



EUROPEAN
SPALLATION
SOURCE



Danmarks Tekniske Universitet



Contractor
Russian and European
for Large-scale Res



The European Spallation Source

*Allen Weeks, Head of Communications, External Relations and In-kind
October 2017*

Neutron science



Energy

Environment
and climate

Medicine
and health

Electronics and IT

Manufacturing
and industry

Natural world

Heritage science



Hydrogen-fuelled
society

Sub-zero survival

Disease resistant crops

Tackling chemical waste in the
pharmaceutical industry

Tracking cholesterol

Super
superconductors

Enhanced oil recovery

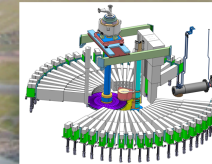
Infection sensors

Flexible plastic
solar cells

Stress relief in the air

ESS High level design

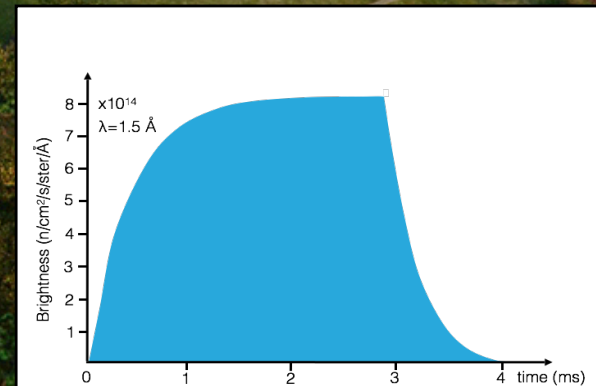
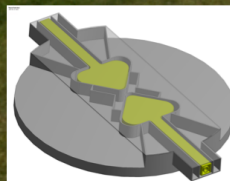
World Leading High
Power
(%MW Accelerator
means more
neutrons



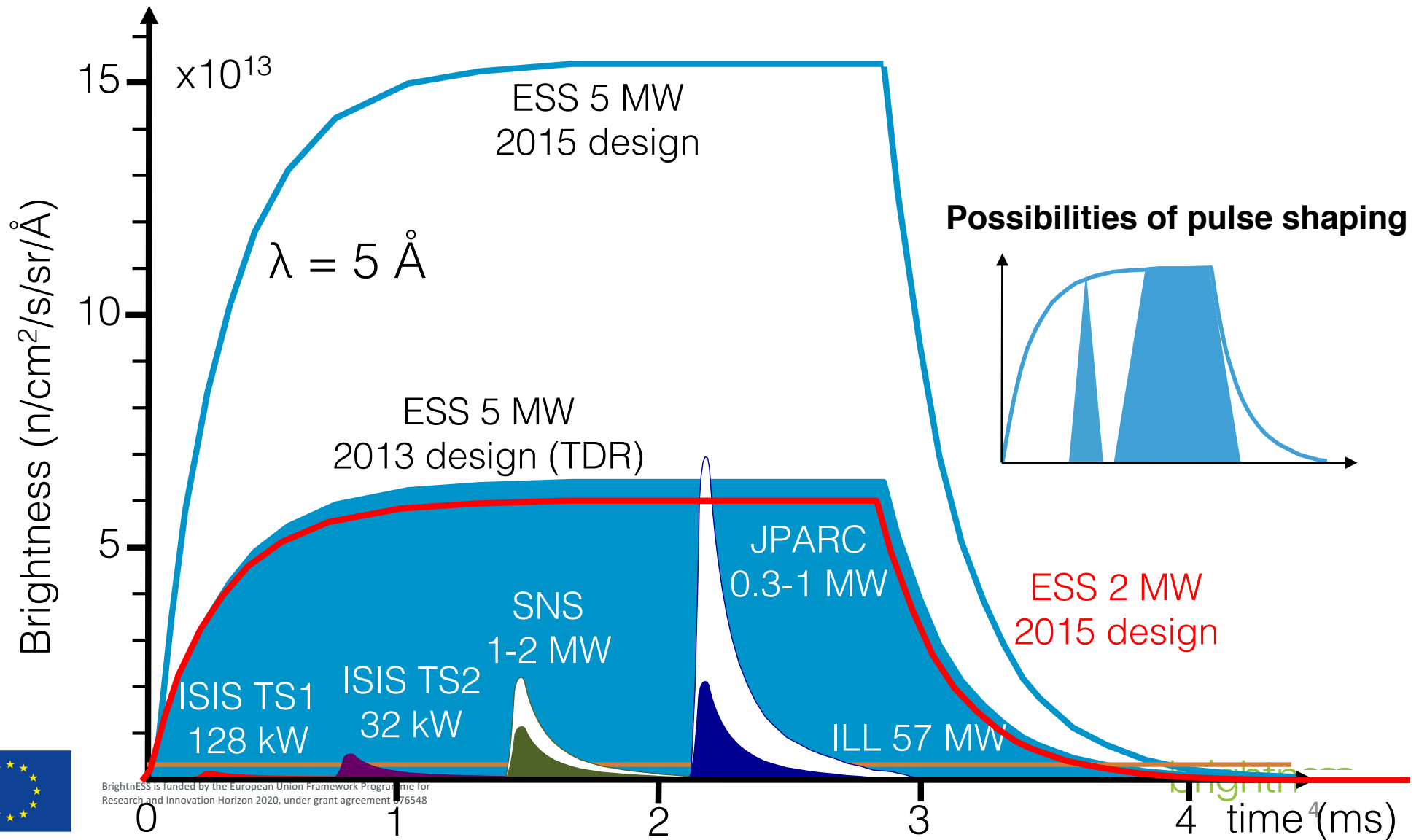
An Innovative Target Station that
can host >30 instruments

