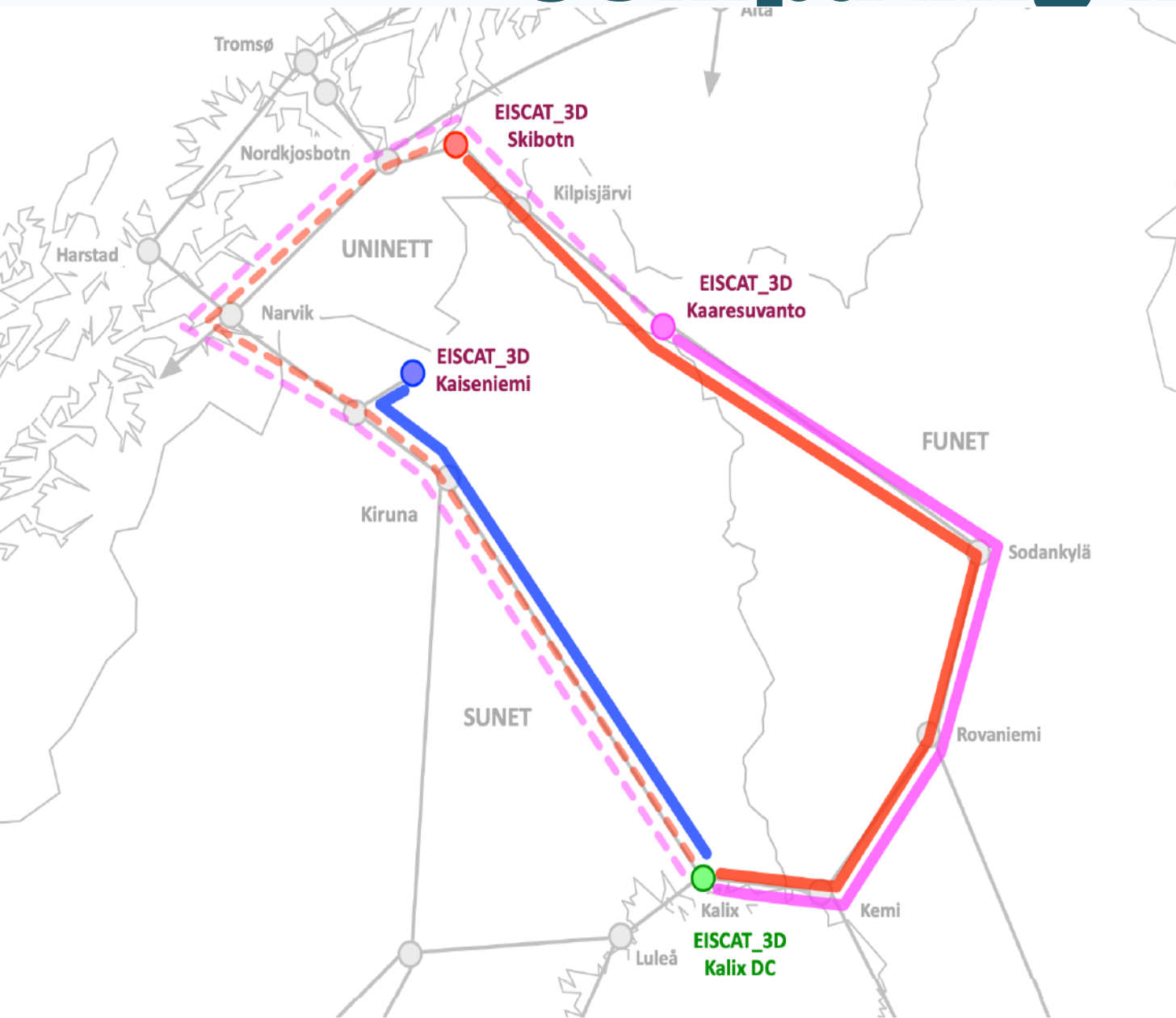
Data Center



An optical ring of 3 sites and a data center will be constructed.

From each site there is a logical point-to-point connection to the data center.

