

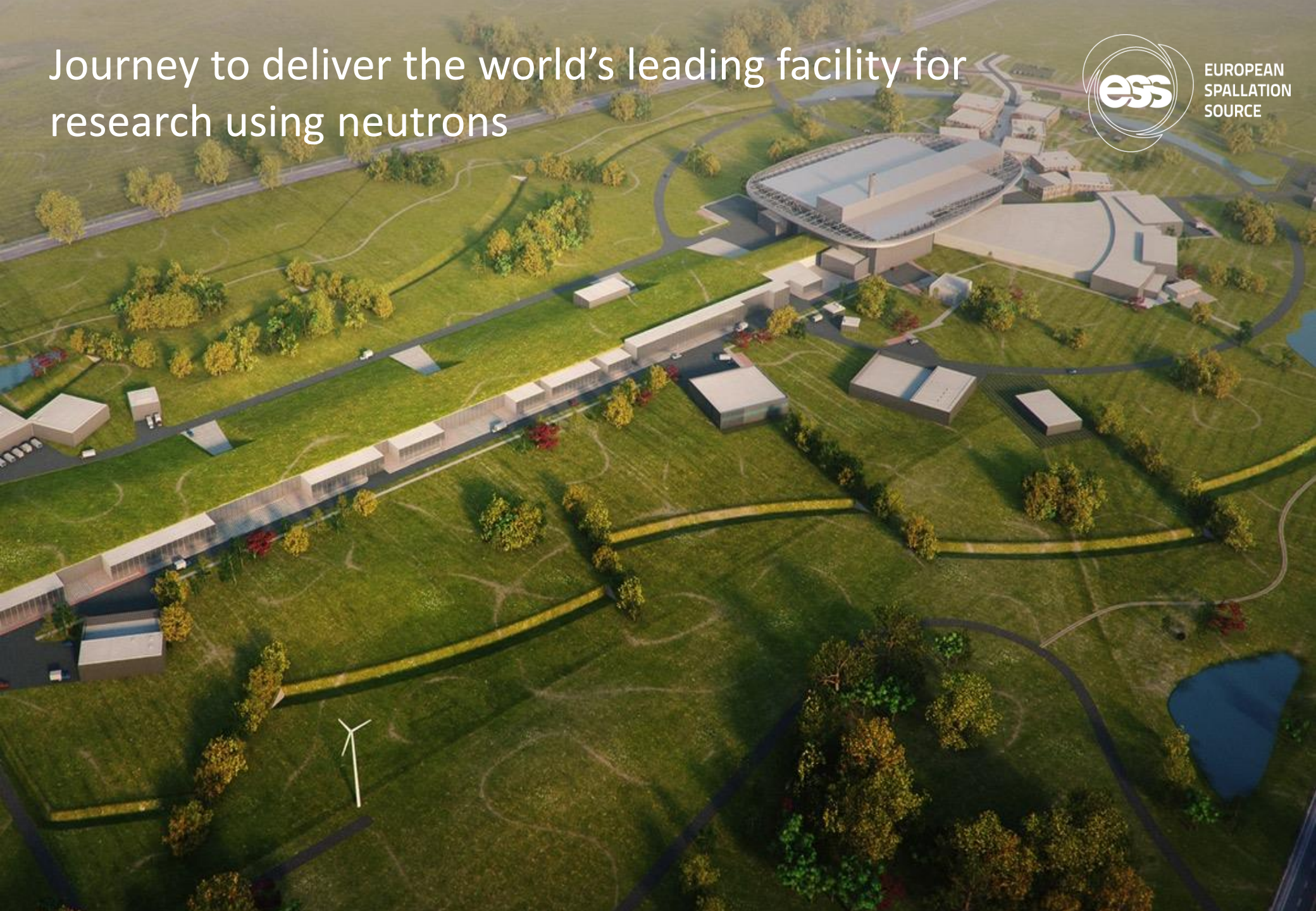


EUROPEAN  
SPALLATION  
SOURCE

Building  
**European Spallation Source**  
– a multi-disciplinary research centre and the  
**world's most powerful neutron source!**

Agneta Nestenborg  
Director of Project Support & Administration  
European Spallation Source ERIC  
2017-03-13