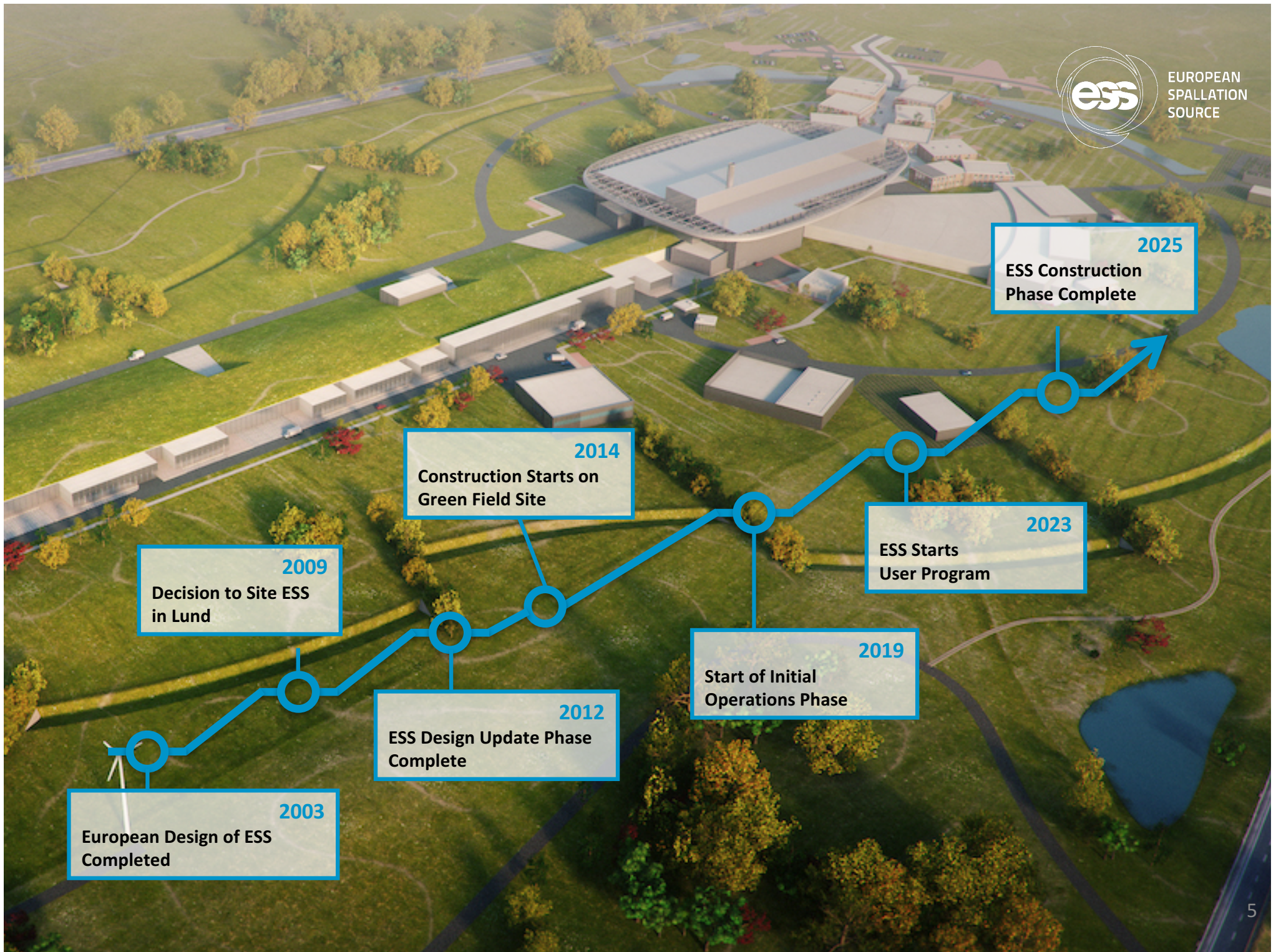
High brightness and tuneable resolution makes new
measurements possible

