Agenda

E&I Support Division & services - Peter Rådahl

Design & Engineering Group General services level, engineering, methods and SSM requirements and classifications -Magnus Täcklind

Integration work and procedures. Coordinate systems , skeletons etc. –Xavier Permanyer

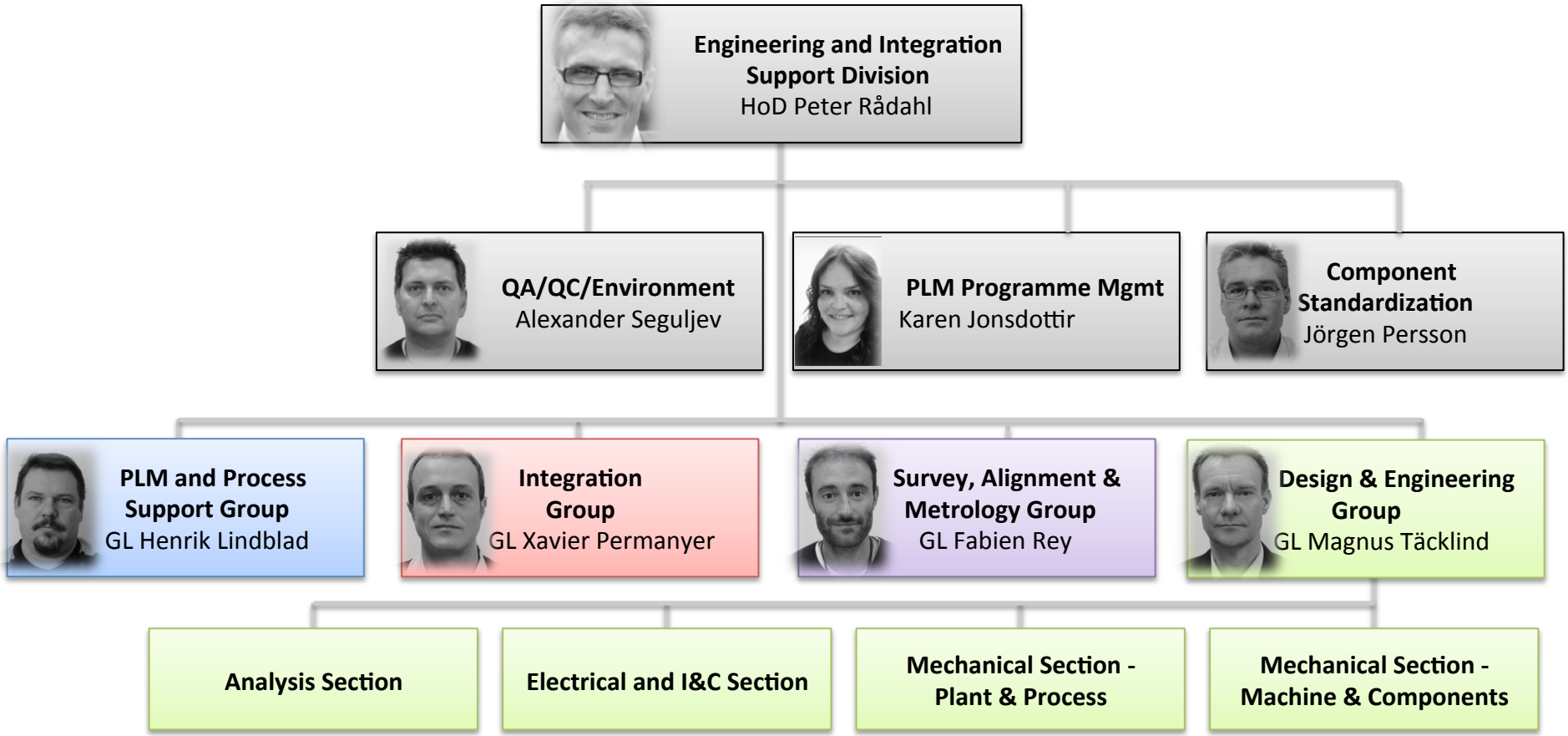
Engineering procedure and activities in Engineering workflow. – Zvonko Lazic

Standard components management and coordination – Jörgen Persson

PLM & Process support, in-kind and working in PLM at ESS –Henrik Lindblad

Introduction

Engineering and Integration support division and it four groups forms ESS Central Technical Services which are provided to the entire ESS organization.



Central Technical Services

The services coordinated and provided by the EIS division are:

Integration

Design & Engineering

Component Standardization

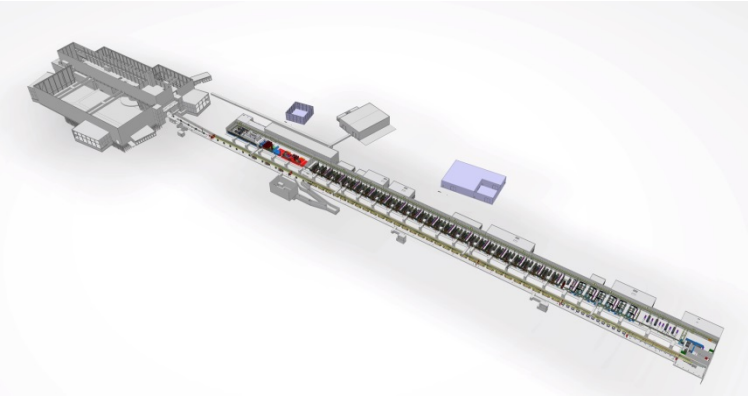
PLM & Process Support

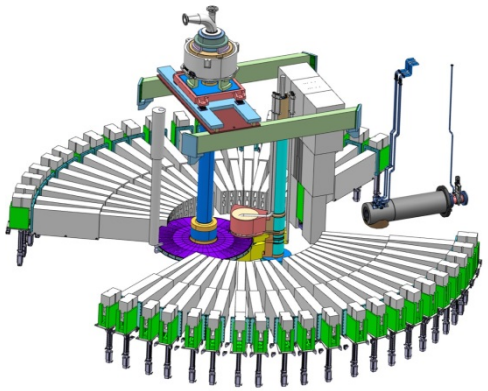
Technical Information Management

Survey, Alignment and Metrology

Integration

Ensure a proper integration of all the Systems/ Subsystems by a defined and global facility 3D virtual model called EPL (ESS Plant Layout).



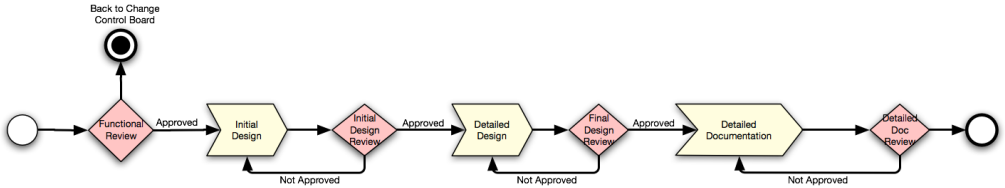


Status

Central integration team coordinates the EPL and its approved configuration to ensure a smooth functional and physical integration in 3D.

- ESS projects are supported with integration engineers.
- Conventional Facilities: Models uploaded and frozen every week.
- CHESS and Catia v6 supports the integration-work and configuration.
- ESS encourage In-Kind to use ESS technical tools to improve integration.

Design & Engineering



Status & Performance

- Interpretation and implementation of regulative requirements (SSM) – Quality and design requirements.
- Design Procedure and Design Handbooks:
  - Mechanical – released in first version.
  - El and I&C – in draft version.

Focus next 12 months

- Set and implement governing rules (norms/ standards) and guidelines for technical and quality requirements.

Decided and used tools at ESS

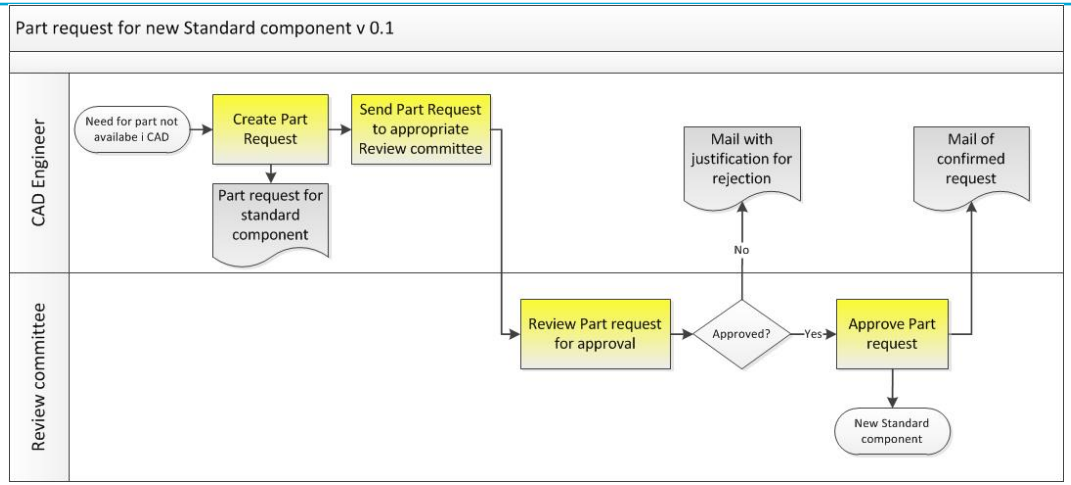
- PLM Enovia V6
- Mechanical design Catia V6
- Electrical design ePlan
- FEA/CFD Ansys
- Multi-engineering analysis Dymola
- Plant 3D/2D/P&ID Investigated

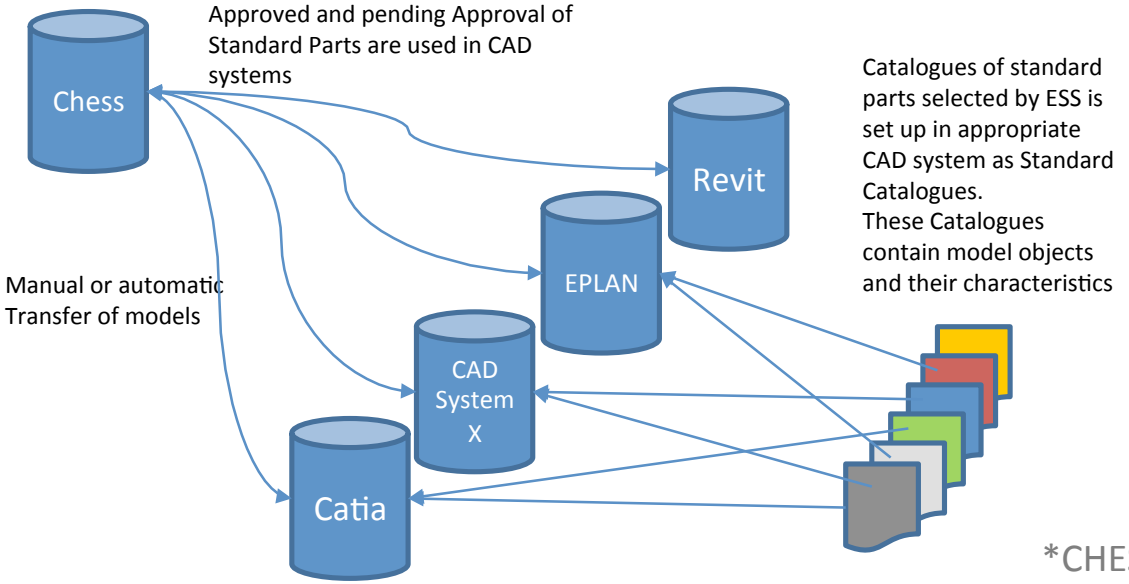
Component standardization

Definition

A defined procedure and coordination of standard component management:

- Quality improvement and cost saving by having a uniformed and tuned process to comply to regulative requirements.
- Streamline storage, manage obsoletes in operation





Support in CHESS*:

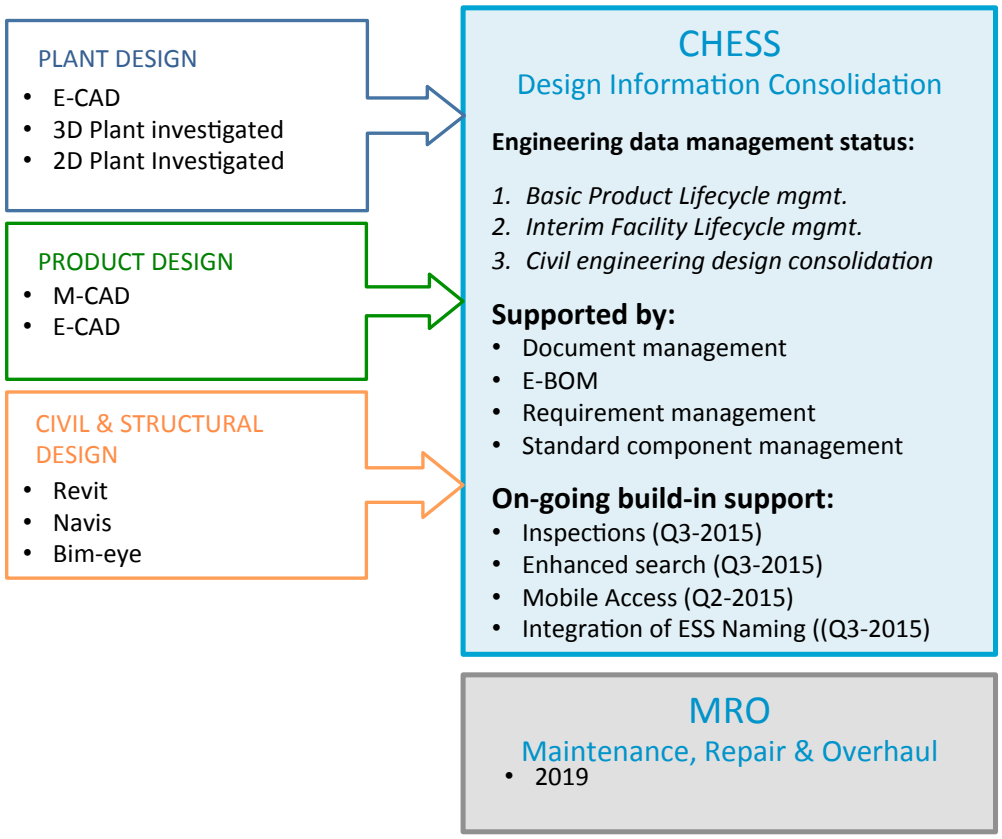
- Building components Q2-2015
- Mechanical components Q2-2015
- Electrical components Q3-2015

*CHESS: ESS PLM-system based on Enovia V6

PLM and Process Support

Summary and status

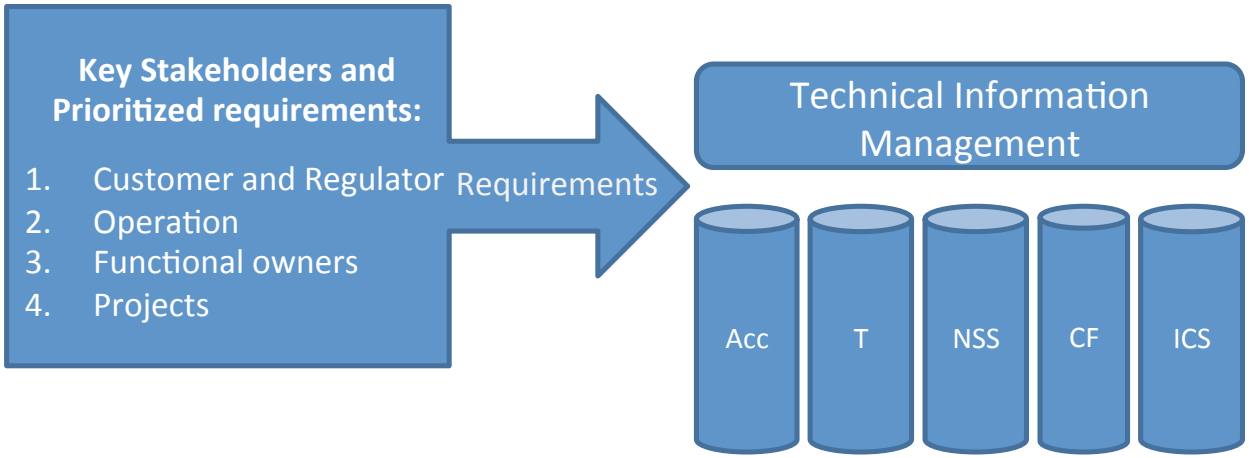
- Responsible for maintaining established tools, providing improved training tailored to the users' needs and performing process support.
- A single central Back-office in place to allow easy and quick exchange of relevant data with Conventional Facilities consultants, In Kind Collaborators and vendors.
- First installation of ESS PLM and M-CAD tool at IKC during Q1 2015.



Technical Information Management

Definition

The Technical Information Management function has the responsibility to implement, support and align a common framework for PLM and its related processes and tools based on requirements and processes established across ESS.



Survey, Alignment and Metrology

Instrumentation: laser tracker, total station, digital and optical levels, 3D Arm, GPS, metrology software.

Status

- SAM strategy well spread and implemented at all work packages and In Kind levels.

- SAM services fully operational since beginning of Q1 2015:
  - Complete set of instrumentation for surveying and metrology jobs available.
  - 2 skilled SAM engineers.

Construction site status

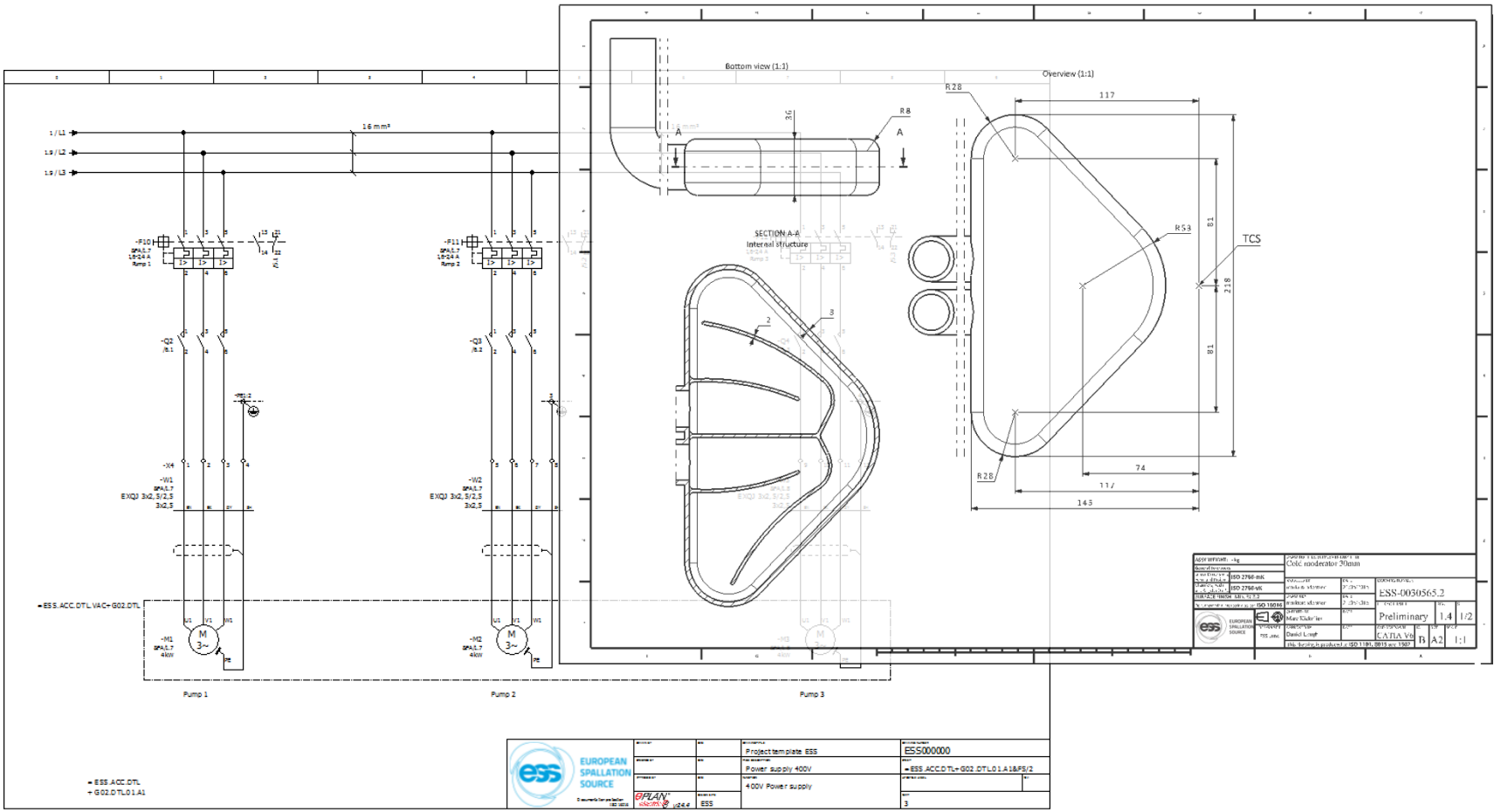
Tunnel network references already installed.