Journey to deliver the world's leading facility for research using neutrons



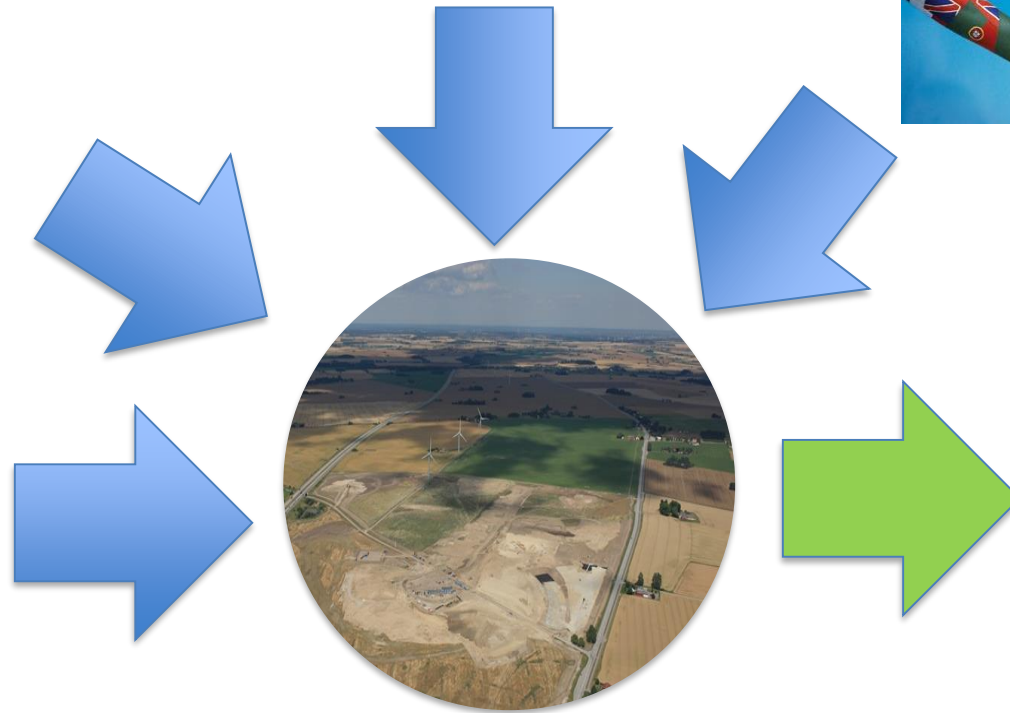
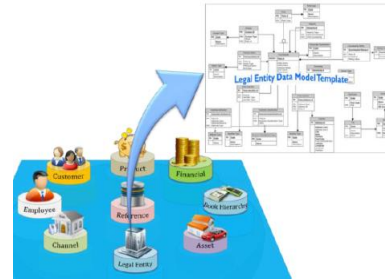
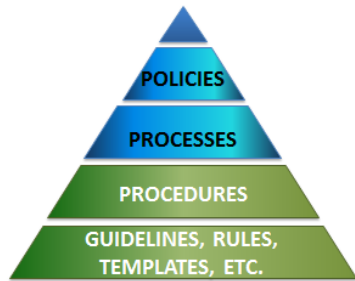