moderator delivering smaller and
brighter neutron beams

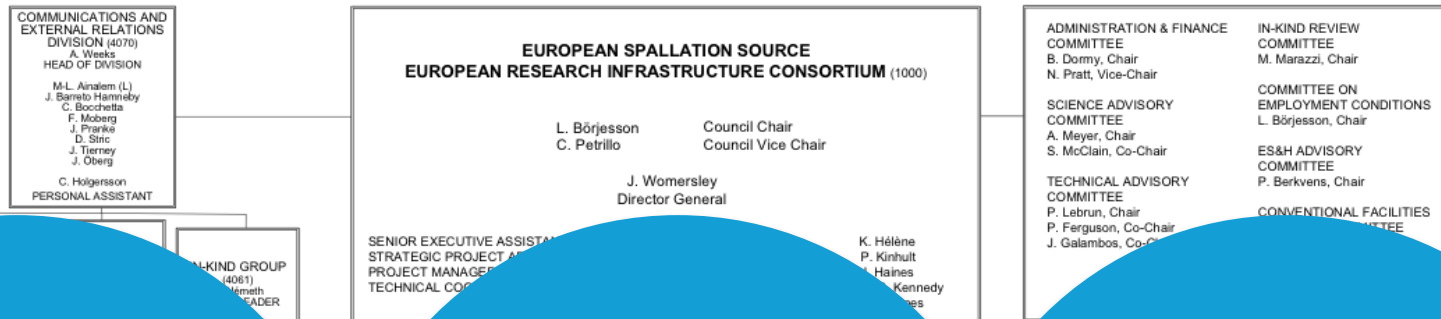


Long-pulse performance





Organisation and People



425
Employees



48
Nationalities



~ 100
Collaborating Institutions




BrightnESS is funded
Research and innova

Framework
er grant ag

Financing includes cash and deliverables



The European Spallation Source ERIC established in 2015

