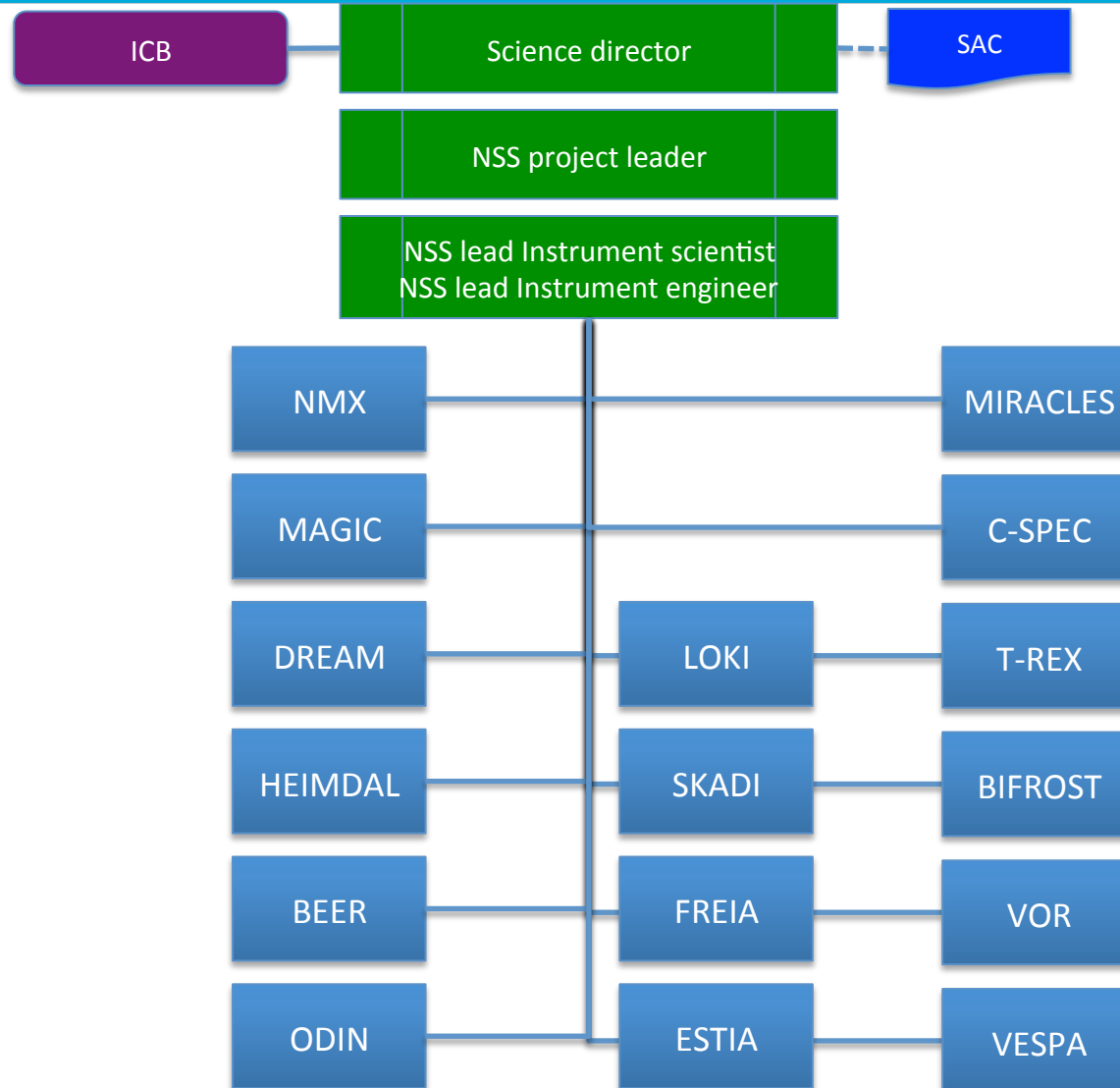


Interfacing the Instrument Teams with ESS and its Advisory Panels during Construction: Instrument Class Coordinators and STAPs

