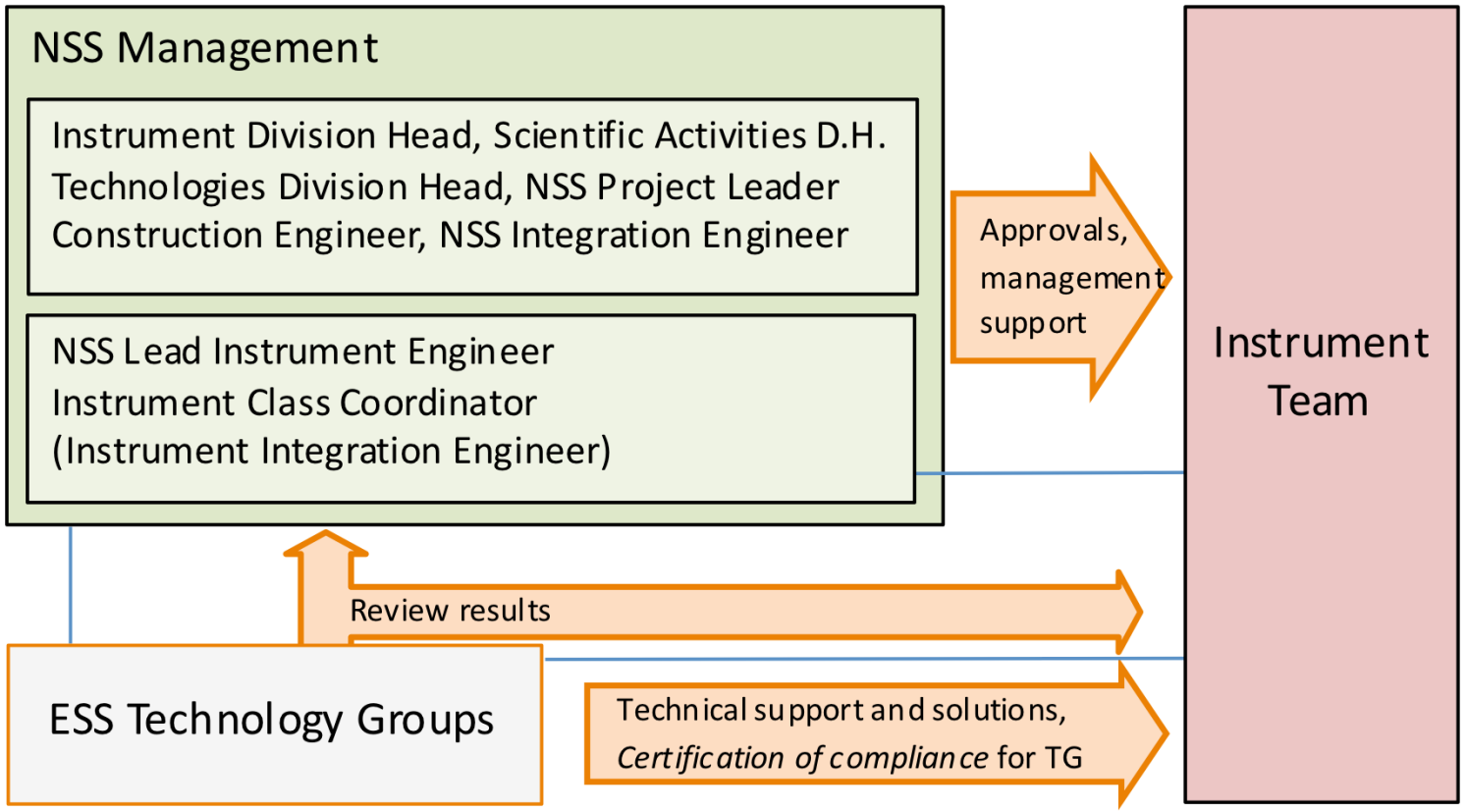
EUROPEAN SPALLATION SOURCE

Instrument Design Support

Gábor László
NSS Lead Instrument Engineer

Management Structure

From instrument design perspective!



