

PSI

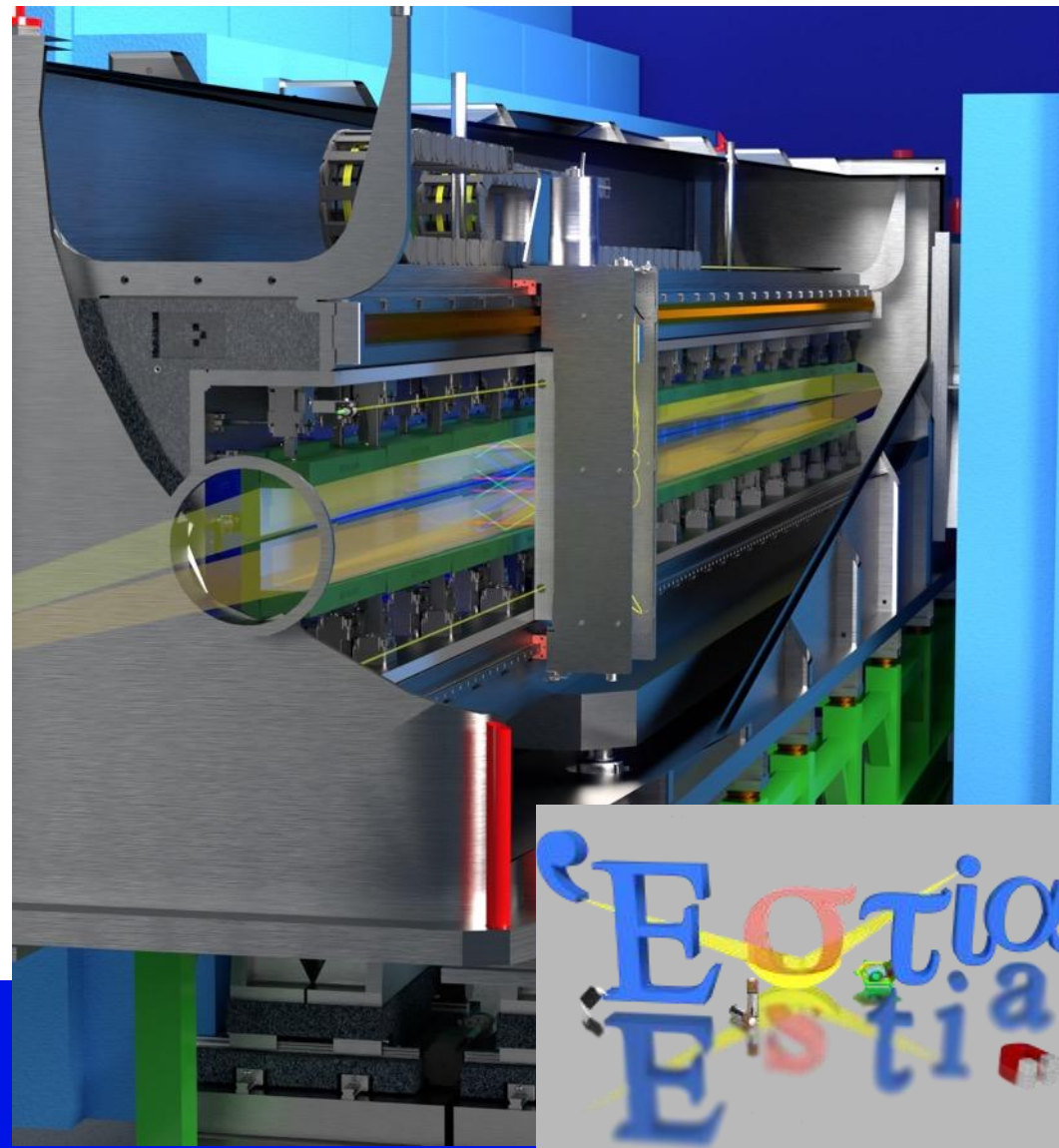


EUROPEAN
SPALLATION
SOURCE

System Acceptance Review (SAR)

ESTIA

Instrument Components Overview

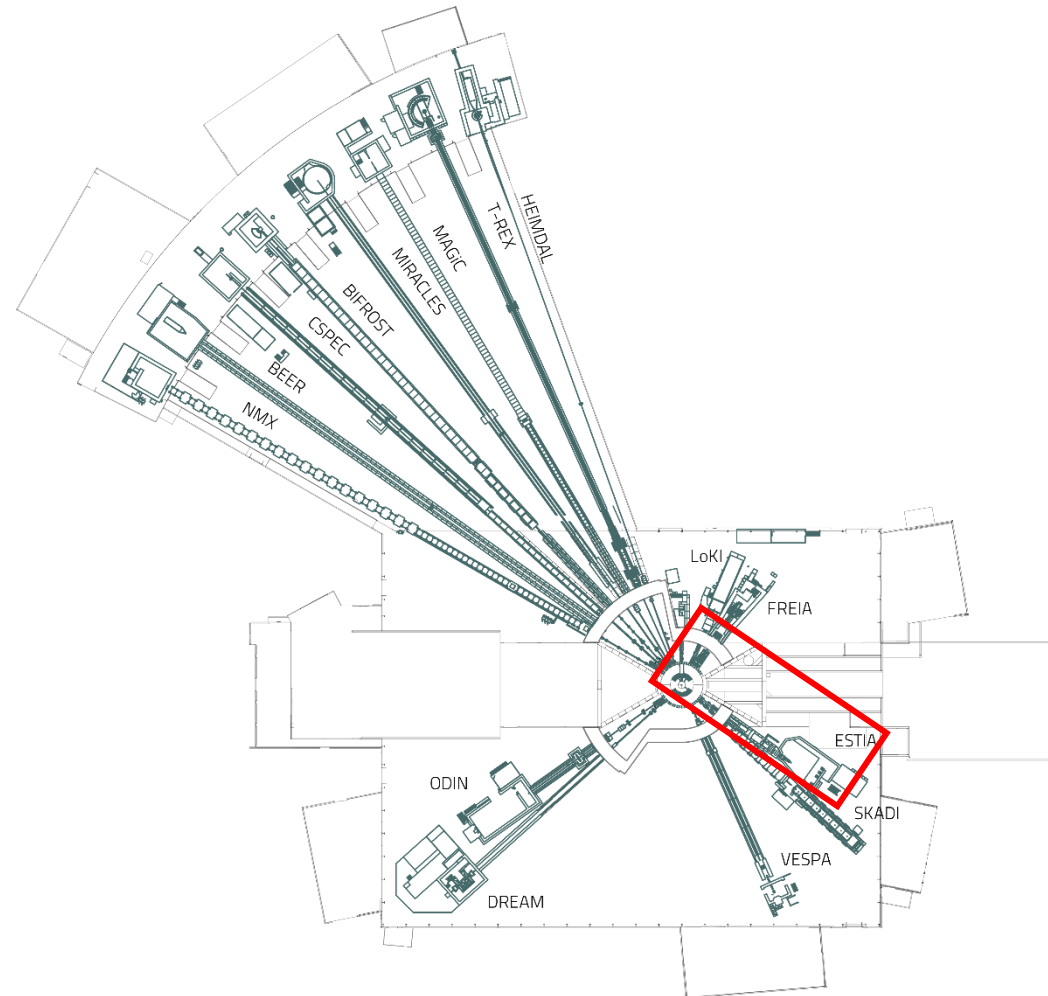


Peter Heimgartner
Lund, 17-06-2026

- 1 Overview of ESTIA-Layout
- 2 FBS and LBS Structure of ESTIA
- 3 Component Overview of ESTIA
 - Beam Transport and Conditioning
 - Sample Exposure
 - Scattering Characterization System
 - Support System
 - Supply System
 - Vacuum System
 - Experimental Cave
 - (Instrument Automation Control) → presented in a separate talk
 - Data Management & Experiment Control System → presented in a separate talk
 - (Personal Safety System (PSS)) → presented in a separate talk

Overview of ESTIA-Layout

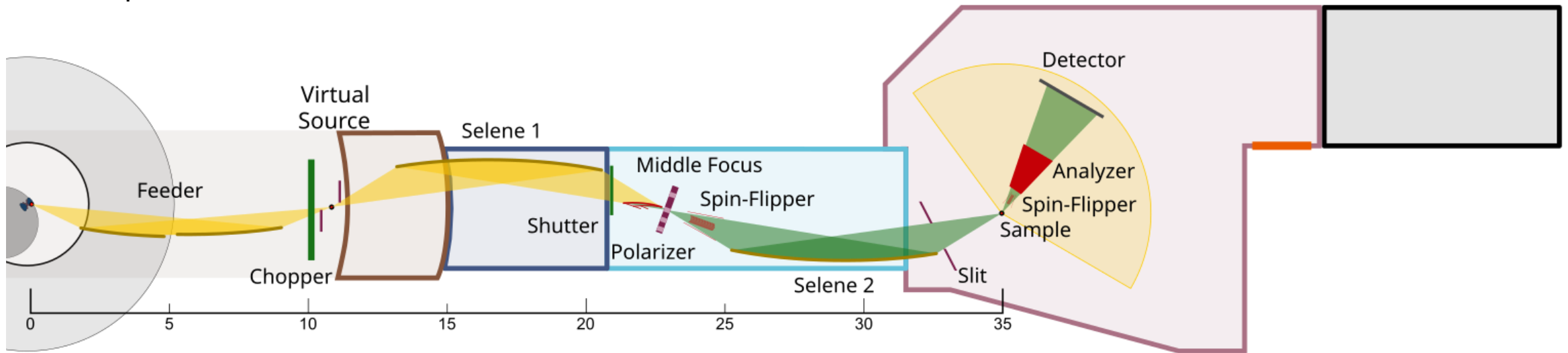
Location: S03 (South Sector), Instrument Hall D01, Port E02



Overview of ESTIA-Layout

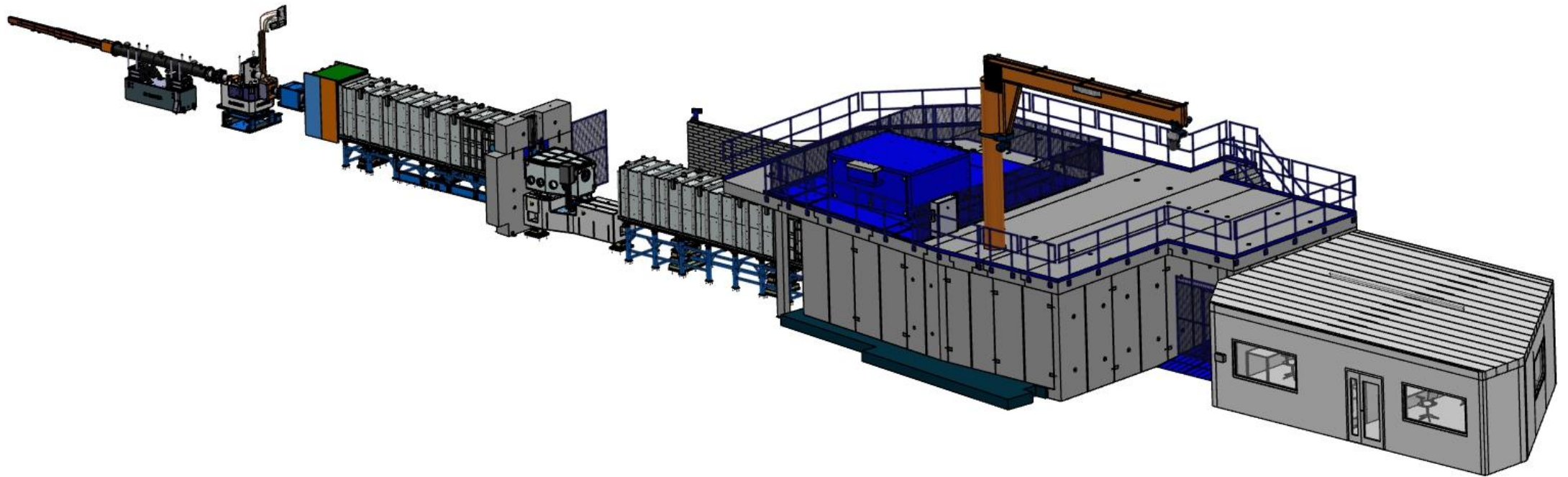
Schematic

ESTIA explained in one minute

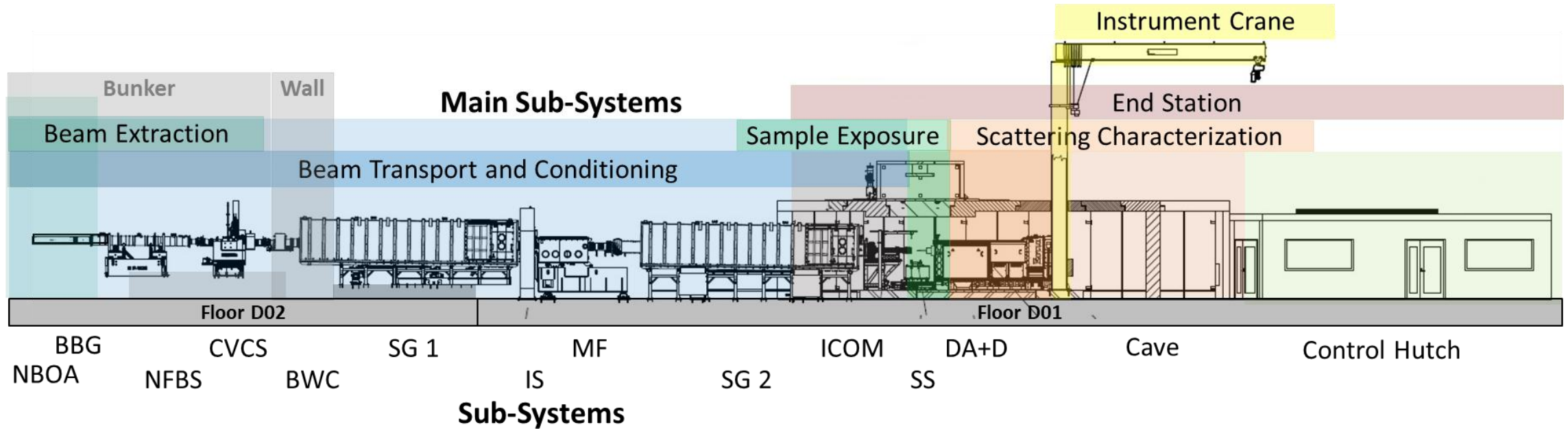


Overview of ESTIA-Layout

3D View



Overview of ESTIA-Layout



NBOA Neutron Beam Optics Assembly
 BBG Bridge Beam Guide
 NFBS Neutron Feeder in-Bunker System
 CVCS Chopper Virtual source Collimation System
 BWC Bunker Wall feedthrough Collimator
 SG 1 Selene Guide 1
 IS Instrument Shutter