# Civil construction groundbreaking



September 2014

# A true green field project



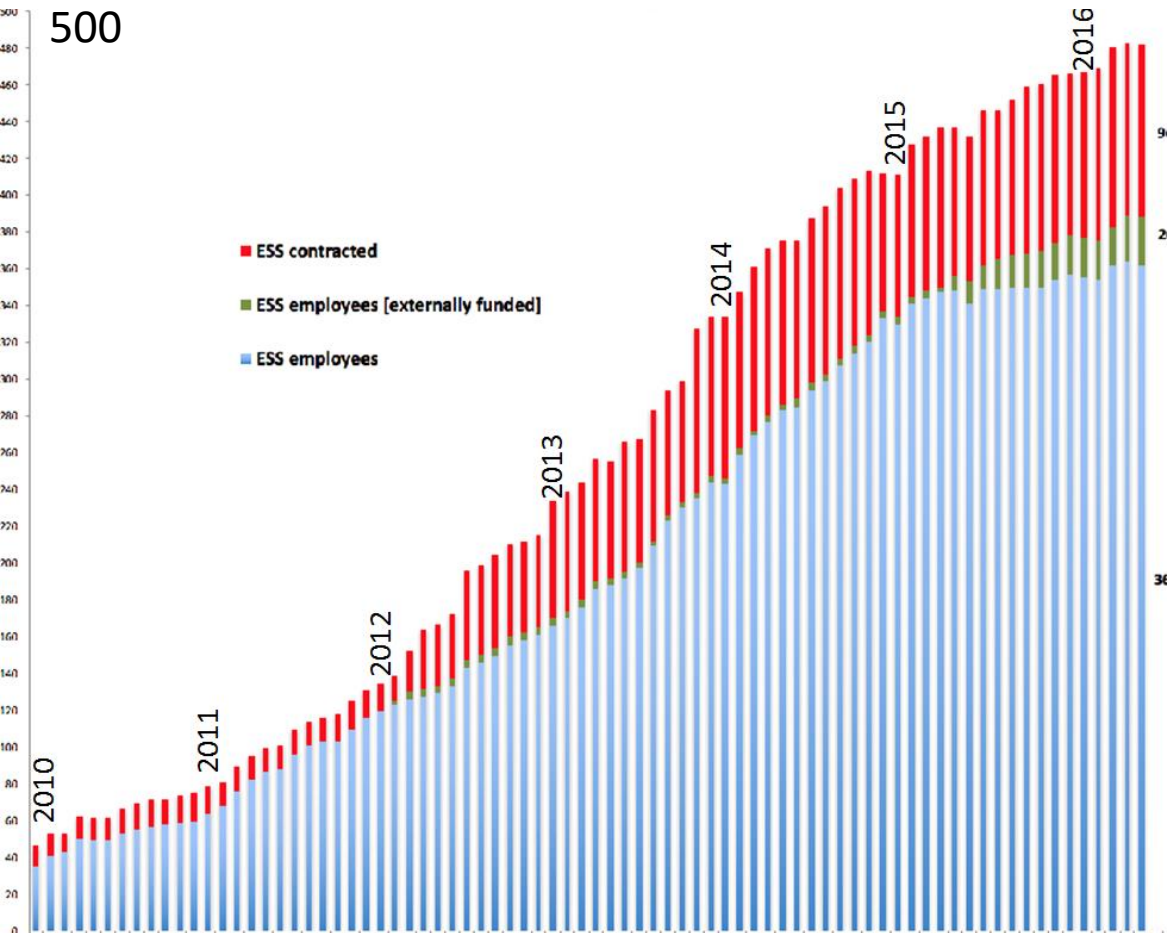
# A true green field project

Construction team for conventional buildings is the locomotive  
They have the competence, experiance, ability and the tools.  
The rest follows



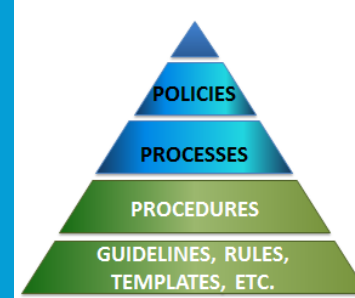


# A true green field project – People & Competence



- Starting with 2 employees
- Staff profile from campaigning to Design - Construction
- Hiring right competences and number of people
- No supporting organisation

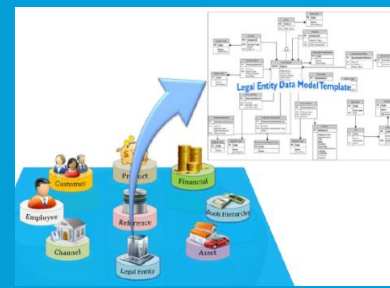
# A true green field project – Project Handbook, processes ...



What if your project handbook looks like  
this..?



# A true green field project – Structure



- Skilled people were hired and started working
- Everyone solving problems as they came along – true project culture!