NSS Management

NSS Project Leader: Shane Kennedy

Technologies Division Head: **Oliver Kirsten**
Leading technology groups, Deputy NSS Project Leader

Scientific Activities Division Head: **Arno Hiess**
Licensing, Sample Environment, Labs, User offices

Instrument Division Head: **Ken Andersen**
Instrument coordination /Science/

NSS Lead Instrument Engineer: **Gabor Laszlo**
Instrument coordination /Engineering/

NSS Management

NSS Construction Engineer

- Coordination of civil construction activities
- NSS Safety and Licensing
- Assembly and installation of key NSS equipment

NSS Integration Engineer

- Radiation shielding and protection systems
- Integration planning for the installation and commissioning

Instrument Class Coordinator

- Point of contact with ESS Communications
- Organizing meetings
- Coordinate within instrument class
- Scientific support to the Instrument Teams

ESS Technology Groups

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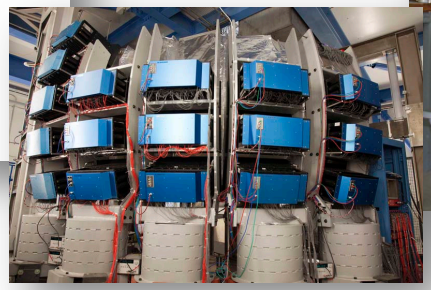
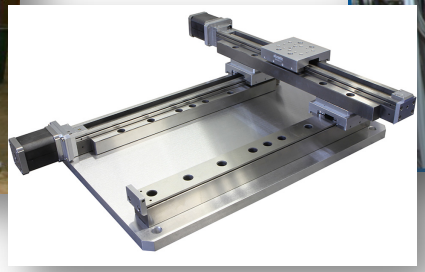
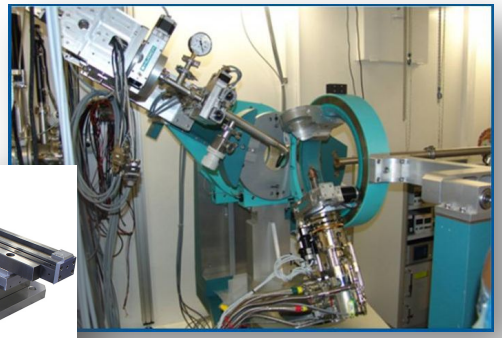
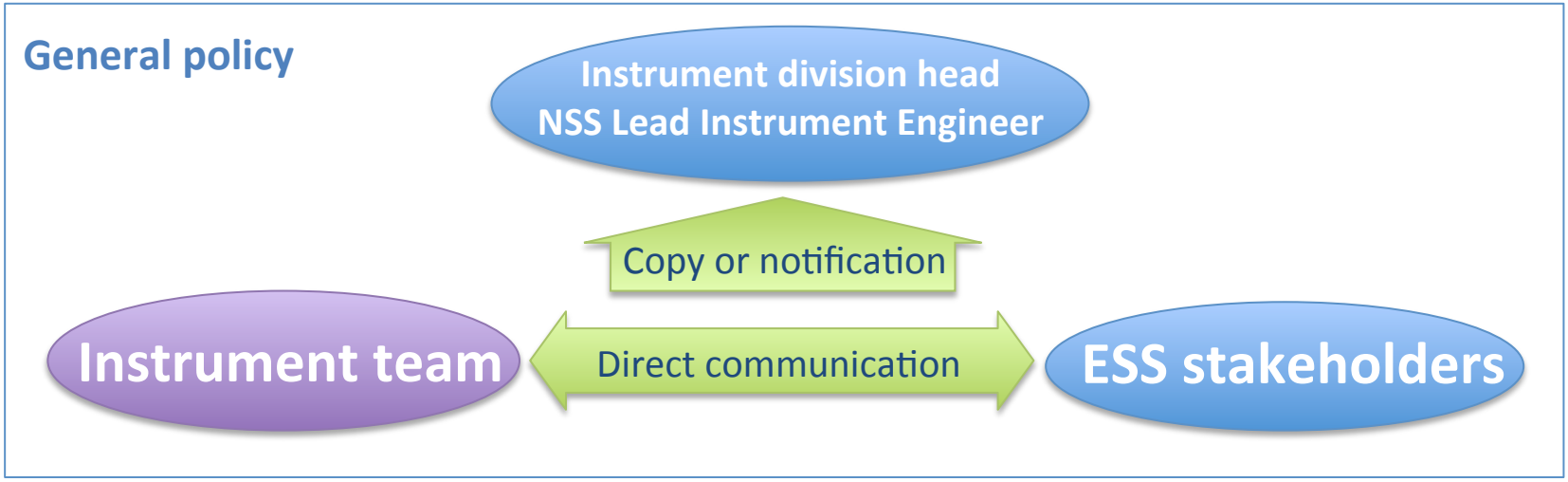
ESS Technology groups