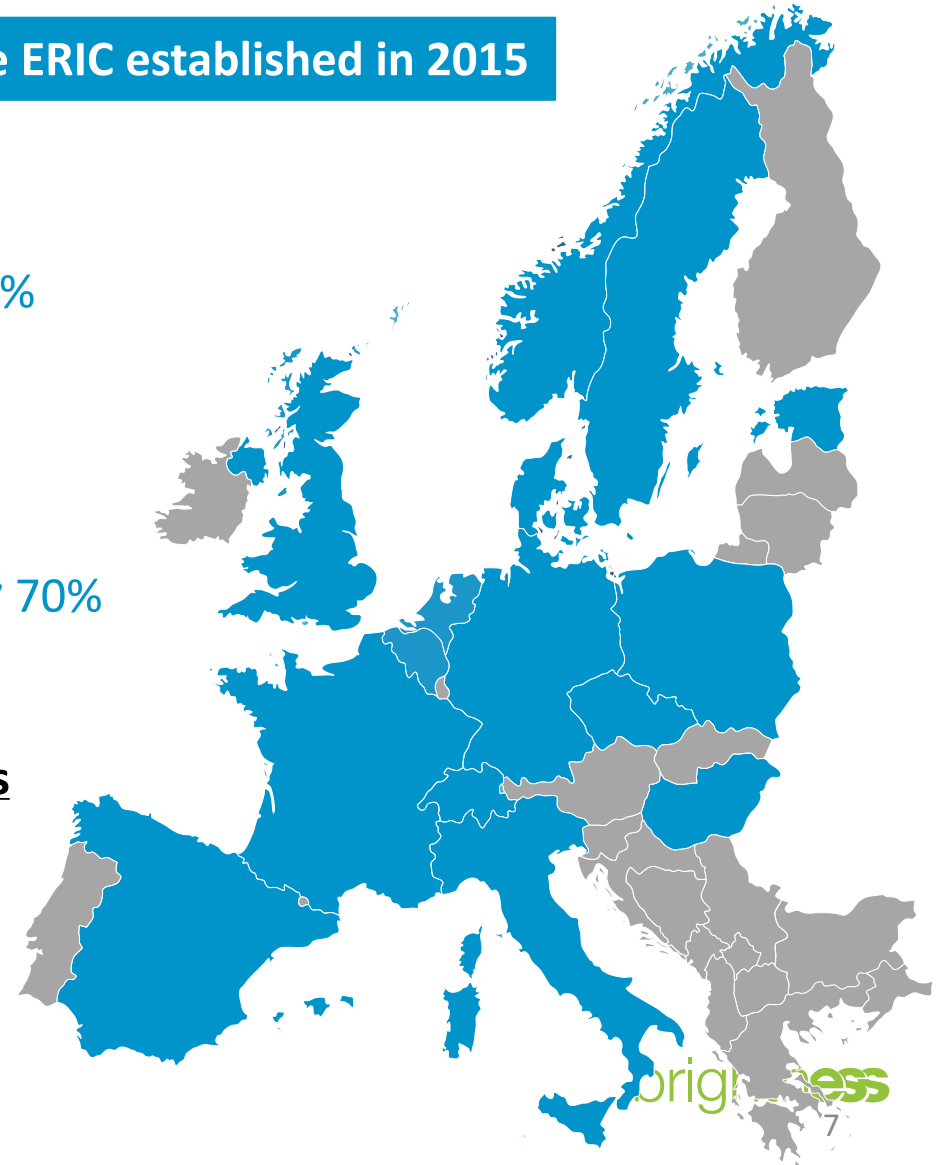
Host Countries Sweden and Denmark

Construction 47.5% Cash Investment ~ 97%
Operations 15%

Non Host Member Countries

Construction 52.5% In-kind Deliverables ~ 70%
Operations 85%

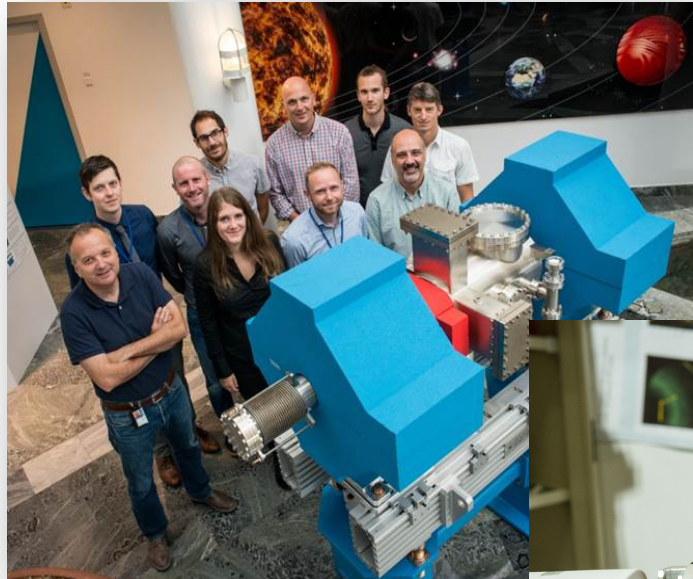
15 European Member and Observer Countries



