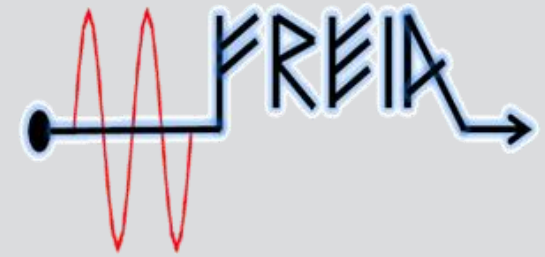




UPPSALA
UNIVERSITET



FREIA Laboratory

Facility for Research Instrumentation and Accelerator Development

Uppsala University
Organization for the DFH Project

DFH Collaboration Meeting

CERN, 10 December 2019





Facility for Research Instrumentation and Accelerator Development

Funded by
**KAWS, Government,
Uppsala Univ.**

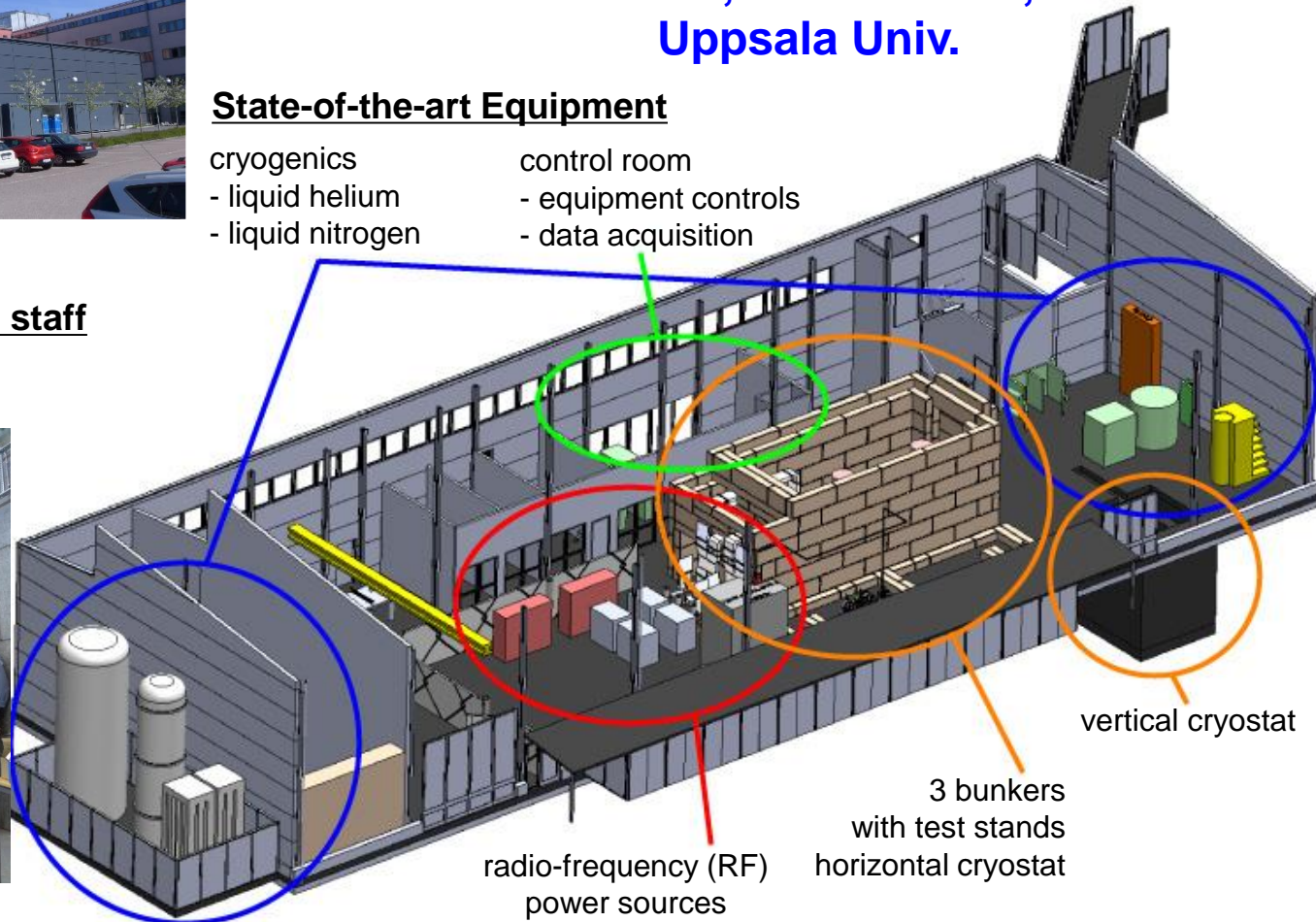


State-of-the-art Equipment

- cryogenics
 - liquid helium
 - liquid nitrogen
- control room
 - equipment controls
 - data acquisition

Competent and motivated staff

collaboration of physics (IFA)
and engineering (Teknikum).



<https://www.youtube.com/watch?v=q6vumxZqW0o>

“HNOSS” Horizontal Cryostat

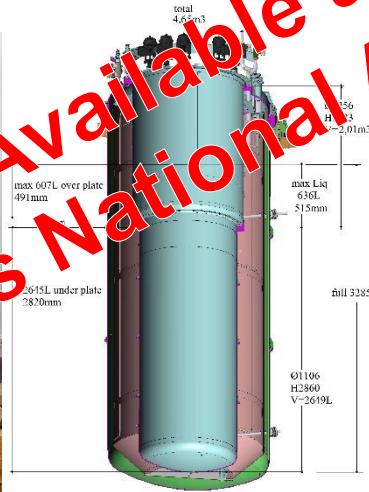
HNOSS = Horizontal Nugget for Operation of Superconducting Systems

- Test of superconducting cavities/devices
 - 3240 x \varnothing 1200mm inner volume
 - up to **two cavities** simultaneously,
 - each equipped with helium tank,
- Low or High power RF testing
 - fundamental power coupler (**top, bottom, side**)
 - (cold) tuning system
- Operation in the range 1.8 to 4.5K.



Under commissioning

- Test of SC cavities & magnets (<350kJ)
 - 3.2m x \varnothing 1.1m total volume
 - 2.65m x \varnothing 1.1m below lambda plate
 - design includes joint for lambda plate
- Three operation modes
 - vacuum; liquid bath; pressurized (bath with 2K heat exchanger)
- Operation in the range 1.8 to 4.5K





1. UU funding
 - received from the Swedish Science Council order of 10 MSEK (~ 1 MCHF)
 - internal UU discussion to absorb funding shortage
will be used for work done internally at the university (salary, travel)
2. K-contract CERN – UU
 - order of 1 MCHF (~10 MSEK)
3. Procurement contract
 - UU – RFR
 - UU – other subcontractor (if needed)



People Involved



- Physics department
 - Olof “Charlie” Karis – department head

- Physics department – FREIA Laboratory
 - Tord Ekelöf – division head
 - Roger Ruber – general project management
 - Kevin Pepitone – research engineer, accelerator systems
 - Rocio Santiago Kern – research engineer, cryogenics and cryostats
 - Johan Eriksson – research engineer, mechanics
 - other colleagues as needed

- Central administration - Procurement department
 - Gunilla Petersson – procurement officer
 - Johan Asker – legal division