NOSG (Shielding & Optics)	Vacuum Group	CF (Architecture)
Detector Group	Integration Group	ICS (Instrument Control System)
Chopper Group	PLM & Process Support Group	Protection Systems Group
Motion Control Group	Survey Group	CAD & IT
Sample Environment	Cooling	System Engineering & QA

NSS Communication policy



NSS Communication policy

- The Instrument Teams should share the developing technical documentation from the earliest stage on Confluence. This way the Technology Groups can follow the progress of the design both in CHESS (CAD model), and on Confluence in order to give a timely feedback, if they realize any potential problem with the design. In order to facilitate it the Instrument Engineer shall inform the Technology Groups about any relevant uploaded document. If the primary 3D model of the instrument is not created in CATIA v6 then the Instrument Team should update the CATIA model in CHESS monthly, so the Technology Groups can follow and advise about the construction.

- The instrument projects shall discuss the choices of the technologies with the related Technology Groups and they have to be approved by the NSS Project management through the Lead Instrument Engineer.

APPROVED

NSS Management roles and responsibilities

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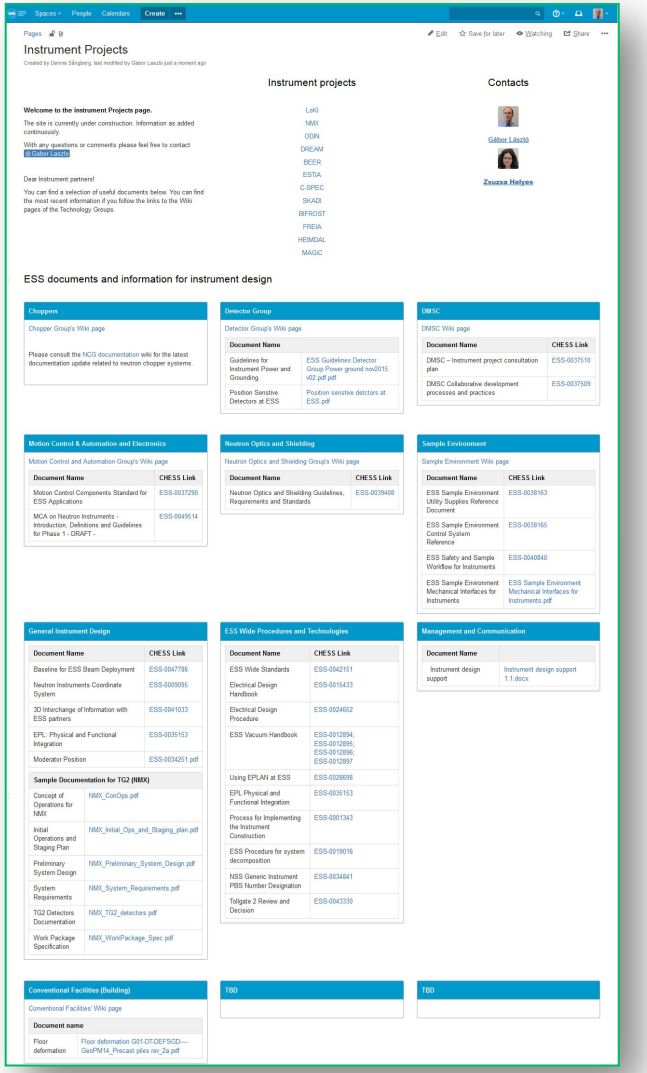
- Provide direction and advice to instrument projects
- Co-ordination and facilitation of the design and construction of the ESS neutron scattering instruments
- Coordinate the software needs for the instrument suite.
- Manage the development of the laboratory and Sample Environment needs for the instrument suite.
- Support communication with technology groups, CAD methodology and PLM efforts
- Perform risk reviews and manage risks across the suite. Give the classification method for risk classification.
- Ensure that all work is planned and executed in accordance with ESS quality assurance and SHE policies and procedures
- Manage and coordinate the instrument STAP meetings and tollgate reviews
- Ensure design reviews are conducted as appropriate