BrightSource is funded by the European Union in the framework of the Horizon 2020 programme, under grant agreement 676548

BrightSource ESS

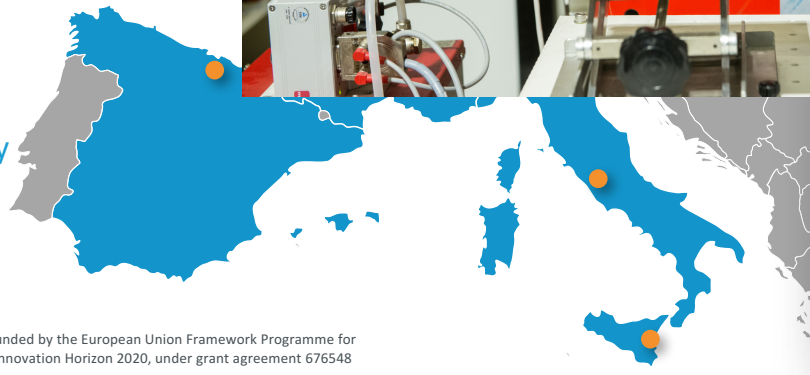
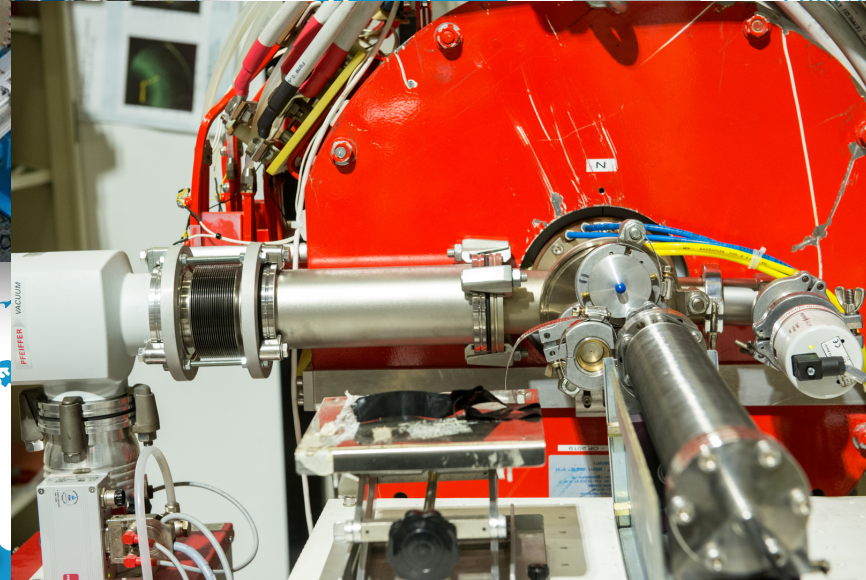
ESS In-kind Partners



Forschungszentrum Jülich
Helmholtz-Zentrum Geesthacht
Huddersfield University
IFJ PAN, Krakow
INFN, Catania
INFN, Legnaro
INFN, Milan
Institute for Energy
Research (IFE)