- Effective collaboration with C101 organization and constructive follow up of activities on site.

Contact Information

Integration	
Coordination and management	Xavier Permanyer
Model management	Eleftherios Zografos
Standard components	Jörgen Persson
Mechanical design	Zvonko Lazic
Plant/Process design	Magnus Täcklind
Electrical and I&C design	Jonas Widing
FEA/CFD Analysis	Magnus Täcklind
Support, training in CAD tools	Henrik Lindblad
Data quality and requirements	Henrik Lindblad
Survey, Alignment and Metrology	Fabien Rey

Design & Engineering Group



Short description of Design and Engineering Group

The Design & Engineering Group comprises a core team of personnel (staff and consultants) needed for design and engineering tasks within the project units at ESS.

The group assures and supplies needed competence and resources from our different disciplines, divided in four Sections / Technical areas:

-Mech. Machine and Components

-Mech. Plant and Process

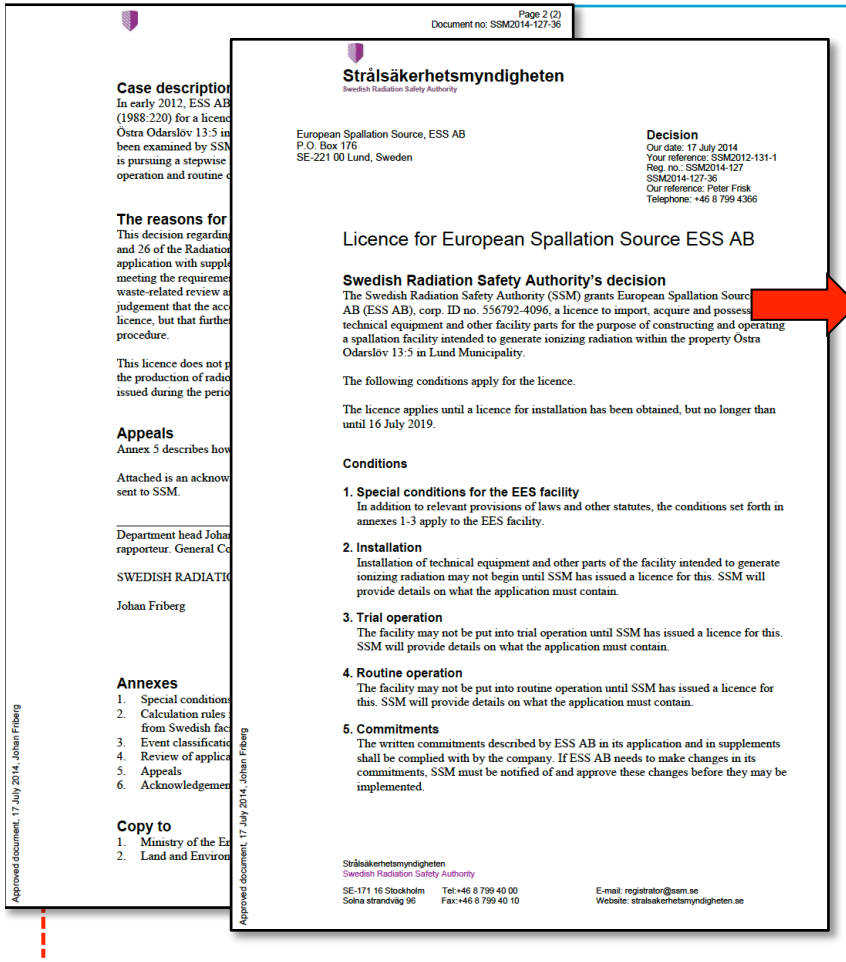
-Electrical and I&C

-Analysis

The group is also responsible for establishing and administrating ESS Design Process and, in addition, governing and guiding procedures and guidelines, as well as methods and templates, to assure the output of design and engineering is uniform and of high quality level.

The group plans and organizes the allocation of resources, set the frames of how to perform tasks and can assign personnel for reviewing and approval of documents being part of Design Process.

The SSM Permit July 2014



Page 2 (2)
Document no: SSM2014-127-36

Strålsäkerhetsmyndigheten
Swedish Radiation Safety Authority

European Spallation Source, ESS AB
P.O. Box 176
SE-221 00 Lund, Sweden

Decision
Our date: 17 July 2014
Your reference: SSM2012-131-1
Reg. no.: SSM2014-127
SSM2014-127-36
Our reference: Peter Frisk
Telephone: +46 8 799 4366

Licence for European Spallation Source ESS AB

Swedish Radiation Safety Authority's decision
The Swedish Radiation Safety Authority (SSM) grants European Spallation Sourc AB (ESS AB), corp. ID no. 556792-4096, a licence to import, acquire and possess technical equipment and other facility parts for the purpose of constructing and operating a spallation facility intended to generate ionizing radiation within the property Östra Odarslöv 13:5 in Lund Municipality.

The following conditions apply for the licence.

The licence applies until a licence for installation has been obtained, but no longer than until 16 July 2019.

Conditions

1. Special conditions for the EES facility
In addition to relevant provisions of laws and other statutes, the conditions set forth in annexes 1-3 apply to the EES facility.

2. Installation
Installation of technical equipment and other parts of the facility intended to generate ionizing radiation may not begin until SSM has issued a licence for this. SSM will provide details on what the application must contain.

3. Trial operation
The facility may not be put into trial operation until SSM has issued a licence for this. SSM will provide details on what the application must contain.

4. Routine operation
The facility may not be put into routine operation until SSM has issued a licence for this. SSM will provide details on what the application must contain.

5. Commitments
The written commitments described by ESS AB in its application and in supplements shall be complied with by the company. If ESS AB needs to make changes in its commitments, SSM must be notified of and approve these changes before they may be implemented.

Strålsäkerhetsmyndigheten
Swedish Radiation Safety Authority
SE-171 16 Stockholm
Solna strandväg 96
Tel:+46 8 799 40 00
Fax:+46 8 799 40 10
E-mail: registrator@ssm.se
Website: stralsakerhetsmyndigheten.se

Approved document, 17 July 2014, Johan Friberg

Case description
In early 2012, ESS AB (1988:220) for a licenc Östra Odarslöv 13:5 in been examined by SSM is pursuing a stepwise operation and routine

The reasons for
This decision regardin and 26 of the Radiation application with supple meeting the requiremen waste-related review a judgement that the acc licence, but that further procedure.

This licence does not p the production of radio issued during the perio

Appeals
Annex 5 describes how

Attached is an acknow sent to SSM.

Department head Johan rapporteur. General Co

SWEDISH RADIATIO

Johan Friberg

Annexes
1. Special conditions
2. Calculation rules from Swedish fac
3. Event classificatio
4. Review of applica
5. Appeals
6. Acknowledgemen

Copy to
1. Ministry of the En
2. Land and Environ

Approved document, 17 July 2014, Johan Friberg

SSM grants ESS AB a license of constructing and operating a spallation facility intended to generate ionizing radiation within the property Östra Odarslöv 13:5 in Lund Municipality.

Special conditions for the ESS facility In addition to relevant
provisions of laws and other statutes, the conditions set forth in annexes 1-3 apply to the ESS facility.

Installation of technical equipment and other parts of the facility intended to generate ionizing radiation may not begin until SSM has issued a license for this.

Test operation
The facility may not be put into test operation
until SSM has issued a license for this.

Routine operation
The facility may not be put into routine operation until SSM
has issued a license for this.

Radiation Requirements

Directly applicable SSM requirements

SSMFS 2008:27 (ESS-0029187)
Regulations concerning accelerators and sealed radiation sources

SSMFS 2008:29 (ESS-0029212)
General Recommendations on Competence of Radiation Protection Experts

SSMFS 2008:51 (ESS-0029213)
Basic provisions for protection of workers and public in practices involving ionizing radiation

SSMFS 2008:52 (ESS-0029186)
Regulations concerning outside workers in operations that involve ionizing radiation

SSMFS 2011:2 (ESS-0029239)
Regulations and general advice concerning clearance of materials, rooms, buildings and land in practices involving ionizing radiation

Permit ESS-0018828, Annex 1
Special conditions for the ESS facility in Lund in the following areas:

- Radiation safety
- Physical protection
- Emergency preparedness
- Design and construction
- Mechanical devices
- Protection of public health and the environment (releases of radioactive substances during normal operation)
- Archiving
- Information security

Permit ESS-0018828, Annex 2
Calculation rules for analysis of radiation doses resulting from radionuclide releases from Swedish facilities in connection with unplanned events.

Permit ESS-0018828, Annex 3

Event class	Event	Frequency range per year	Reference value[1] (mSv)
H1	Normal operation	-	0.1
H2	Expected events	$F > 10^{-2}$	0.1
H3	Unexpected events	$10^{-4} \leq F < 10^{-2}$	1
H4	Improbable events	$10^{-6} \leq F < 10^{-4}$	20
H5	Highly improbable events	$10^{-7} \leq F < 10^{-6}$	100
	Extremely improbable events (residual risks)	$F<10^{-7}$	-

[1]By "reference value" is meant the effective dose which the most exposed representative person receives during one year in connection with an event that occurs within a given frequency range, assuming that no protective measures are adopted.

Permit ESS-0018828, Annex 4

The SSM review report

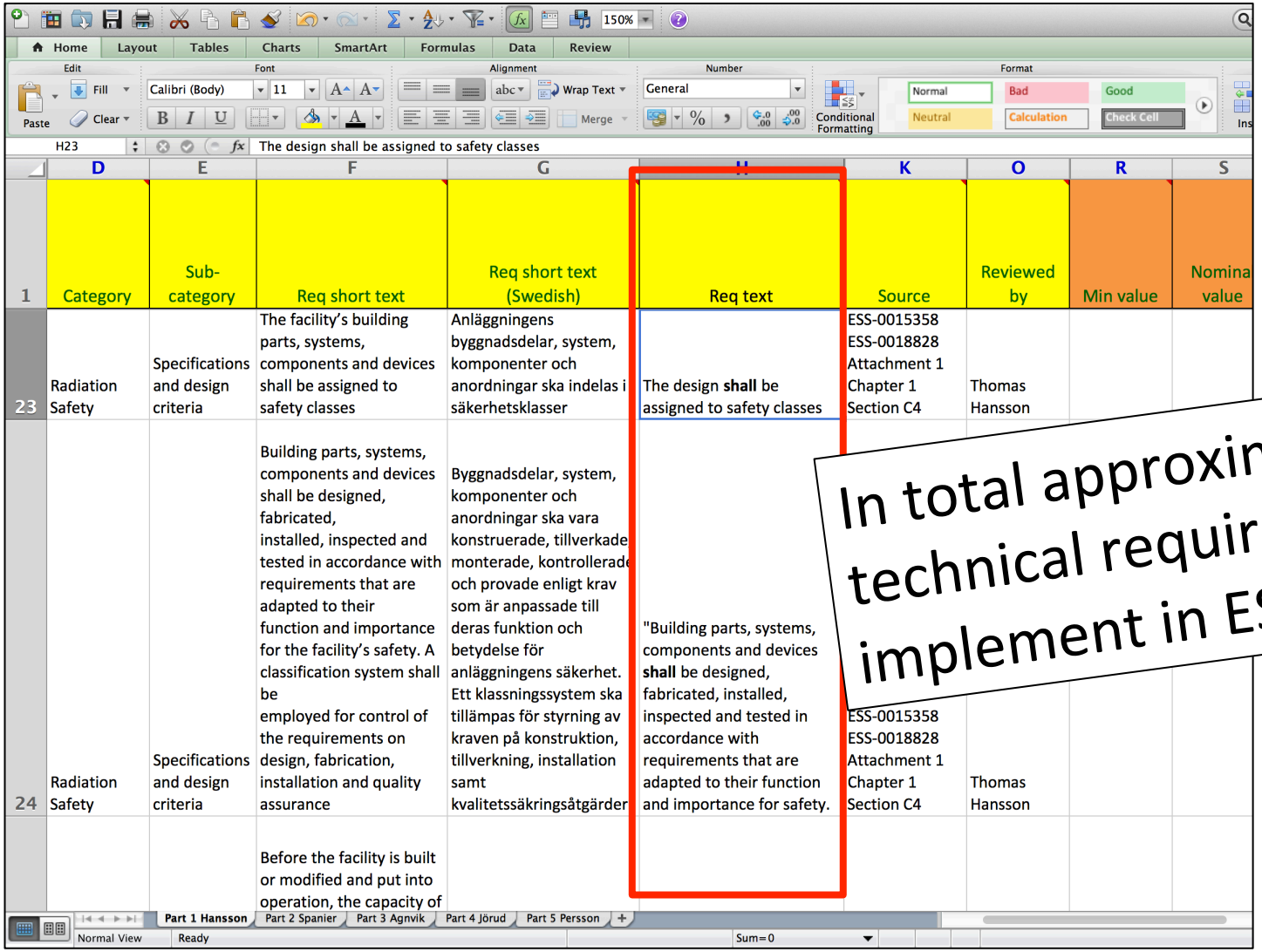
Performed work led by ES&H

ES&H have extracted "*shall conditions*" from the Permit during Febr - April and transferred **technical requirements** into the **SE requirement template** for further breakdown and implementation in radiation safety functions (ESS-0031679).

ES&H have extracted "*shall conditions*" from the Permit and transferred **organizational requirements** into the **ESH Plan** for further breakdown and implementation in activities related to radiation safety (ESS-0031678).

E&IS Div. is taking a guiding and supporting role (together with e.g. ES&H and QA) in understanding, interpreting and assigning the SSM requirements from "Special conditions for ESS". Requirements must be broken down, connected to classification of systems/equipment and supported by design rules, norms and standards. This will be assigned via Design procedures and Handbooks.

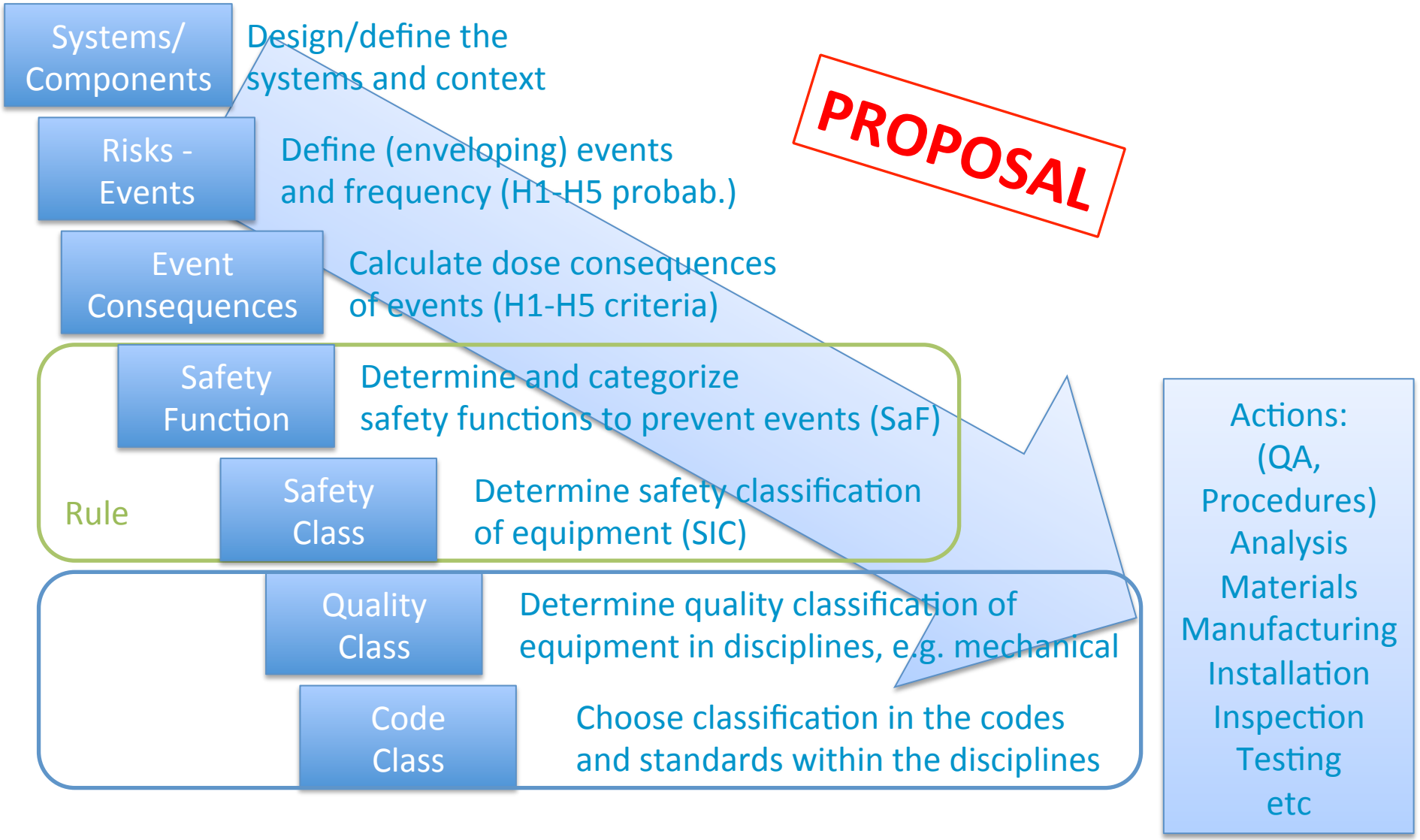
The requirement file ESS-0031679



1	D Category	E Sub-category	F Req short text	G Req short text (Swedish)	H Req text	K Source	O Reviewed by	R Min value	S Nominal value
23	Radiation Safety	Specifications and design criteria	The facility's building parts, systems, components and devices shall be assigned to safety classes	Anläggningens byggnadsdelar, system, komponenter och anordningar ska indelas i säkerhetsklasser	The design **shall** be assigned to safety classes	ESS-0015358 ESS-0018828 Attachment 1 Chapter 1 Section C4	Thomas Hansson		
24	Radiation Safety	Specifications and design criteria	Building parts, systems, components and devices shall be designed, fabricated, installed, inspected and tested in accordance with requirements that are adapted to their function and importance for the facility's safety. A classification system shall be employed for control of the requirements on design, fabrication, installation and quality assurance	Byggnadsdelar, system, komponenter och anordningar ska vara konstruerade, tillverkade monterade, kontrollerade och provade enligt krav som är anpassade till deras funktion och betydelse för anläggningens säkerhet. Ett klassningssystem ska tillämpas för styrning av kraven på konstruktion, tillverkning, installation samt kvalitetssäkringsåtgärder	"Building parts, systems, components and devices **shall** be designed, fabricated, installed, inspected and tested in accordance with requirements that are adapted to their function and importance for safety.	ESS-0015358 ESS-0018828 Attachment 1 Chapter 1 Section C4	Thomas Hansson		
			Before the facility is built or modified and put into operation, the capacity of						

In total approximately 400 technical requirements to implement in ESS design.