NSS Management roles and responsibilities

EUROPEAN SPALLATION SOURCE

1. Provide direction and advice to instrument projects

- Provide framework for collaboration
- Support information exchange



https://ess-ics.atlassian.net/wiki/pages/viewpage.action?pageId=43221224

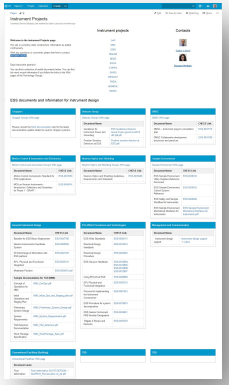
Collaboration Framework

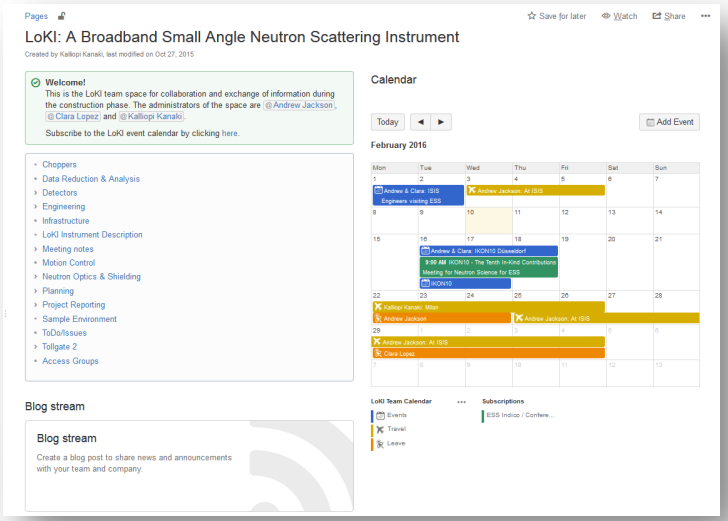
CONFLUENCE

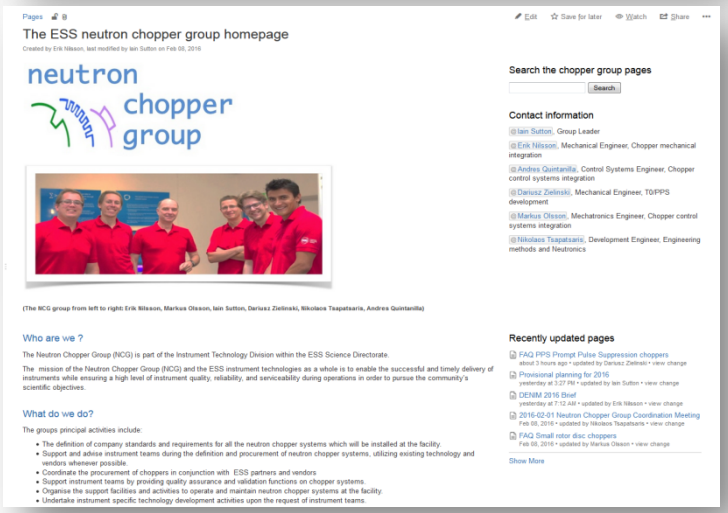
It is a suite of collaborative tools designed and marketed by Atlassian.
It integrates with the project & tracking system **JIRA.**