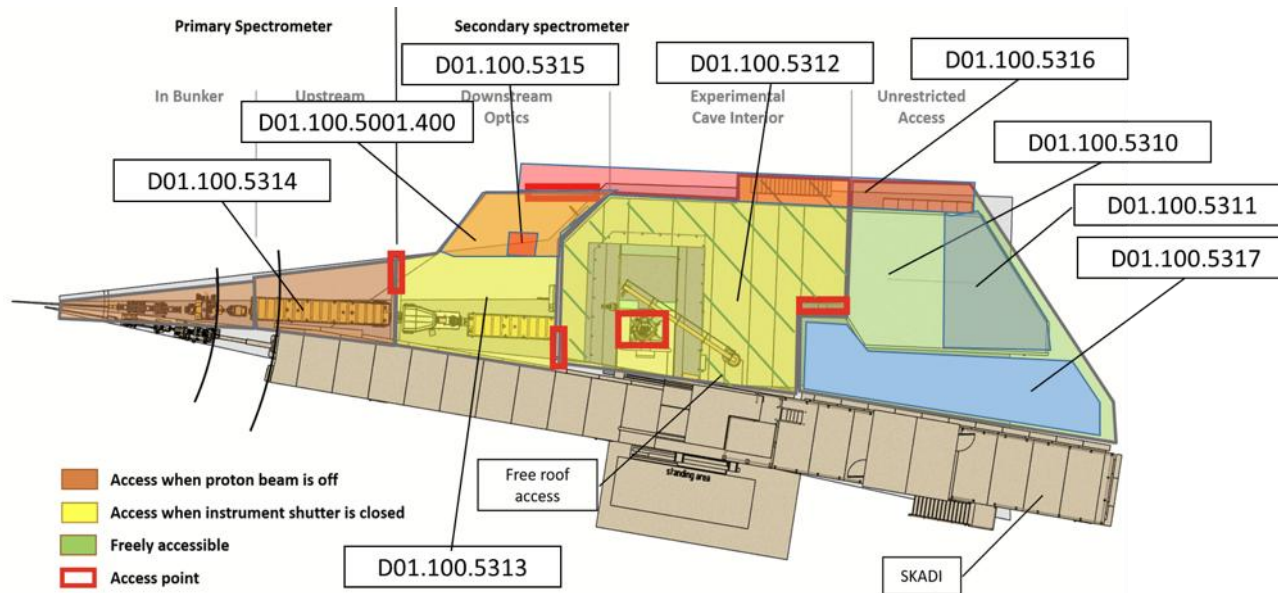
MF Middle Focus
 SG 2 Selene Guide 2
 ICOM In-Cave Optic Module
 SS Sample Stage
 DA+D Detector Arm and Detector
 Wall Bunker Wall
 Cave Experimental Cave

FBS and LBS Structure

FBS Structure

| Level | | FBS | Description |
|-------|-------|------------------------|---|
| 0 | ESTIA | =ESS.NSS.H01.ESTIA | Estia |
| 1 | A01 | =ESS.NSS.H01.ESTIA.A01 | Beam Transport and Conditioning System |
| 1 | A02 | =ESS.NSS.H01.ESTIA.A02 | Sample Exposure System |
| 1 | A04 | =ESS.NSS.H01.ESTIA.A04 | Support System |
| 1 | A05 | =ESS.NSS.H01.ESTIA.A05 | Supply System |
| 1 | B01 | =ESS.NSS.H01.ESTIA.B01 | Scattering Characterization System |
| 1 | F01 | =ESS.NSS.H01.ESTIA.F01 | Personnel Safety System (ESTIA PSS) |
| 1 | G01 | =ESS.NSS.H01.ESTIA.G01 | Vacuum System (ESTIA) |
| 1 | K01 | =ESS.NSS.H01.ESTIA.K01 | Instrument Automation Control System |
| 1 | K02 | =ESS.NSS.H01.ESTIA.K02 | Data Management & Experiment Control System |
| 1 | U01 | =ESS.NSS.H01.ESTIA.U01 | Experimental Cave |

LBS Structure



| FBS | Description |
|------------------|-----------------------------------|
| D01.100.5310 | ESTIA Control Hutch |
| D01.100.5311 | ESTIA Sample Preparation Area |
| D01.100.5312 | ESTIA Experimental Cave |
| D01.100.5313 | ESTIA Beamline |
| D01.100.5314 | ESTIA Selene Guide 1 Area |
| D01.100.5315 | ESTIA Instrument bunker rack area |
| D01.100.5001.400 | ESTIA Bunker rack area |
| D01.100.5316 | ESTIA Cave wall rack area |
| D01.100.5317 | ESTIA Cave entrance area |

Overview Components

Beam Transport and Conditioning (=ESS.NSS.H01.ESTIA.A01)

Beam Transport and Conditioning

(=ESS.NSS.H01.ESTIA.A01)



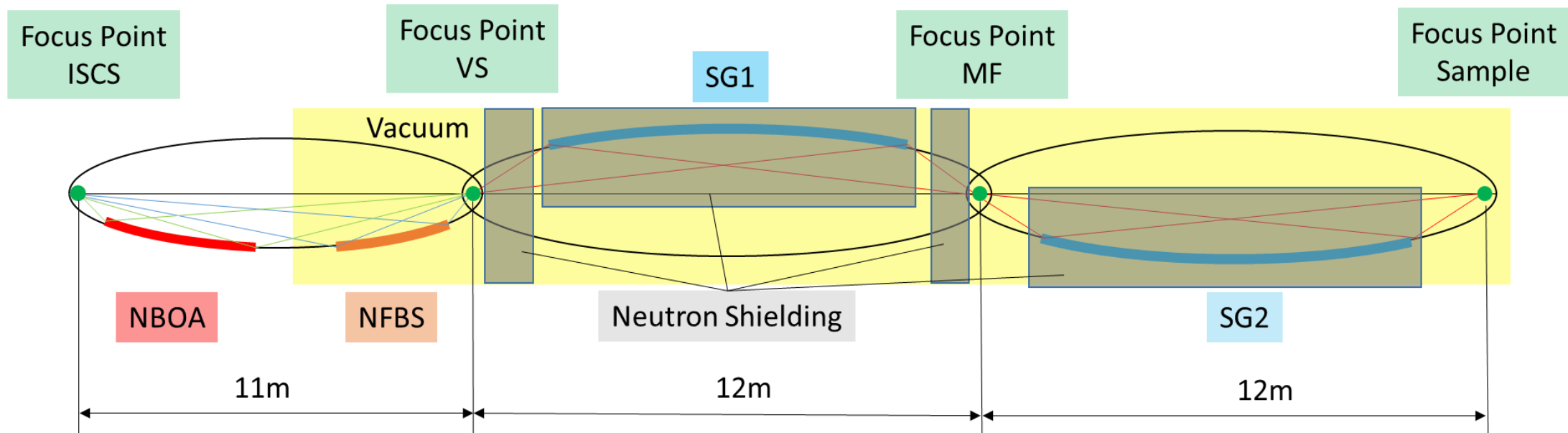
| FBS | Description |
|----------------------------|----------------------------|
| =ESS.NSS.H01.ESTIA.A01.W02 | Beam Extraction |
| =ESS.NSS.H01.ESTIA.A01.W01 | Beam Delivery |
| =ESS.NSS.H01.ESTIA.A01.R01 | ESTIA Chopper System |
| =ESS.NSS.H01.ESTIA.A01.R02 | Beam Geometry Conditioning |
| =ESS.NSS.H01.ESTIA.A01.R03 | Beam Cut-off |
| =ESS.NSS.H01.ESTIA.A01.R04 | Beam Polarizer and Filter |
| =ESS.NSS.H01.ESTIA.A01.B01 | Beam Validation |
| =ESS.NSS.H01.ESTIA.A01.F01 | Neutron Guide Shielding |

Beam Transport and Conditioning

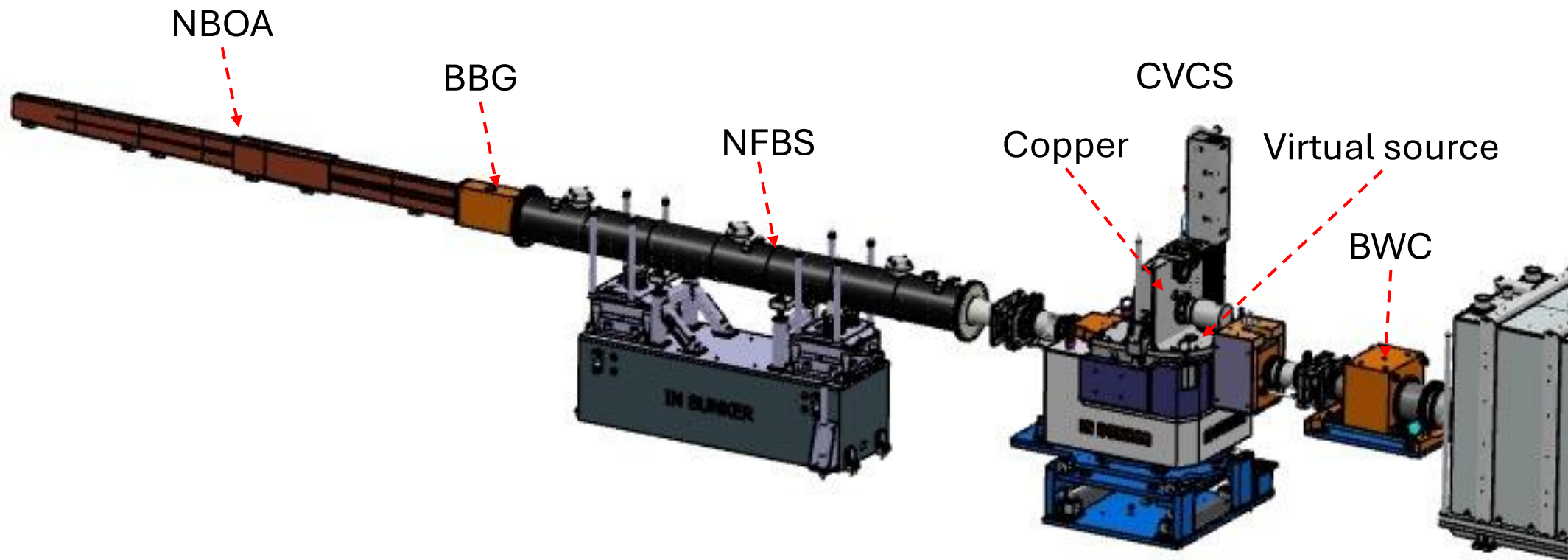
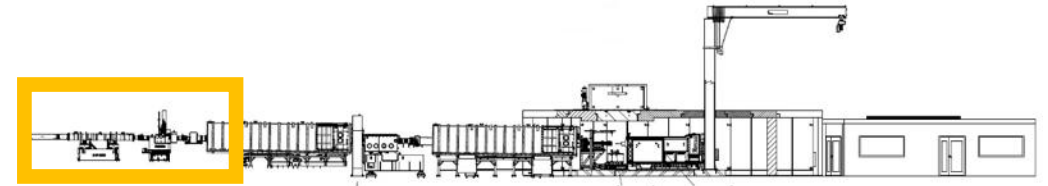
(=ESS.NSS.H01.ESTIA.A01)

Beam Delivery System

(=ESS.NSS.H01.ESTIA.A01.W01)



Beam Transport and Conditioning (=ESS.NSS.H01.ESTIA.A01) (in-Bunker section)

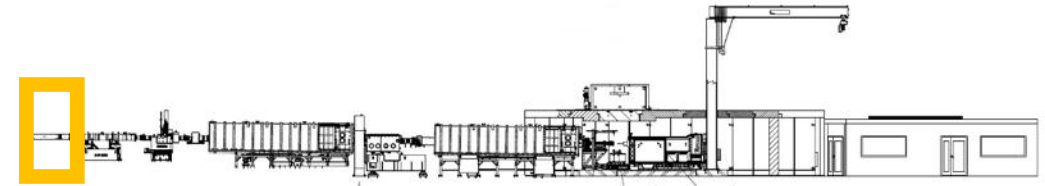


Beam Transport and Conditioning

(=ESS.NSS.H01.ESTIA.A01) (in-Bunker section)

Beam Extraction System

(=ESS.NSS.H01.ESTIA.A01.W02)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|---------------------------------------|----------------------|-------------|-------------|-------------|
| Neutron Beam Optics Assembly (NBOA) | ..ESTIA.A01.W02.WH01 | ESS-2820476 | ESS-0098542 | ESS-5459566 |
| Bridge Beam Guide Optics Ass. (BBGOA) | ..ESTIA.A01.W02.WH02 | ESS-4813488 | ESS-2024272 | ESS-5151290 |

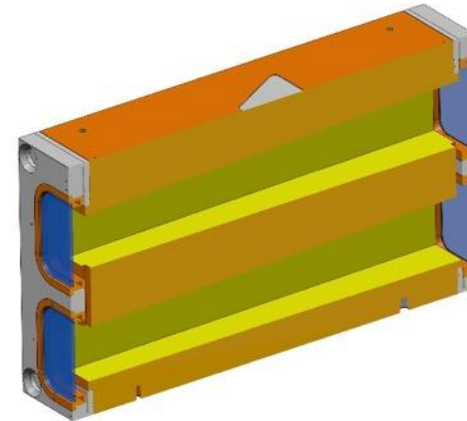
NBOA

Installed in the Neutron Beam Port Inset (NBPI)



BBGOA

Installed in the Light Shutter System (LSS)

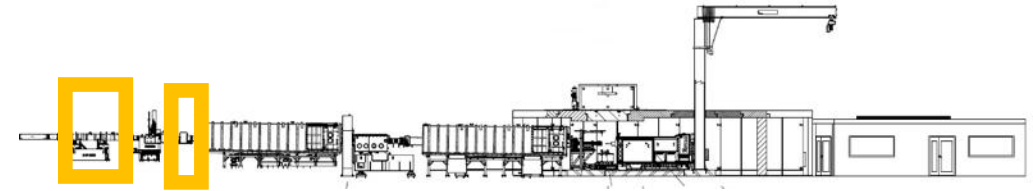


Beam Transport and Conditioning

(=ESS.NSS.H01.ESTIA.A01) (in-Bunker section)