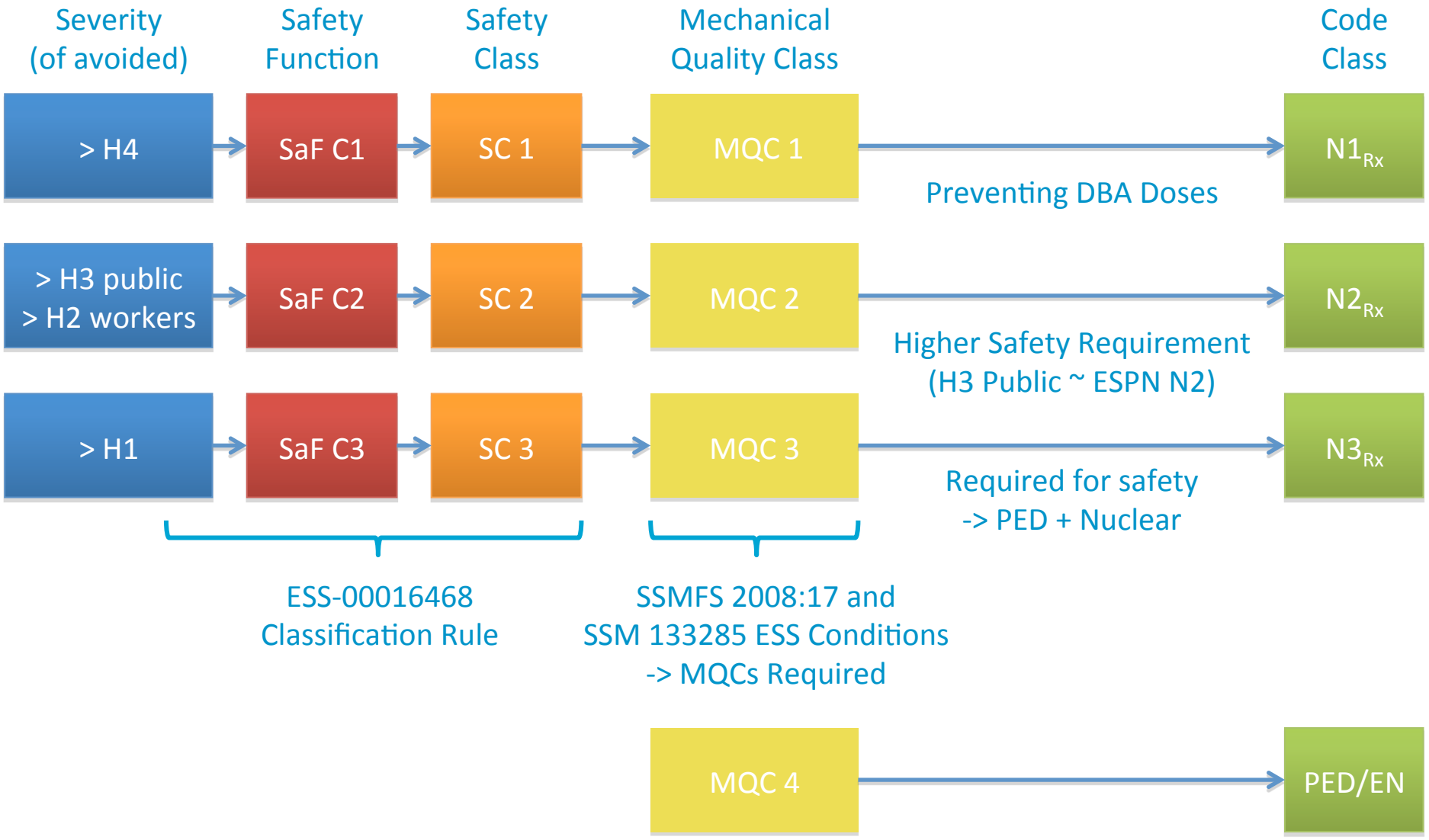
Classification: Deriving (nuclear safety) requirements for each system



Choosing Code Class for Mechanical Equipment

PROPOSAL

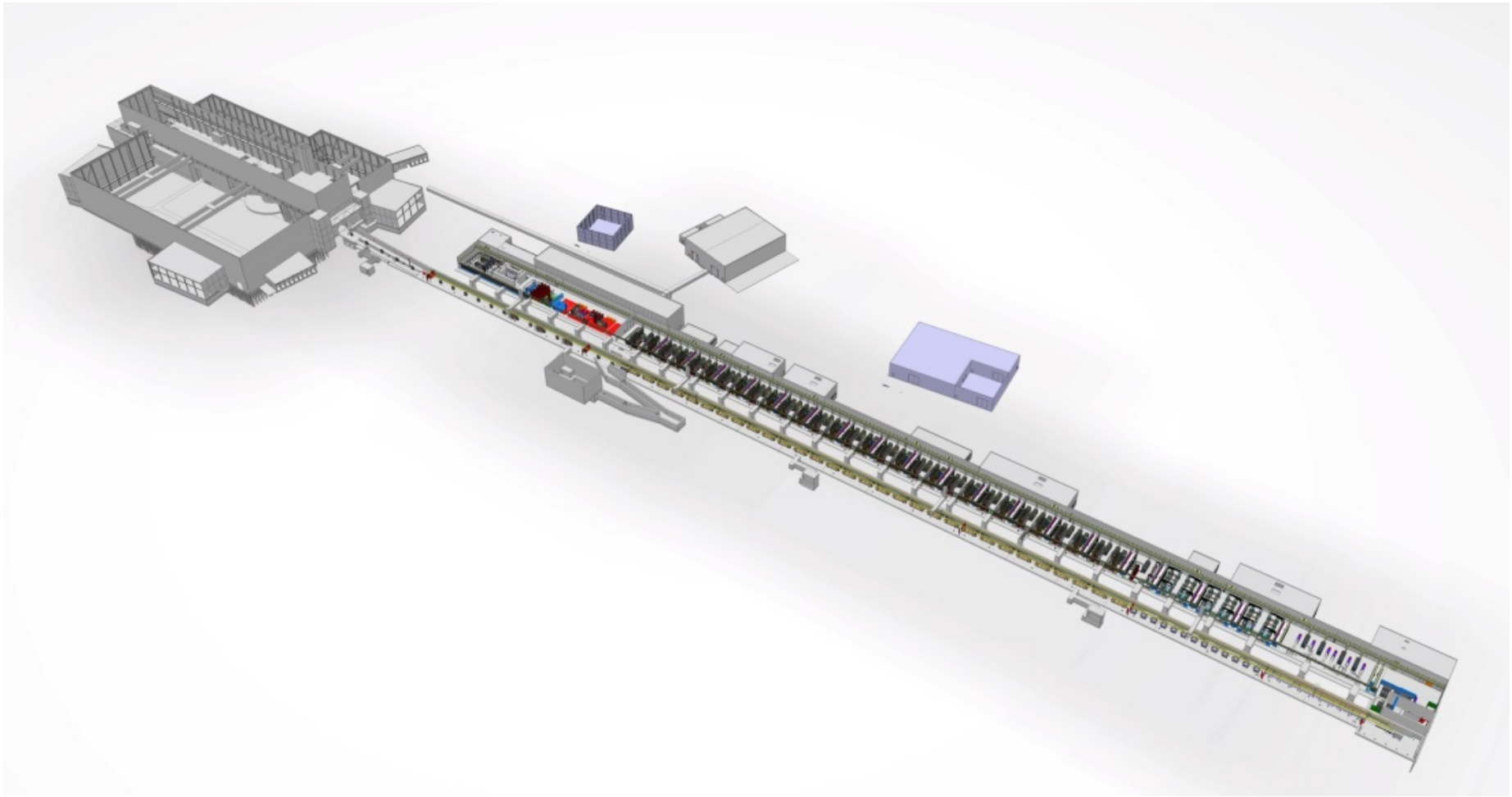
EUROPEAN SPALLATION SOURCE



Output from Engineering & Integration

- Identify and establish Design rules and methods for safety classified equipment
- Take out forms and content for Design specifications and Design criteria's (spec. for mech. devices in safety functions), also for electrical devices.
- Identify Norms & standards for different sub-classes
- Define Proven design and Standard components
- Set requirements for Documentation (P&ID’s etc.)
- Process for review and approval of documents, incl. applicable tasks by Accredited Inspection Body
- Assure traceability of all documentation for the facility
- Assure testing and inspection are being performed according to SSM requirements

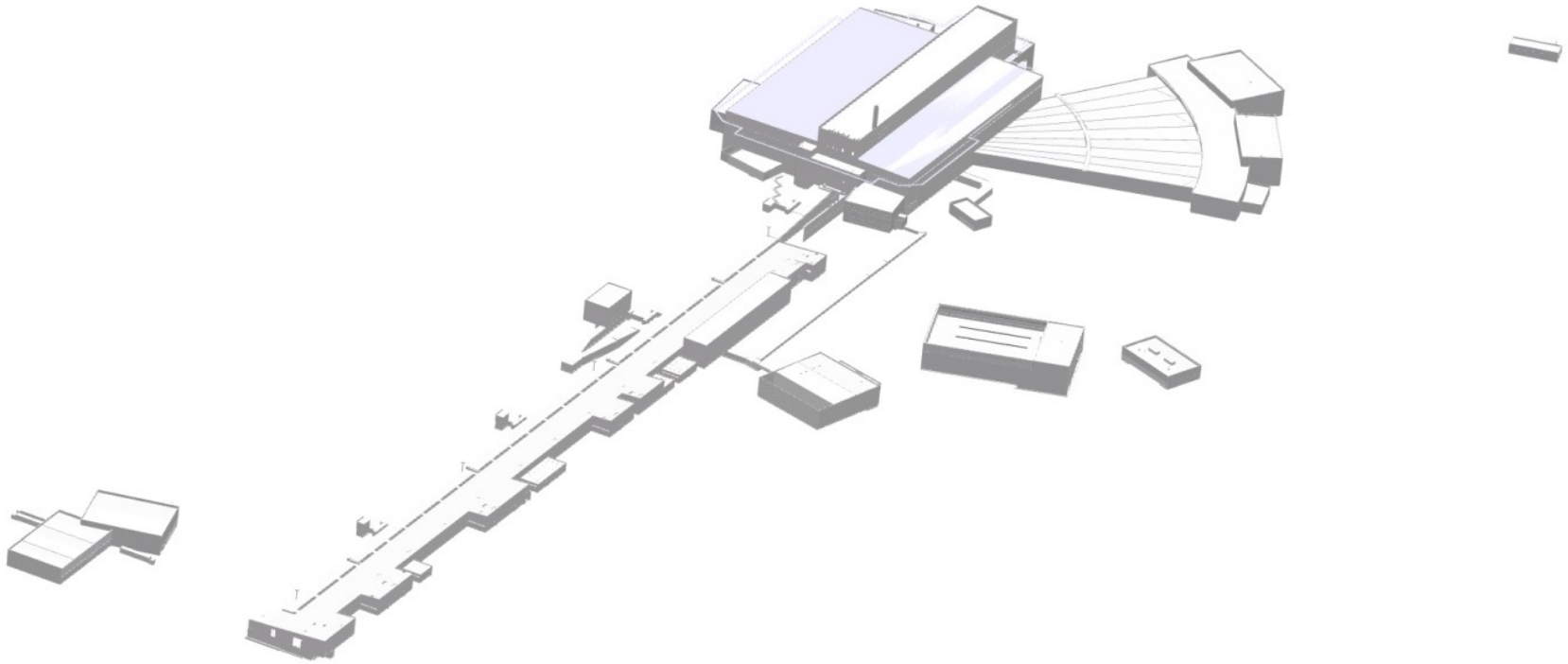
Integration work and procedures



EUROPEAN SPALLATION SOURCE

EPL: ESS Plant Layout

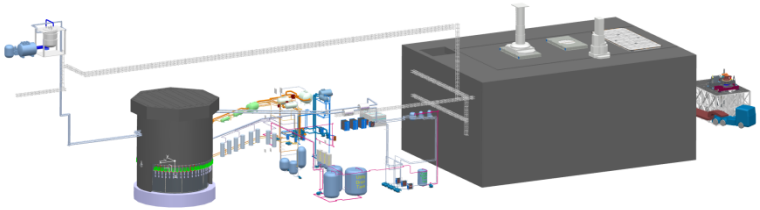
ESS Plant Layout, also known as the EPL, is the top level 3D CAD master model of the whole ESS facility. It depicts the physical arrangement of equipment, buildings, and any related infrastructure within the ESS site. It includes all CAD geometry of sub-systems such as buildings, tunnels, accelerator systems, supply lines, target systems, instrument systems, and other technical infrastructure from different design teams and design trades involved in the design of ESS.

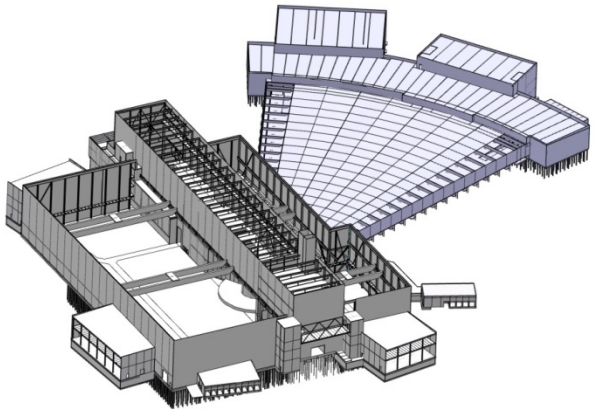


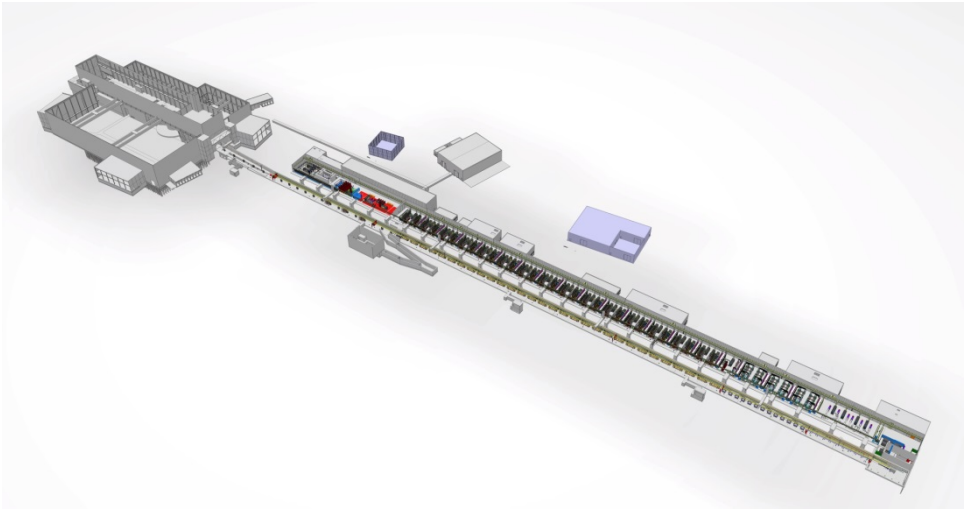
Integration Group

Integration Group

- Develop and maintain the ESS Plant Layout, which includes the 3D Master Model.
- Identify and set associated rules, norms and standards to work with ESS Plant Layout.
- Communicating between the different projects relating to the baseline changes.
- Perform configuration and conformity control between the 3D and the real facility.







Integration Group

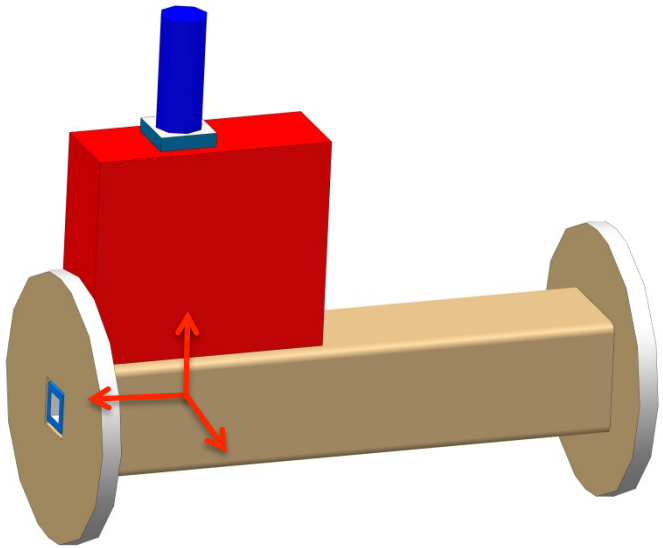
EUROPEAN SPALLATION SOURCE

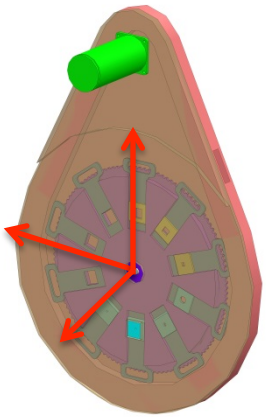
How we do Integration?