With these tools you can create:

- WIKI type webpages
- meeting minutes,
- Calendars
- Blogs
- Task tracking
- Document sharing and tracking





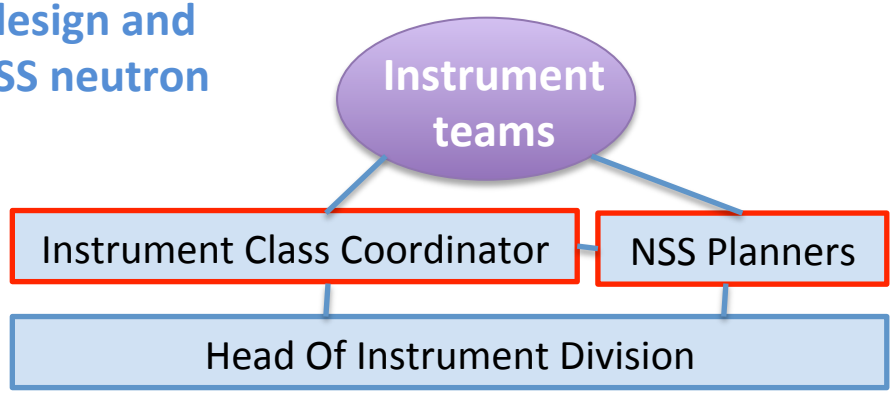


NSS Management roles and responsibilities

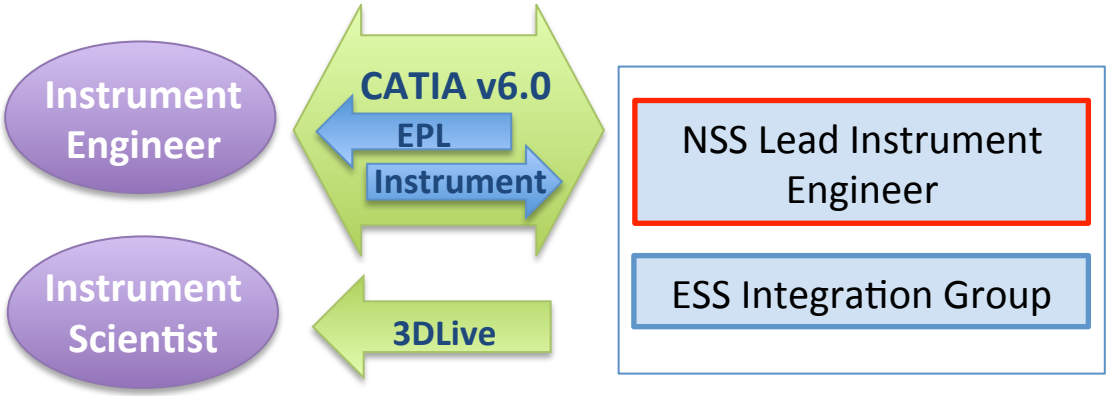
EUROPEAN SPALLATION SOURCE

2. Co-ordination and facilitation of the design and construction and integration of the ESS neutron scattering instruments

- Provide direction and support to the instruments projects to remain within scope, cost and schedule