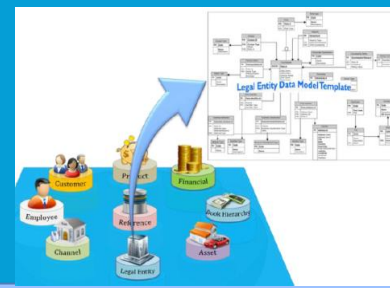
*Dis* *RD* *e* *ReD*

ORDERED

*collaboration*



# A true green field project – Structure



- Start integrating the schedule

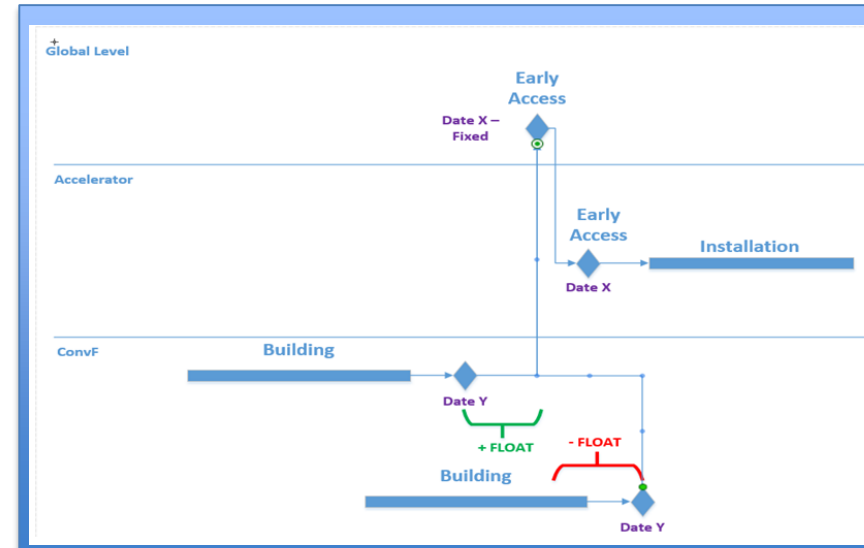
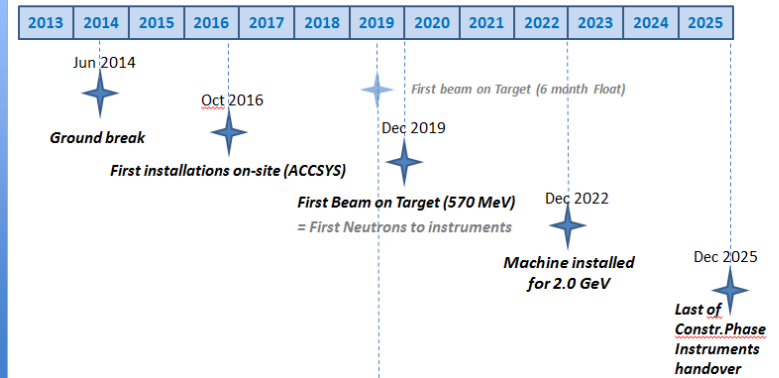


One ESS!