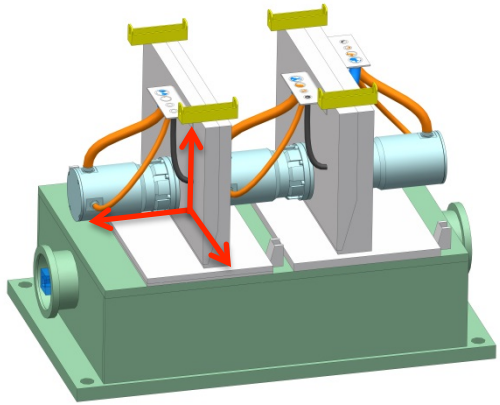
- Define Integration Components
- Define Coordinate Systems
- Define Skeletons
- Location of Integration Components
- Interfaces
- Envelopes
- Other Components
- System Integration

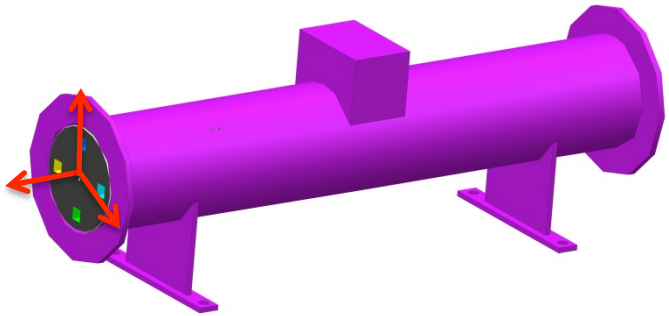
Integration Group

Integration Component: Assembly of machine parts to be treated as an objet integration-wise, to be installed at the ESS. It has a specific function for the correct operation of the machine. Project engineers together with the Integration Group define integration components to be positioned in the EPL.



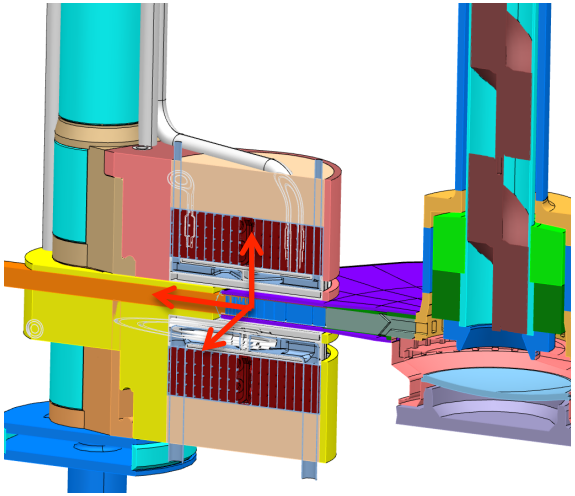


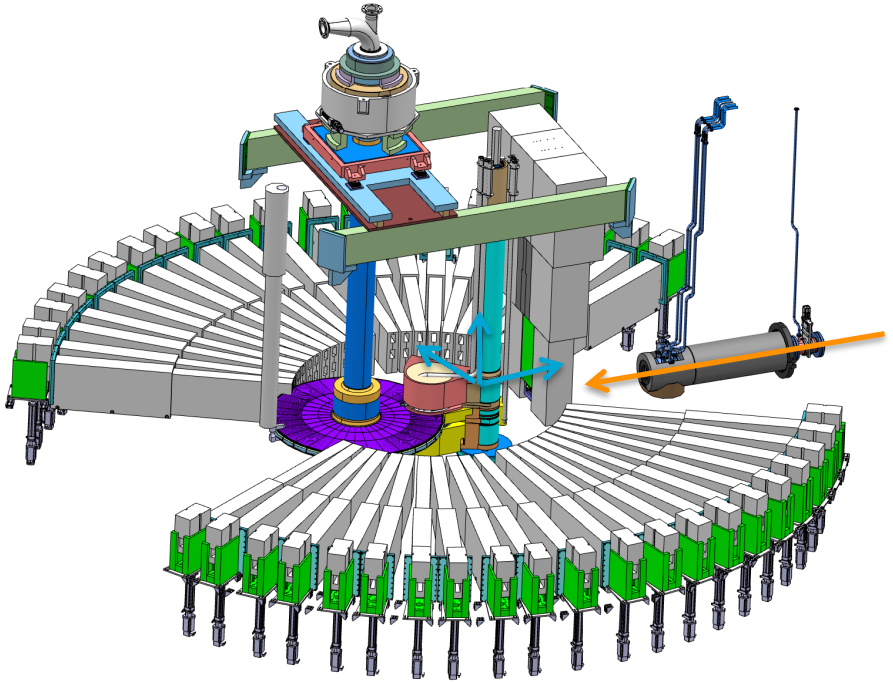


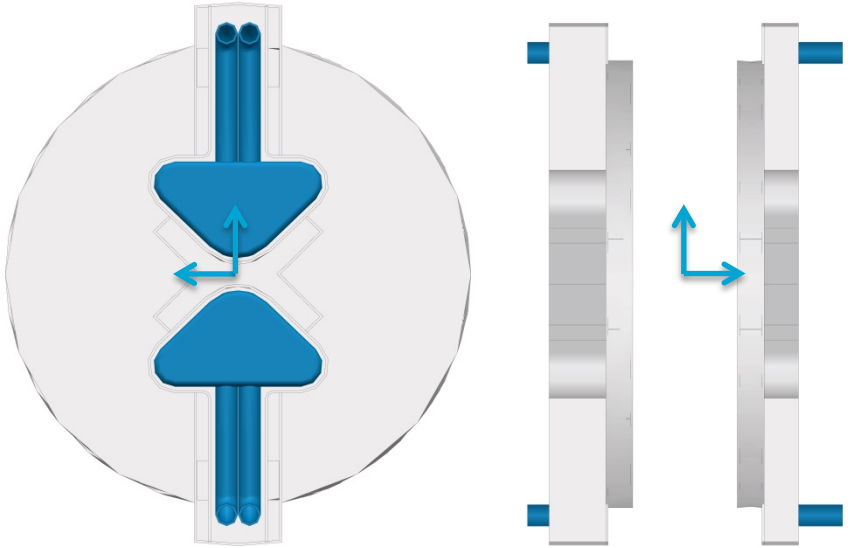


Integration Group

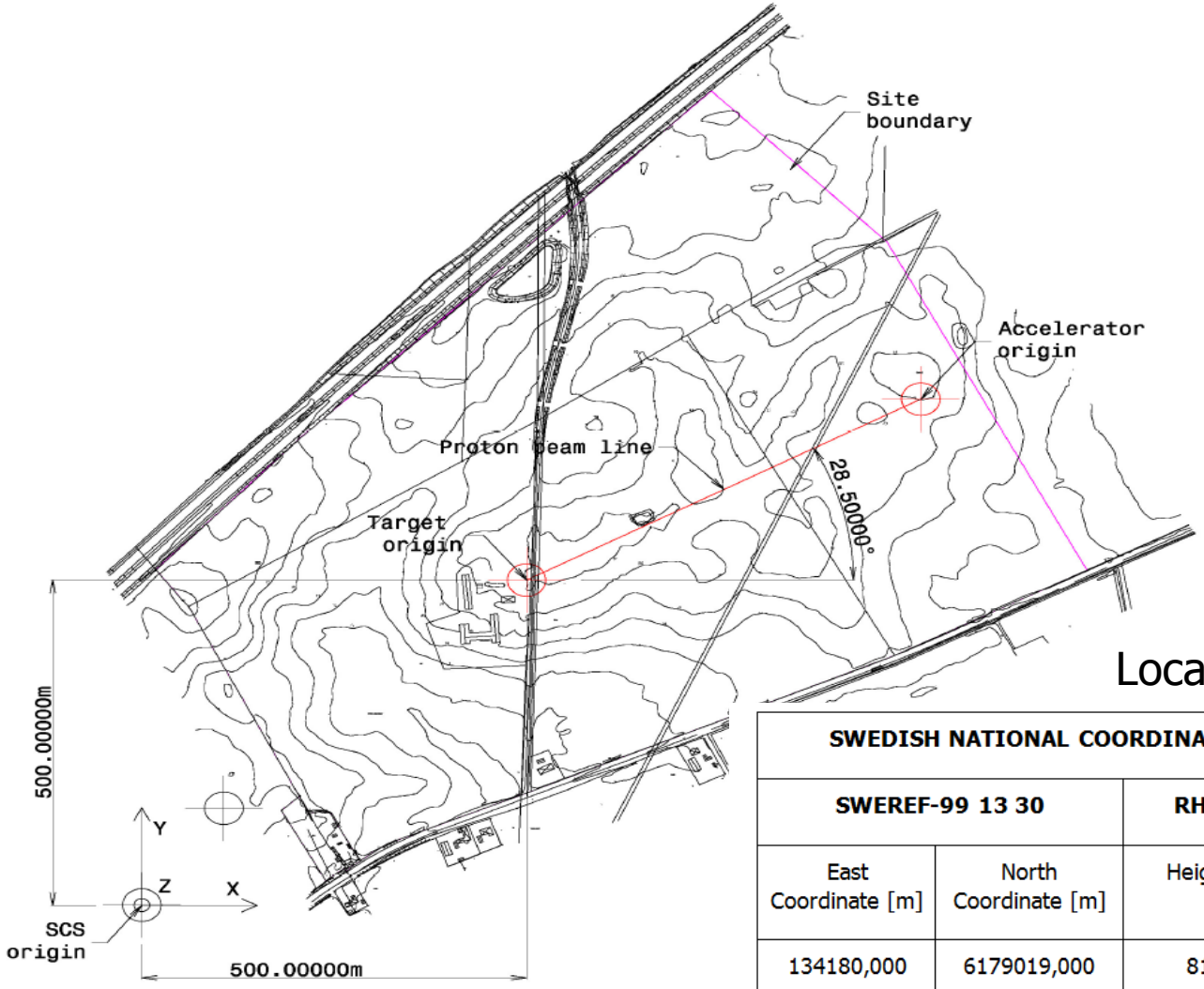
Coordinate System are used for mapping of position and orientation of geometry in a three dimensional space.
The **TCS (Target Coordinate System)** is defined and established as the Primary Coordinate System at the ESS. All other coordinate systems at the ESS shall be poisitioned and orientated respect to the TCS. TCS is defined as the intersection of the proton beam with the two common vertical axis.







TCS Location



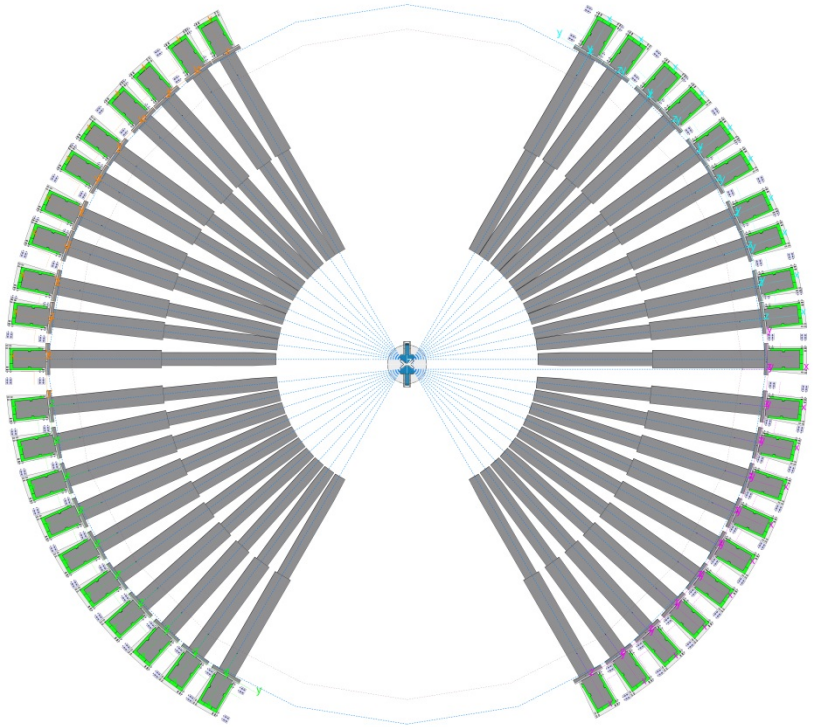
Location of the TCS

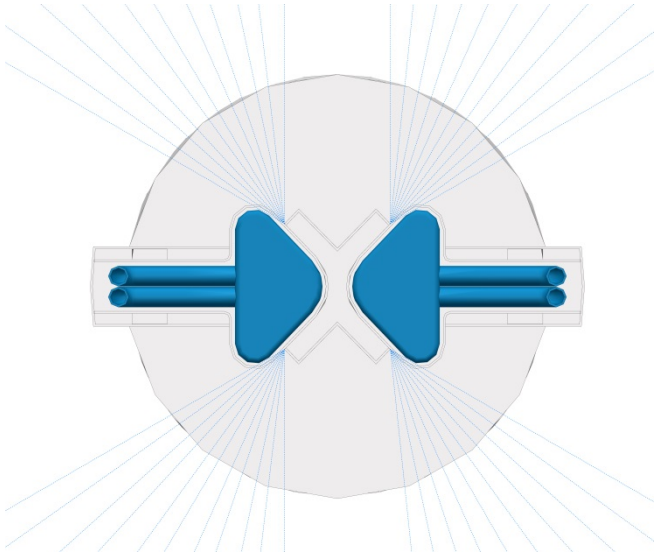
SWEDISH NATIONAL COORDINATES			ESS COORDINATES		
SWEREF-99 13 30		RH2000	X [m]	Y [m]	Z [m]
East Coordinate [m]	North Coordinate [m]	Height [m]			
134180,000	6179019,000	81,400	0	0	0

BPCS

Beam Port Coordinate System (BPCS)

- Defines each one of the neutron guides within the monolith assembly in the Target Station. There will be a total of 84 neutron guides.
- Origin is located in one moderator focus point. There will be in total 8 moderator focus points: 4 in the top moderator and 4 in the bottom moderator.





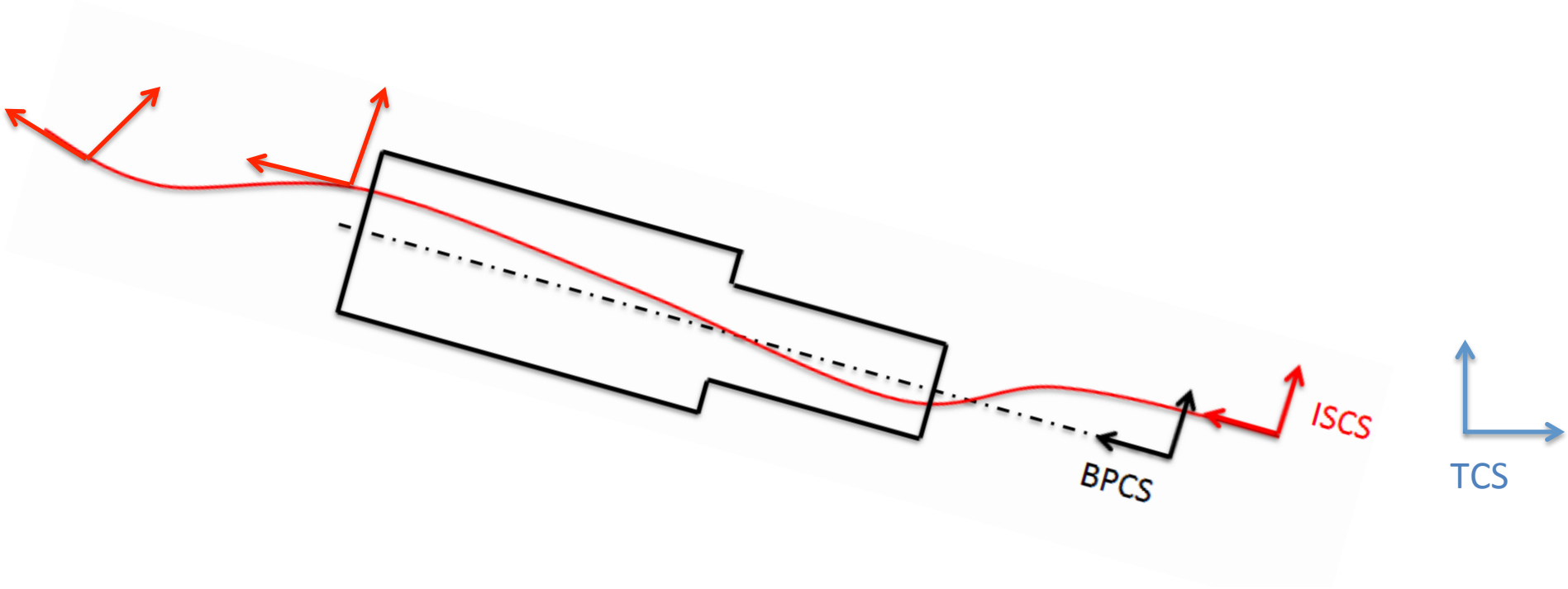
Source and Skeletons

Instrument Source Coordinate Systems (ISCS)

- The origin of the ISCS is the point in the moderator considered as the neutron source for a given instrument

Skeletons

- A skeleton is a set of Coordinate Systems that defines the position of integration components within a given system.
- Skeleton is the primary source of information when positioning components in the EPL.



Interfaces & Envelopes

EUROPEAN SPALLATION SOURCE

Interfaces

- Each Integration Component shall have its own Interface Control Document, or ICD. This document completly specifies the interface of the component with the surrounding systems.
- Interfaces can be specified in the EPL through the Component Skeleton. Component Skeleton is a 3D depiction of the Interface Control Document to vissualy assist the designers.

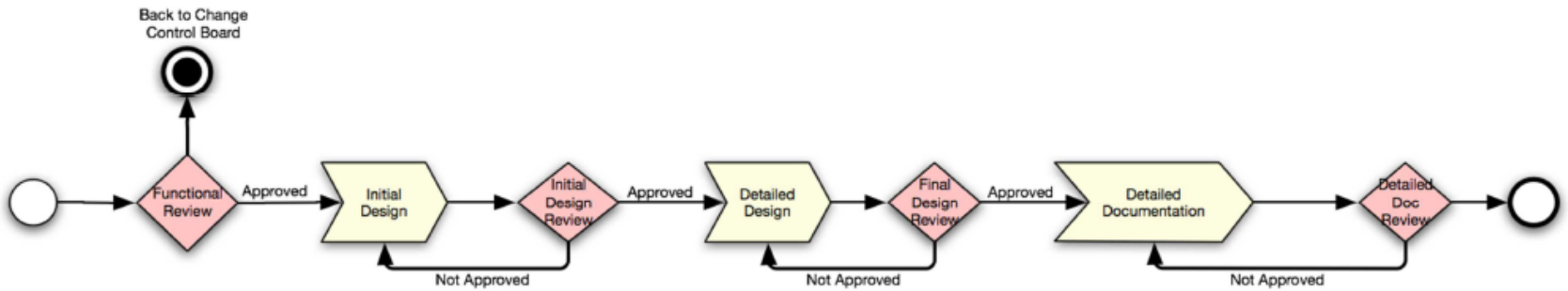
Envelopes

- Envelopes are defined for components and systems to ensure proper integration within the surrounding systems
- Envelopes should include:
  - Volume occupied by the component under operating conditions
  - Moving parts in their outmost position
  - Transportation volumes
  - Extra installation equipment volumes
  - On the spot maintenance volumes
  - Additional shielding, safety space
  - Alignment, position and survey volume

Integration of Components

Management of components.

- Mechanical Engineering of each component is described in the mechanical design procedure.
- Documentation regarding interfaces, envelopes and integration procedures shall be included in the release of engineering.
- Members of the integration team shall be in the review committe of an engineering release to ensure proper integration of the component with the surronding systems.
- Functional Integration is done in the review process of the release procedure.