ISIS - Rutherford-Appleton Laboratory, Oxford
Laboratoire Léon Brillouin (LLB)
Lund University
Nuclear Physics Institute of the ASCR
Oslo University
Paul Scherrer Institute (PSI)
University of Groningen
Electronic Group (PEG)
RWTH Aachen University
Technical University
Technical University of Denmark (DTU)
Technical University of Munich (TUM)

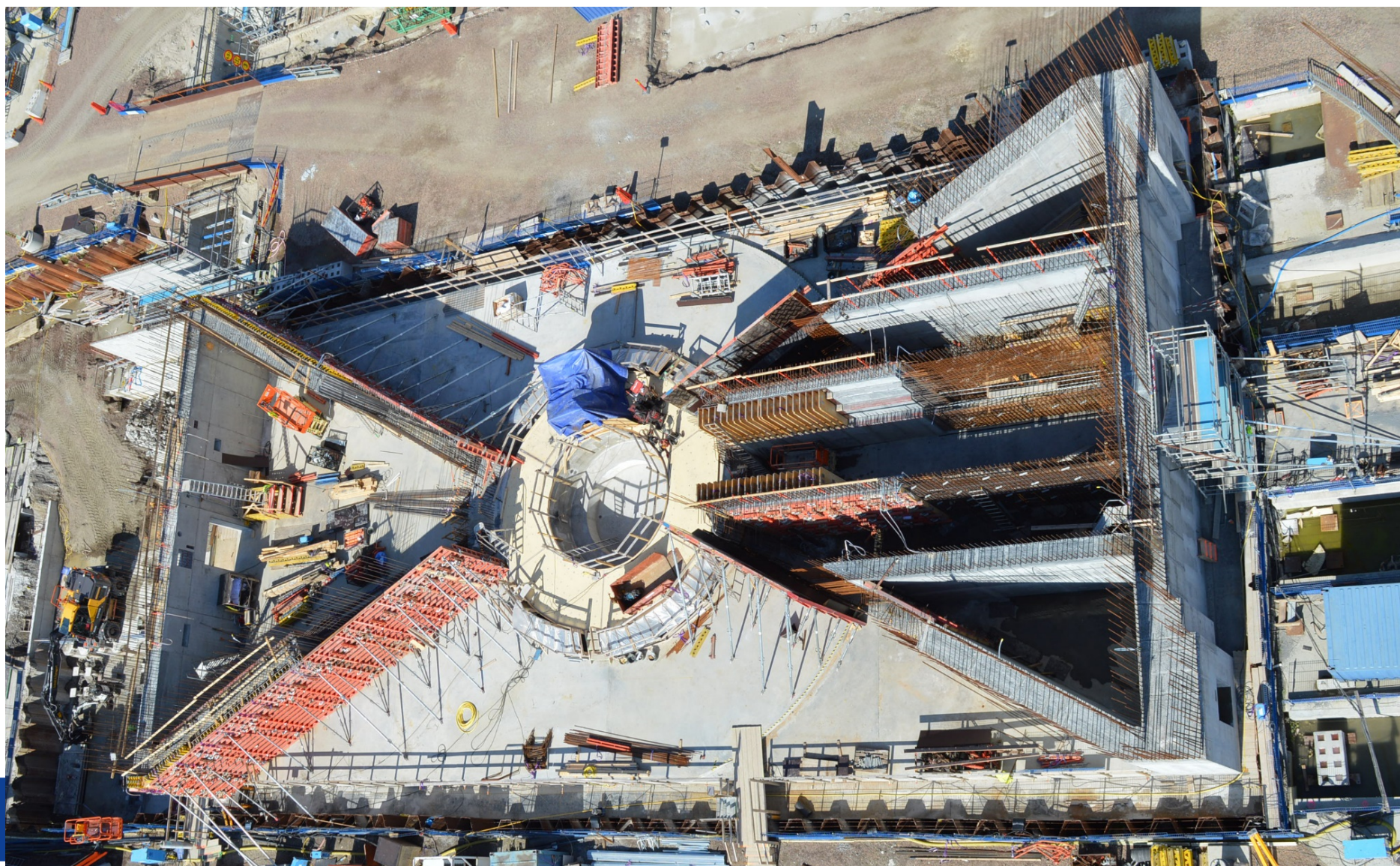


September 2017

ESS is 40% Complete at this point ...