- Core values
- Managers' network
- Internal communication
- Building trust

ESS Construction Phase Milestones



# A true green field project – Project Funding



**Total project cost is capped:**

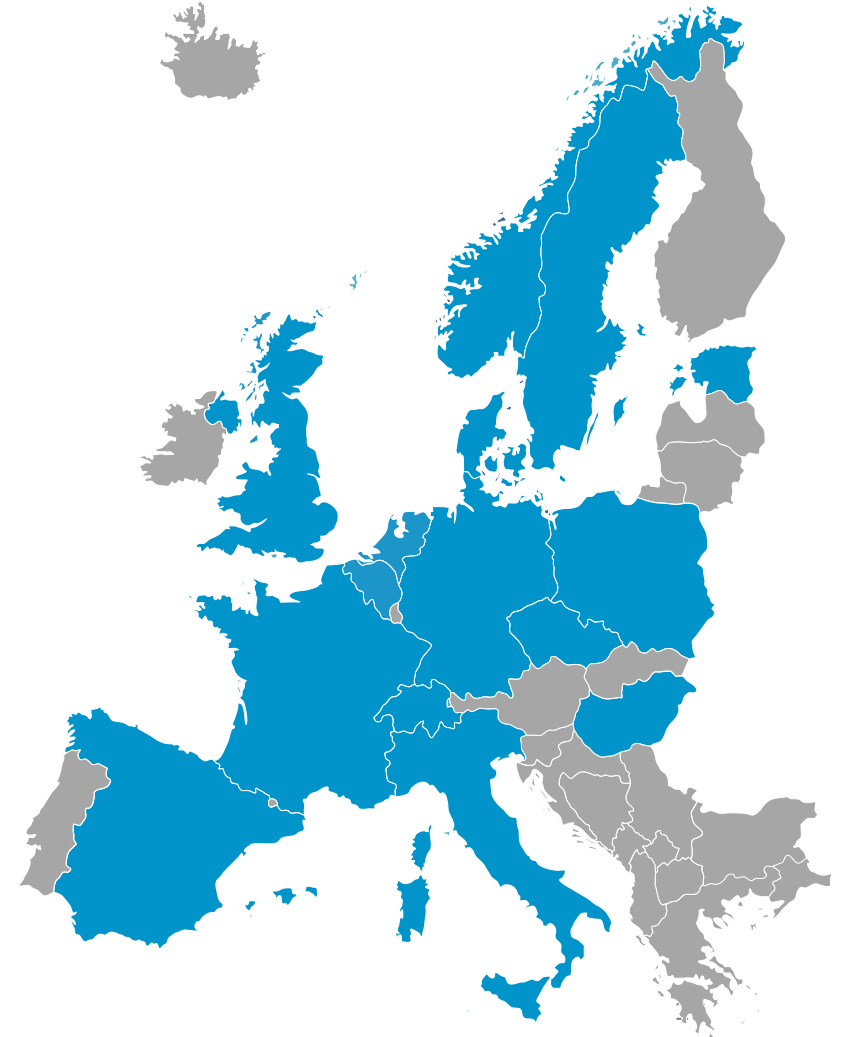
**1.843 B€<sub>2013</sub>**

**Host Countries Sweden and Denmark**

- Construction 47.5%
- Cash Investment ~ 97%

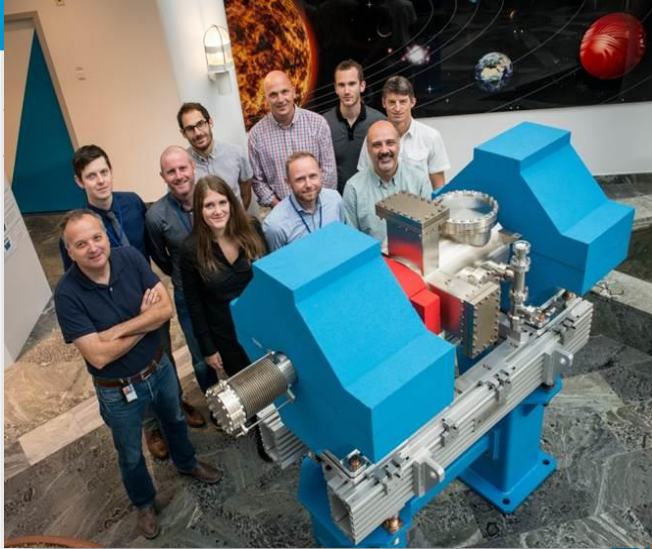
**Non Host Member Countries**

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



# A true green field project

## – Project Funding



ESS Bilbao

Forschungszentrum Jülich

Helmholtz-Zentrum Geesthacht

Huddersfield University

IFJ PAN, Krakow

INFN, Catania

INFN, Legnaro

INFN, Milan

Institute for Energy  
Research (IFE)



Rutherford-Appleton Laboratory, Oxford(ISIS)

Kopenhagen University

Laboratoire Léon Brillouin (LLB)

Lund University

Nuclear Physics Institute of the ASCR

Oslo University

Paul Scherrer Institute (PSI)

Polish Electronic Group (PEG)