Ken Andersen, NSS Lead Instrument Scientist

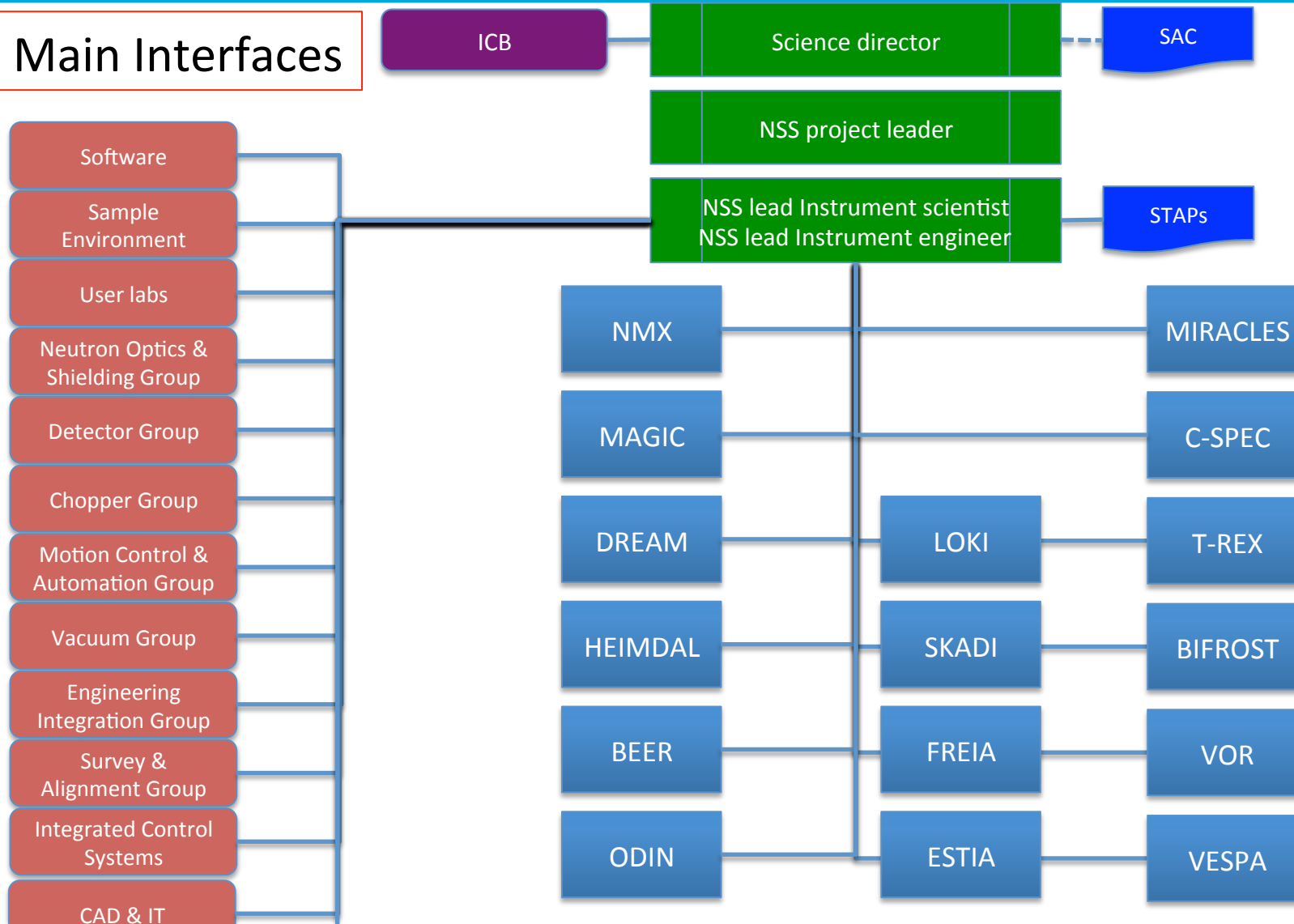
SAC15, 9th May 2016

Instrument Project Structure



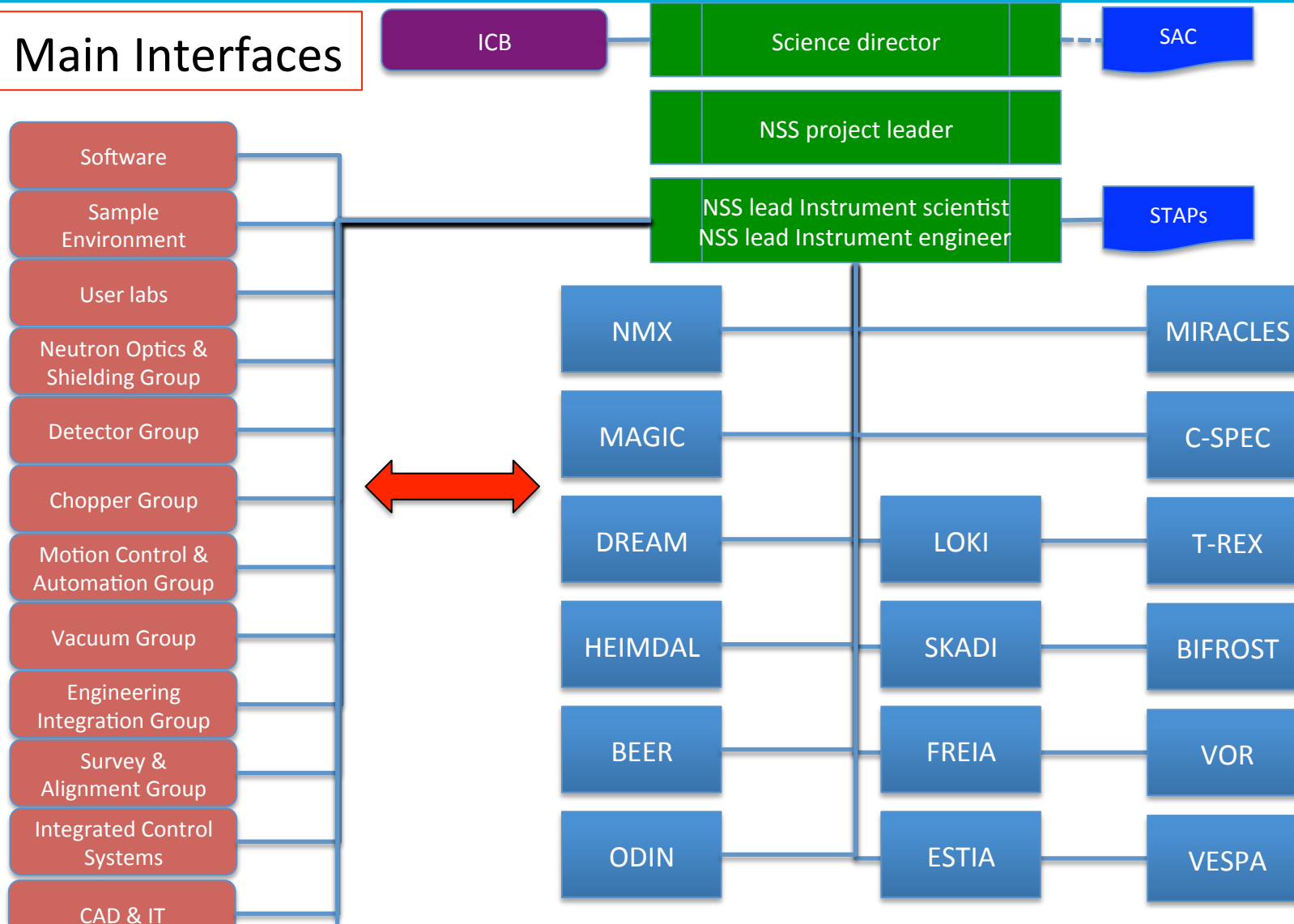
Instrument Project Structure

Main Interfaces



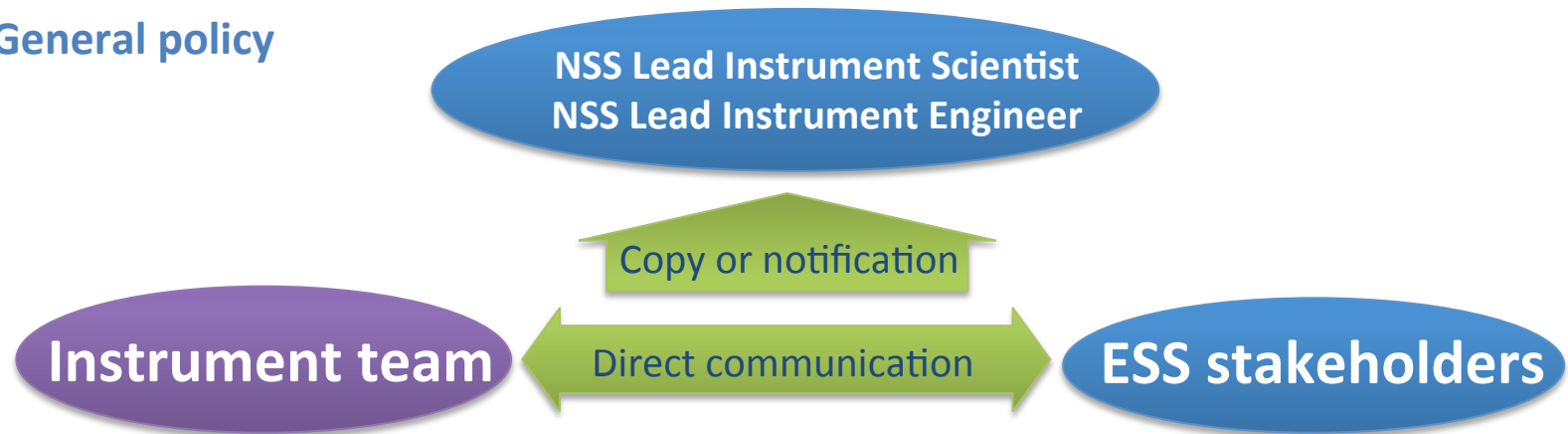
Instrument Project Structure

Main Interfaces



NSS Project Communication Policy

General policy



Communication support

Contact List

OR

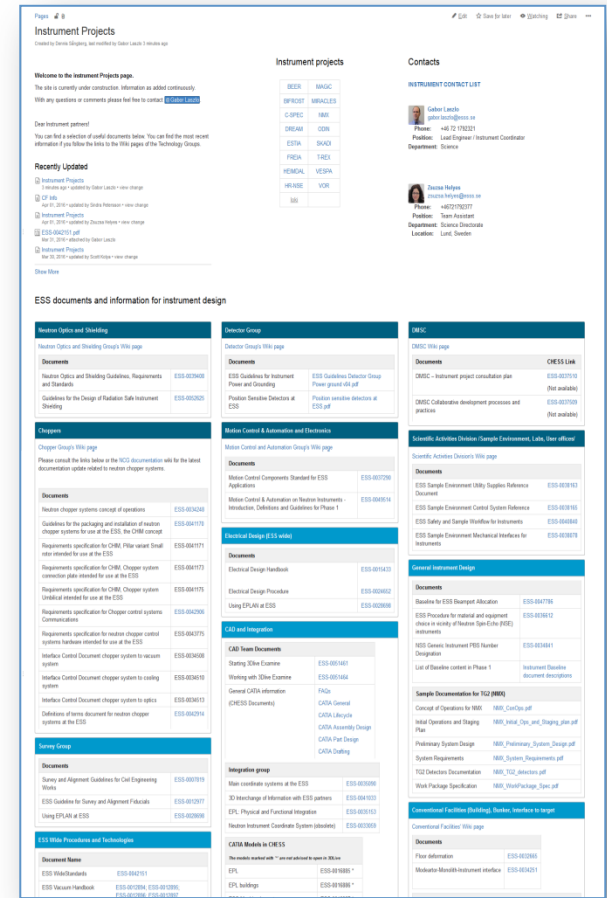
NSS Lead Instrument Engineer,
NSS Lead Instrument Scientist

ESS CONTACTS FOR INSTRUMENTS	ESS Instrument Class Coordinator	SAD contact	Detector Contact	MCA Contact	Chopper Contact	DMSC Contact	NOSG Optics Contact	NOSG Shielding Contact	CATIA users set-up and licenses	CATIA support and training
LOKI	@ Andrew Jackson	@ Anders Pettersson	@ Kalliopei Kanaki	@ Anders Sandström	@ Erik Nilsson	@ Jonathan Taylor	@ Damian Martin Rodriguez	@ Natalia Cherkashyna	@ Henrik Lindblad	@ Christopher Aßlein
SKADI	@ Andrew Jackson	@ Anders Pettersson	@ Kalliopei Kanaki	@ Anders Sandström	@ Nikolaos Tsapatsaris	@ Jonathan Taylor	@ Damian Martin Rodriguez	@ Natalia Cherkashyna		
ESTA	@ Hanna Wacklin	@ Zoe Fisher	@ Francesco Piscitelli	@ David Fitzgerald	@ Dariusz Zielinski	@ Jonathan Taylor	@ Damian Martin Rodriguez	@ Valentina Santoro		
FREIA	@ Hanna Wacklin	@ Zoe Fisher	@ Francesco Piscitelli	@ Kristina Jurisic	@ Erik Nilsson	@ Jonathan Taylor	@ Damian Martin Rodriguez	@ Natalia Cherkashyna		
ODIN	@ Markus Strobl	@ Malcolm Guthrie	@ Tomasz Brys	@ David Fitzgerald	@ Nikolaos Tsapatsaris	@ Thomas Holm Rod	@ Damian Martin Rodriguez	@ Stuart Ansell		
BEER	@ Markus Strobl	@ Malcolm Guthrie	@ Irina Stefanescu	@ Paul Barron	@ Erik Nilsson	@ Thomas Holm Rod	@ Damian Martin Rodriguez	@ Douglas Di Julio		
