



**EUROPEAN
SPALLATION
SOURCE**

ESS IT investments required for operation

Supporting scientists from proposal to publication

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Introduction

Supporting science from proposal to publication

The purpose of the ESS investments for scientific computing is to ensure the hardware and software capacities needed to construct, commission and operate ESS as the worlds most powerful neutron spallation source. ESS will need equipment in the following categories:

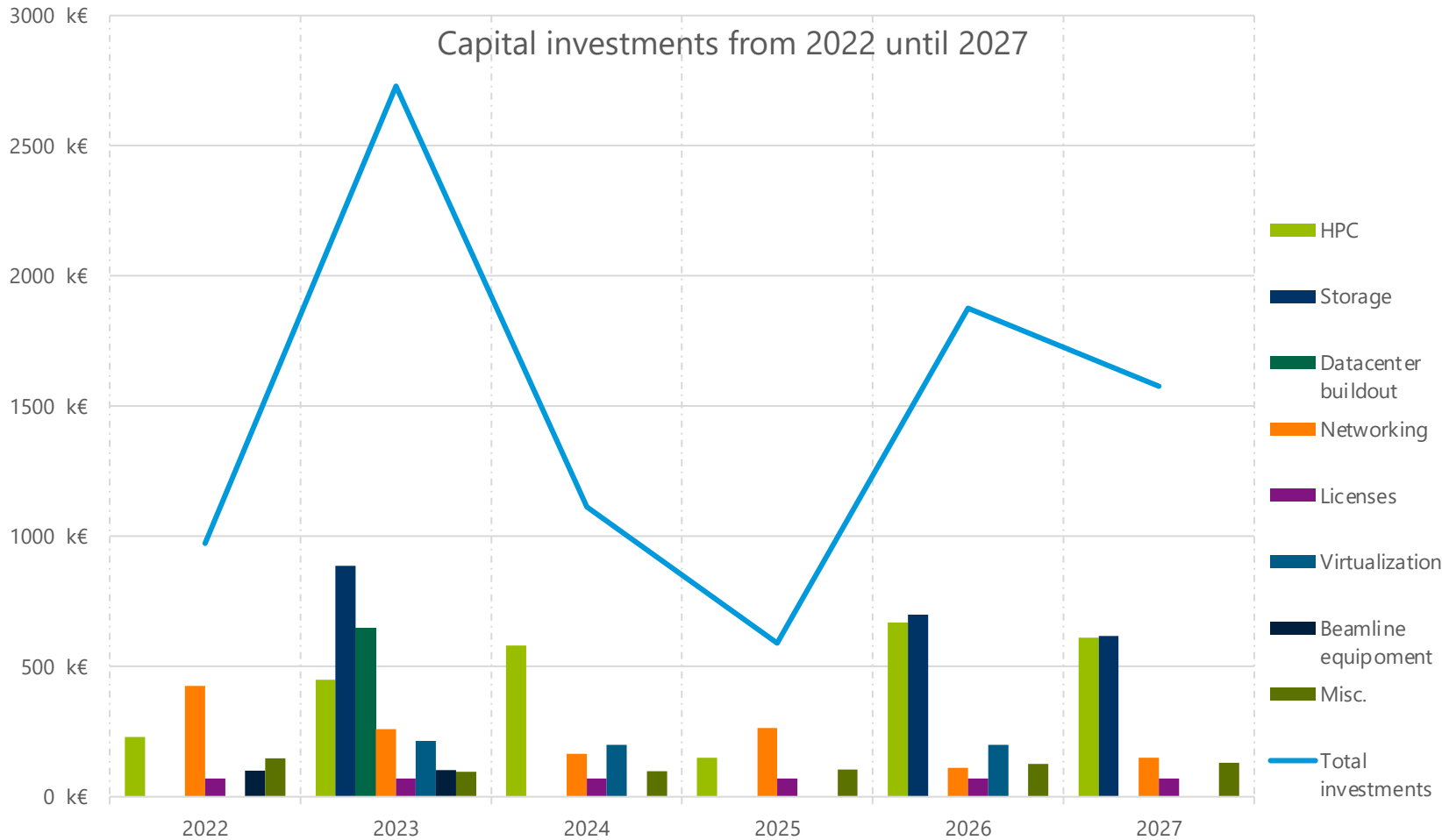
- Datacenter buildouts
- Storage systems
- HPC compute capacity
- Virtualization hardware
- InfiniBand
- 1GBE, 1GBE and 100GBE Ethernet equipment
- Licenses
- Misc. minor stuff