Documentation

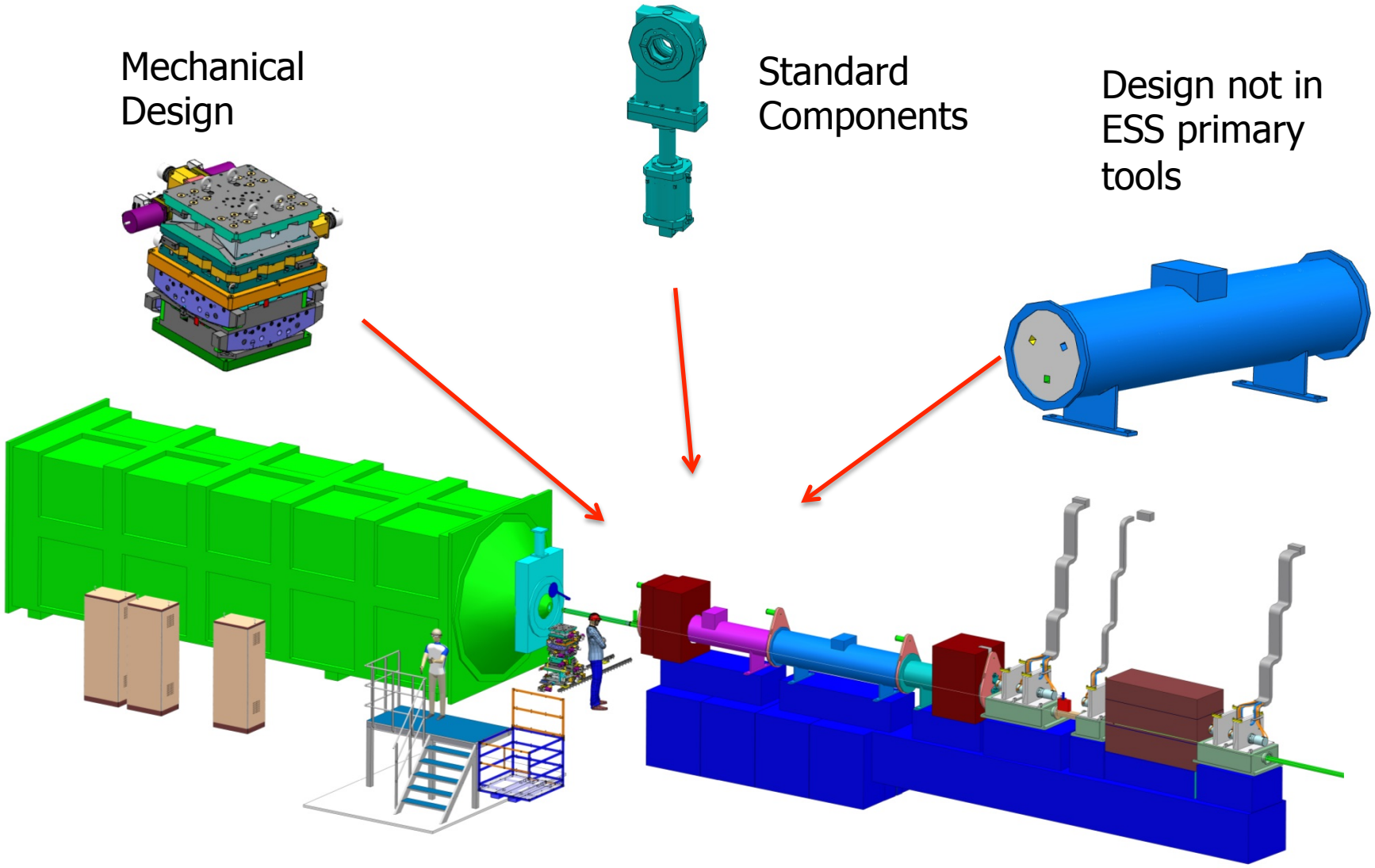
Integration Documents

- A set of Integration Documents will be issued as needed in order to control the correct configuration and integration of a system
- These documents may include drawings, 3D parts, documents, etc.
- These documents will have the proper life cycle, revision and versioning
- Peer and expert reviewers will contribute to the review

Documents include

- Drawing defining wedges between instruments
- Envelopes for the instruments
- Definition of services from Civil Engineering
- Interface Document for the whole instrumet
- ETC.

Integration of information



Engineering procedure and activities in Engineering process at ESS

EUROPEAN SPALLATION SOURCE

Mechanical Design Process

EUROPEAN SPALLATION SOURCE

- The Design Process specification has been developed in collaboration with the three major ESS project groups (Target, Instruments, Accelerator);
- The process layout, flow of information and assigned responsibilities are agreed on;
- Mechanism for ‘enforcing’ these processes is CHESS;
- CHESS is still being developed and implemented to cater for all demands;
- Currently, there is no set mechanism in place to ensure all reviews are done and work is signed off;
- Therefore, it is responsibility of everyone involved (the Design Engineer, Project Leader, …) to ensure reviews are done, the most robust designs are produced.

Development of the Mechanical Engineering Design Procedure

Procedure first established about 2 years ago.

3:d revision and support for the procedure now implemented in CHESS.

Reviewed and approved by:

John Weisend, Accelerator Division

Robert Connatser, Scientific Projects Division

Rikard Linander, Target Division

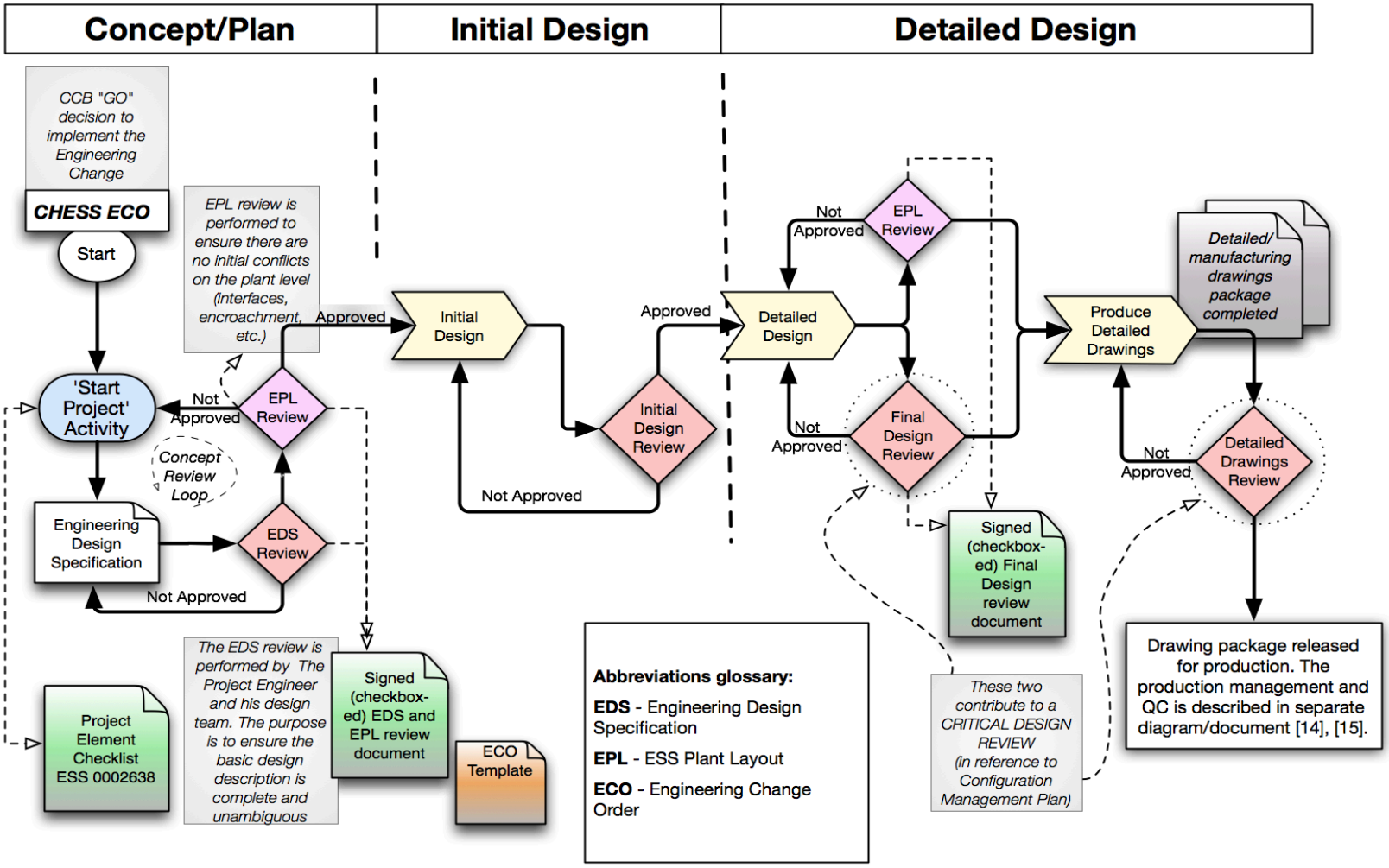
Magnus Göhran, Target Division

Romuald Duperrier, Systems Engineering

ESS-0002411 - Mechanical Engineering Design Procedure

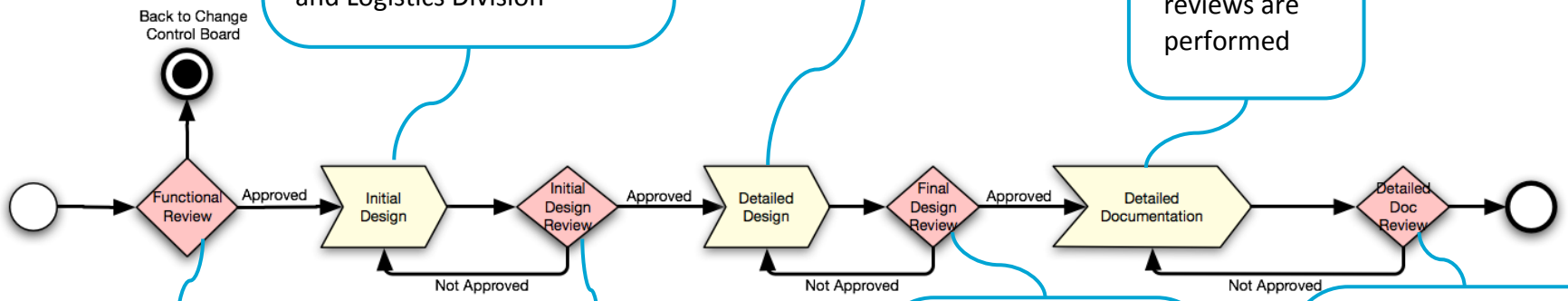
For more information on the Procedure please contact Zvonko Lazic

Mechanical Design Process at ESS



Mechanical Engineering Design Procedure (Engineering Change Order - **ECO Workflow**)

EUROPEAN SPALLATION SOURCE



Delivery units are being defined, initial modeling is done and space allocations are created and confirmed.

Contact Supply Procurement and Logistics Division

Full detailed modeling. Specification of purchase components.

All detailed Documentation is being produced. Peer reviews are performed

This step ensures the basic requirements are specified and that the specification is within the reach of the design team.

The purpose of this review is to ensure that the initial design corresponds to the basic design description and that the design documentation is being prepared for the review and approval

Review of the final design is performed.

The Final Design Review ensures that the final detailing does not impede any performance characteristics of the system.

Review of the final design is performed by the Project Engineer and additional if required. The review ensures that the produced detailed documentation package is complete and according to standard.

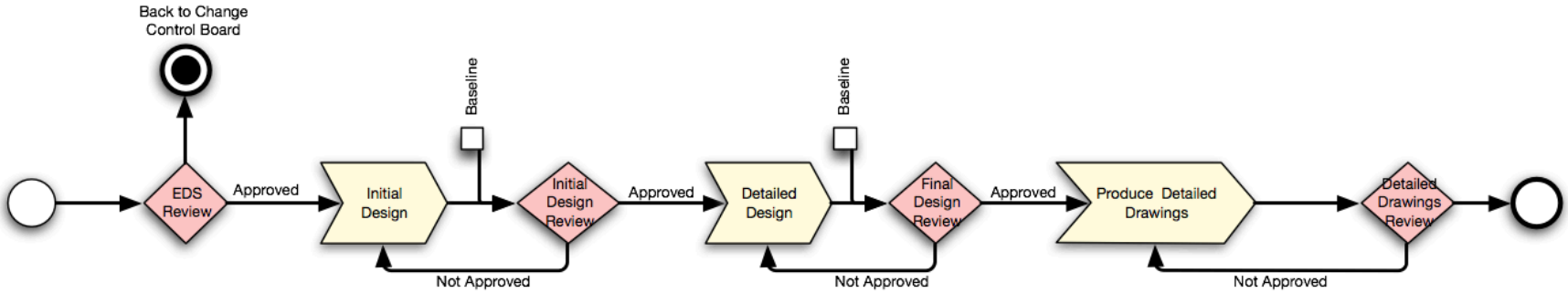
Roles

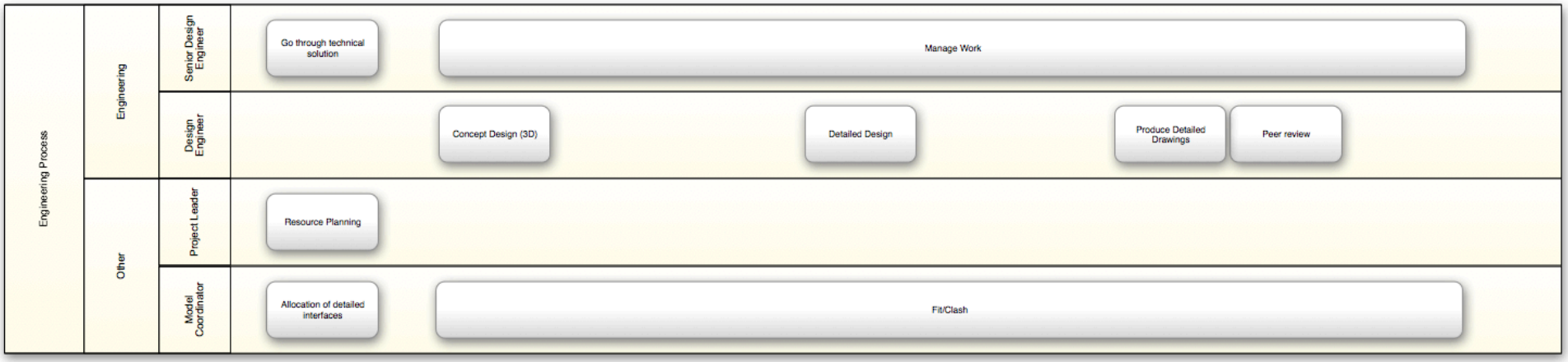
The Role in the Procedure is NOT equivalent to a role in the Organization.

You can be Scientist or Work package Leader organizationally and Project Engineer according to the Mechanical Design Procedure.

- ***Project Engineer*** is overall responsible for delivering the project. Reporting against the cost and schedule.
- ***Design Lead*** associated with the Project and the Mechanical Design, delivers the mechanical design for the project.
- ***Senior Design Engineer*** is any senior Design Engineer with appropriate experience to review the design submitted.
- ***EPL Coordinator/ Integration*** is a person handling, modeling and coordinating the EPL model.

CHESS 'way' of procedure control



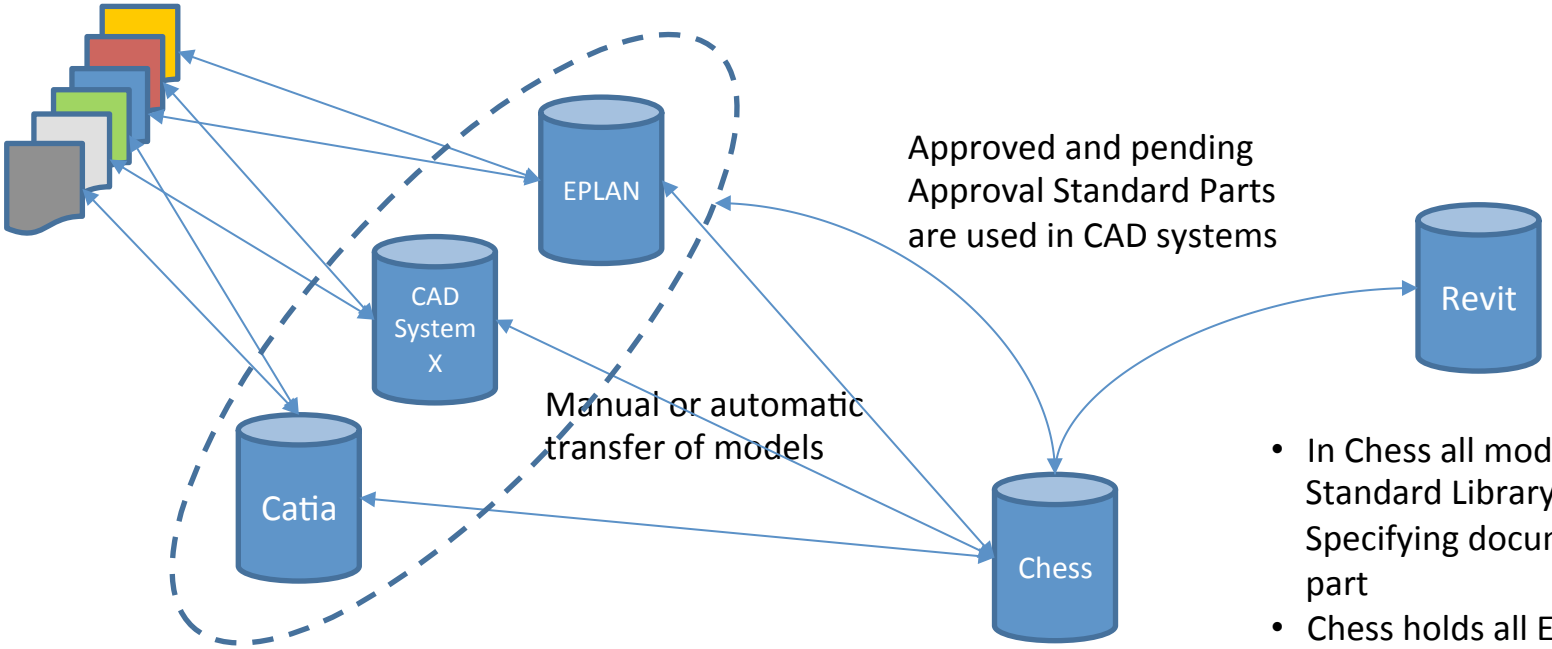


Standard components management and coordination

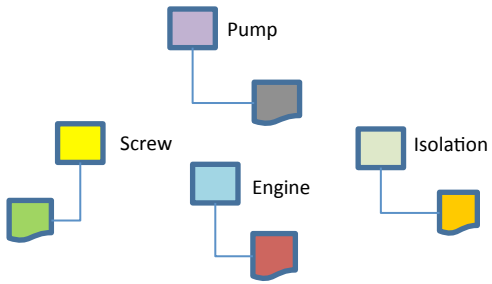
EUROPEAN SPALLATION SOURCE

Standard Part Overview

Catalogues of standard parts selected by ESS is set up in appropriate CAD system as Standard Libraries. These Libraries contain models and part characteristics