HEIMDAL	@ Paul Henry	@ Malcolm Guthrie	@ Richard Hall-Wilton	@ Markus Larsson	@ Erik Nilsson	@ Thomas Holm Rod	@ Damian Martin Rodriguez	@ Stuart Ansell		
DREAM	@ Paul Henry	@ Malcolm Guthrie	@ Irina Stefanescu	@ Anders Sandström	@ Dariusz Zielinski	@ Thomas Holm Rod	@ Damian Martin Rodriguez	@ Valentina Santoro		
NMX	@ Esko Oksanen	@ Zoe Fisher	@ Dorothea Pfeffer	@ Paul Barron	@ Markus Olsson	@ Thomas Holm Rod	@ Damian Martin Rodriguez	@ Valentina Santoro		
MAGIC	@ Paul Henry	@ Alex Holmes		@ Federico Rojas	@ Nikolaos Tsapatsaris	@ Thomas Holm Rod	@ Damian Martin Rodriguez			
BIFROST	@ Jonathan Taylor	@ Alex Holmes		@ Markus Larsson	@ Markus Olsson	@ Jonathan Taylor	@ Damian Martin Rodriguez	@ Douglas Di Julio		
MIRACLES	@ Jonathan Taylor	@ Harald Schneider		@ Federico Rojas	@ Markus Olsson	@ Jonathan Taylor	@ Damian Martin Rodriguez			
VESPA	@ Jonathan Taylor	@ Monika Hartl		@ Kristina Jurisic	@ Markus Olsson	@ Jonathan Taylor	@ Damian Martin Rodriguez			
C-SPEC	@ Jonathan Taylor	@ Harald Schneider	@ Anton Khaplanov	@ David Fitzgerald	@ Nikolaos Tsapatsaris	@ Jonathan Taylor	@ Damian Martin Rodriguez	@ Douglas Di Julio		
T-REX	@ Jonathan Taylor	@ Alex Holmes		@ Anders Sandström	@ Dariusz Zielinski	@ Jonathan Taylor	@ Damian Martin Rodriguez	@ Douglas Di Julio		
VOR	@ Jonathan Taylor	@ Harald Schneider	@ Anton Khaplanov			@ Jonathan Taylor				
HR-NSE	@ Melissa Sharp									

Project Collaboration Framework

1. Provide direction and advice to instrument projects

- Support information exchange

Instrument Projects

Welcome to the Instrument Projects page. The site is currently under construction. Information is added continuously. With any questions or comments please feel free to contact [ESS-ICS](#).