Beam Delivery in-Bunker

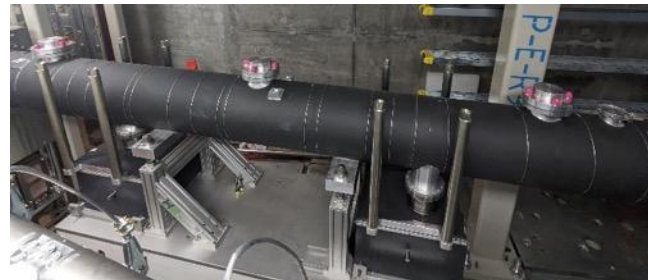
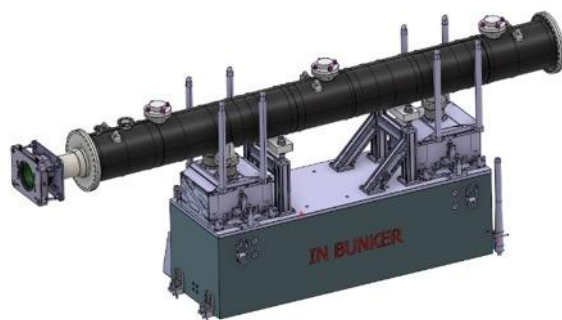
(=ESS.NSS.H01.ESTIA.A01.W01.W01)



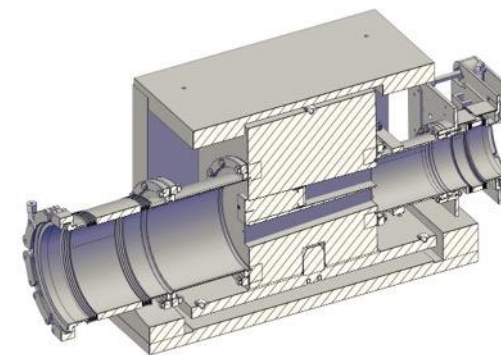
| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|--|--------------------------|-------------|-------------|-------------|
| Neutron Feeder In-Bunker System (NFBS) | ..ESTIA.A01.W01.W01.WH01 | ESS-5152852 | ESS-0177460 | ESS-5153940 |
| Bunker wall Collimator Feedthrough (BWC) | ..ESTIA.A01.W02.W01.WH02 | ESS-5314544 | ESS-5314612 | ESS-5233230 |

NFBS

Manually remote adjustable to the Beam Axis

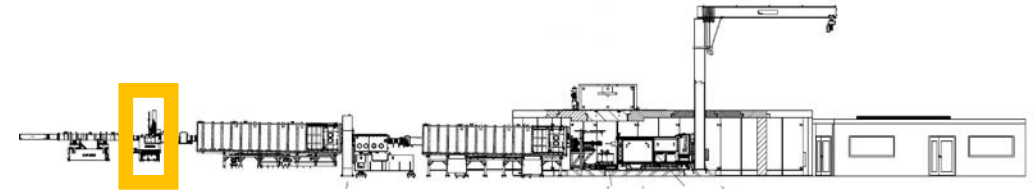


BWC



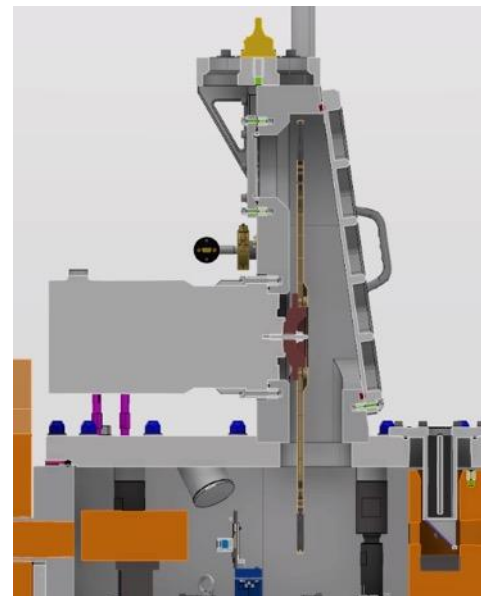
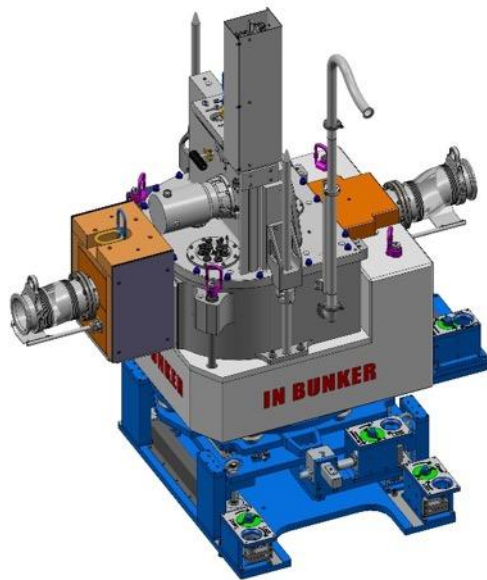
Beam Transport and Conditioning (=ESS.NSS.H01.ESTIA.A01) (in-Bunker section)

ESTIA Chopper System (=ESS.NSS.H01.ESTIA.A01.R01)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|------------------------------------|---------------------|-------------|-------------|-------------|
| ESTIA Bunker Chopper System (CVCS) | ..ESTIA.A01.R01.R01 | ESS-3873745 | ESS-0311844 | ESS-5186219 |

Chopper System (B4C Resin Al-disc, Diameter 700mm, 14Hz)

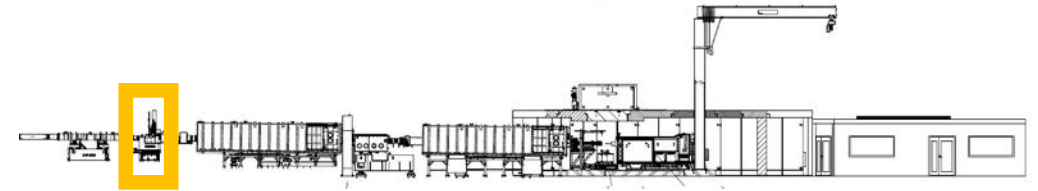


Beam Transport and Conditioning

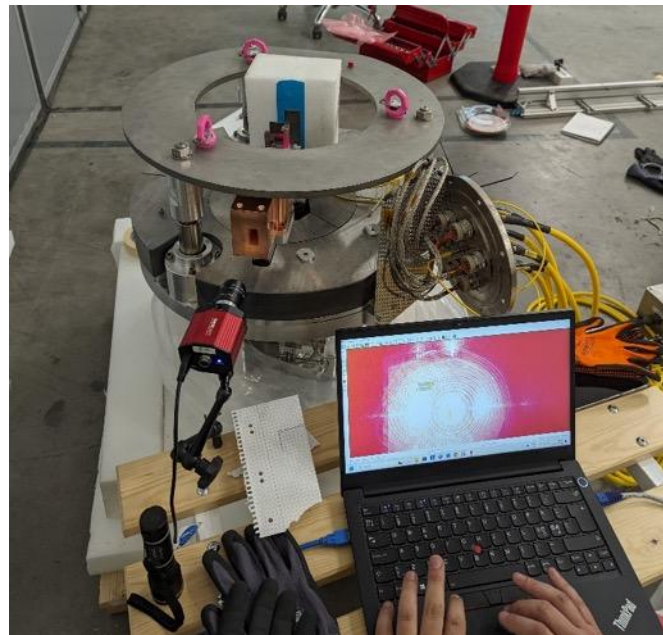
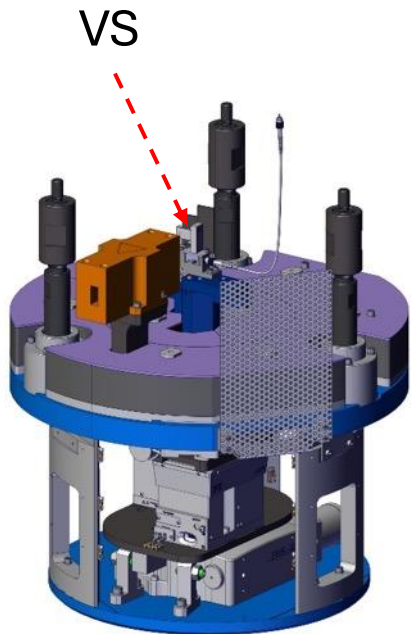
(=ESS.NSS.H01.ESTIA.A01) (in-Bunker section)

Beam Geometry Conditioning

(=ESS.NSS.H01.ESTIA.A01.R02)



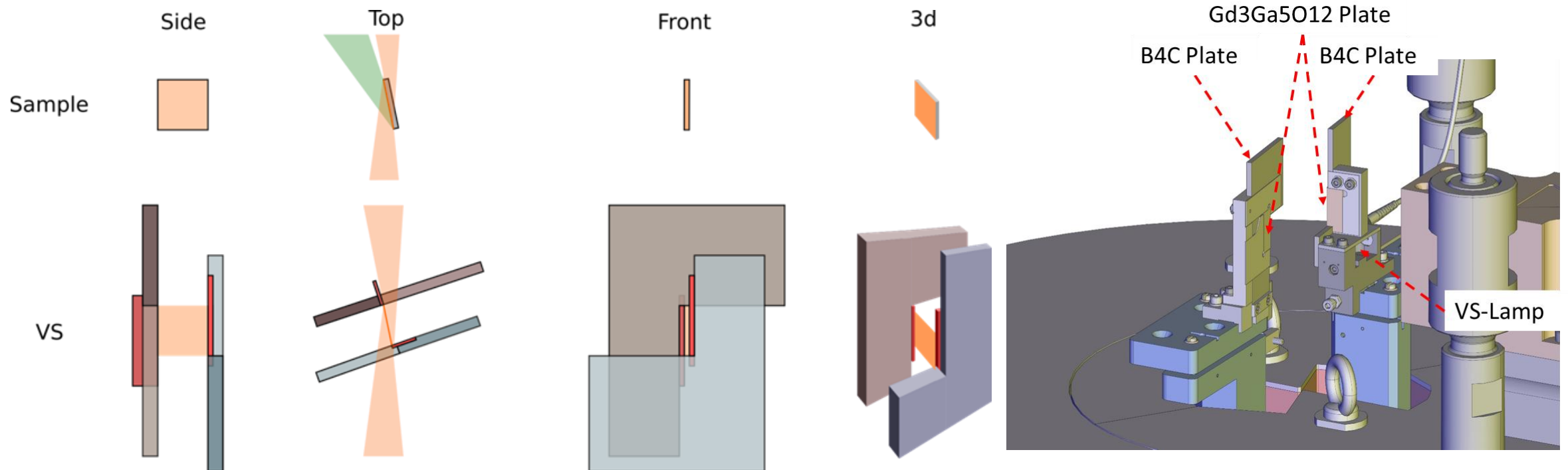
| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|----------------------------------|---------------------|-------------|-------------|-------------|
| Virtual Source VS (Part of CVCS) | ..ESTIA.A01.R02.R01 | ESS-5918740 | ESS-3061543 | ESS-5186219 |



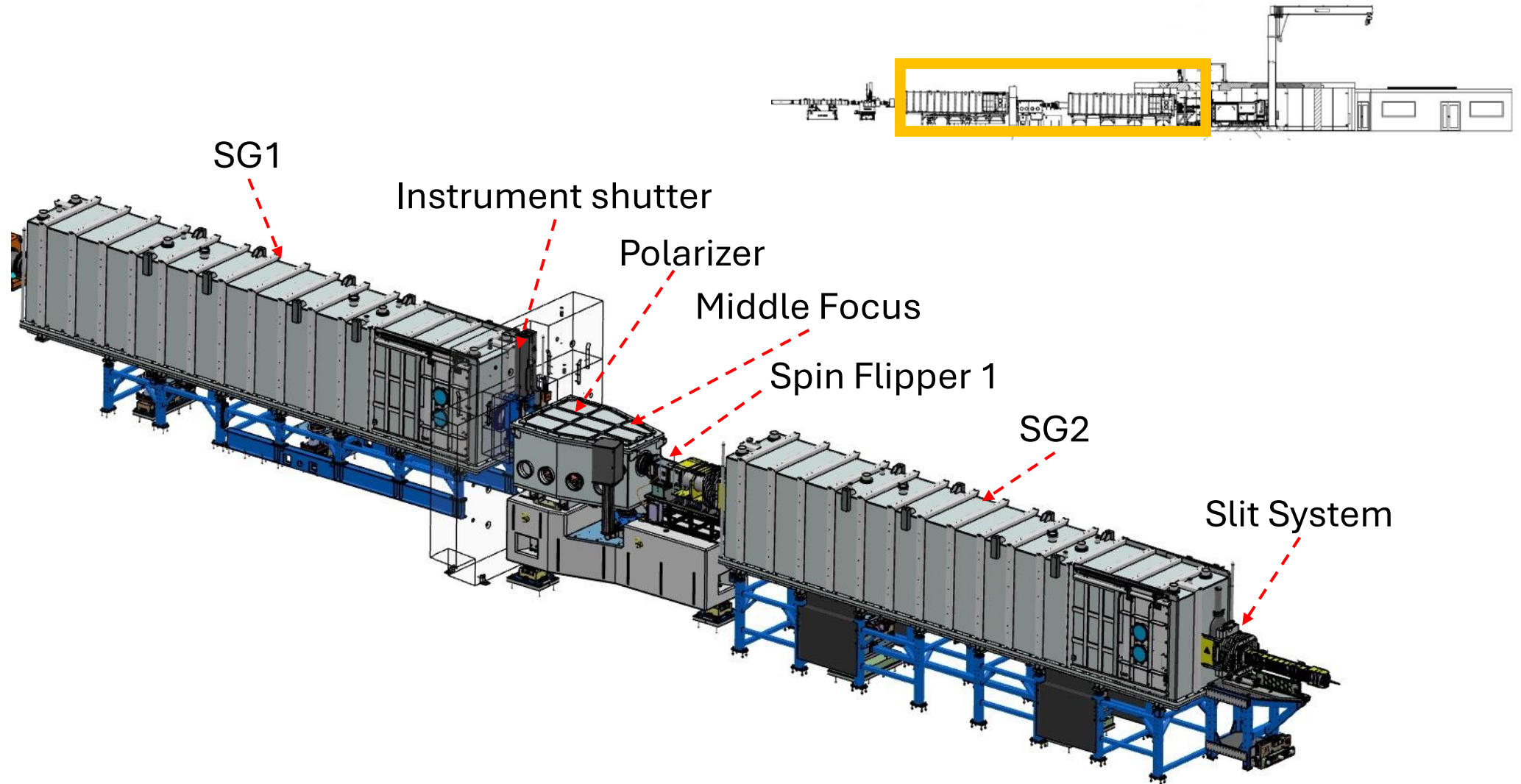
Beam Transport and Conditioning (=ESS.NSS.H01.ESTIA.A01) (in-Bunker section)