In CAD system engineer uses the models to create their design



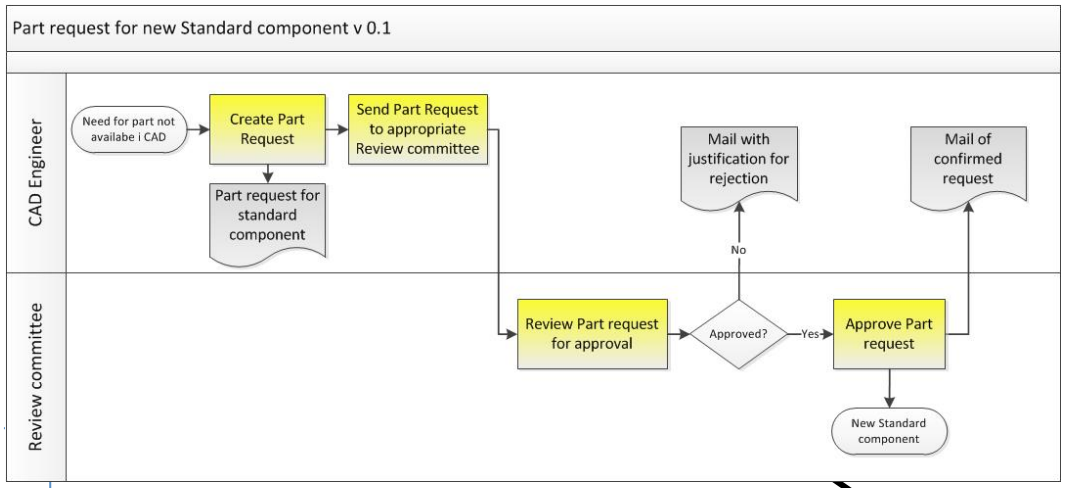
- In Chess all models from a Standard Library serve as Specifying document to a part
- Chess holds all ESS approved and pending approval Standard Parts
- Approval process is carried out in Chess
- Parts data, models and drawings can be retrieved from CHESS

Process

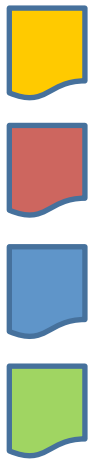
Standard Part Management Framework

Select and approves

- Standard Manager
- QA & SHE
- Electrical safety committee
- Mechanical safety committee

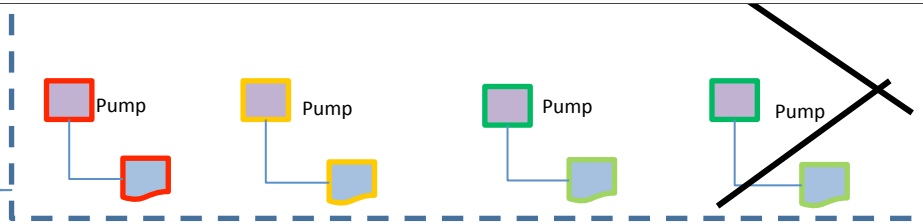


Part Catalogue CAD in Chess



Engineering

Electrical



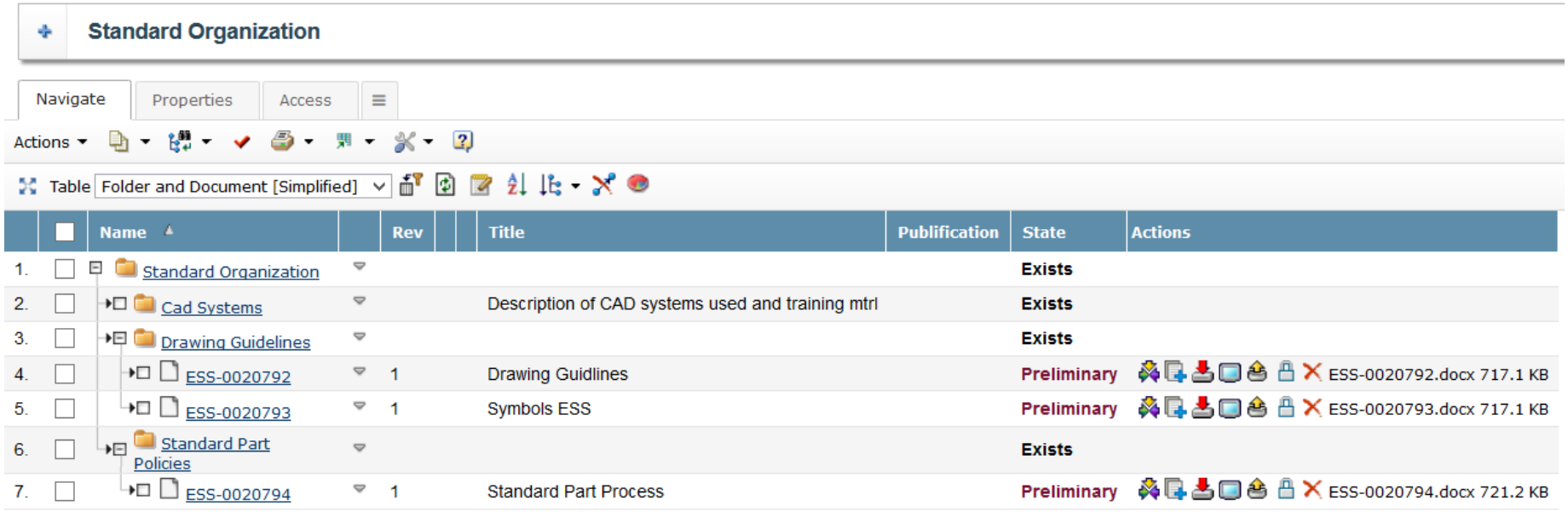
- An overall process is defined by Standard Organization for Standard Part Management
- This process is adapted in each function and has differences when it comes to which roles are involved in design, review and approval

Business requirement, high level
Approved ESS Component = **AEC**

EUROPEAN SPALLATION SOURCE

1. When design is “ready”, all components used shall be latest AEC (To be verified)
2. Components used in design that are non-AEC shall be possible to find
3. Anyone but assistant designers working in or for CF shall be able to request a new AEC
4. An AEC contains all relevant data for the component in the type world
5. Approval of ESS components shall be a centralized and under documented control (Or TDL per discipline, or …)
6. AEC shall be under configuration management (Configuration management is done in CHESS)
7. AEC shall have well defined lifecycle stages
8. AEC shall be available for everyone working with CF design
9. Support to find a wanted AEC shall be available
10. Support to download AEC for use in Revit shall be available

Start Kit

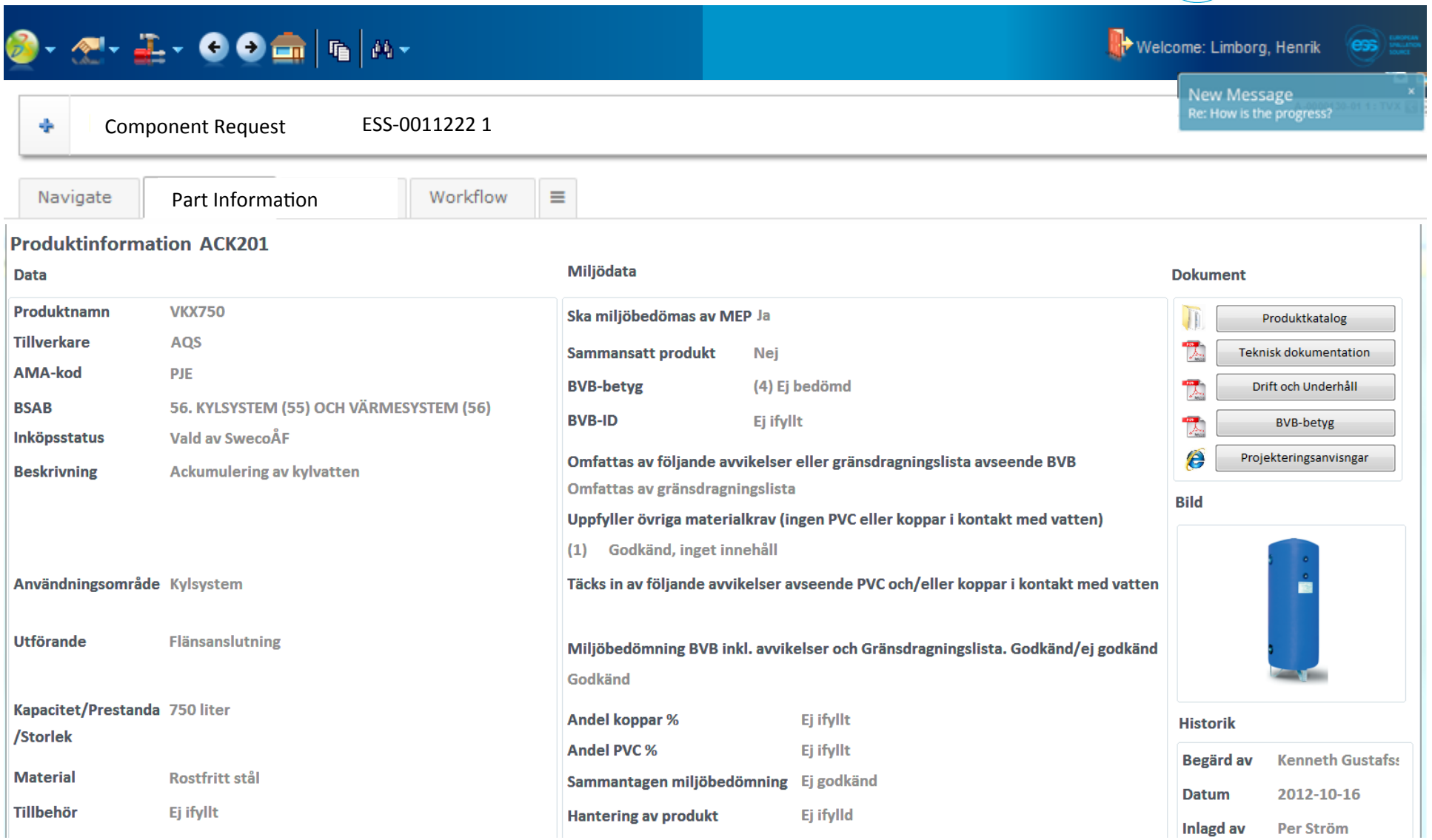


		Name		Rev		Title	Publification	State	Actions
1.		Standard Organization						Exists	
2.		Cad Systems				Description of CAD systems used and training mtrl		Exists	
3.		Drawing Guidelines						Exists	
4.		ESS-0020792		1		Drawing Guidlines		Preliminary	ESS-0020792.docx 717.1 KB
5.		ESS-0020793		1		Symbols ESS		Preliminary	ESS-0020793.docx 717.1 KB
6.		Standard Part Policies						Exists	
7.		ESS-0020794		1		Standard Part Process		Preliminary	ESS-0020794.docx 721.2 KB

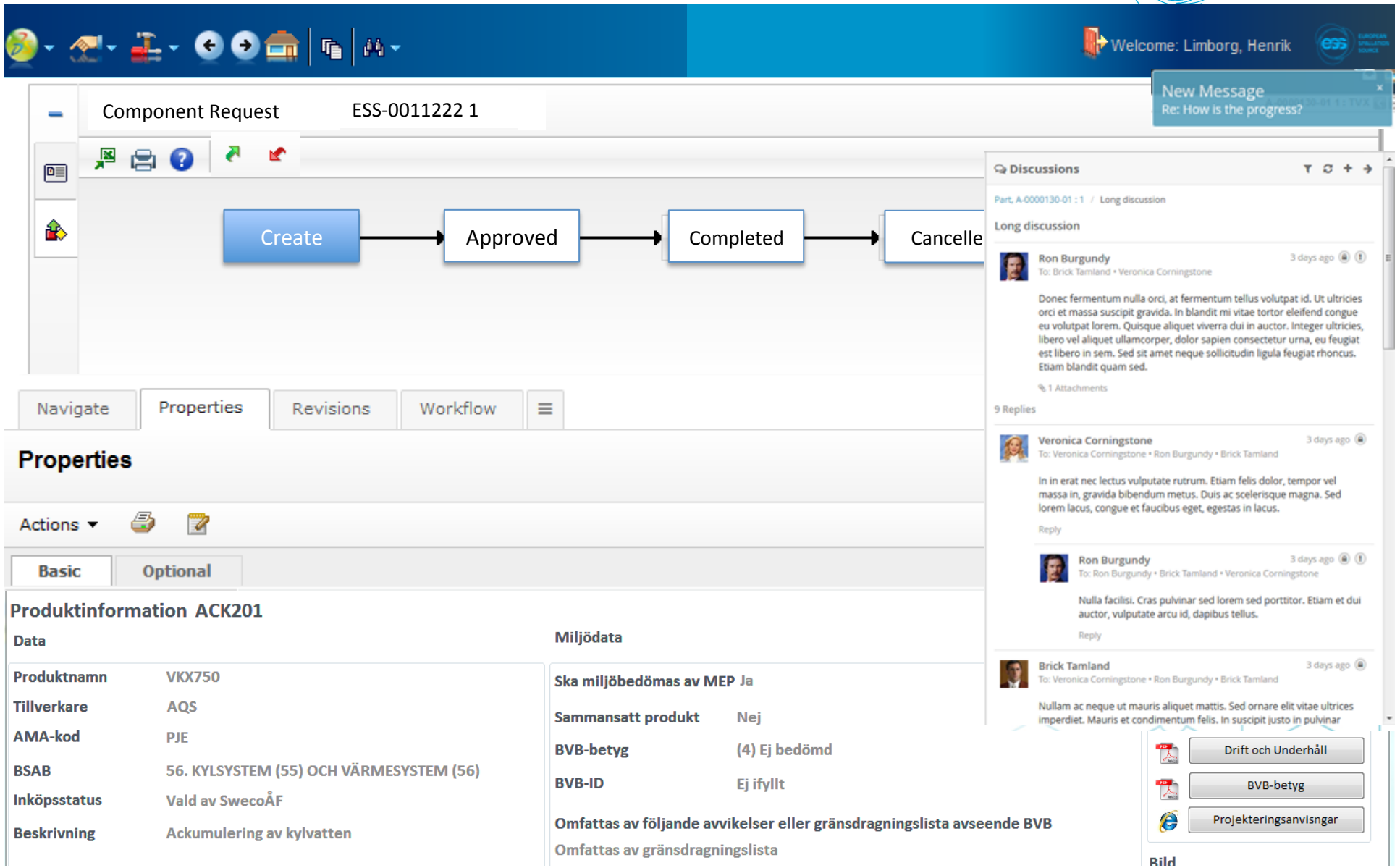
Information about ESS Standard Management is stored in folders. Folders can for example contain information about:

- Standard Part Management Framework – Process and procedures
- Drawing Guidelines – Symbols etc
- Material Database

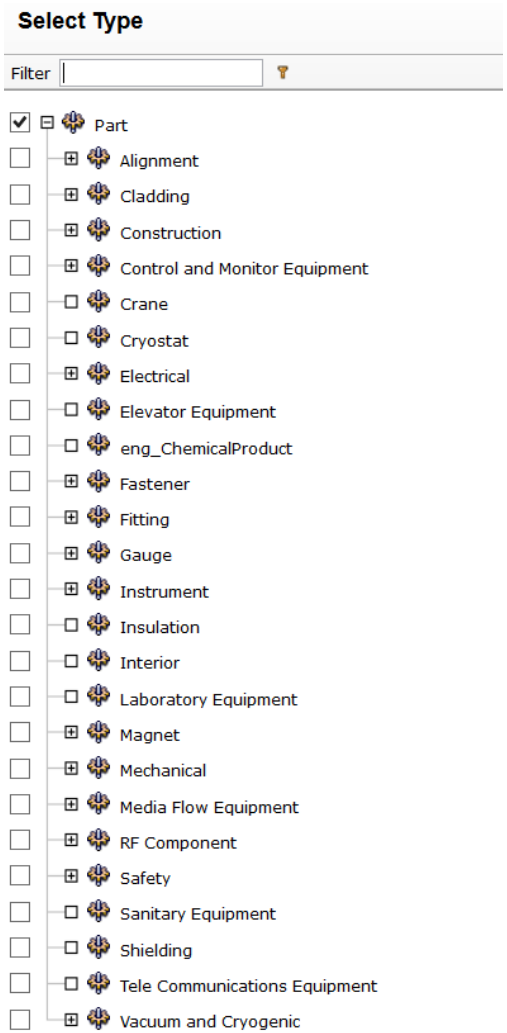
Component Request and related information



Component Request and Communication



(Object or Item)Classifications

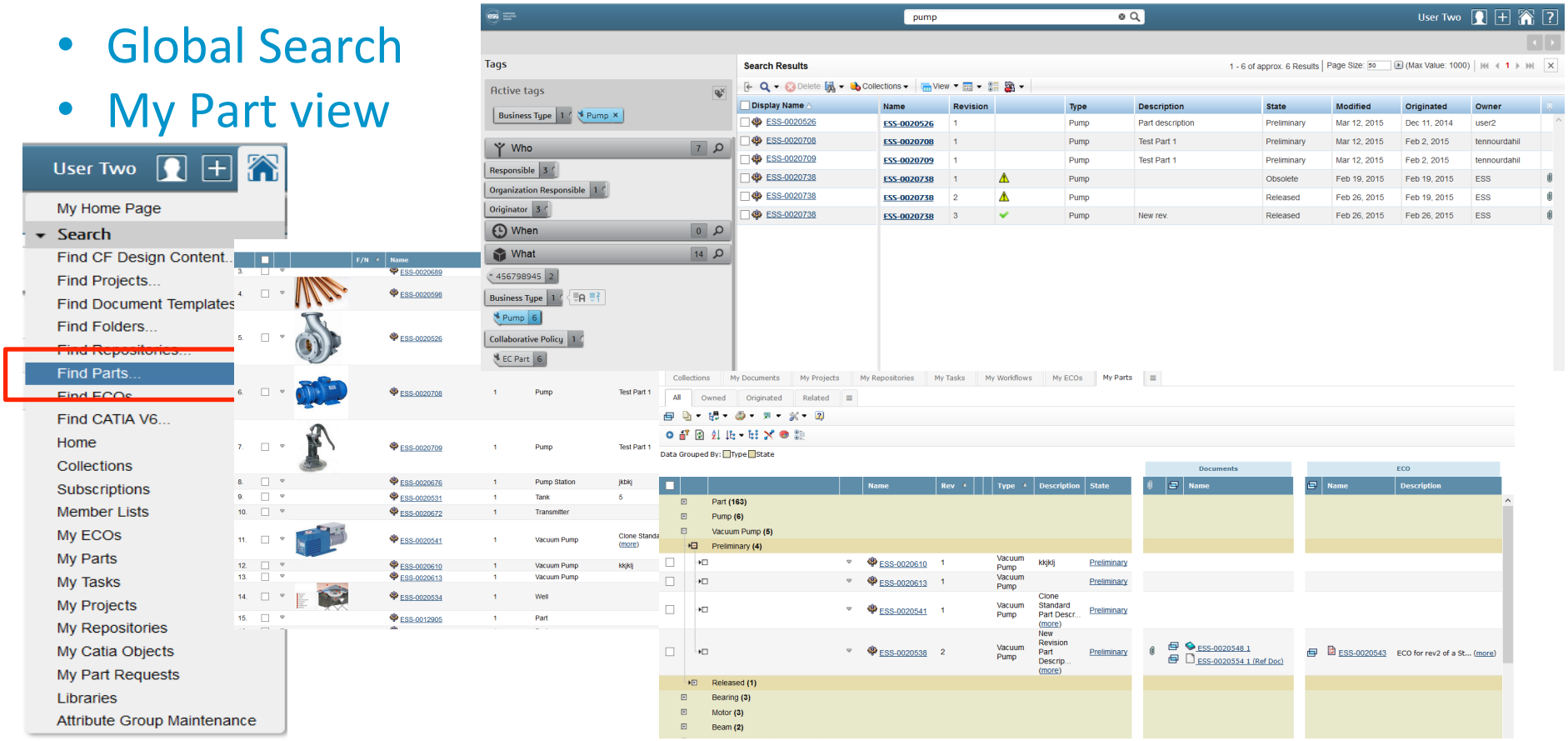


- Each object inside Chess is “off” a type.
- The type is a way of classifying the part e.g. all parts that will serve as a pump are created as Part Type Pump, Vacuum Pump etc.
- Part being of a type allows user to search, sort and communicate around a common ESS class
- A Part Type can have specific attributes which allow engineers to define specifics about the part
- MRO and ERP systems?