Dear Instrument partner! You can find a selection of useful documents below. You can find the most recent information upon clicking the links to the Web pages of the Technology Group.

Recently Updated

- Instrument Projects: Detector Opt - updated by Sabine Leuchter - view change
- ESS-ICS: 04-01-2017 - updated by Sabine Leuchter - view change
- Instrument Projects: 04-01-2017 - updated by Sabine Leuchter - view change
- ESS-ICS: 04-01-2017 - updated by Sabine Leuchter - view change
- Instrument Projects: 04-01-2017 - updated by Sabine Leuchter - view change

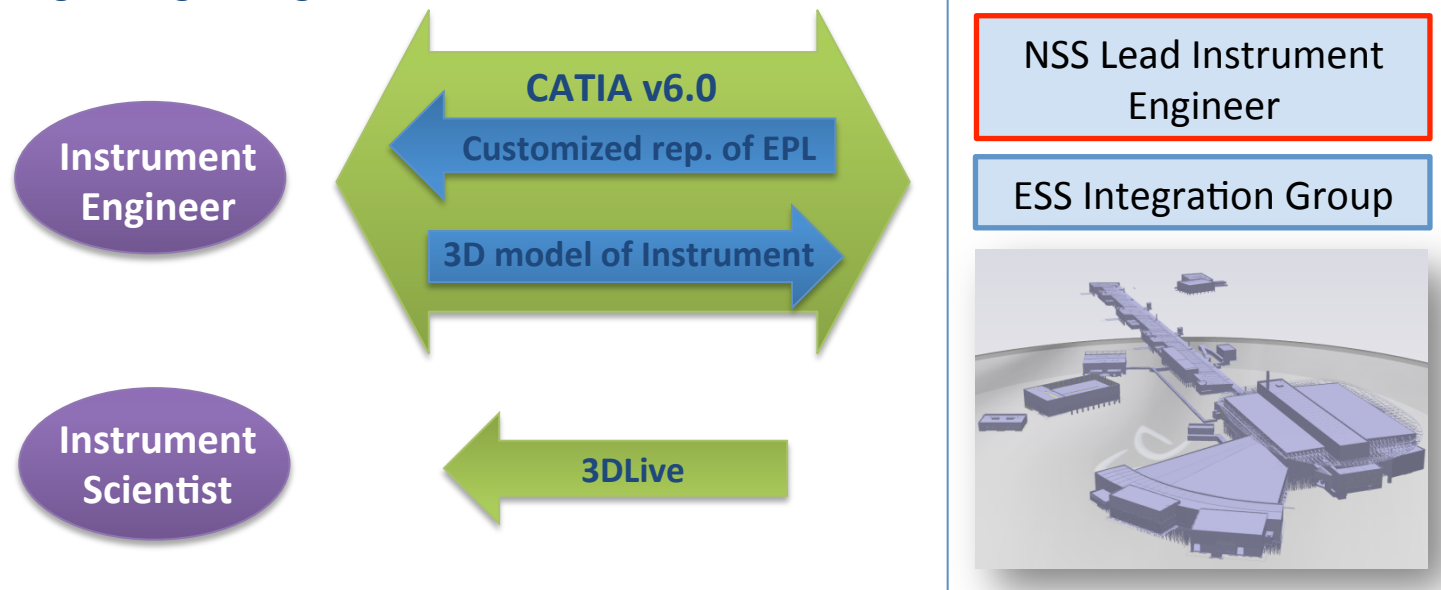
ESS documents and information for instrument design