Virtual Source

➔ Beam size adjustment at the Sample Point



Beam Transport and Conditioning (=ESS.NSS.H01.ESTIA.A01) (Out-Bunker section)



Beam Transport and Conditioning

(=ESS.NSS.H01.ESTIA.A01) (Out-Bunker section)

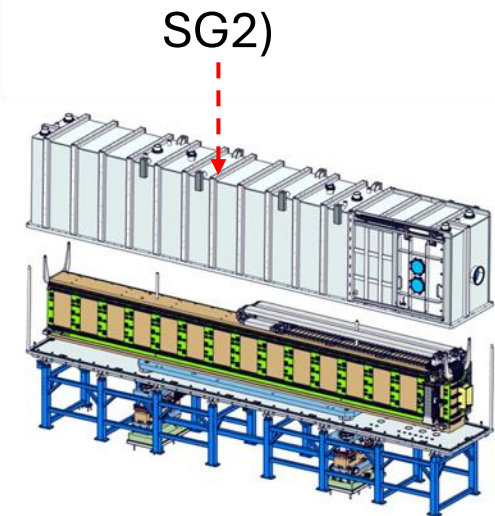
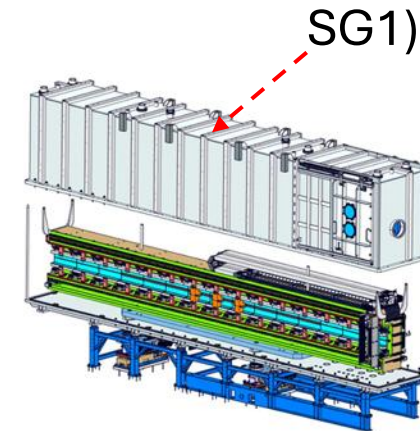
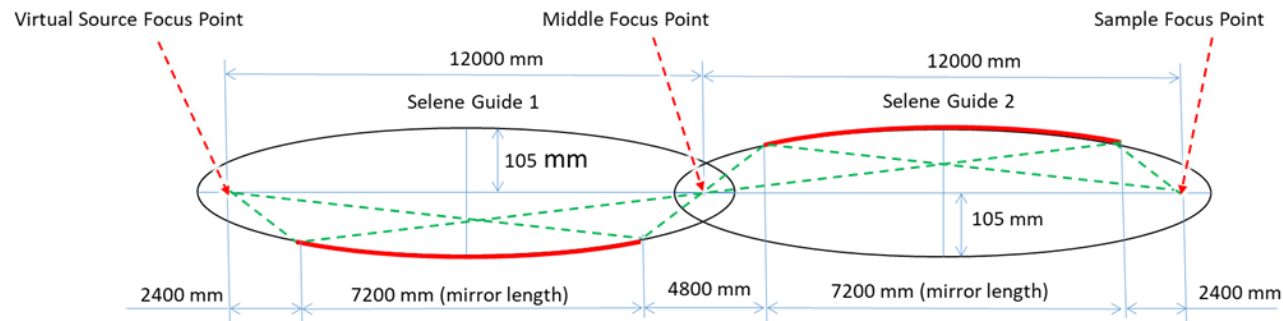
Beam Delivery System

(=ESS.NSS.H01.ESTIA.A01.W01)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|----------------------|---------------------|-------------|-------------|-------------|
| Selene Guide 1 (SG1) | ..ESTIA.A01.W01.W02 | ESS-4956527 | ESS-0321366 | ESS-5312365 |
| Selene Guide 2 (SG2) | ..ESTIA.A01.W01.W03 | ESS-4956528 | ESS-0338567 | ESS-5312365 |

Each Selene Guide has 15 mirror segments, which built the elliptic Mirror with a length of 7200m (vertical and horizontal)



Beam Transport and Conditioning (=ESS.NSS.H01.ESTIA.A01) (Out-Bunker section)

Beam Delivery System (=ESS.NSS.H01.ESTIA.A01.W01)

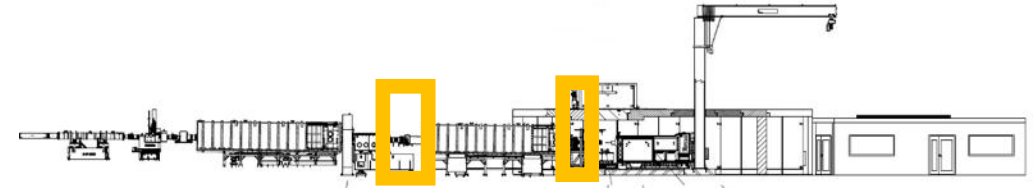


Beam Transport and Conditioning

(=ESS.NSS.H01.ESTIA.A01) (Out-Bunker section)

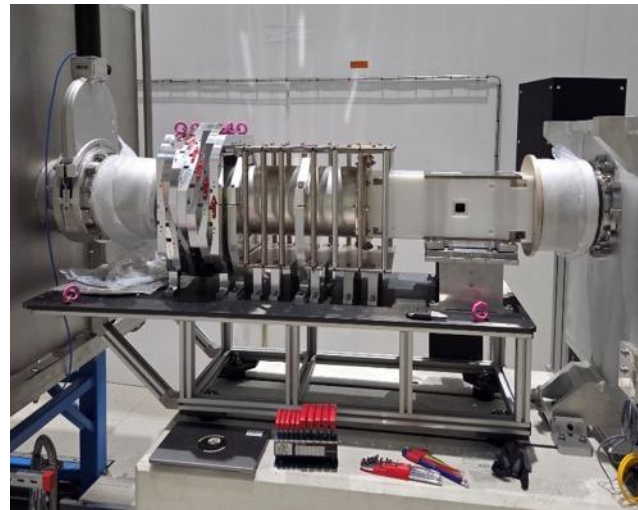
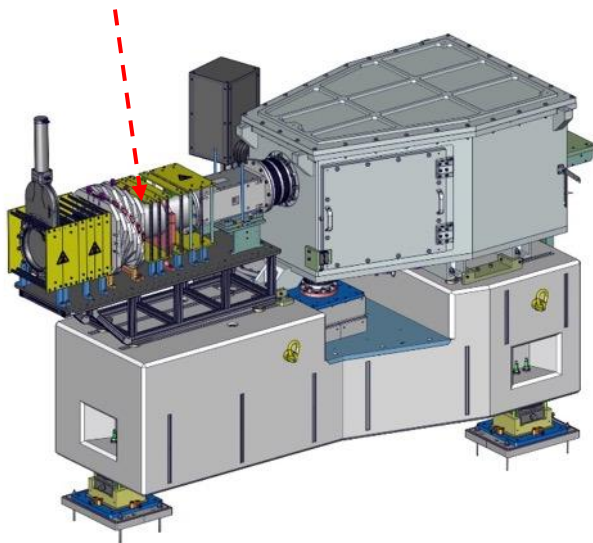
Beam Delivery System

(=ESS.NSS.H01.ESTIA.A01.W01)

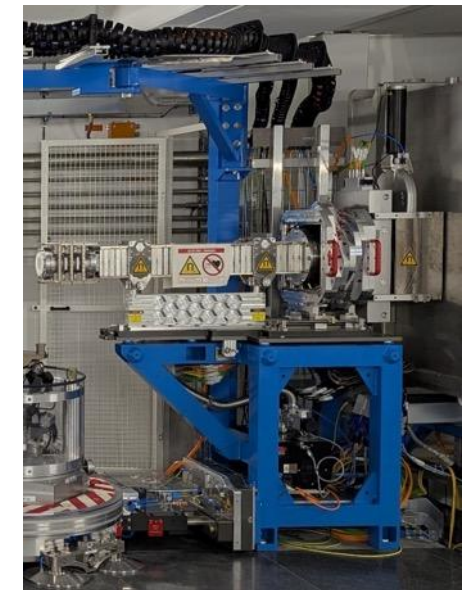
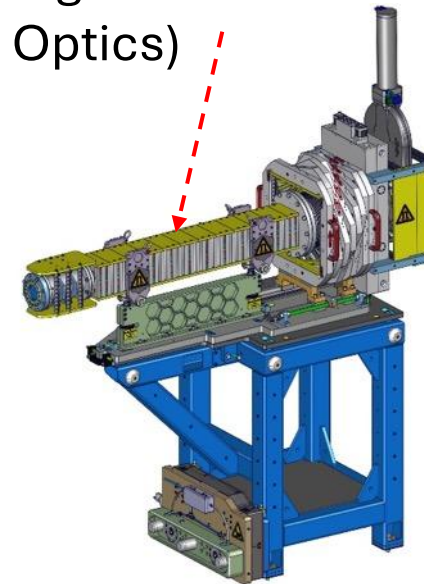


| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|----------------------------|---------------------|-------------|-------------|-------------|
| Flight Tube Middle Focus | ..ESTIA.A01.W01.W05 | ESS-5819544 | ESS-5359936 | ESS-5345978 |
| Flight Tube In-Cave Optics | ..ESTIA.A01.W01.W04 | ESS-4956529 | ESS-5298194 | ESS-5361835 |

Flight Tube Middle Focus



Flight Tube In-Cave Optics)



Beam Transport and Conditioning

(=ESS.NSS.H01.ESTIA.A01) (Out-Bunker section)

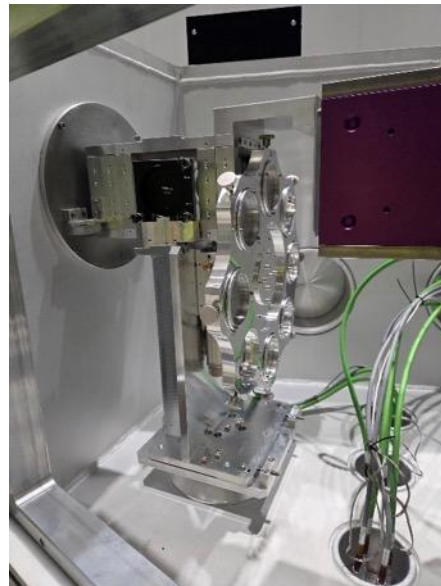
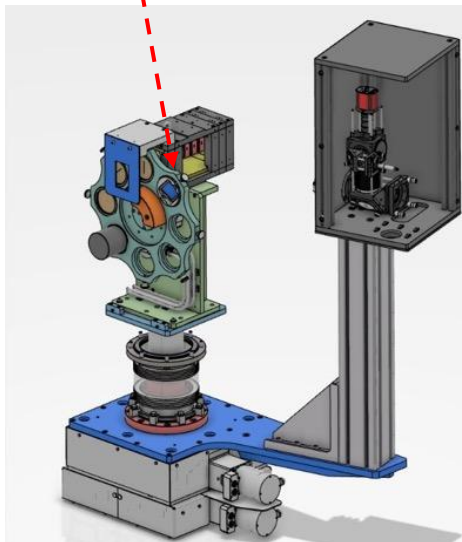
Beam Geometry Conditioning

(=ESS.NSS.H01.ESTIA.A01.R02)

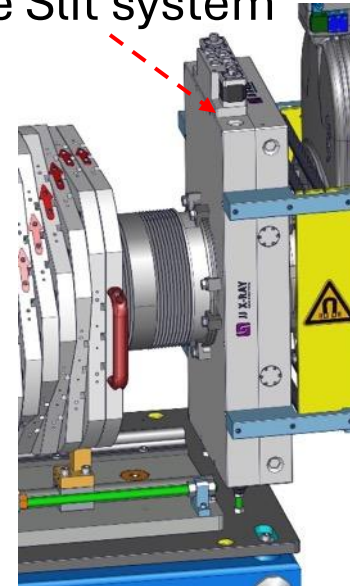


| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|--------------------|---------------------|-------------|-------------|-------------|
| Middle Focus (MF) | ..ESTIA.A01.R02.R02 | ESS-4857598 | ESS-5359936 | ESS-5345978 |
| Sample Slit System | ..ESTIA.A01.R02.R03 | ESS-5693519 | ESS-4910220 | ESS-5361835 |

Mask Changer MF

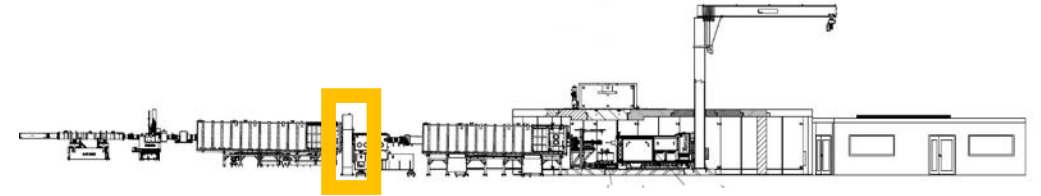


Sample Slit system

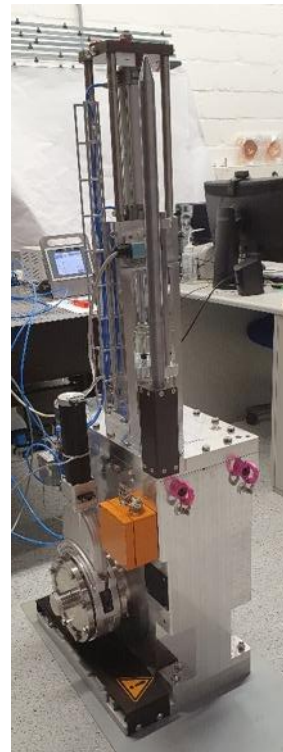


Beam Transport and Conditioning (=ESS.NSS.H01.ESTIA.A01) (Out-Bunker section)

Beam Cut Off (=ESS.NSS.H01.ESTIA.A01.R03)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|-----------------|---------------------|-------------|-------------|-------------|
| Thermal Shutter | ..ESTIA.A01.R03.R01 | ESS-5248822 | ESS-5359890 | ESS-5128064 |