Roskilde University

Tallinn Technical University





# A true green field project

– Project ~~Funding~~ Logistics

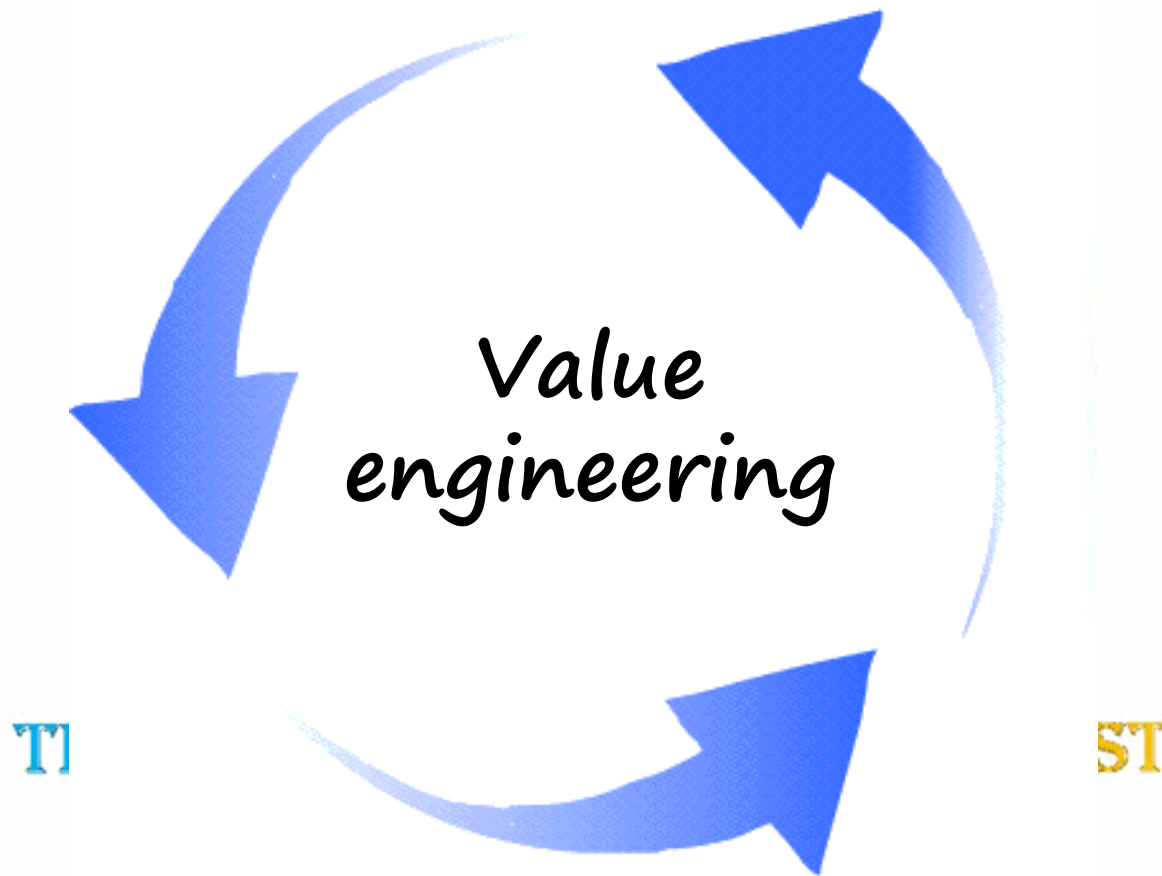
## Yet another challenge!



80 trucks (22 tons)  
each month

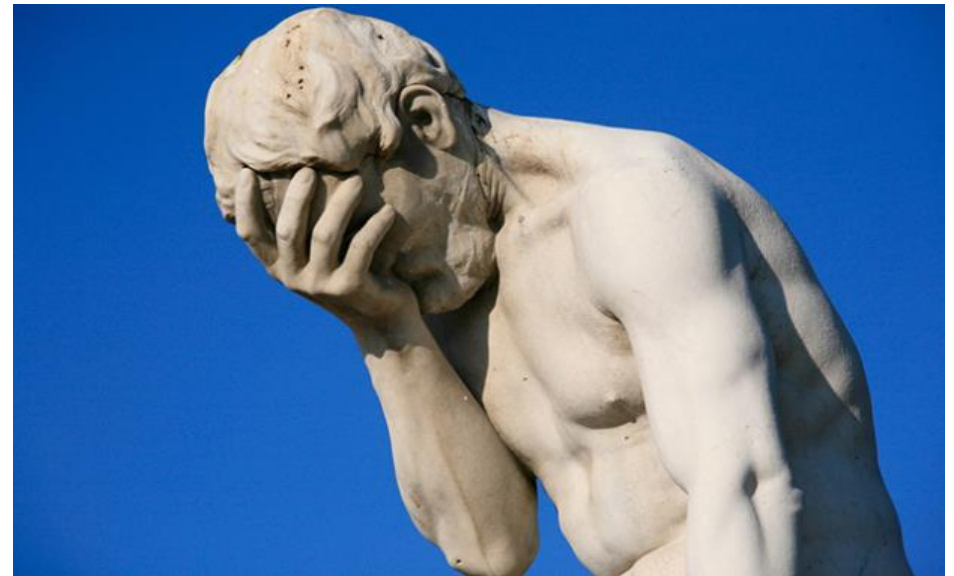


# A true green field project – Project Funding



# A true green field project – Project management

- ESS is a project!