Computing network

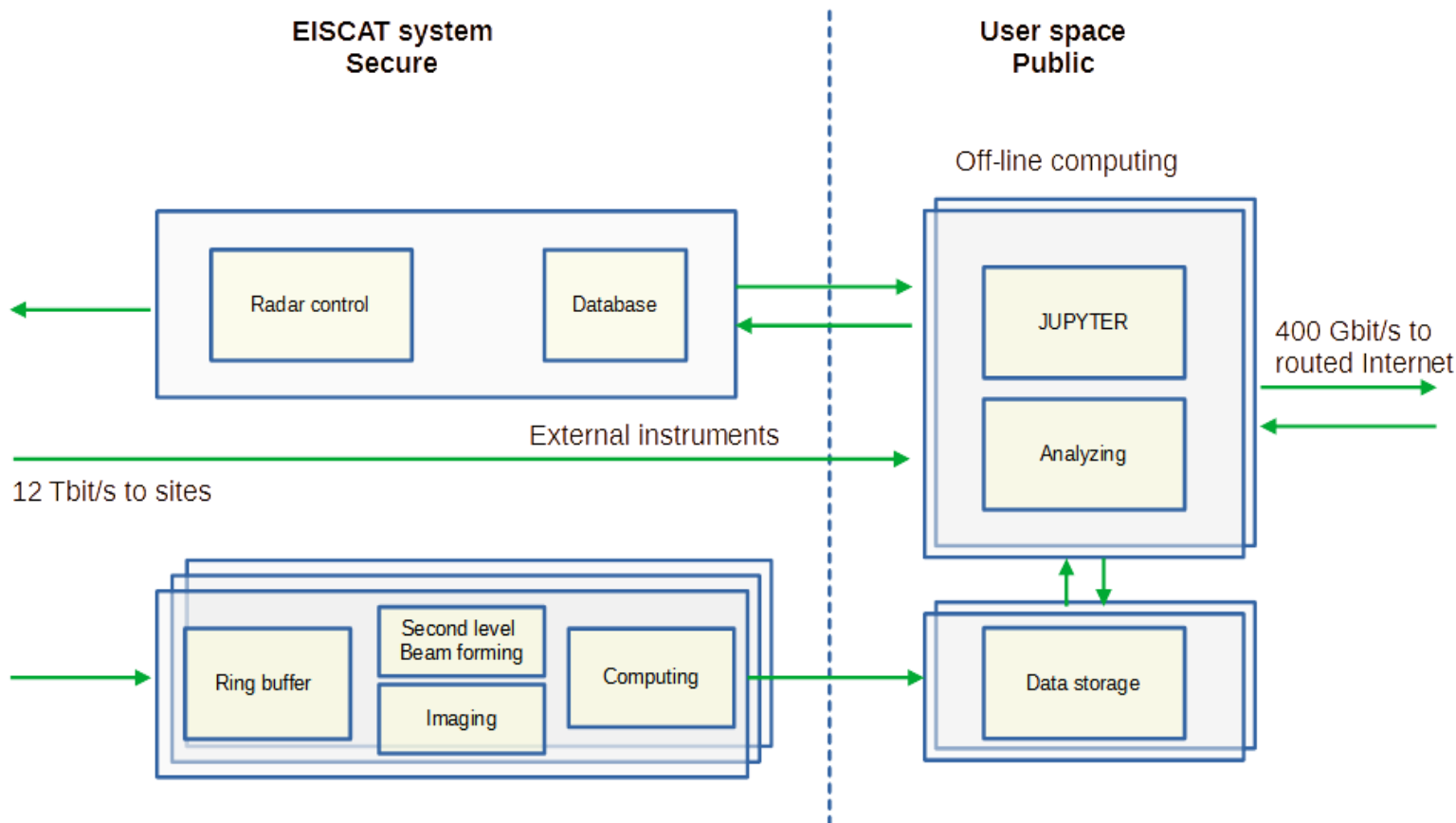


All equipment already received and are installations work. NO and FI installations May - June. SWE later this summer.

Control and data center will be in Kalix. Fibers are connected and line systems installed.

Operations room will be in Kiruna.

Control and Data center



Control and Data Center will be in SUNET Orion DC in Kalix. Includes EISCAT secure control and computing and computing for users.

User space can be located into different places.

400 Gbit/s connection to SUNET network. Can be used to share storage and computing with other datacenters.

Additional instruments at the site can be connected directly to the user space.

Antenna Unit



System