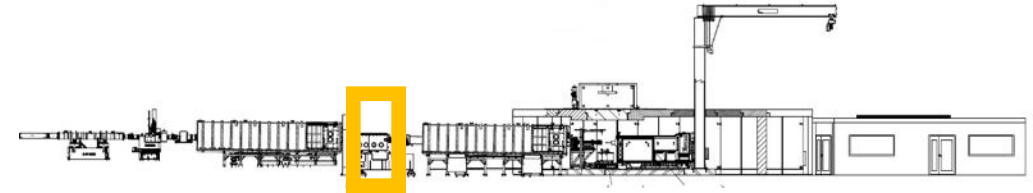


Beam Transport and Conditioning

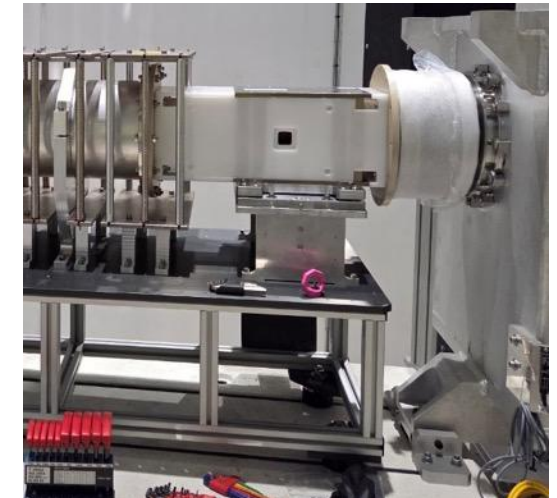
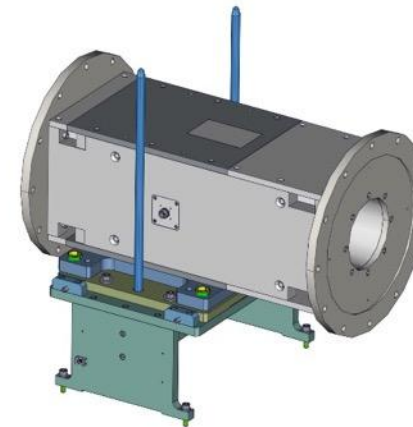
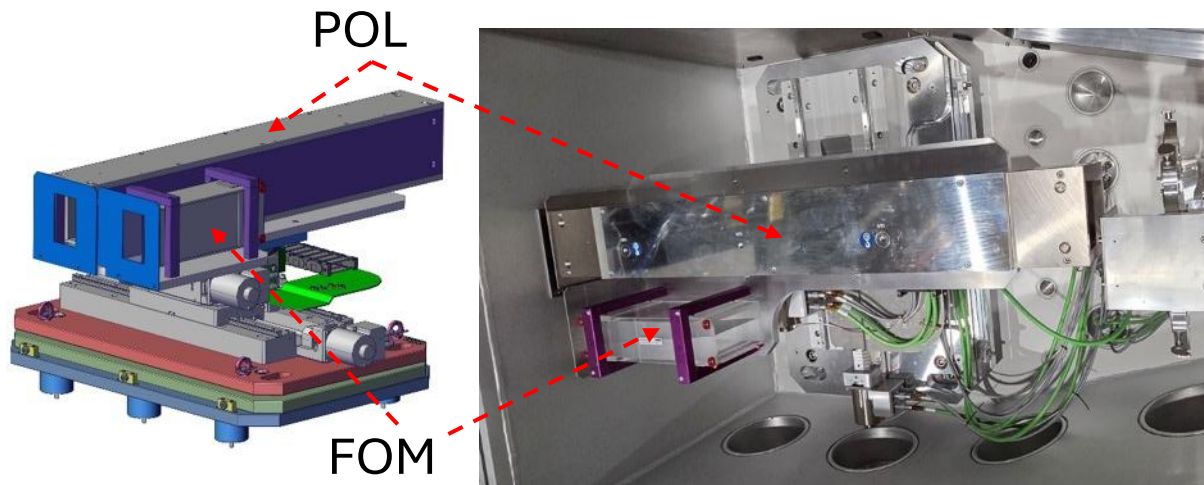
(=ESS.NSS.H01.ESTIA.A01) (Out-Bunker section)

Beam Polarizer and Filter

(=ESS.NSS.H01.ESTIA.A01.R04)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|----------------------------|---------------------|-------------|-------------|-------------|
| Neutron Polarizer (POL) | ..ESTIA.A01.R04.R01 | ESS-5918978 | ESS-3322942 | ESS-5345978 |
| Frame Overlap Mirror (FOM) | ..ESTIA.A01.R04.V01 | ESS-5918979 | ESS-3322942 | ESS-5345978 |
| Spin Flipper Polarizer | ..ESTIA.A01.R04.T01 | ESS-5918980 | ESS-5353576 | ESS-5345978 |

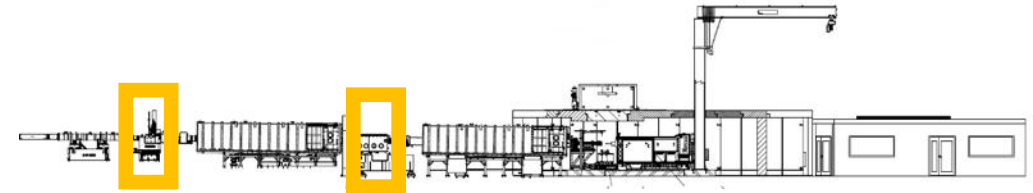


Beam Transport and Conditioning

(=ESS.NSS.H01.ESTIA.A01) (Out-Bunker section)

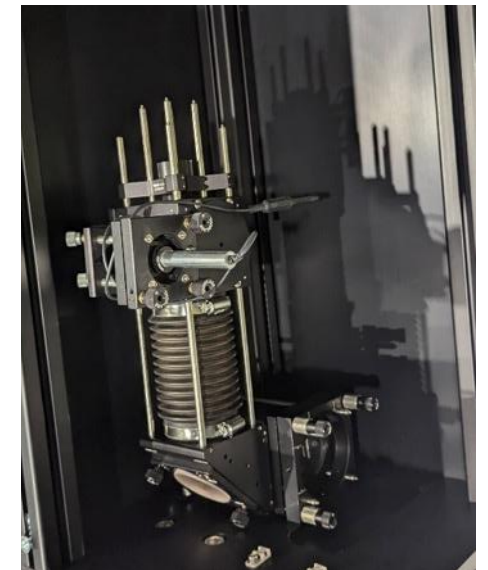
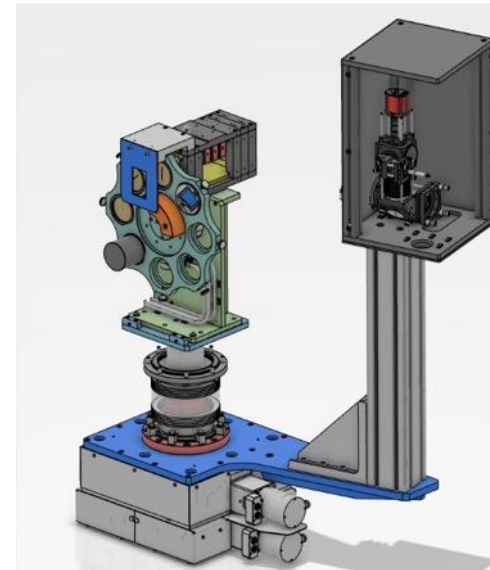
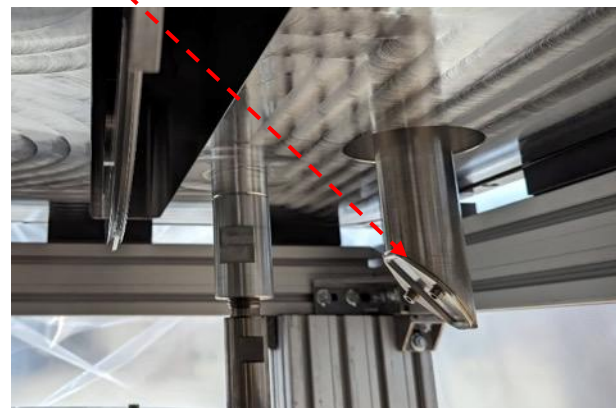
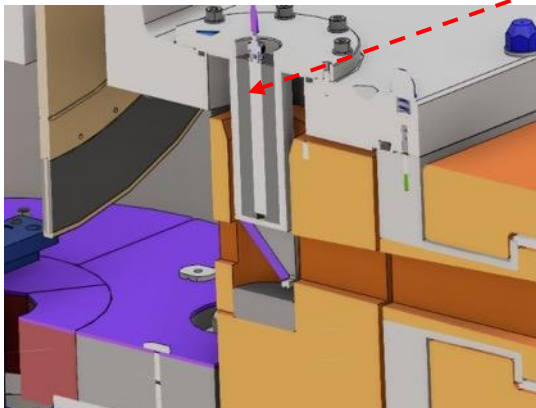
Beam Validation

(=ESS.NSS.H01.ESTIA.A01.B01)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|--|---------------------|-------------|-------------|-------------|
| Beam Monitor System M1 | ..ESTIA.A01.B01.B01 | ESS-5919205 | ESS-0475451 | ESS-5186219 |
| Beam Camera System | ..ESTIA.A01.B01.B02 | ESS-5819543 | ESS-3229685 | ESS-5345978 |
| Beam Monitor DAQ System in Bunker Zone | ..ESTIA.A01.B01.C01 | ESS-5918980 | N/A | N/A |

Beam Monitor System M1



Beam Transport and Conditioning

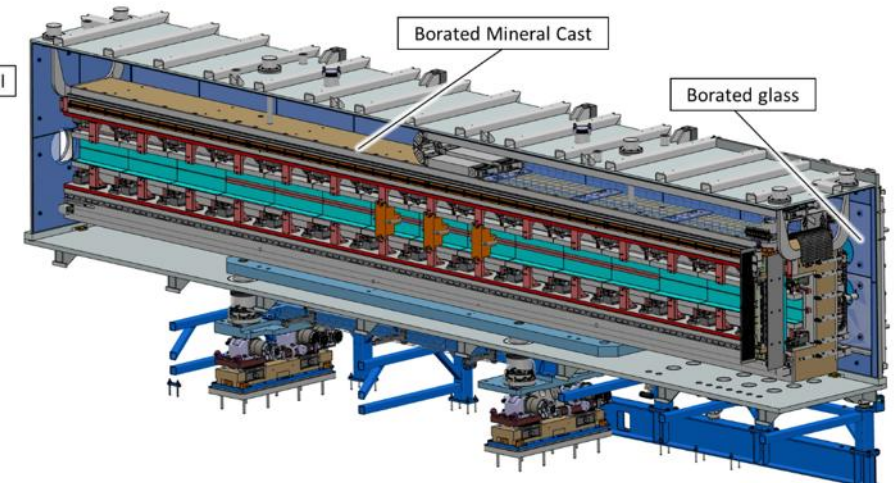
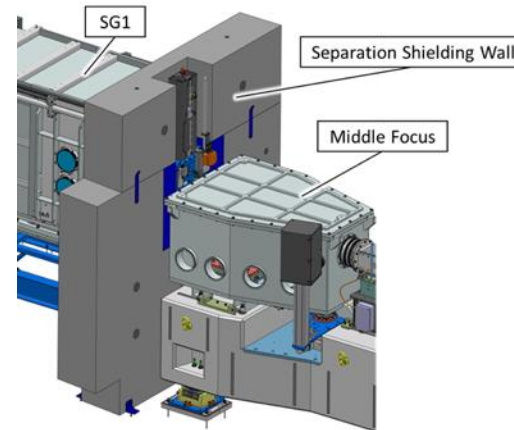
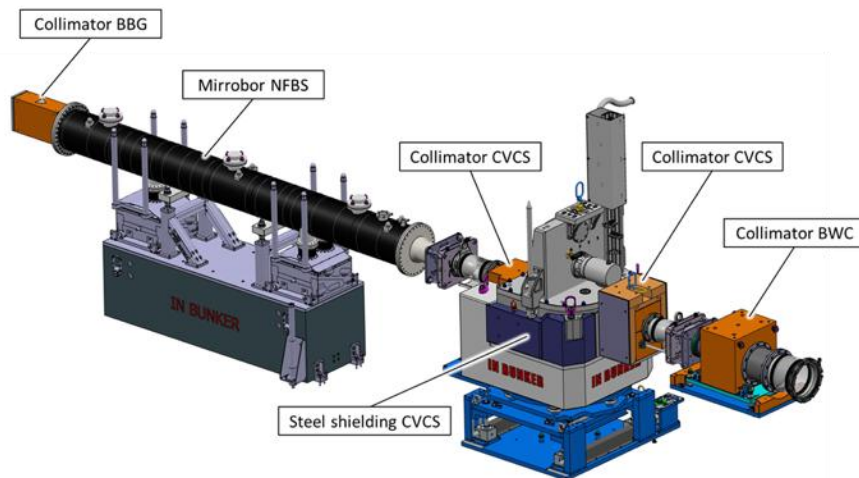
(=ESS.NSS.H01.ESTIA.A01) (Out-Bunker section)

Neutron Guide Shielding

(=ESS.NSS.H01.ESTIA.A01.F01)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|------------------------|---------------------|-------------|-------------|-------------|
| In-Bunker Shielding | ..ESTIA.A01.F01.F01 | ESS-5175800 | ESS-5475778 | |
| Wall to Optical area | ..ESTIA.A01.F01.F02 | ESS-4981029 | ESS-4973495 | |
| Selene Guide Carrier 1 | ..ESTIA.A01.F01.F03 | ESS-5918968 | ESS-1990367 | ESS-5312365 |
| Selene Guide Carrier 2 | ..ESTIA.A01.F01.F04 | ESS-5918969 | ESS-1990367 | ESS-5312365 |



Overview Components

Sample Exposure (=ESS.NSS.H01.ESTIA.A02)