Finding Objects in database

A Chess user can search and find parts in different ways:

- Search form Find Parts or Find Standard Parts
- Global Search
- My Part view

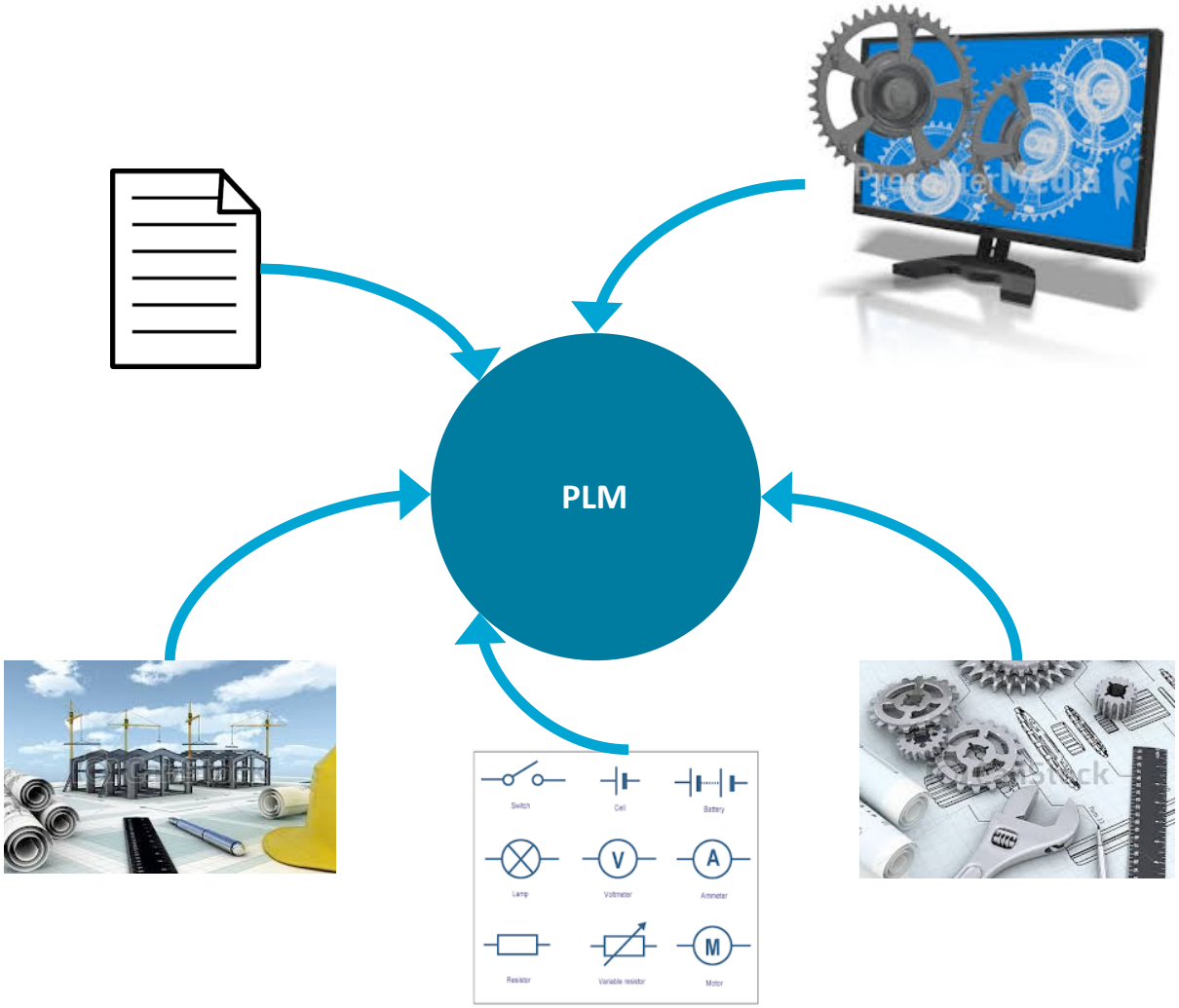


Coming features of standards management in PLM

EUROPEAN SPALLATION SOURCE

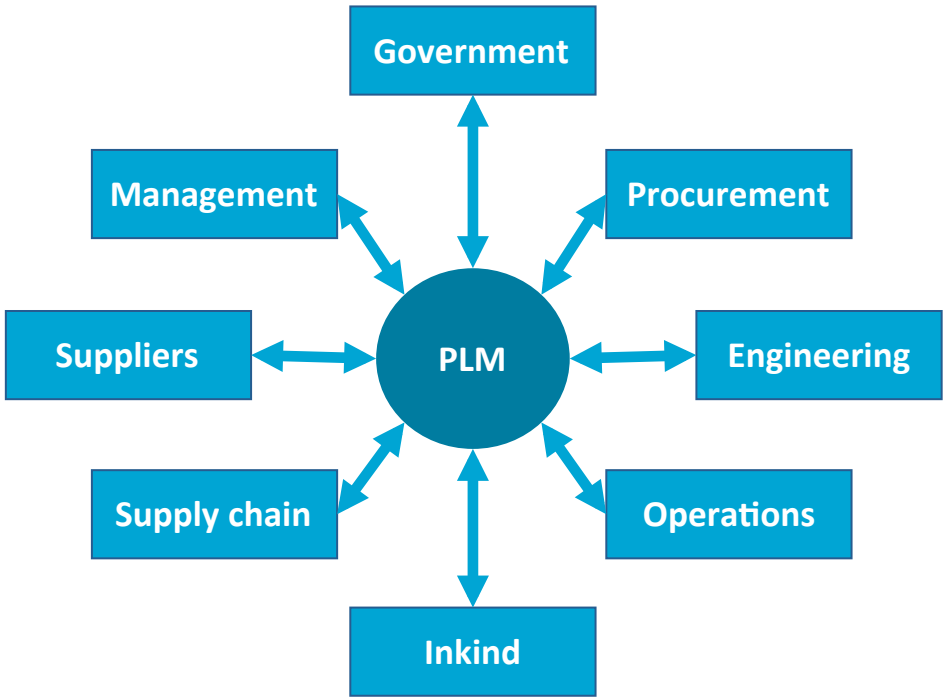
- Cross functional groups regarding standard components in all divisions
  - ✓ Create Electrical Safety Committee
  - ✓ Create Mechanical Safety Committee
- Create standard parts in Eplan and Catia
- Create a Material Database
- Supporting safety related components classification

PLM & Process support



What is Product Lifecycle Management and Why PLM?

"PLM supports the product development process, integrating people, data, processes and business systems and providing a product information backbone for companies and their extended enterprise."



Source: www.cimdata.com

PLM Vision

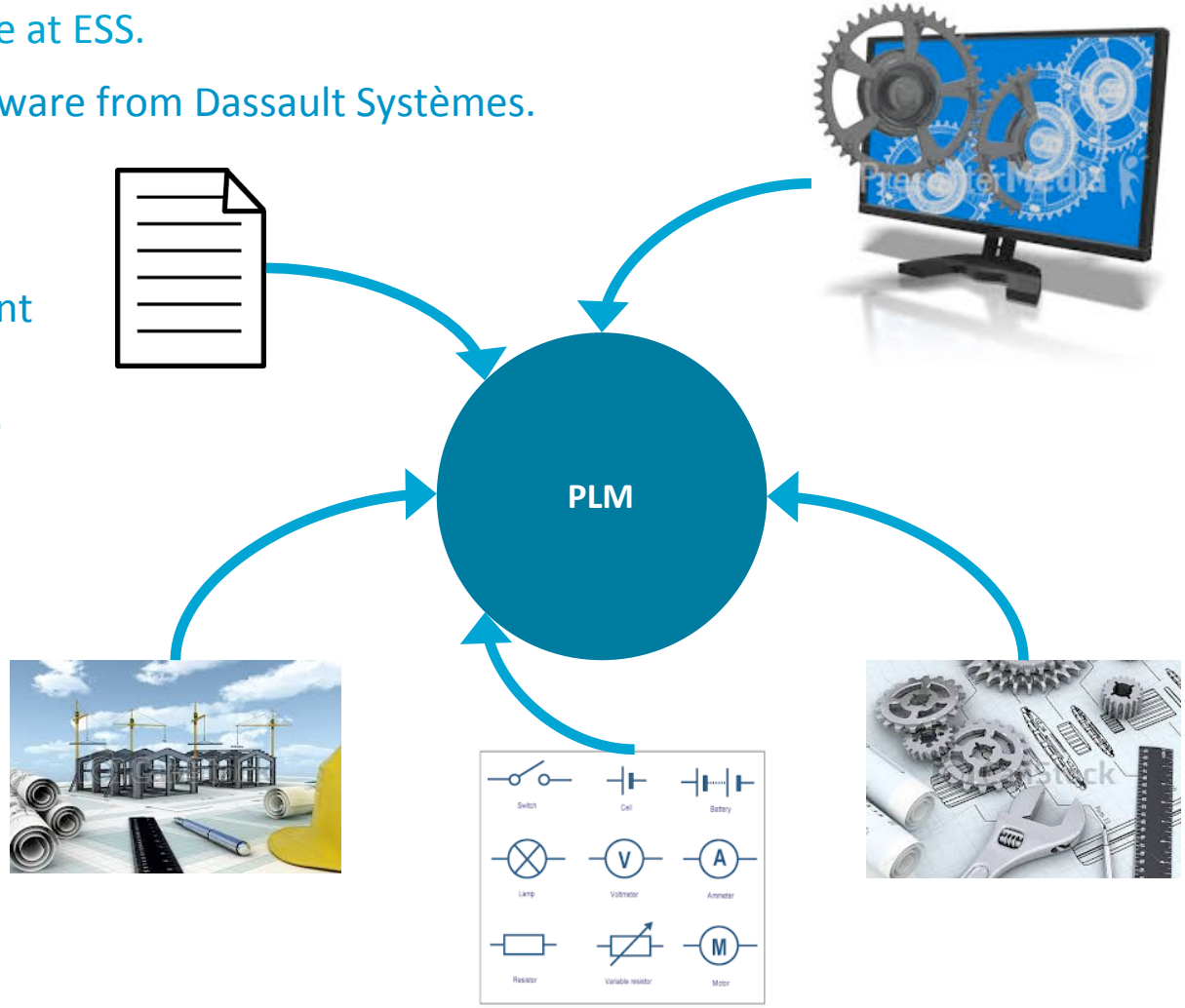
EUROPEAN SPALLATION SOURCE

"ESS and its collaboration partners will be able to create, update and reuse information related to building and maintaining the ESS facilities in a controlled and traceable manner throughout design, manufacturing, commissioning, operation, maintenance and decommissioning phases. "

CHESS

- CHESS = Collaboration Home at ESS.
- Built on Enovia V6 PLM Software from Dassault Systèmes.

- Implemented so far
  - Document Management
  - CAD data
  - Engineering Procedure
  - Construction data
  - Part Database
- In the pipeline
  - PBS
  - Naming
  - Electrical design
  - Mobile support
  - Inspections(QC)



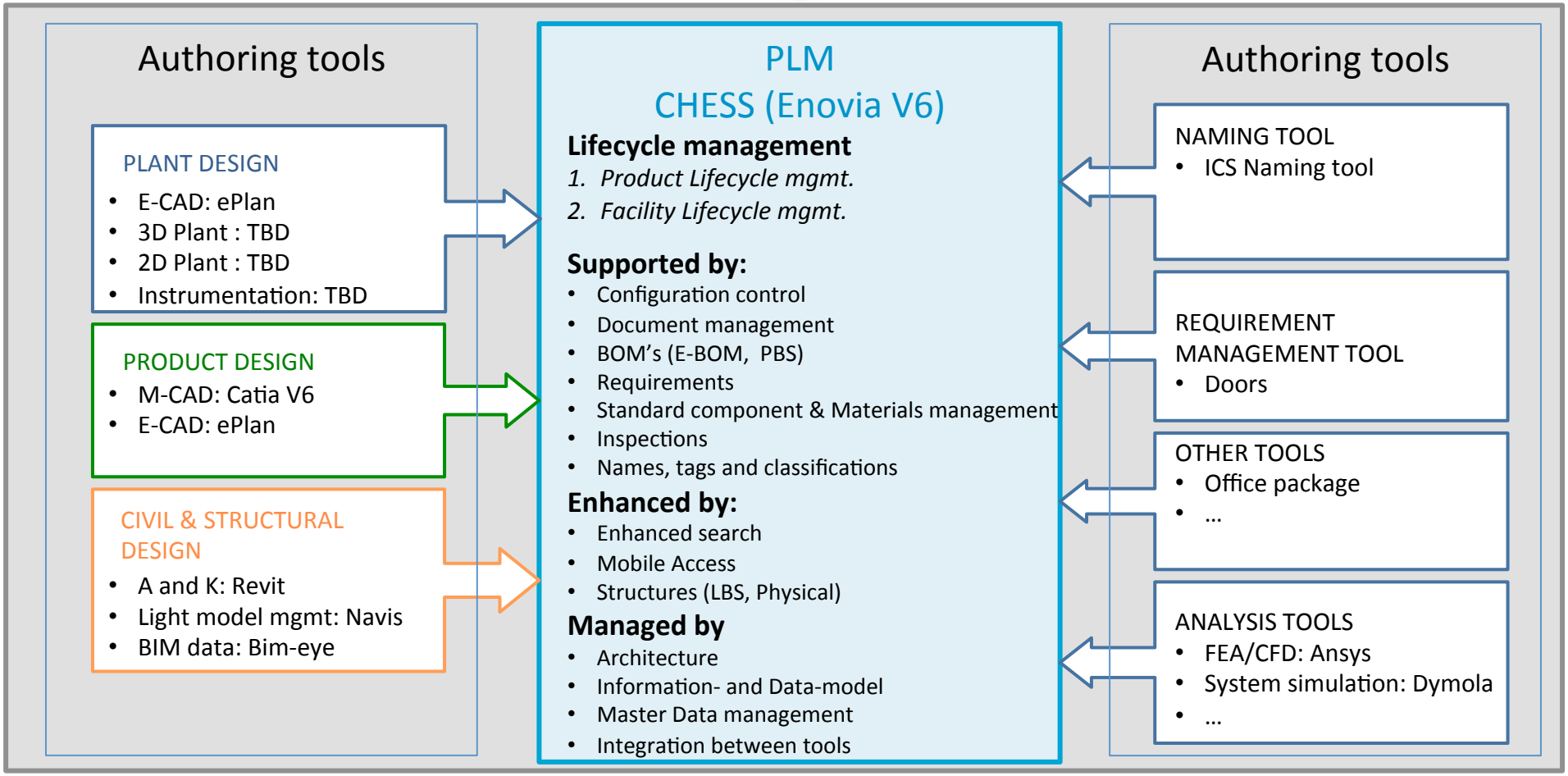
PLM implementation roadmap

EUROPEAN SPALLATION SOURCE

ESS MANAGEMENT SYSTEM

Requirement from users

ADOPTED PROCESSES TO ESS TOOLS + Use-cases



PLM Vision: One truth – Many views

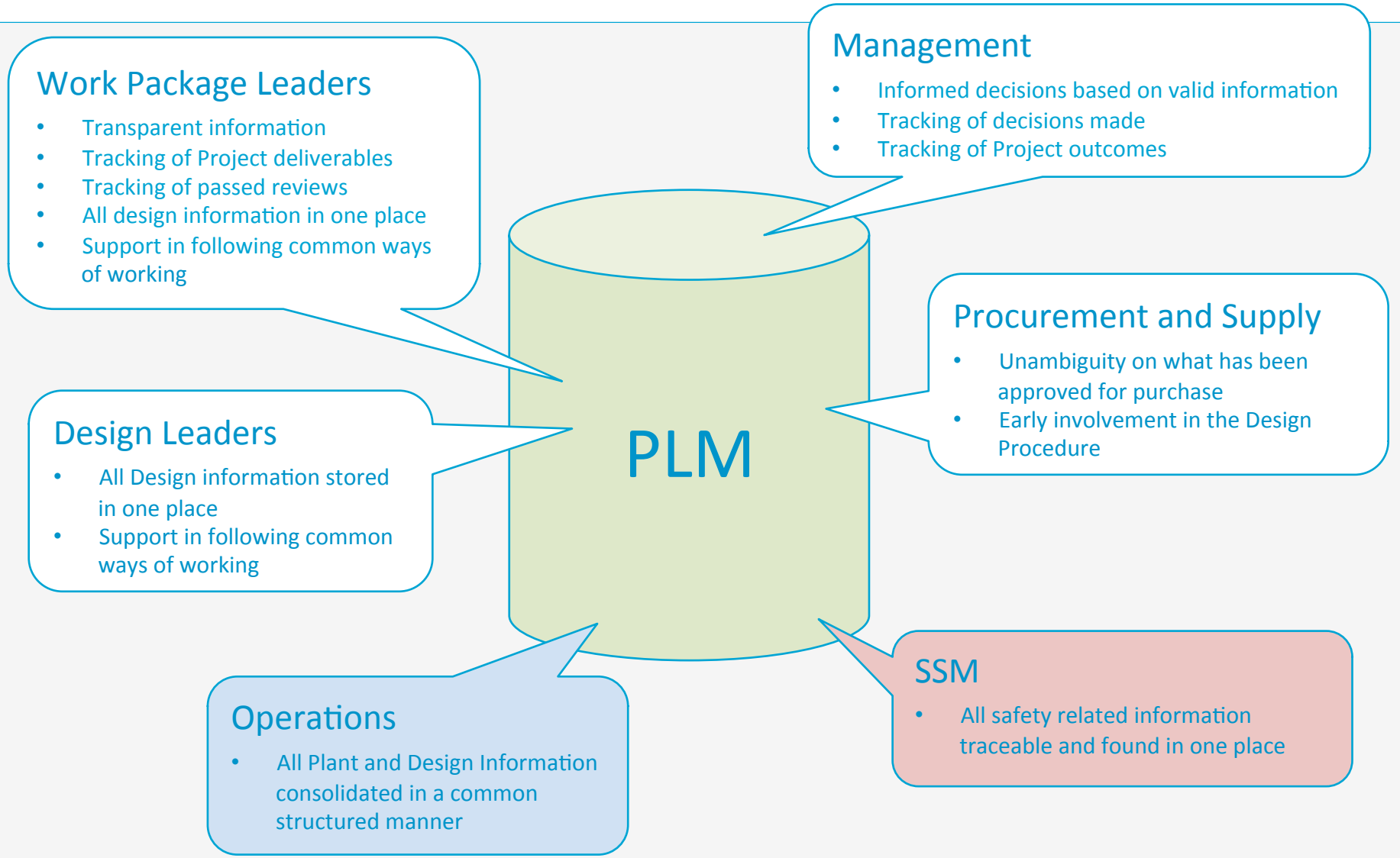
Independently of who you are or what role you have you have different access views to the same information.