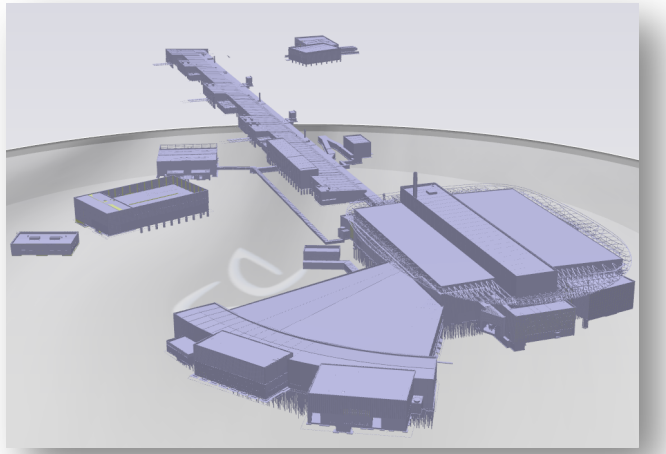


- Manage design integration

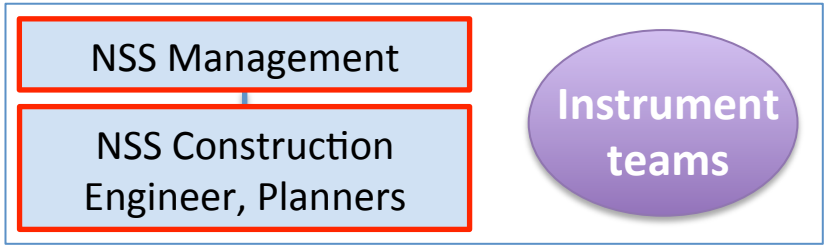


NSS Management roles and responsibilities

EPL (ESS Plant Layout) 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.



- Lead the integration planning for the installation and commissioning phase of the instruments.



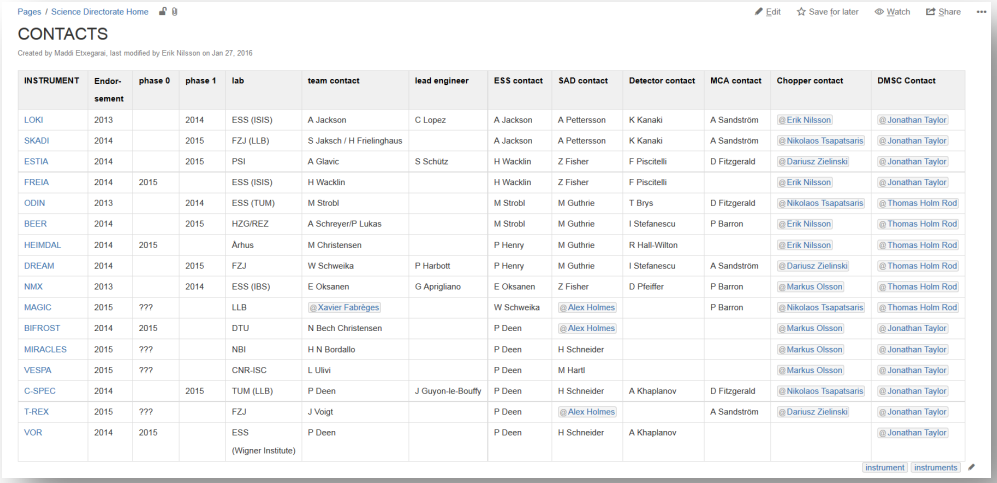
NSS Management roles and responsibilities