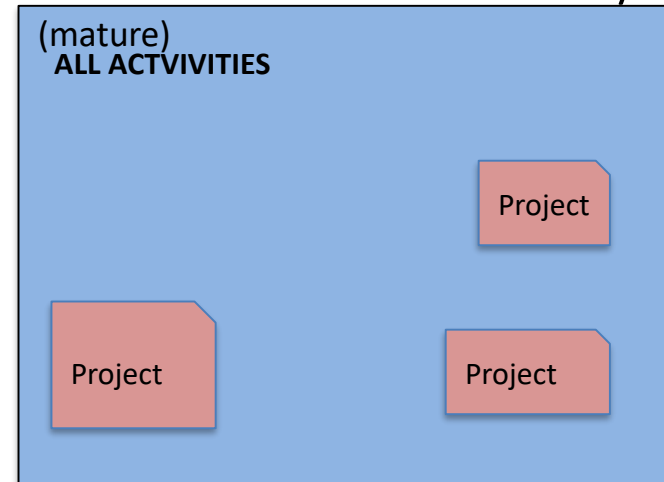




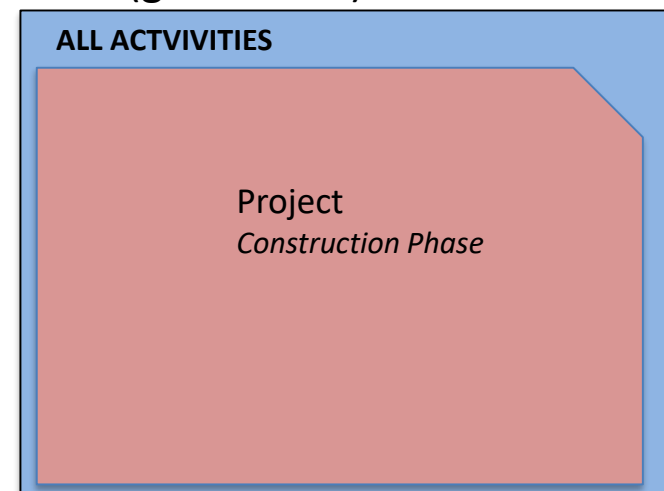
# A true green field project – Project management

- ESS is a project!
- Project Manager prevents unforeseen things causing unnecessary costs, save money
- Contingency 10%
- Change control
- Risk Management
- Earned Value integrating project scope, cost and schedule measures

## “TRADITIONAL” COMPANY /LAB



## ESS (green field)



## Lehman Reviews:

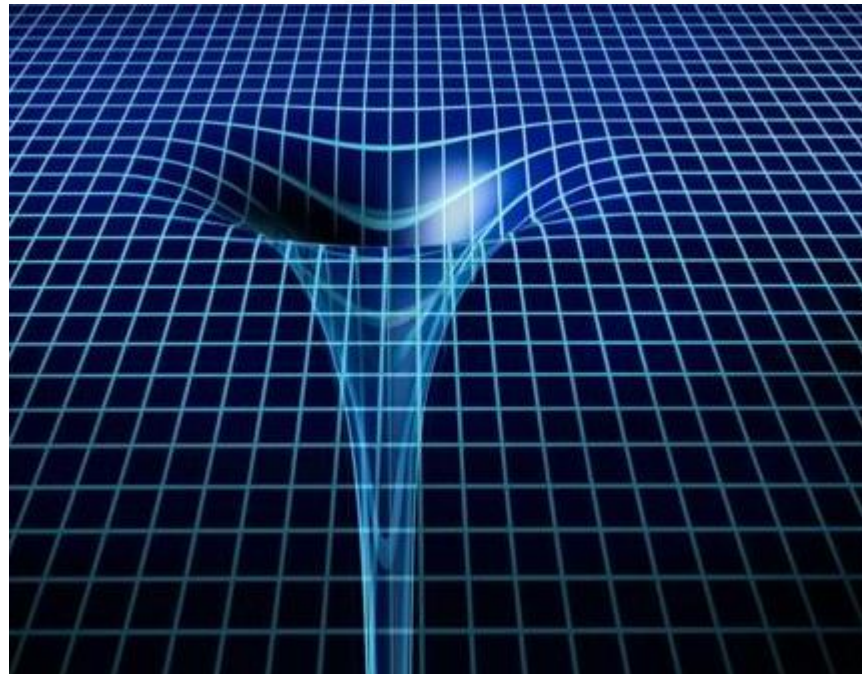
- an independent peer review and evaluation of the status of a major construction project

2013 :      Readiness for construction  
2014 :      Readiness for construction  
2015 :      Project schedule  
2016 :      Project integration and finish

## Planning a two-stage review in 2017:

- Operations
- Cost and schedule

# A true green field project - Handover





# A true green field project - Handover



# A true green field project - Handover



Project



Operation

Triggered by:

- Installation
- Initial Operation
- Operation
- ..?