Sample Exposure

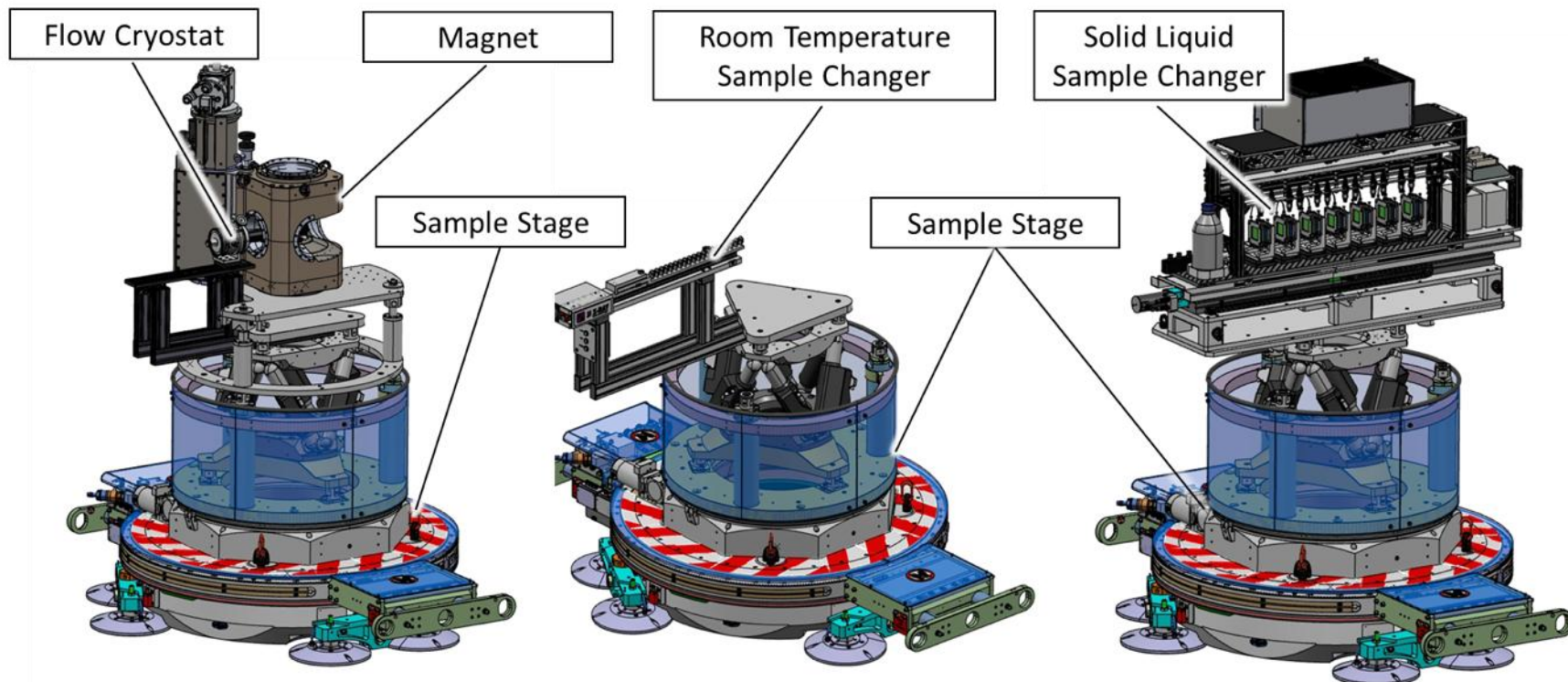
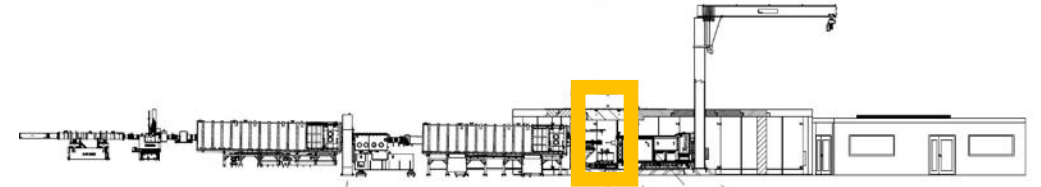
(=ESS.NSS.H01.ESTIA.A02



| FBS | Description |
|-----------------------------|------------------------------------|
| =ESS.NSS.H01.ESTIA.A02.U01 | Support Structure in Air Pads (L0) |
| =ESS.NSS.H01.ESTIA.A02.W01 | Sample Positioning |
| =ESS.NSS.H01.ESTIA.A02.AS01 | Sample Conditioning |

Sample Exposure

(=ESS.NSS.H01.EXTIA.A02)



Sample Exposure

(=ESS.NSS.H01.ESTIA.A02)

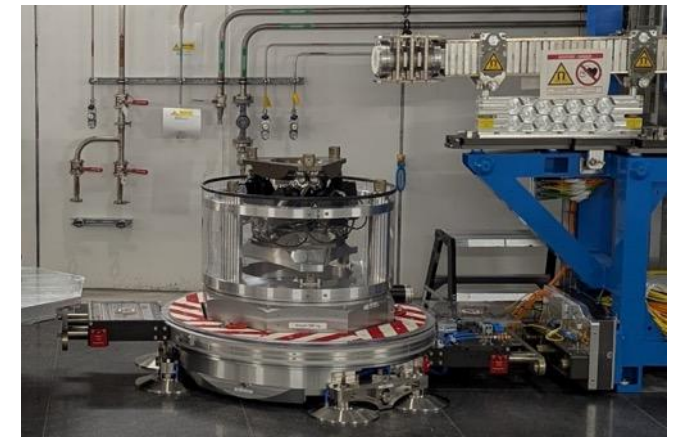
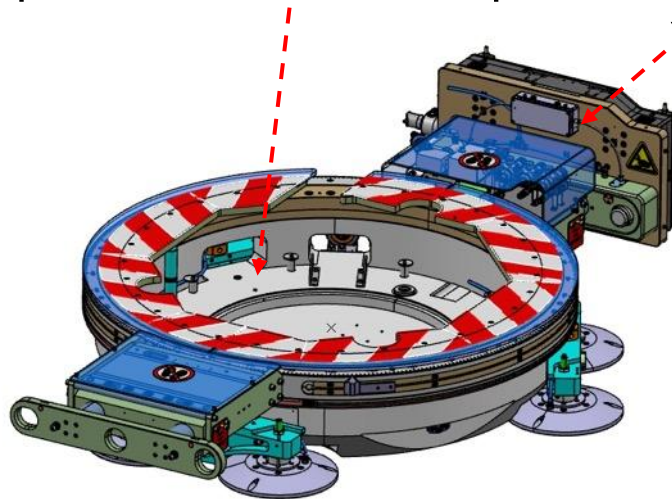
Support Structure on Air Pads (=ESS.NSS.H01.ESTIA.A02.U01)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|-------------------------------|----------------------|-------------|-------------|-------------|
| Support Structure on Air Pads | ..ESTIA.A02.U01 | ESS-5638345 | ESS-3918381 | ESS-5423296 |
| Y-Adjustment Stage | ..ESTIA.A02.U01.WH01 | ESS-5693517 | ESS-4390088 | ESS-5361835 |

Support Structure on Air pads

Y-Adjustment Stage



Sample Exposure

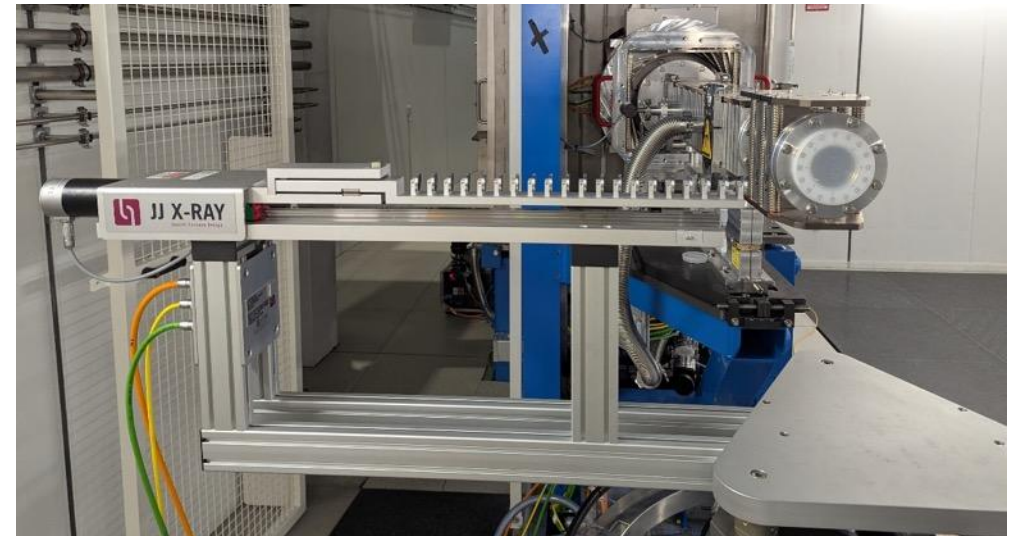
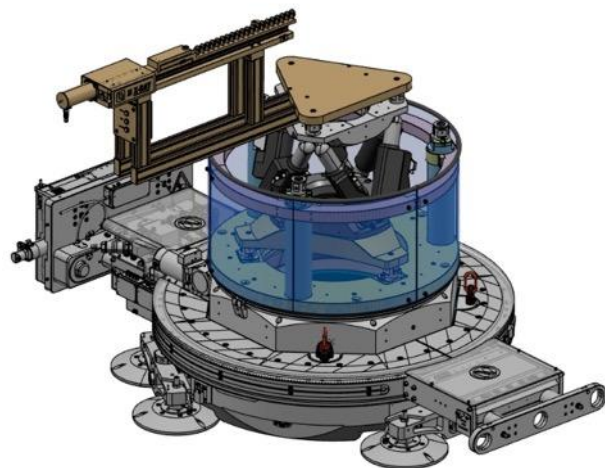
(=ESS.NSS.H01.ESTIA.A02

Sample Positioning

(=ESS.NSS.H01.ESTIA.A02.W01)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|---------------------------------|----------------------|-------------|-------------|-------------|
| Sample Rotation Table | ..ESTIA.A02.W01.W01 | ESS-5692889 | ESS-3918382 | ESS-5423296 |
| Sample Hexapod | ..ESTIA.A02.W01.GM01 | ESS-5692885 | ESS-4934154 | ESS-5423296 |
| Room Temperature Sample Changer | ..ESTIA.A02.W01.W02 | ESS-5669715 | Ess-5801973 | ESS-5670013 |



Sample Exposure

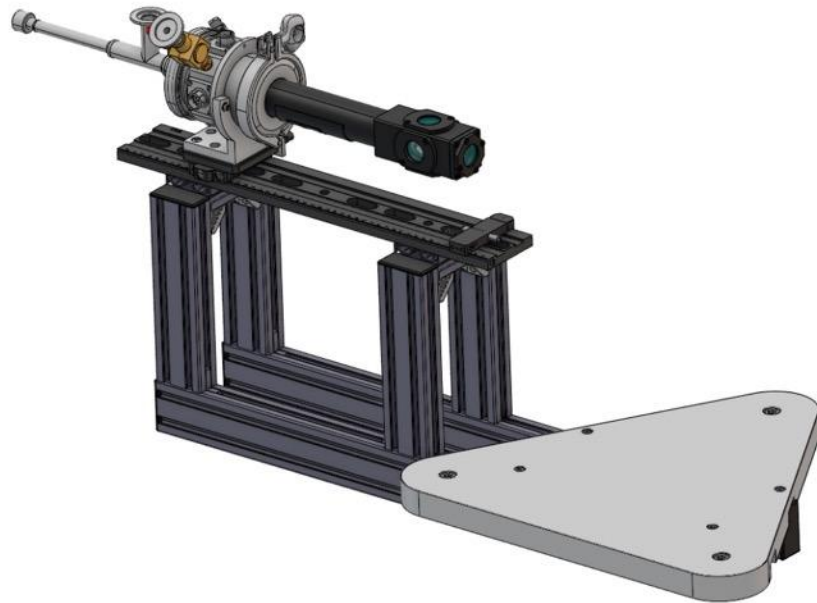
(=ESS.NSS.H01.ESTIA.A02)

Sample Conditioning

(=ESS.NSS.H01.ESTIA.A02.AS02)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|-----------------------|----------------------|-------------|-------------|-------------|
| Flow Cryostat Support | ..ESTIA.A02.AS02.U01 | ESS-5847478 | ESS-5829767 | ESS-5376480 |
| Low Cryostat | ..ESTIA.A02.AS02.R01 | ESS-5796536 | ESS-5829923 | ESS-5376480 |

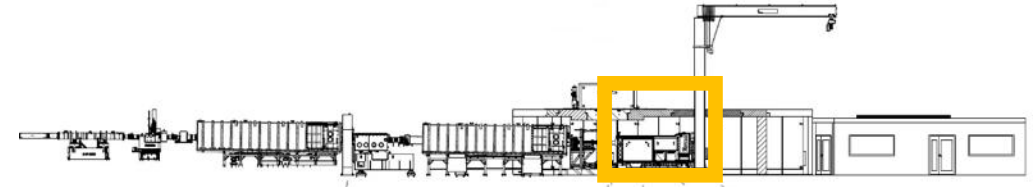


Overview Components

**Scattering Characterization System
(=ESS.NSS.H01.ESTIA.B01)**

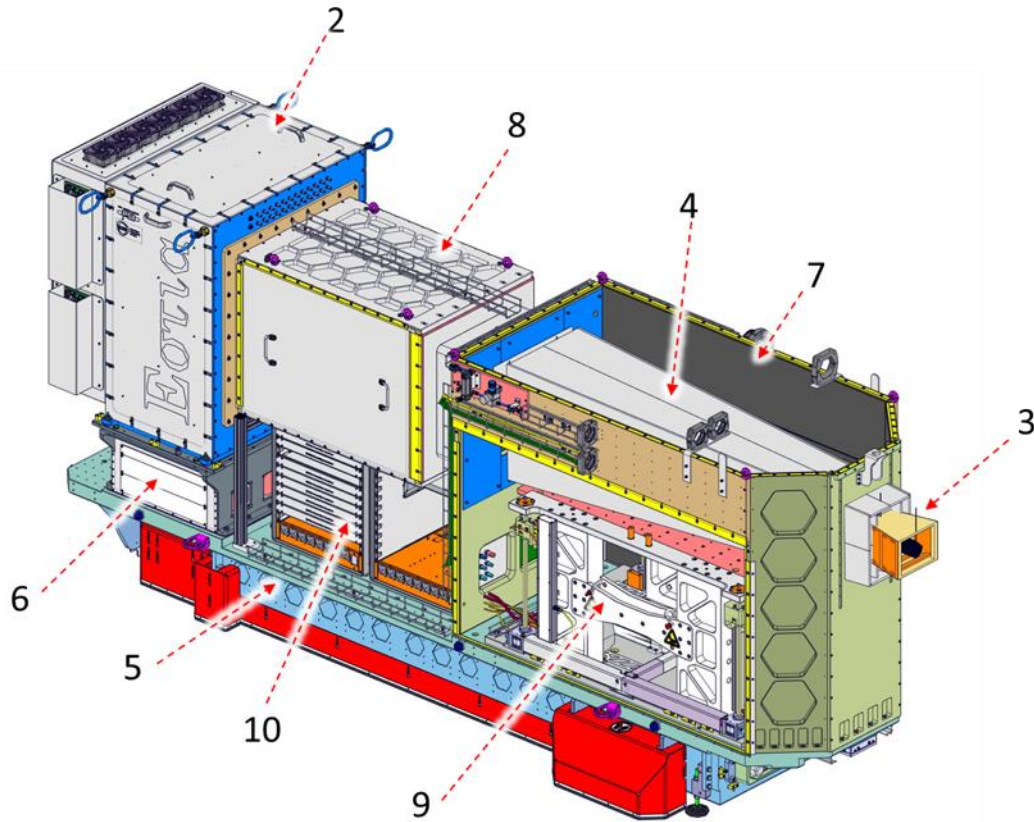
Scattering Characterization System

(=ESS.NSS.H01.ESTIA.B01)



| FBS | Description |
|----------------------------|----------------------------------|
| =ESS.NSS.H01.ESTIA.B01.B01 | Neutron Detector System |
| =ESS.NSS.H01.ESTIA.B01.B02 | Polarisation Analyser System |
| =ESS.NSS.H01.ESTIA.B01.C01 | Neutron Detector Electronics |
| =ESS.NSS.H01.ESTIA.B01.C02 | Detector Tank System |
| =ESS.NSS.H01.ESTIA.B01.U01 | Detector Arm Support on Air Pads |
| =ESS.NSS.H01.ESTIA.B01.U02 | Cabel Support/Boom |
| =ESS.NSS.H01.ESTIA.B01.W01 | Flight Tube |