Neutron Optics and Shielding	Detector Group	CHIC
<p>Neutron Optics and Shielding Group's Web page</p> <p>Documents</p> <ul style="list-style-type: none"> Neutron Optics and Shielding Guidelines, Requirements and Standards: ESS-003626 Guidelines for the Design of Radiation Safe Instrument Shielding: ESS-005020 	<p>Detector Group's Web page</p> <p>Documents</p> <ul style="list-style-type: none"> ESS Guidelines for Instrument Power and Shielding: Power group 04.pdf Position Sensitive Detectors at ESS: Position sensitive detectors at ESS.pdf 	<p>CHIC Web page</p> <p>Documents</p> <ul style="list-style-type: none"> CHIC - Instrument project consultation plan: CHES Link CHIC Collaborative development processes and practices: (Not available)
<p>Choppers</p> <p>Chopper Group's Web page</p> <p>Please consult the links below in the 'ICI' documentation sets for the latest documentation updates related to neutron chopper systems.</p> <p>Documents</p> <ul style="list-style-type: none"> Neutron chopper systems concept of operations: ESS-003628 Guidelines for the packaging and installation of neutron chopper systems for use at the ESS, the CHIC concept: ESS-004170 Requirements specification for CHIC: Filter wheel: Small roller intended for use at the ESS: ESS-008173 Requirements specification for CHIC: Chopper system connector plate intended for use at the ESS: ESS-004175 Requirements specification for CHIC: Chopper system: Universal intended for use at the ESS: ESS-004175 Requirements specification for Chopper control systems: Communications: ESS-003626 Requirements specification for Chopper control systems: Interface between intended for use at the ESS: ESS-003628 Interface Control Document: chopper system to vacuum system: ESS-003628 Interface Control Document: chopper system to cooling system: ESS-003628 Interface Control Document: chopper system to optics: ESS-003628 Definitions of terms: document for neutron chopper systems at the ESS: ESS-004274 	<p>Monitor Control & Automation and Electronics</p> <p>Monitor Control and Automation Group's Web page</p> <p>Documents</p> <ul style="list-style-type: none"> Monitor Control Components Standard for ESS Applications: ESS-000576 Monitor Control & Automation in Neutron Instruments: Introduction, Definitions and Guidelines for Phase 1: ESS-000574 	<p>Scientific Activities Division: Sample Environment, Labs, User offices</p> <p>Scientific Activities Division's Web page</p> <p>Documents</p> <ul style="list-style-type: none"> ESS Sample Environment Utility Supplies Reference: ESS-002923 ESS Sample Environment Control System Reference: ESS-003016 ESS Safety and Storage Workflow for Instruments: ESS-000840 ESS Sample Environment Mechanical Hardware for Instruments: ESS-003078
<p>Safety Setup</p> <p>Documents</p> <ul style="list-style-type: none"> Survey and Alignment Guidelines for ChIP Engineering Work: ESS-000319 ESS Guidelines for Survey and Alignment Fabricate: ESS-002077 Using EPLAN at ESS: ESS-002068 	<p>Electrical Design (E11 work)</p> <p>Documents</p> <ul style="list-style-type: none"> Electrical Design Handbook: ESS-001843 Electrical Design Procedure: ESS-002602 Using EPLAN at ESS: ESS-002068 	<p>General Instrument Design</p> <p>Documents</p> <ul style="list-style-type: none"> Baseline for ESS Beamport Allocation: ESS-004776 ESS Procedure for material and equipment choice in vicinity of Neutron Spin Echo (NSE) instruments: ESS-000912 ESS General Instrument PMS Number: ESS-000881 Designation: (Not available) List of Devices located in Phase 1: Instrument location document allocations
<p>ESS-ICS Milestones and Technology</p> <p>Documents</p> <ul style="list-style-type: none"> ESS-ICS Milestones: ESS-004271 ESS-ICS Milestones: ESS-004271 ESS-ICS Milestones: ESS-004271 	<p>ESS and Integration</p> <p>CAD Team Documents</p> <ul style="list-style-type: none"> Survey Data Capture: ESS-001640 Working with CAD: Eumec: ESS-001640 General CAD information: (Not available) (I)ESS Documents: <ul style="list-style-type: none"> CADA General: CADA General CADA Assembly: CADA Assembly Design CADA Part Design: CADA Part Design CADA Drafting: CADA Drafting 	<p>Sample Documentation for T12 (MPS)</p> <p>Concept of Operations for MPE: MPE_ConOps.pdf <p>Initial Operations and Staging: MPE_MPE_ConOps_and_Staging_plan.pdf <p>Primary System Design: MPE_Primary_System_Design.pdf <p>System Requirements: MPE_System_Requirements.pdf <p>T12 Detectors Documentation: MPE_T12_detectors.pdf <p>Work Package Specification: MPE_WorkPackage_Spec.pdf </p></p></p></p></p></p>
<p>ESS-ICS Milestones and Technology</p> <p>Documents</p> <ul style="list-style-type: none"> ESS-ICS Milestones: ESS-004271 ESS-ICS Milestones: ESS-004271 ESS-ICS Milestones: ESS-004271 	<p>Integration group</p> <ul style="list-style-type: none"> Main coordinate systems at the ESS: ESS-003096 ID Interchange of Information with ESS partners: ESS-004103 EPL: Physical and Functional Integration: ESS-003153 Neutron Instrument Coordinate System (labaxes): ESS-003093 	<p>Conventional Facilities (Building, Ducts, Interface to target)</p> <p>Conventional Facilities' Web page</p> <p>Documents</p> <ul style="list-style-type: none"> Floor information: ESS-002064 Milestones-Milestone-Instrument-Interface: ESS-000937

Project Collaboration Framework

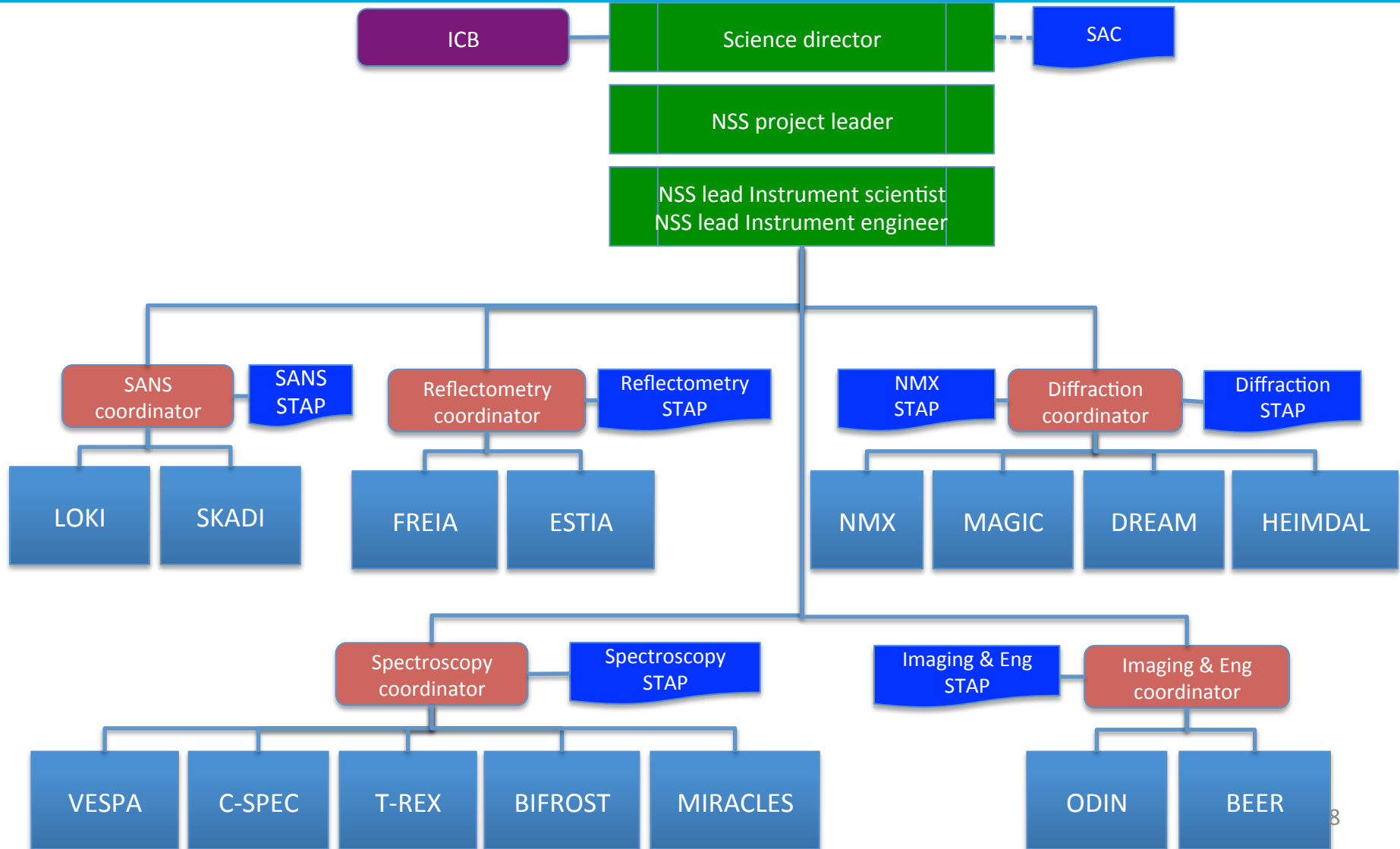
2. Co-ordination and facilitation of the design and construction and integration of the ESS neutron scattering instruments

- Manage design integration



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.