Different cases:

- Change structure overall
- Parallel structures during transition period
- ..?

# How is the project doing?



## Maintaining the schedule



er  
e  
on

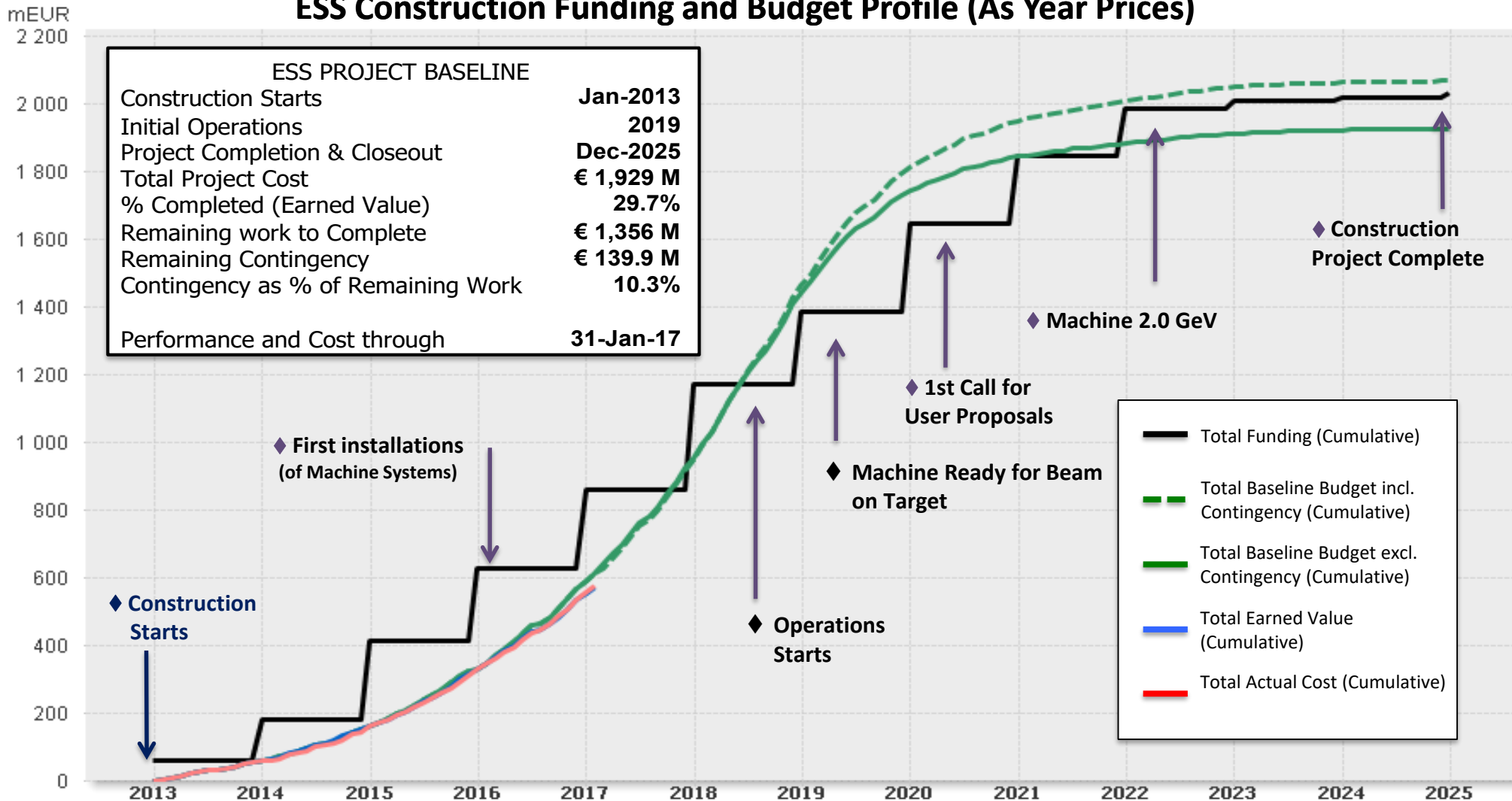
to operations

## Yearly project reviews



# S-curve Jan 31, 2017

## ESS Construction Funding and Budget Profile (As Year Prices)





September 2014





January 2017

Realistic ambition is to be the world's leading facility for science using neutrons – producing discoveries meeting societal needs



Thank you!



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SOURCE