3. Support communication

Contact list in Confluence

OR

NSS Lead Instrument Engineer, Instrument Division Head



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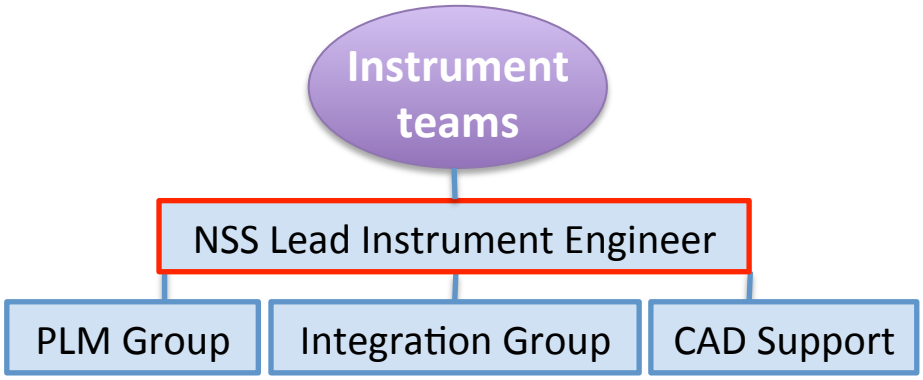
CONTACTS

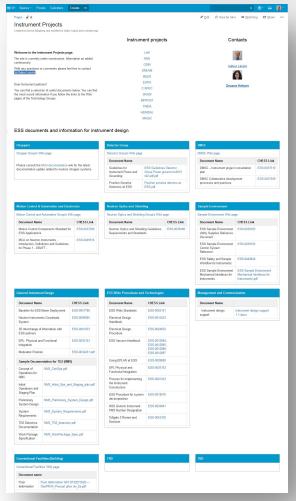
Created by Maddi Etxegarai, last modified by Erik Nilsson on Jan 27, 2016

INSTRUMENT	Endor-sement	phase 0	phase 1	lab	team contact	lead engineer	ESS contact	SAD contact	Detector contact	MCA contact	Chopper contact	DMSC Contact
LOKI	2013		2014	ESS (ISIS)	A Jackson	C Lopez	A Jackson	A Pettersson	K Kanaki	A Sandström	@Erik Nilsson	@Jonathan Taylor
SKADI	2014		2015	FZJ (LLB)	S Jaksch / H Frielinghaus		A Jackson	A Pettersson	K Kanaki	A Sandström	@Nikolaos Tsapatsaris	@Jonathan Taylor
ESTIA	2014		2015	PSI	A Glavic	S Schütz	H Wacklin	Z Fisher	F Piscitelli	D Fitzgerald	@Dariusz Zielinski	@Jonathan Taylor
FREIA	2014	2015		ESS (ISIS)	H Wacklin		H Wacklin	Z Fisher	F Piscitelli		@Erik Nilsson	@Jonathan Taylor
ODIN	2013		2014	ESS (TUM)	M Strobl		M Strobl	M Guthrie	T Brys	D Fitzgerald	@Nikolaos Tsapatsaris	@Thomas Holm Rod
BEER	2014		2015	HZG/REZ	A Schreyer/P Lukas		M Strobl	M Guthrie	I Stefanescu	P Barron	@Erik Nilsson	@Thomas Holm Rod
HEIMDAL	2014	2015		Århus	M Christensen		P Henry	M Guthrie	R Hall-Wilton		@Erik Nilsson	@Thomas Holm Rod
DREAM	2014		2015	FZJ	W Schweika	P Harbott	P Henry	M Guthrie	I Stefanescu	A Sandström	@Dariusz Zielinski	@Thomas Holm Rod
NMX	2013		2014	ESS (IBS)	E Oksanen	G Aprigliano	E Oksanen	Z Fisher	D Pfeiffer	P Barron	@Markus Olsson	@Thomas Holm Rod
MAGIC	2015	???		LLB	@Xavier Fabrèges		W Schweika	@Alex Holmes		P Barron	@Nikolaos Tsapatsaris	@Thomas Holm Rod
BIFROST	2014	2015		DTU	N Bech Christensen		P Deen	@Alex Holmes			@Markus Olsson	@Jonathan Taylor
MIRACLES	2015	???		NBI	H N Bordallo		P Deen	H Schneider			@Markus Olsson	@Jonathan Taylor
VESPA	2015	???		CNR-ISC	L Ulivi		P Deen	M Hartl			@Markus Olsson	@Jonathan Taylor
C-SPEC	2014		2015	TUM (LLB)	P Deen	J Guyon-le-Bouffy	P Deen	H Schneider	A Khaplanov	D Fitzgerald	@Nikolaos Tsapatsaris	@Jonathan Taylor
T-REX	2015	???		FZJ	J Voigt		P Deen	@Alex Holmes		A Sandström	@Dariusz Zielinski	@Jonathan Taylor
VOR	2014	2015		ESS (Wigner Institute)	P Deen		P Deen	H Schneider	A Khaplanov			@Jonathan Taylor