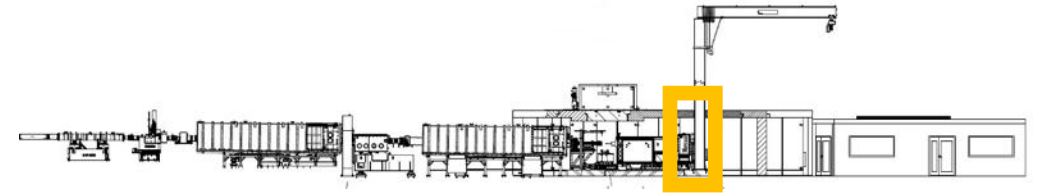
Scattering Characterization System (=ESS.NSS.H01.ESTIA.B01)



Scattering Characterization System

(=ESS.NSS.H01.ESTIA.B01)

Detector



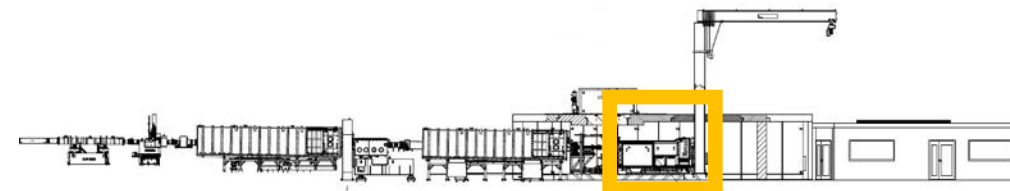
| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|------------------------------|-----------------|-------------|-------------|-------------|
| Neutron Detector System | ..ESTIA.B01.B01 | ESS-5526251 | ESS-5473820 | ESS-5487413 |
| Neutron Detector Electronics | ..ESTIA.B01.C01 | ESS-5289585 | N/A | ESS-5487413 |
| Detector Tank System | ..ESTIA.B01.C02 | ESS-5523801 | ESS-5611251 | ESS-5487413 |

Detailed described in the Talk Detector and Beam Monitor



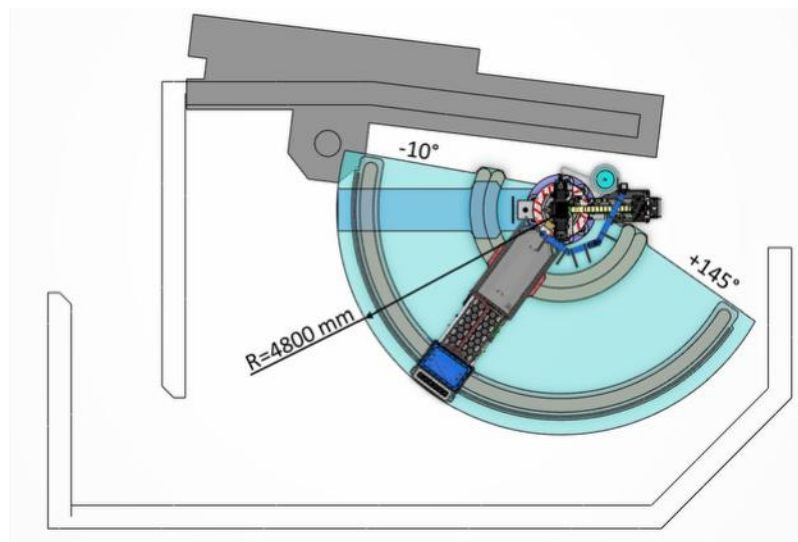
Scattering Characterization System

(=ESS.NSS.H01.ESTIA.B01)



Detector Arm

| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|-------------------------------|-----------------|-------------|-------------|-------------|
| Support Structure on Air Pads | ..ESTIA.B01.U01 | ESS-5526241 | ESS-3627991 | ESS-5423297 |
| Flight tube | ..ESTIA.B01.W01 | ESS-5523804 | ESS-4007891 | ESS-5423297 |
| Cable Support/Boom | ..ESTIA.B01.U02 | ESS-5524857 | ESS-5691530 | ESS-5423297 |



Scattering Characterization System

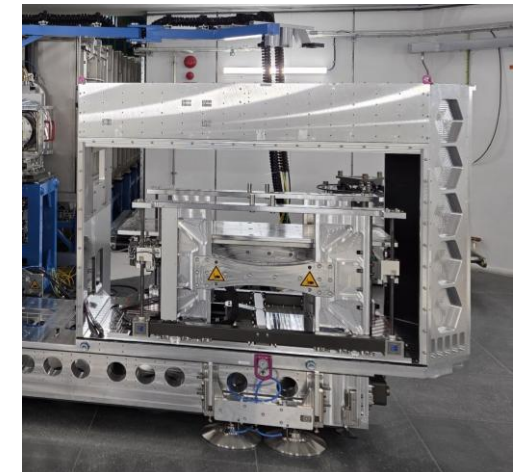
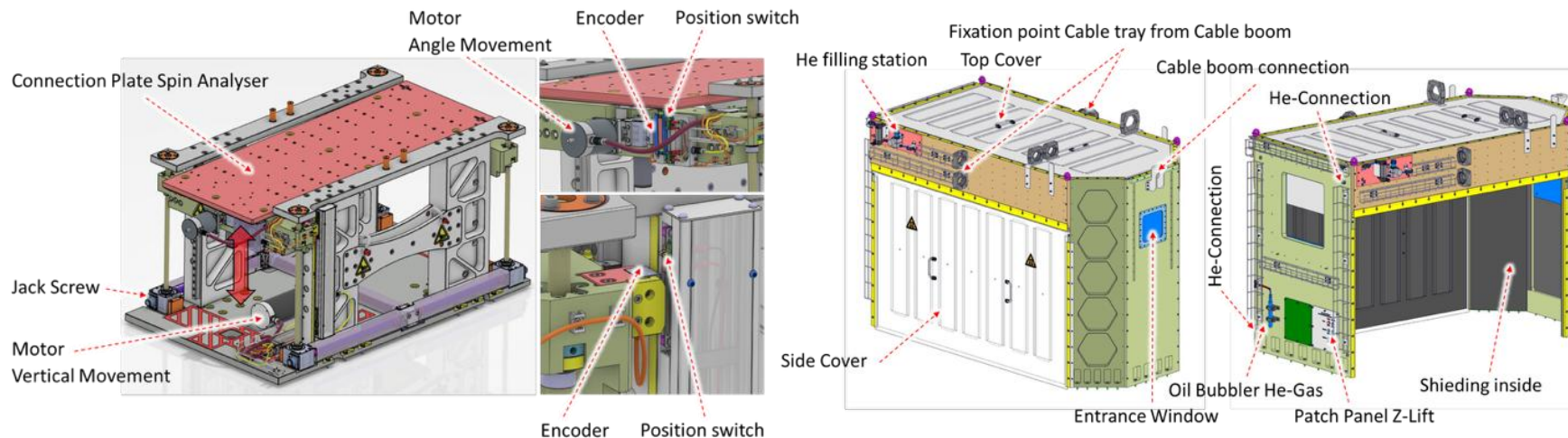
(=ESS.NSS.H01.ESTIA.B01)



Polarisation Analyser System (=ESS.NSS.H01.ESTIA.B01.B02)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|------------------------------|---------------------|-------------|-------------|-------------|
| Polarisation Analyser | ..ESTIA.B01.B02.B01 | ESS-5693590 | N/A | N/A |
| Spin Flipper 2 | ..ESTIA.B01.B02.T01 | ESS-5523846 | N/A | N/A |
| Analyser Tank | ..ESTIA.B01.B02.C01 | ESS-5523845 | ESS-4016243 | ESS-5423297 |
| Analyser in-Beam Positioning | ..ESTIA.B01.B02.W01 | ESS-5693589 | ESS-3861885 | ESS-5423297 |

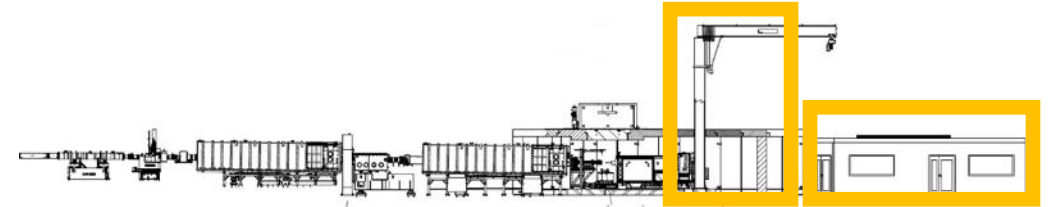


Overview Components

Support System(=ESS.NSS.H01.ESTIA.A04)

Support System

(=ESS.NSS.H01.ESTIA.A04)



Detector Arm

| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|-----------------------------|-----------------------------|-------------|-------------|-------------|
| Local Crane | =ESS.NSS.H01.ESTIA.A04.GM01 | ESS-4980196 | ESS-4973498 | ESS-4940032 |
| Control Hutch | =ESS.NSS.H01.ESTIA.A04.U01 | ESS-3873749 | ESS-4023251 | ESS-4894763 |
| Sample Preparation Facility | =ESS.NSS.H01.ESTIA.A04.A02 | ESS-3873749 | ESS-4023251 | ESS-4894763 |

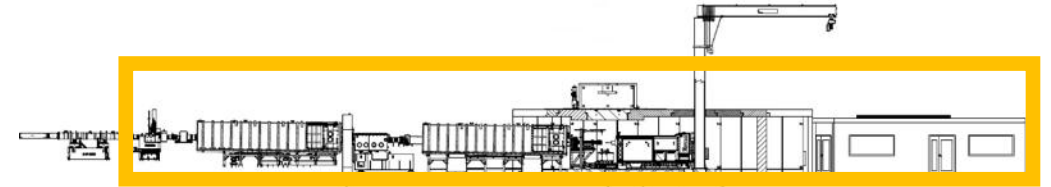


Overview Components

Supply System (=ESS.NSS.H01.ESTIA.A05)

Supply System

(=ESS.NSS.H01.ESTIA.A05)

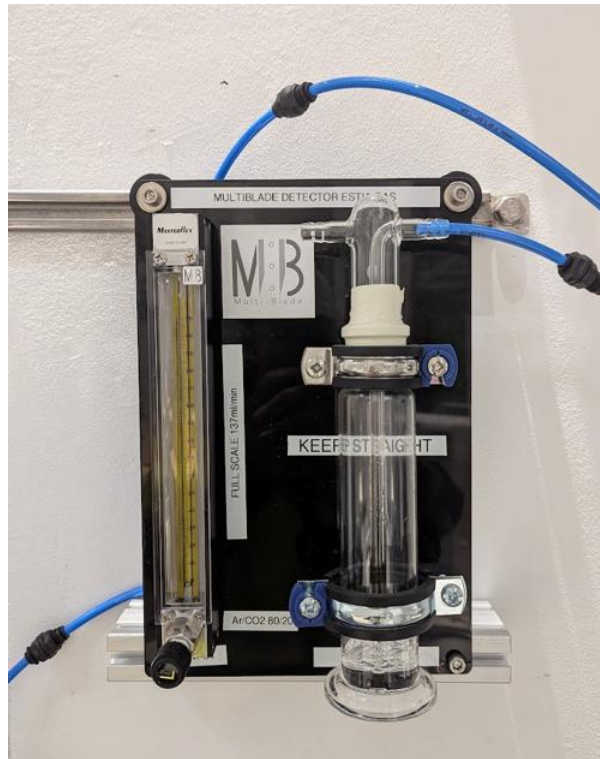


| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|-------------------------------|----------------------------|-----|------------|-------------|
| Detector Gas System | =ESS.NSS.H01.ESTIA.A05.W04 | | N/A | ESS-3482657 |
| Beam monitor gas system | =ESS.NSS.H01.ESTIA.A05.W03 | | N/A | ESS-3482657 |
| Process Utilities | =ESS.NSS.H01.ESTIA.A05.W02 | | N/A | ESS-3482657 |
| Electrical Power & Grounding | =ESS.NSS.H01.ESTIA.A05.W01 | | N/A | ESS-3963021 |
| Gas mixing system – detectors | =ESS.NSS.H01.ESTIA.A05.Q02 | | N/A | N/A |
| Timing system | =ESS.NSS.H01.ESTIA.A05.K01 | | N/A | ESS-5856024 |

Supply System (=ESS.NSS.H01.ESTIA.A05)



Gas mixing system –
detectors



=ESS.NSS.H01.ESTIA.A05.Q02

Process Utilities



=ESS.NSS.H01.ESTIA.A05.W02

Electrical Power & Grounding



=ESS.NSS.H01.ESTIA.A05.W01

Overview Components

Vacuum System (ESTIA) (=ESS.NSS.H01.ESTIA.G01)

Vacuum System

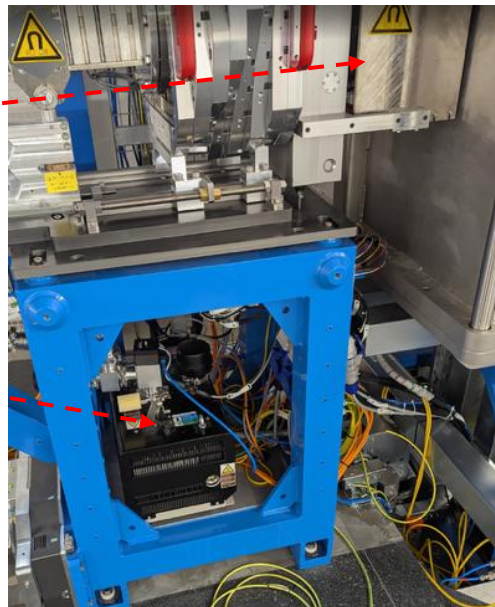
(=ESS.NSS.H01.ESTIA.G01)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|-------------------------------------|----------------------------|-------------|------------|-------------|
| ESTIA Vacuum System Bunker Zone | =ESS.NSS.H01.ESTIA.G01.G01 | ESS-5359888 | NA | ESS-2169859 |
| ESTIA Vacuum System Instrument Zone | =ESS.NSS.H01.ESTIA.G01.G02 | ESS-5275767 | NA | ESS-2169859 |