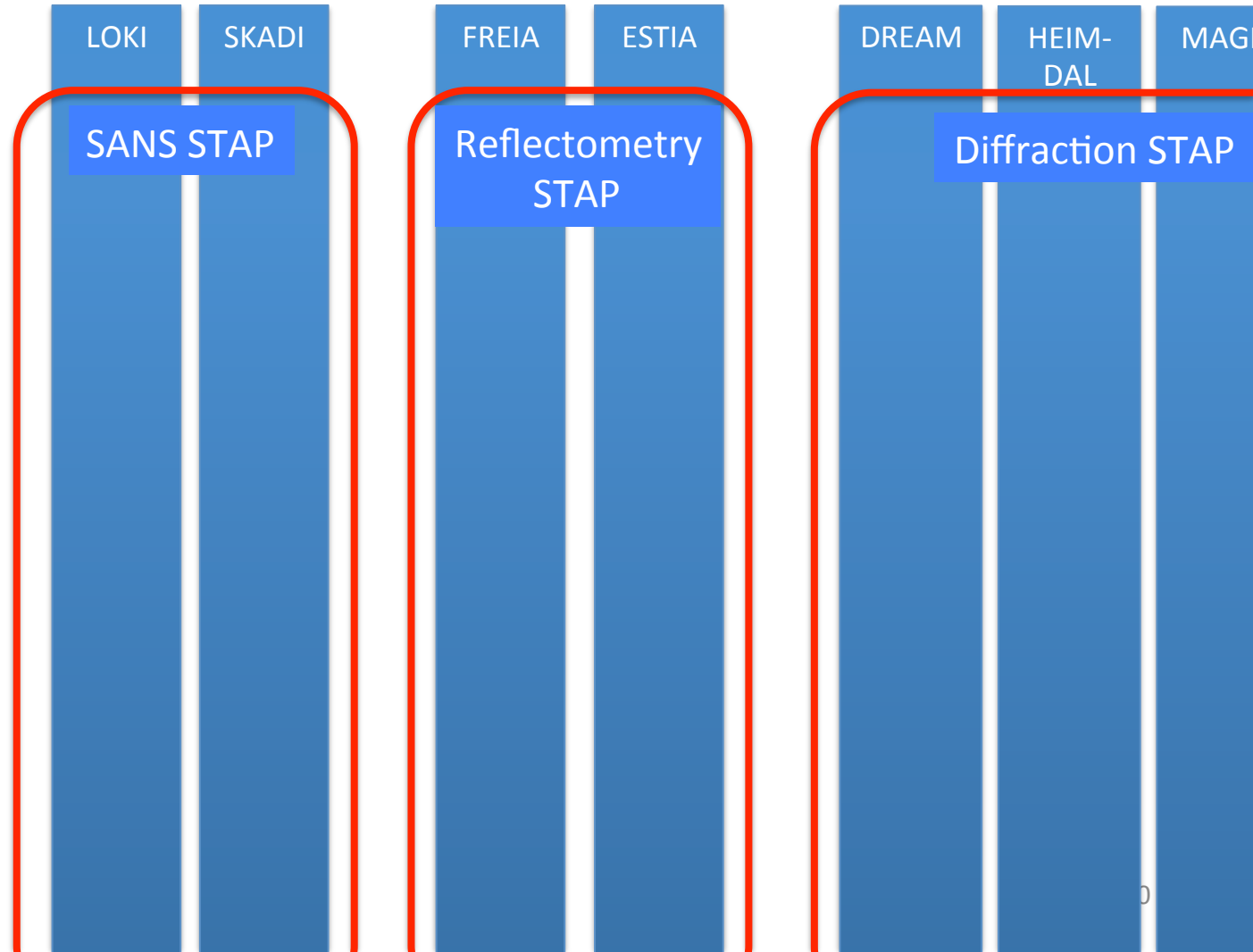
Instrument Project Structure



Instrument Class Coordinators

- Coordinate instrument projects
 - common needs across instrument class
 - software, labs, sample environment, ...
 - identify and realize synergies
 - common components, scope complementarity, funding opportunities
- Support and interface with management
 - provide scientific advice on project decisions
 - develop strategies for maximizing scientific impact
- Point of contact
 - communication to instrument teams
 - maintain schedule and progress within NSS plan
- Represent ESS on Instrument Consortium Executive Boards of their instrument class
 - ensure liaison with ESS
- Manage and coordinate STAP meetings