Monolith, August 2017



Monolith



Active Cells



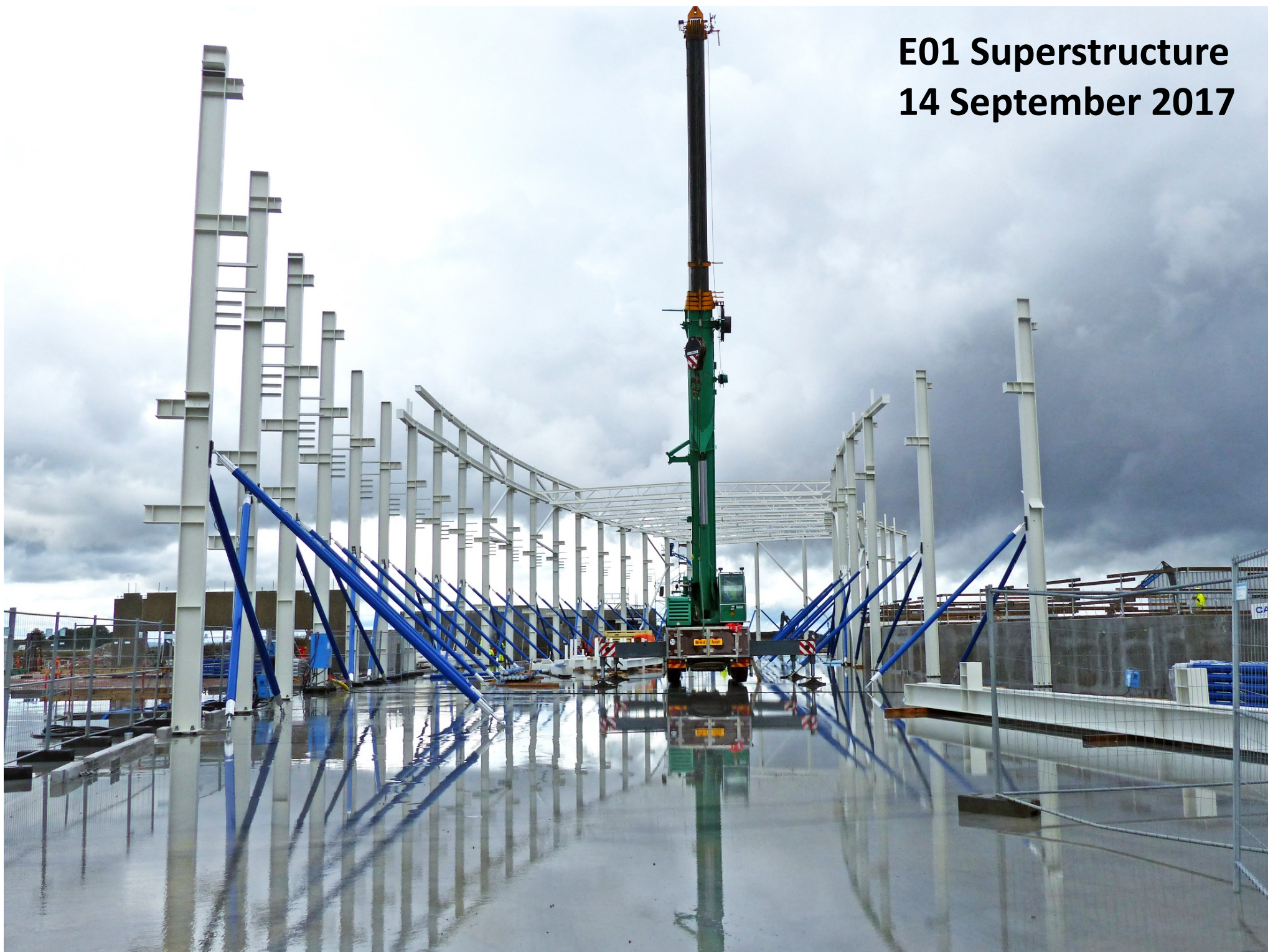
Active Cells



E-buildings, August 2017



**E01 Superstructure
14 September 2017**



D01, base slab for Exp. Hall 1



D01 First bottom slab casting 12 September 2017



Buildings



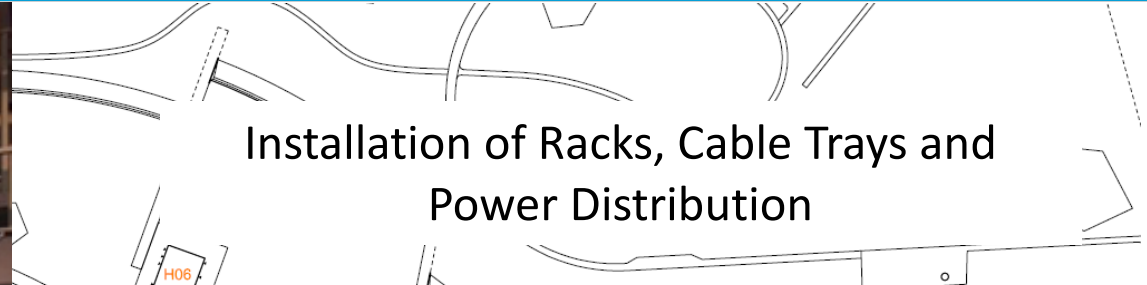
Green Roof, G02



Progress on RF Test Stand 2 in G02



Support structure for RF Distribution System and Water Piping