It also reduces the ambiguity of where to search for the latest and correct information.

EXAMPLE

A Work Package leader might be interested in the readiness state of the design, a CAD Engineer the CAD information related to a Part. Since these are linked and updated in one place you ensure always looking at the correct and latest information.

PLM Vision: One Truth Many Views



In-Kind in ESS PLM

It is vital to ESS to get the In-Kind partners integrated in the PLM work at an early stage for several reasons:

- Early design coordination enables early detection of clashes and critical areas
- Using same tools enables better and faster design iterations
- Maintaining parametric design data enables traceability in all changes and saves large ammounts of time on design changes
- Using one database for components and materials enables ESS to align components used and save on stocks and materials management, as well as cost per component in procurement and storage of spares and replacements.

2 or 3 levels of In Kind integration for instruments?

ESS defines instruments In-Kind connection to the CHESS PLM database in two different levels:

Level 1:

Used for collaborators/suppliers with design responsibilities of a more complex or longer term nature. A limited number of users at the IKC, are connected to the PLM database and responsible for updating the design information and design coordination.

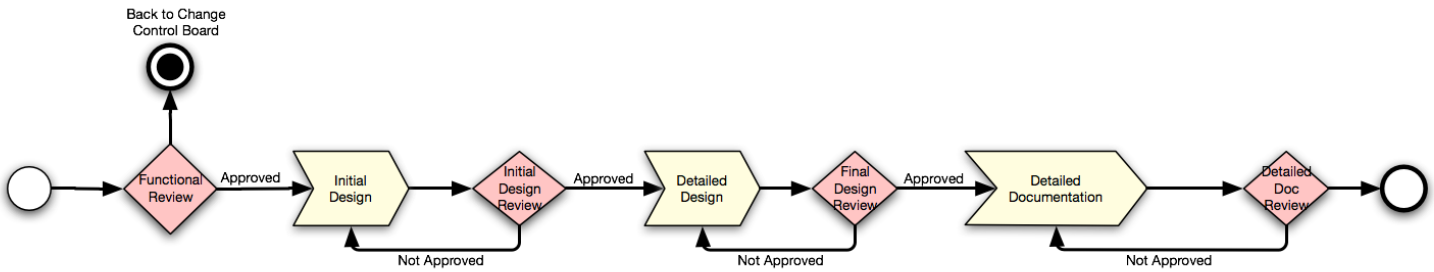
Level 2:

For collaborators with the need to work concurrently with integration to the ESS design over a longer period of time. These will need to be connected to the CAD database or a replica database (multisite) to work directly connected, the same way as users at the ESS office in Lund.

Common Ways of Working

CHESS is a PLM tool that supports PROCEDURES that are cross functional, like the Mechanical Engineering Design Procedure.

PLM Tool – supporting CROSS FUNCTIONAL work – Procedures

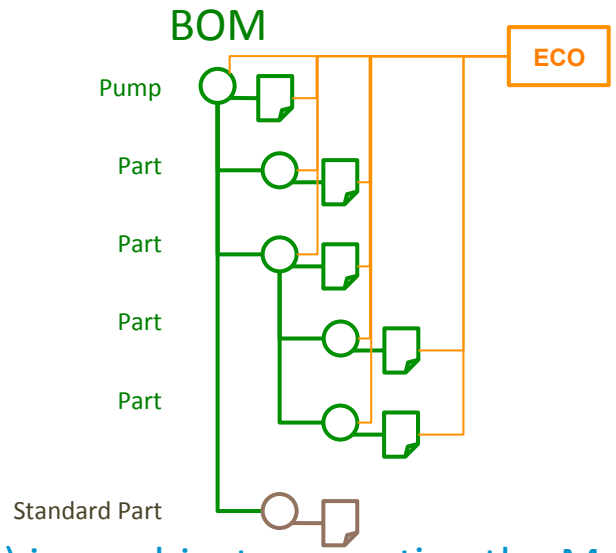


How to work with ECO related to in kind, integration and design

ENGINEERING CHANGE ORDER

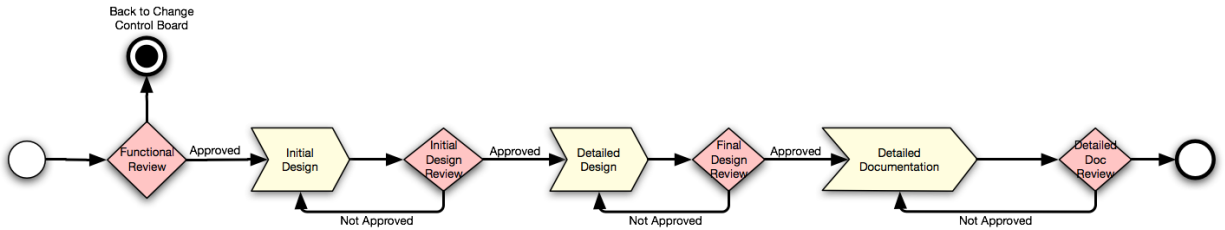
ECO

Used for monitoring the progress of the design, communicating and releasing Parts

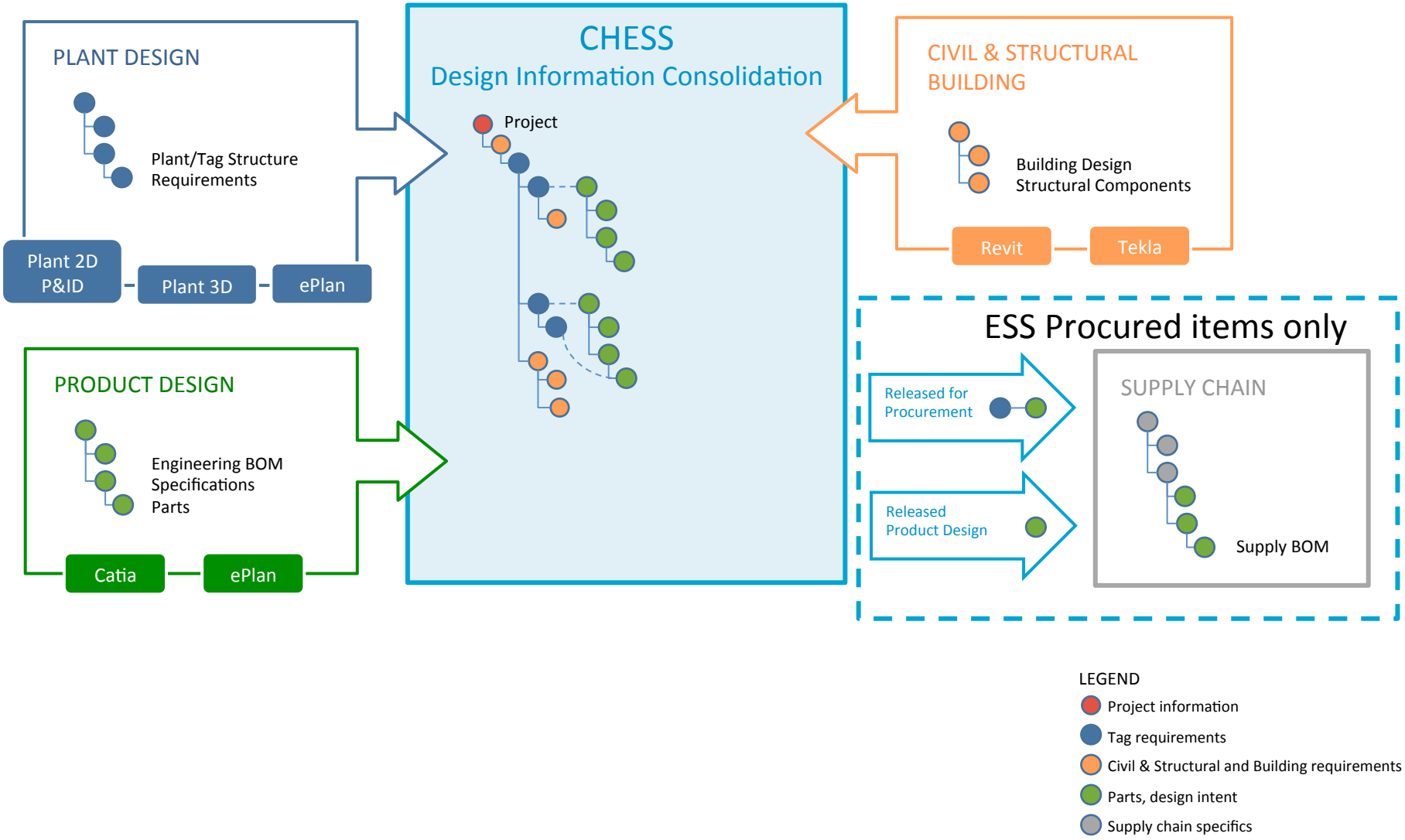


ECO (Engineering Change Order) is an object supporting the Mechanical Design Procedure through coordination and tracking of the Design work throughout the Project.

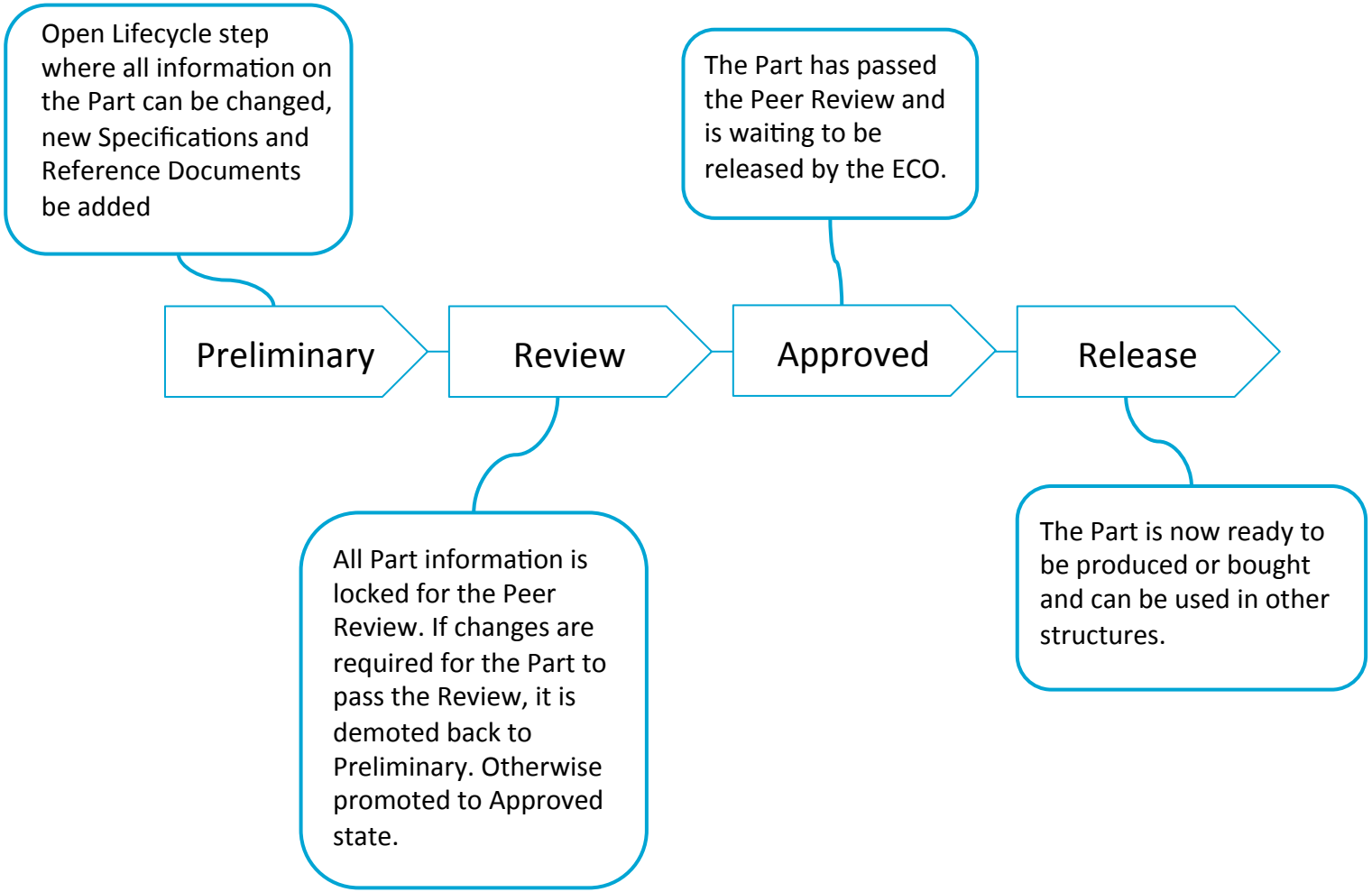
Approvals are made on the ECO releasing a full Design, Parts and Specifications, in one go using the Bottom Up Principle.



Design Data Consolidation



Part and Specification Lifecycle



Contact and Support

PLM & Process support group is responsible for ESS CAD/PLM support and Back-office, in order to support collaborators on working in ESS systems. (in progress)

Local support can be arranged through Dassault Systèmes local reseller. ESS support can help with initial contact.

Training on ESS CAD/PLM methods is in procurement now.

In-Kind startkit is beeing developed.

Contacts:

Henrik Lindblad	henrik.lindblad@esss.se	Group Leader PLM
Andrea Ehn	andrea.ehn@esss.se	Catia responsible (maternity leave)
Christoffer Affelin	christoffer.affelin@esss.se	Catia methods and support and stand in for Andrea
Ardhendu Nanda	ardhendu.nanda@esss.se	Catia methods, support and training

ESS PLM/CAD and General Support

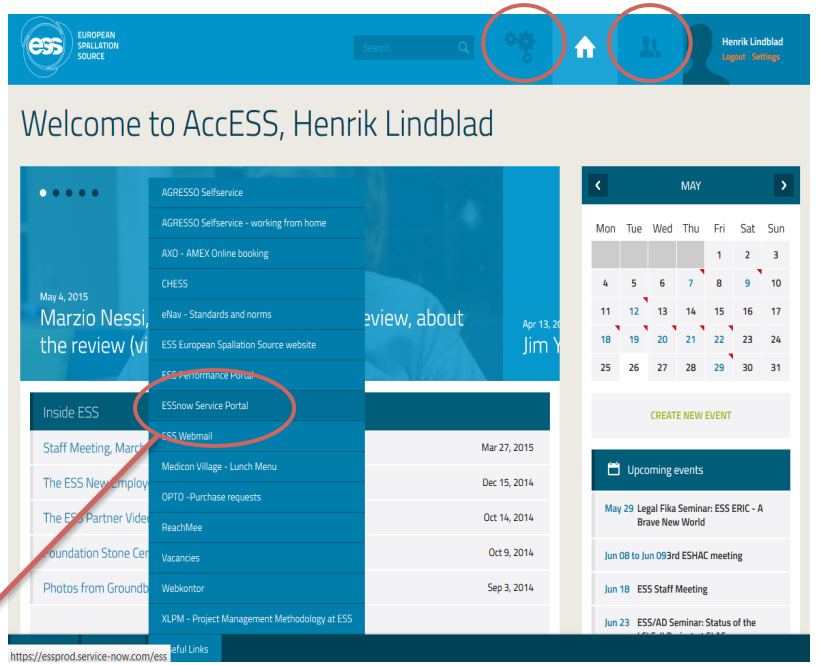
Intranet pages

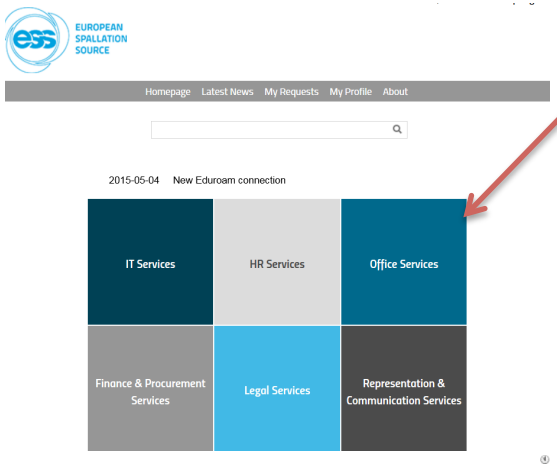
Access:

https://access.esss.lu.se/

Service now:

https://essprod.service-now.com/ess/





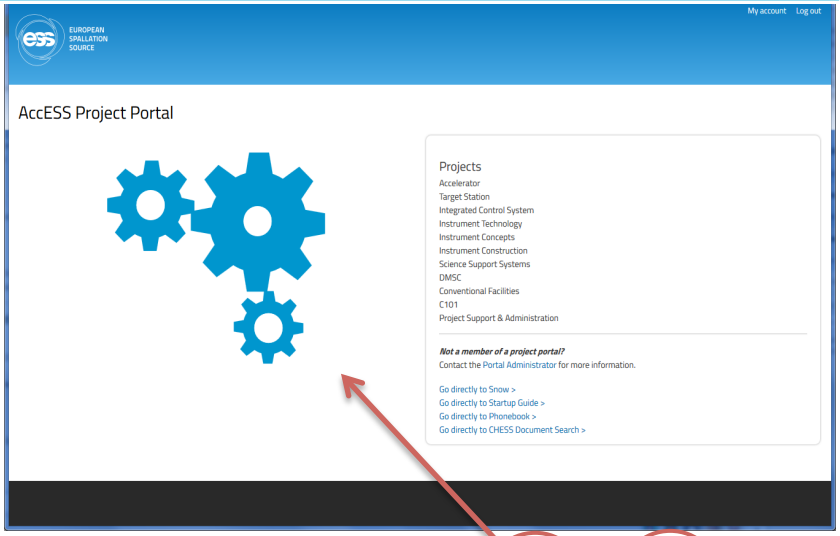
ESS PLM/CAD and General Support

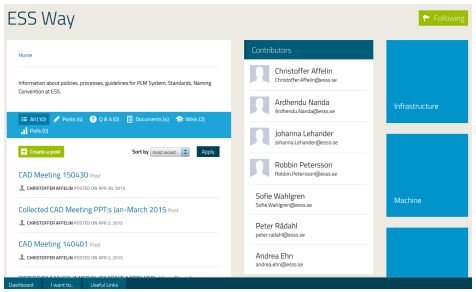
The project portal is the gateway beeing rolled out for all participants in a project, the new single point of entry, will connect users to all relevant information regardless of system.

https://access.esss.lu.se/APP/

Service now + ESS Way current location

https://essprod.service-now.com/ess/





Thank you for listening to us!