Selene guide 2
gate valve

Vacuum pump
in cave



Vacuum pump
Selene guide 1

Vacuum pump
middle focus

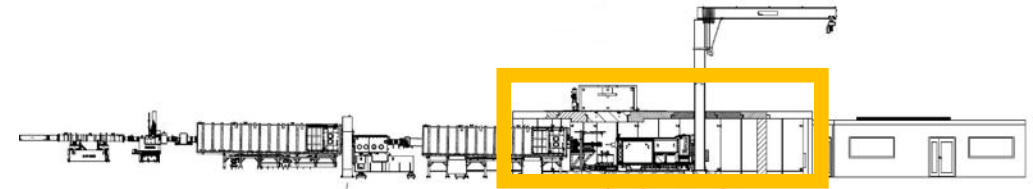


Overview Components

Experimental Cave (=ESS.NSS.H01.ESTIA.U01)

Experimental Cave

(=ESS.NSS.H01.ESTIA.U01)

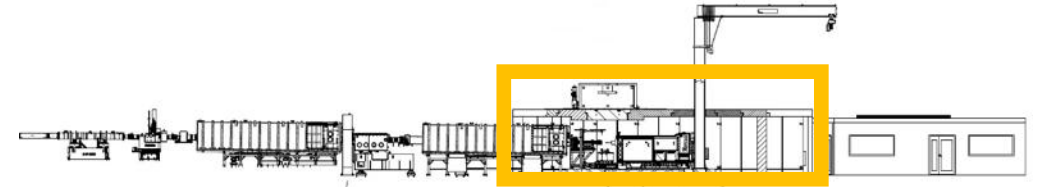


| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|--|-----------------------------|-------------|-------------|-------------|
| Bosch Rexroth rack frames with isolators | =ESS.NSS.H01.ESTIA.U01.U03 | ESS-5716250 | ESS-5759314 | ESS-5633162 |
| Cave Structure | =ESS.NSS.H01.ESTIA.U01.U01 | ESS-4980155 | ESS-0048145 | ESS-4894763 |
| Cave Door | =ESS.NSS.H01.ESTIA.U01.QQ01 | ESS-5482684 | ESS-0048145 | ESS-4894763 |
| False Floor ESTIA Middle Focus | =ESS.NSS.H01.ESTIA.U01.ND04 | ESS-5545623 | ESS-5585072 | ESS-5633162 |
| False Floor ESTIA Selene Guide 2 | =ESS.NSS.H01.ESTIA.U01.ND03 | ESS-5545622 | ESS-5585072 | ESS-5633162 |
| False Floor ESTIA Shielding Wall | =ESS.NSS.H01.ESTIA.U01.ND02 | ESS-5545621 | ESS-5585072 | ESS-5633162 |
| False Floor ESTIA Cave Wall | =ESS.NSS.H01.ESTIA.U01.ND01 | ESS-5446314 | ESS-5585072 | ESS-5633162 |
| Shielding on Cave | =ESS.NSS.H01.ESTIA.U01.F01 | ESS-5162564 | ESS-0048145 | ESS-4894763 |
| Roof Hatch | =ESS.NSS.H01.ESTIA.U01.A02 | ESS-4980186 | ESS-0048145 | ESS-4894763 |

Experimental Cave (=ESS.NSS.H01.ESTIA.U01)



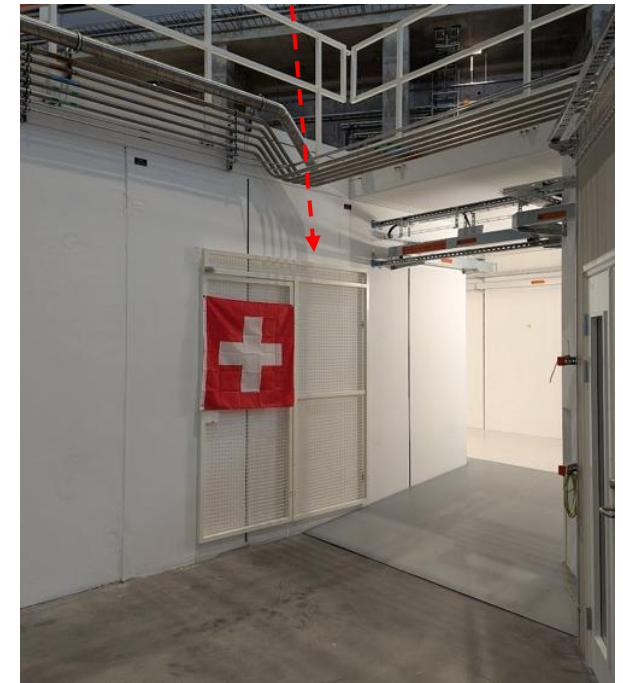
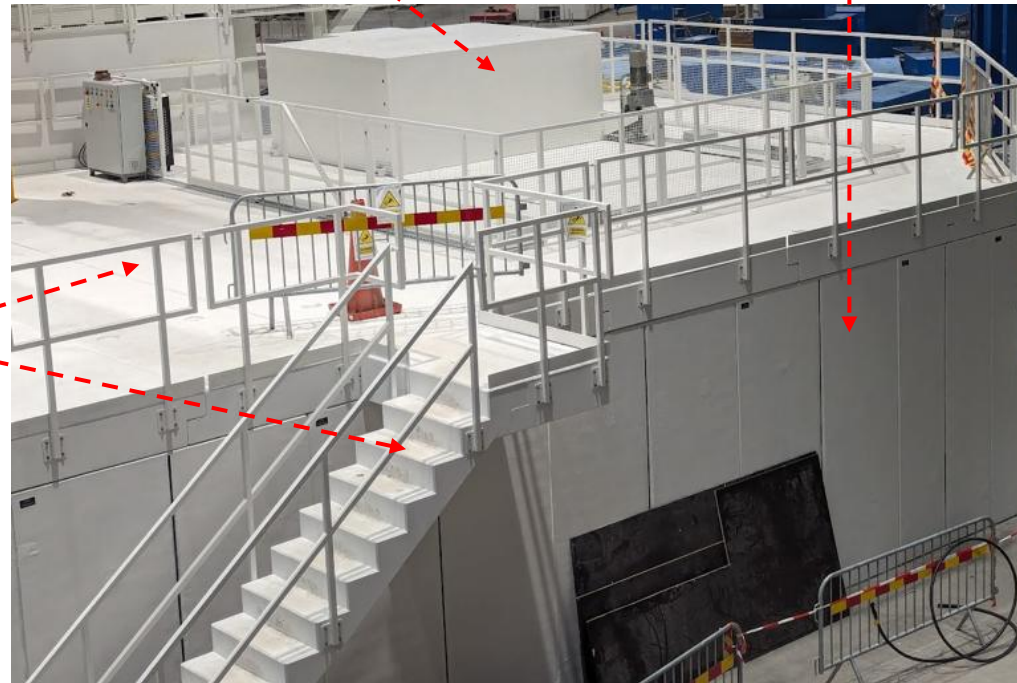
Bosch Rexroth rack frames with isolators



Roof hatch

Shielding on cave

Cave door



Cave Structure

Experimental Cave (=ESS.NSS.H01.ESTIA.U01)

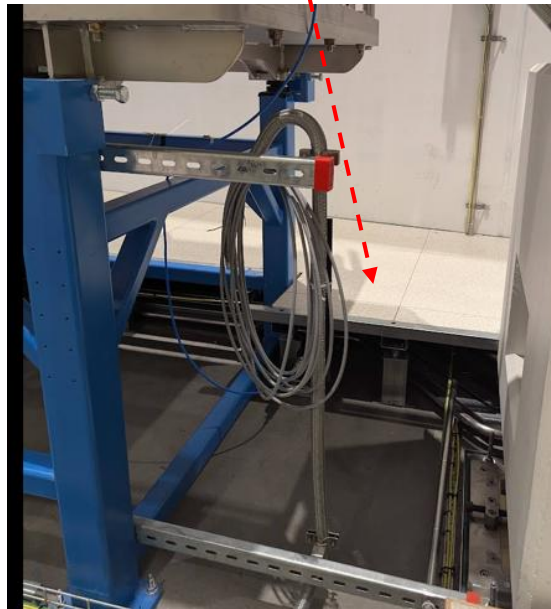
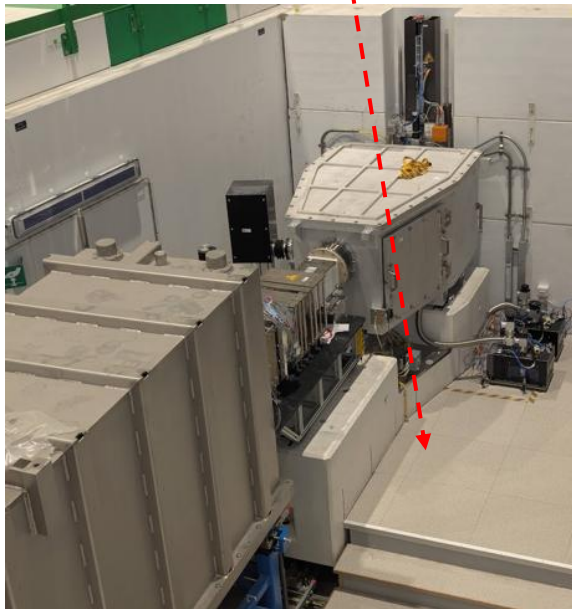


False floor ESTIA Selene guide 2

False floor ESTIA cave wall

False floor ESTIA Middle Focus

False floor ESTIA shielding wall



Overview Components

**Instrument Automation Control System
(=ESS.NSS.H01.ESTIA.K01)**

Instrument Automation Control System

(=ESS.NSS.H01.ESTIA.K01)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|---|----------------------------|-------------|------------|-------------|
| ESTIA Motion Control 1 (Virtual Source) | =ESS.NSS.H01.ESTIA.K01.K01 | ESS-5494023 | | ESS-5516370 |
| ESTIA Motion Control 2 (Selene Guide 1) | =ESS.NSS.H01.ESTIA.K01.K02 | ESS-5494024 | | ESS-5516370 |
| ESTIA Motion Control 3 (Shutter & Middle Focus) | =ESS.NSS.H01.ESTIA.K01.K03 | ESS-5275771 | | ESS-5516370 |
| ESTIA Motion Control 4 (Selene Guide 2) | =ESS.NSS.H01.ESTIA.K01.K04 | ESS-5275770 | | ESS-5516370 |
| ESTIA Motion Control 5 (Sample & Detector) | =ESS.NSS.H01.ESTIA.K01.K05 | ESS-5275772 | | ESS-5516370 |
| ESTIA Hexapod and other Automation Control | =ESS.NSS.H01.ESTIA.K01.K06 | ESS-5494025 | | ESS-5722139 |

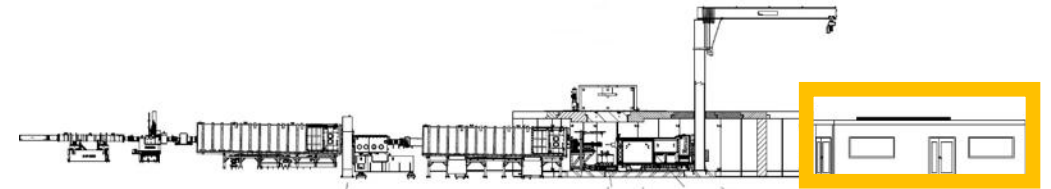
Detailed described in the presentation Motion Control and Automation

Overview Components

**Data Management & Experiment Control System
(=ESS.NSS.H01.ESTIA.K02)**

Data Management & Experiment Control System

(=ESS.NSS.H01.ESTIA.K02)



| System name | FBS | EPL | CAD-Design | SSDD/TDD |
|--------------------|----------------------------|-----|------------|----------|
| Data Analysis | =ESS.NSS.H01.ESTIA.K02.K01 | N/A | N/A | N/A |
| Data Reduction | =ESS.NSS.H01.ESTIA.K02.K02 | N/A | N/A | N/A |
| Data Curation | =ESS.NSS.H01.ESTIA.K02.K03 | N/A | N/A | N/A |
| Experiment Control | =ESS.NSS.H01.ESTIA.K02.K04 | N/A | N/A | N/A |

Data analysis



Data reduction



Data curation



Experiment control



Overview Components

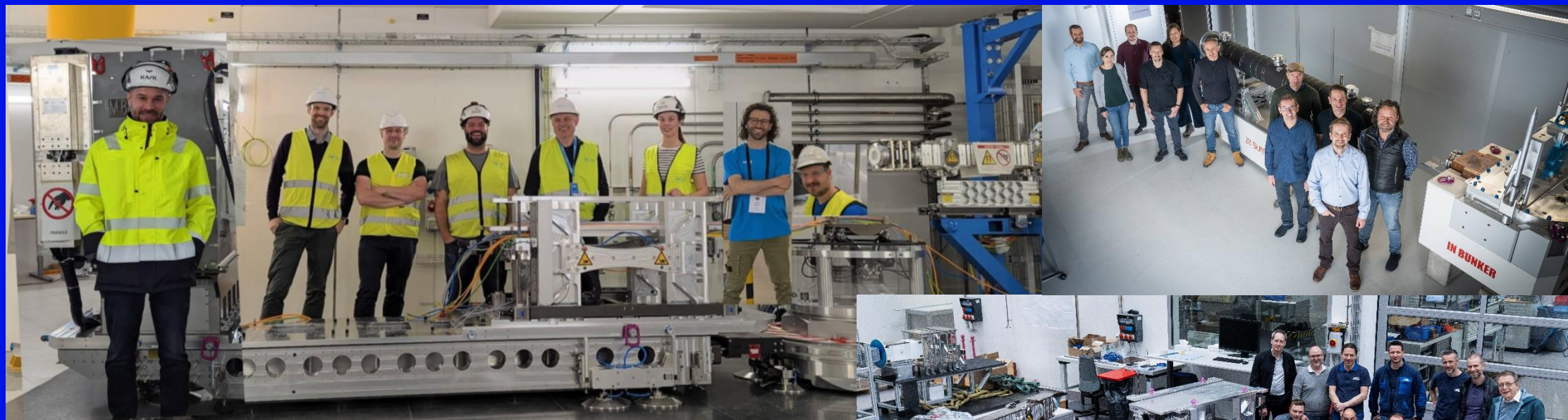
Personnel Safety System (ESTIA PS) (=ESS.NSS.H01.ESTIA.U01)

Personnel Safety System (=ESS.NSS.H01.ESTIA.U01)



**Detailed described in the presentation Personnel safety System
in iSRR later**

Thank you for your attention



And thanks to all the team members during this project