Installation of Racks, Cable Trays and Power Distribution



Helium Systems in G04



ACCP compressors and oil removal system

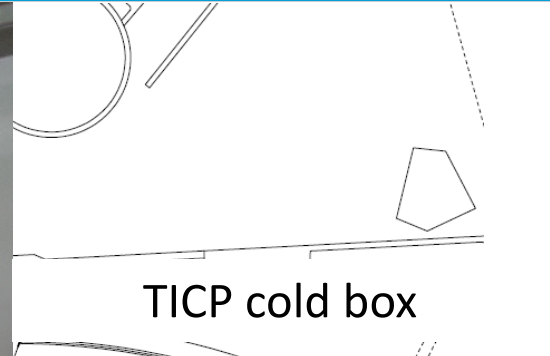


Helium Recovery System
Compressors

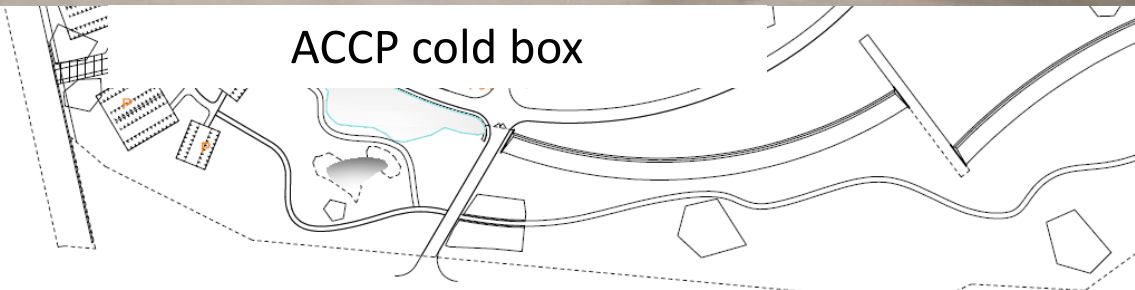
Cold Boxes in G02



TICP cold box



ACCP cold box



Control Room Room



Embedments in Active Cell

Liner beams
(May 17)



Embedments in walls
(on-going)



Electrical conduits
(April 17)



Important next step: Ion Source and LEBT