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Overall Investment budget

Data acquisition, experimental data storage and scientific computing



Total budget: 8857KEUR



2022 Investment plan

Focus is on core networks

Procurement	Expected timeline	Expected value	Procurement type
HPC nodes	Completed	170KEUR	Tender
InfiniBand core switches	Completed	200KEUR	Tender
High-speed Ethernet switches	H2 2022	180KEUR	Tender
Workstations	H2 2022	50 - 100KEUR	Tender and framework agreement
Licenses	Partially completed	70KEUR	A series of RFQs
Misc.	Partially completed	148KEUR	A series of RFQs
Total 2022 investments		973KEUR	

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2023 Investment budget

Preparing for hot commissioning of instruments

Procurement	Expected timeline	Expected value	Procurement type
HPC nodes	Q2 2023	150KEUR	Tender
InfiniBand equipment	Q2 2023	150KEUR	Tender
High-speed Ethernet switches	2023	260KEUR	Tender
Virtualization	Q3 2023	215KEUR	Tender
Datacenter buildout	H1 2023	650KEUR	Tender
Workstations	2023	50 - 100KEUR	Tender and framework agreement
Licenses	2023	70KEUR	A series of RFQs
Misc.	2023	95KEUR	A series of RFQs
Total 2023 investments		2729KEUR	





2024 Investment plan

Preparing for hot commissioning of instruments

Procurement	Expected timeline	Expected value	Procurement type
Data acquisition build up and HPC	Q2 2024	580KEUR	Tender Tender and framework agreement
High-speed Ethernet switches	2024	165KEUR	Tender
Virtualization	Q2 2024	200KEUR	Tender
Workstations	2024	50 - 100KEUR	Tender and framework agreement
Licenses	2024	70KEUR	A series of RFQs
Misc.	2024	98KEUR	A series of RFQs
Total 2024 investments		1113KEUR	





2025 Investment plan

Keeping status quo – hardware replacements mostly

Procurement	Expected timeline	Expected value	Procurement type
HPC nodes	Q2 2025	150KEUR	Tender
High-speed Ethernet switches	2025	265KEUR	Tender
Licenses	2025	70KEUR	A series of RFQs
Misc.	2025	105KEUR	A series of RFQs
Total 2024 investments		590KEUR	





2026 Investment plan

Building up as instruments comes online

Procurement	Expected timeline	Expected value	Procurement type
Data acquisition build up and HPC	2026	690KEUR	Open Tender and framework agreement
Storage systems	2026	700KEUR	Tender
High-speed Ethernet switches	2026	110KEUR	Tender
Virtualization	2026	200KEUR	Tender
Licenses	2026	70KEUR	A series of RFQs
Misc.	2026	125KEUR	A series of RFQs
Total 2024 investments		1875KEUR	





2027 Investment plan

Operations (Start of User Programme)

Procurement	Expected timeline	Expected value	Procurement type
Data acquisition build up and HPC	2027	610KEUR	Open Tender and framework agreement
Storage systems	2027	617KEUR	Tender
High-speed Ethernet switches	2027	150KEUR	Tender
Licenses	2027	70KEUR	A series of RFQs
Misc.	2027	130KEUR	A series of RFQs
Total 2027 investments		1577KEUR	





Practicalities

ESS Tendering and Procurement processes

- ESS will run a mix of procurements through open tenders and through framework agreements.
- Interested vendors can gain access to open and upcoming procurements on the ESS procurement portal: <https://www.kommersannons.se/ess/>
- The depicted schedule might change due to delays in the construction and commissioning of ESS as a facility

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Finish presentation