instrument | instruments

4. Support CAD methodology and PLM efforts





NSS Management roles and responsibilities

5. **Perform risk reviews and manage risks across the suite. Give the classification method for safety classification.**

6. **Coordinate the software needs for the instrument suite.**

7. **Manage the development of the laboratory and Sample Environment needs for the instrument suite.**

8. **Ensure that all work is planned and executed in accordance with ESS quality assurance and ESNH policies and procedures**

9. **Manage and coordinate the instrument STAP meetings and tollgate reviews, ensure design reviews are conducted as appropriate**

ESS Technology Group roles and responsibilities

- **Provide the standards and interactions with common interfaces related to the respective area of the group.**
- **Review of the Preliminary System Design Document (TG2) and the Final System Design Document (TG3). The scope of the Technical Group review shall be the following:**
  - Verification of the analyses methods. (Not necessarily the result of the analyses!)
  - Validation of materials.
  - Ensure that the design and procedures comply with the applicable ESS standards and requirements.
  - Checking the feasibility of the suggested design solutions.
  - Checking the budget completeness. Technology Groups need not check all the values in the budget, only the deliverables of the quotations. Nevertheless the Technology, since some of the items will be developed during the instrument design. Nevertheless the Technology Groups should advise on the price of the known technologies.

ESS Technology Group roles and responsibilities

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- **Review and advise on relevant instrument design and documentation. Technology Groups also provide the evaluation criteria for the document review.**
- **Support for system integration and commissioning, coordinated by The NSS Construction engineer.**
- **Supervise Factory Acceptance Tests, and participate in the QA process if they deem it necessary.**
- **Provide technical support services for quality assurance, factory acceptance testing etc. as requested and paid for by the Instrument Team if necessary.**
- **Provide functional technical support activities to instrument construction projects for installation and commissioning as requested and paid for by the Instrument Team if necessary.**
- **Create documents and detailed analyses as requested and paid for by the Instrument Team if necessary.**

Communication tools

Video conference
Preferred tool: Skype / Vidyo

E-mail
ESS client: MS Outlook

CHESS (Collaboration Home ESS)
PLM (Product Lifecycle Management) System for ESS. This should be the repository of all the official documents of the project. It also contains all the CATIA models. NSS intention is to use CHESS for inside documents, and CATIA models.

CONFLUENCE
Instrument teams will get administrator rights in their own instrument folder, so they will be able to customize the related confluence space.

Instrument partners should use Confluence for uploading documents, and also all the important ESS documents will be accessible via Confluence. NSS will upload your approved documents to chess after Tollgate Reviews.

Communication tools

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CATIA

For 3D-modelling of machine equipment, piping, cable routing and arrangement drawings CATIA v.6 is used within the ESS. The partners should also use CATIA for design. If the partner is using different CAD system, the model has to be migrated to CATIA v.6 and updated monthly. The Integration group and the NSS Lead Instrument Engineer shall be notified after each update.

ESS borrows 1 license for the partner until the finalization of the contract.

AccESS Portal

This is a portal for ESS Intranet.

- Latest day-by-day news about ESS
- Upcoming events
- Search for various kinds of ESS information
- Useful pages /e-Nav, CHESS, Phonebook, ESSnow

ESSnow Portal

This is a portal for asking questions or requesting services from ESS IT to procurement and HR.