Scientific and Technical Advisory Panels



Scientific and Technical Advisory Panels

“Horizontal” STAPs

LOKI

SKADI

FREIA

ESTIA

DREAM

HEIM-
DAL

MAG

SANS STAP

Reflectometry
STAP

Diffraction STAP

Detector STAP

Neutron Optics STAP

Sample Environment
STAP

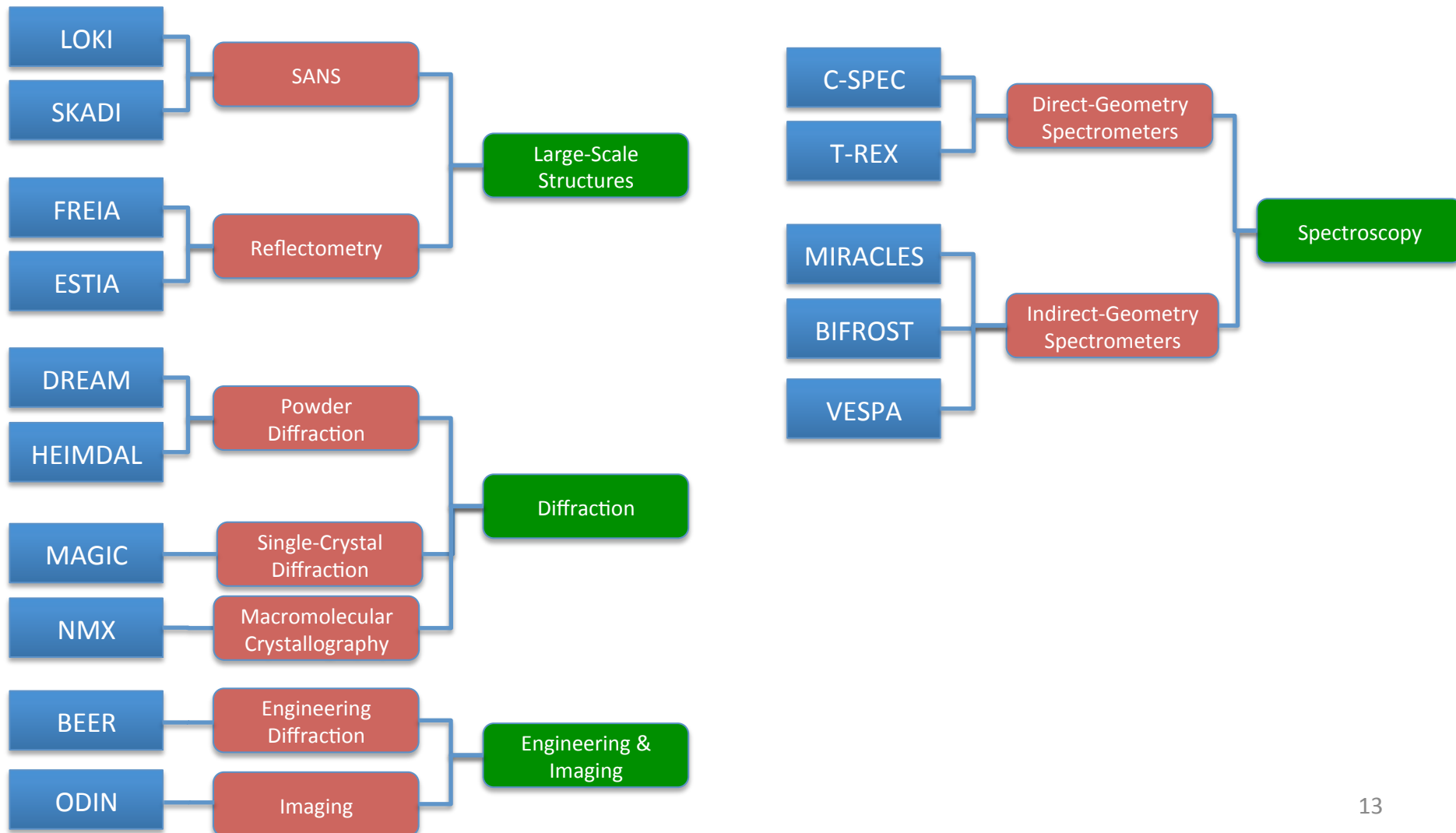
DMSC STAP

Chopper STAP

Scientific and Technical Advisory Panels

- Advice to Management
 - collaborative, non-adversarial, not decision-making
- Independent Experts
 - appropriate mix of facility, university and industry members
- Horizontal STAPs
 - technology developments
 - technical standards
 - engineering design reviews
- Instrument STAPs
 - science case
 - functional requirements
 - technical choices
 - all aspects relevant to instrument success
 - TG1, TG2 reviews
 - restructured for instrument construction rather than selection

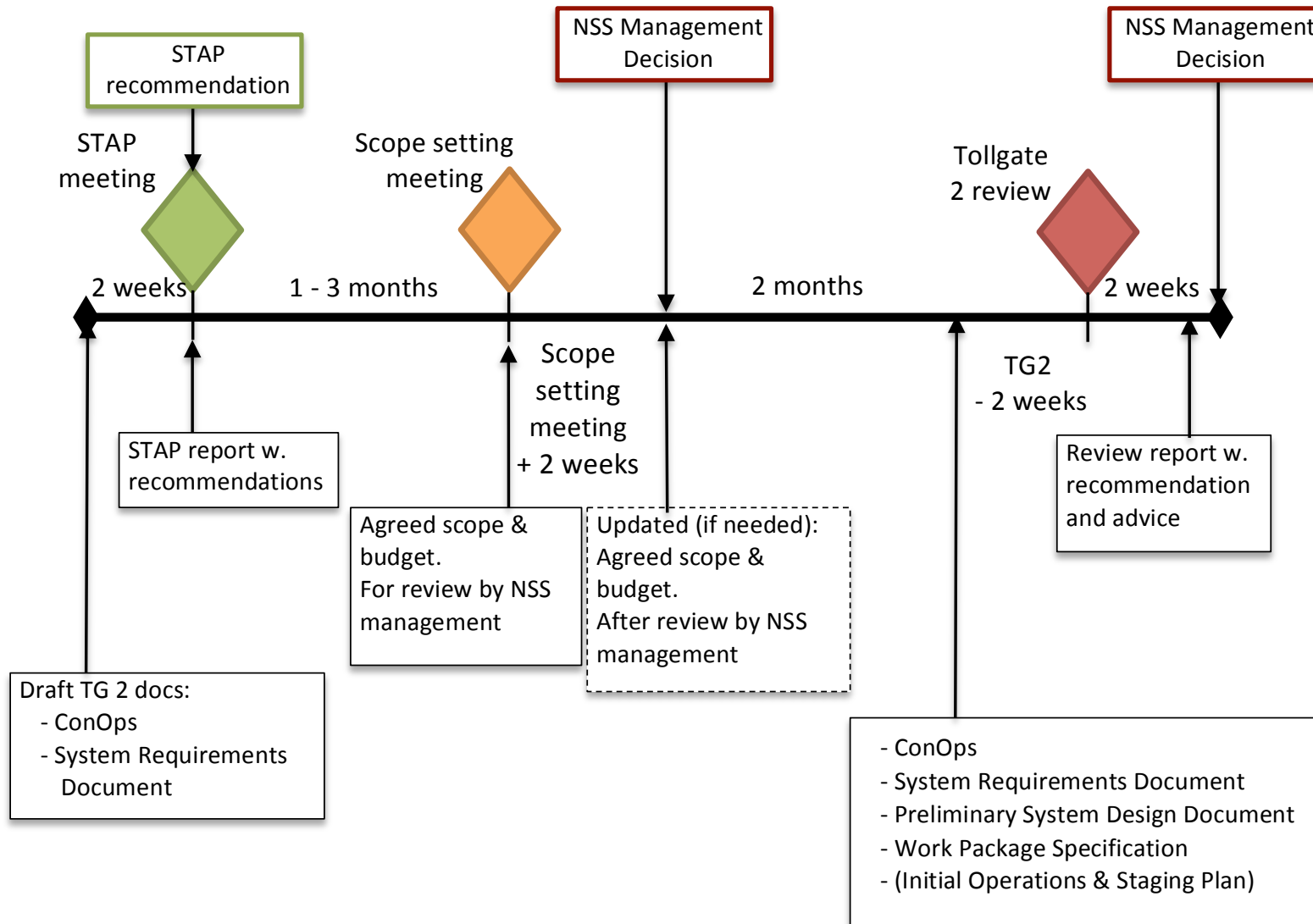
Instrument STAP Structure

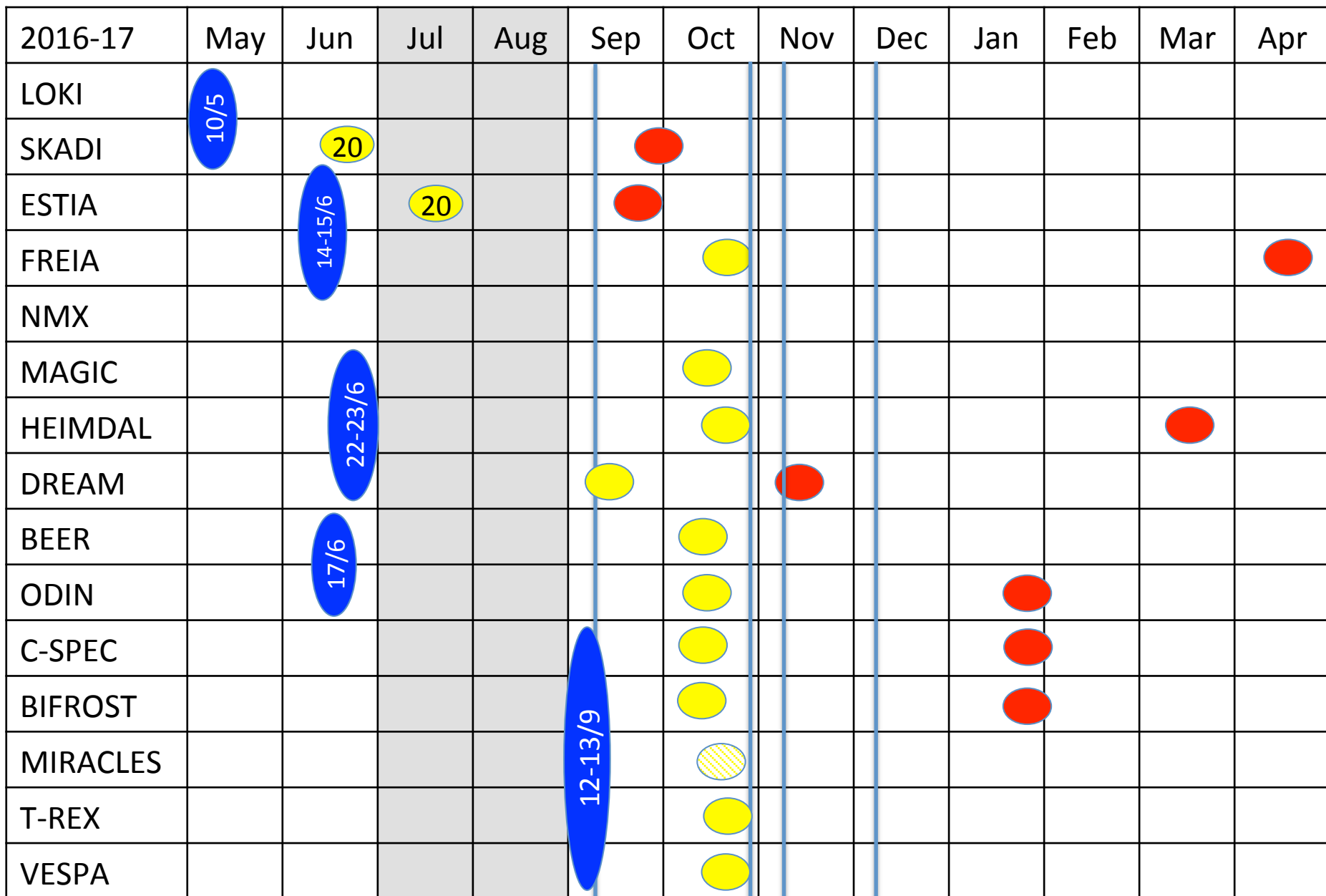


STAP tasks 2016

- Implications of ESS technical decisions
 - moderators, beam extraction
 - bunker, shielding
 - buildings
 - beamport allocations
- Other relevant projects
 - DMSC
 - Science Support Systems
- Prepare instruments for scope-setting
 - link measurement capability with science impact
 - have information ready for budget decisions

TG2 Summary





IKON11 ICB SAC COUNCIL

 STAP

 scope-setting

 TG2

STAP Membership

SANS

Charles Dewhurst

William Heller

Daniel Clemens

Peter Schurtenberger

Anna Sokolova

John Barker

Reflectometry

Robert Cubitt

Richard Campbell

Karen Edler

John Ankner

Peter Müller-Buschbaum (*)

Mike Fitzsimmons

Diffraction

Paul Attfield

Stephen Hull

Reinhard Neder

Katharine Page

Gwenaëlle Rouse

Manuel Angst

Tom Fennell

Oksana Zaharko

Eng. & Imaging

Michael Preuss

Winfried Kockelmann

Sven Vogel

Javier Santisteban

Stephen Hall (*)

Nikolay Kardjilov

Spectroscopy

Victoria Garcia-Sakai

Andrew Boothroyd (*)

Maikel Rheinstädter

Astrid Schneidewind

Bernhard Frick (*)

Stewart Parker

Georg Ehlers (*)

Robert Bewley

Peter Albers

STAP Membership

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Astrid Schneidewind

Bernhard Frick (*)

Stewart Parker

Georg Ehlers (*)

Robert Bewley

Peter Albers

bringing instruments through scope-setting to Tollgate 2 Review

STAP Membership

SANS

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William Heller

Daniel Clemens

Peter Schurtenberger

Anna Sokolova

John Barker

Reflectometry

Robert Cubitt

Richard Campbell

Karen Edler

John Ankner

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Katharine Page

Gwenaëlle Rouse

NMX

John Helliwell

Manuel Angst (*)

Matthew Blakeley

Paul Langan

Derek Logan

Sean McSweeney

Nobuo Niimura

Eng. & Imaging

Michael Preuss

Winfried Kockelmann

Sven Vogel

Javier Santisteban

Stephen Hall (*)

Fund. Physics

Mike Snow

Geoff Greene (*)

Klaus Kirch

Valery Nesvizhevsky

Peter Geltenbort

Fred Wietfeldt

Spectroscopy

Victoria Garcia-Sakai

Andrew Boothroyd (*)

Maikel Rheinstädter

Astrid Schneidewind

Bernhard Frick (*)

Neutron Spin Echo

Georg Ehlers (*)

Stéphane Longeville

Thomas Keller

Hitoshi Endo

Peter Falus

Jason Gardner

Thank You!

