

Integration Study for HIE-ISOLDE 3D Modelling, Data and Documentation Management

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CATHI Final Review Meeting, 22-26 September 2014

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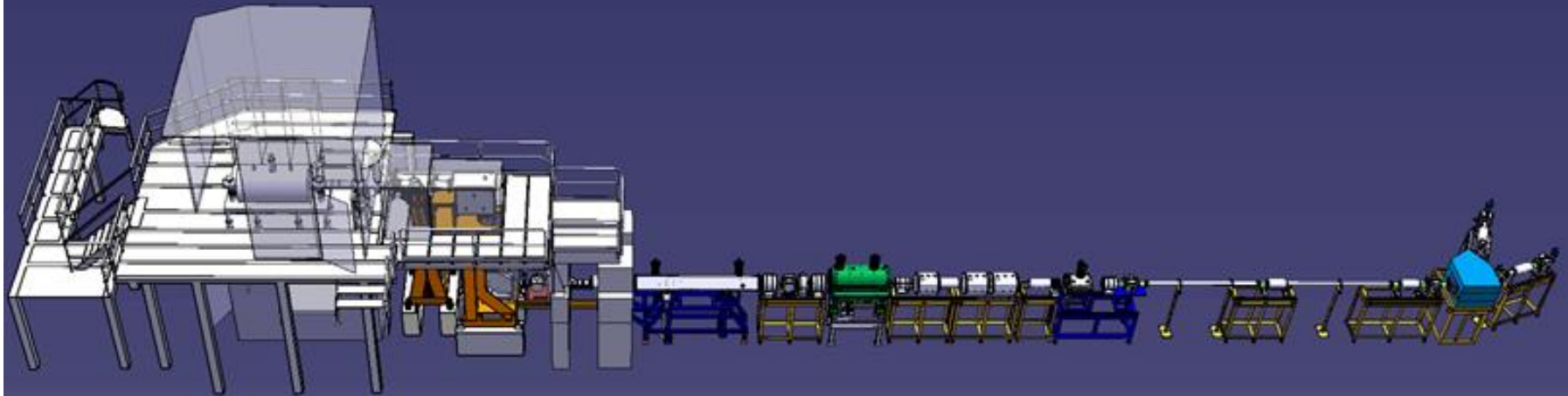
Work Package's ID

- + Undertaken by the Integration Section of the EN/MEF Group
- + Begun in August 2011
- + Broken down into two main activities:
 - + integration of the new machine assigned to E. Zografos
 - + integration of the facility and services assigned to S. Maridor

Tools and Responsibilities

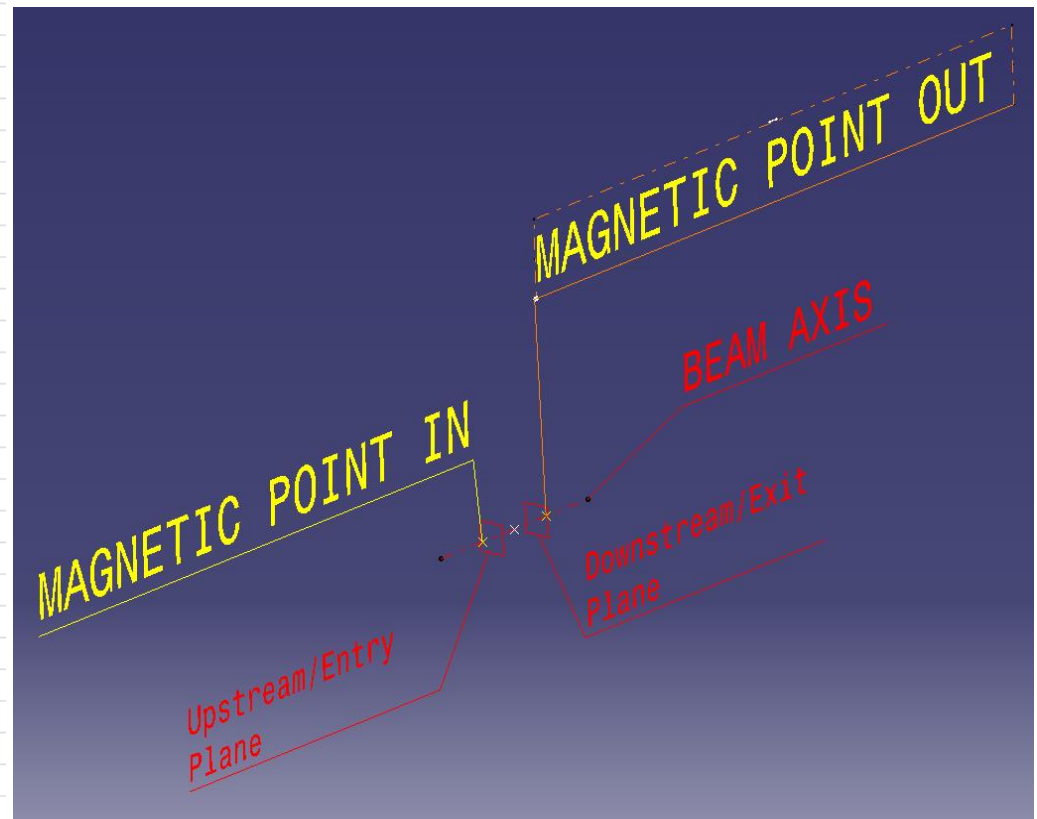
- + Design effort conducted with the Catia V5™ CAD software
- + Management of the produced data was done with the Enovia SmarTeam™ PDM tool
- + Main duties of the integrators:
 - + provide reference to the system designers
 - + check for compatibility and fitting issues
 - + offer feedback as input for any redesign required

HIE-ISOLDE: the upgrade concept

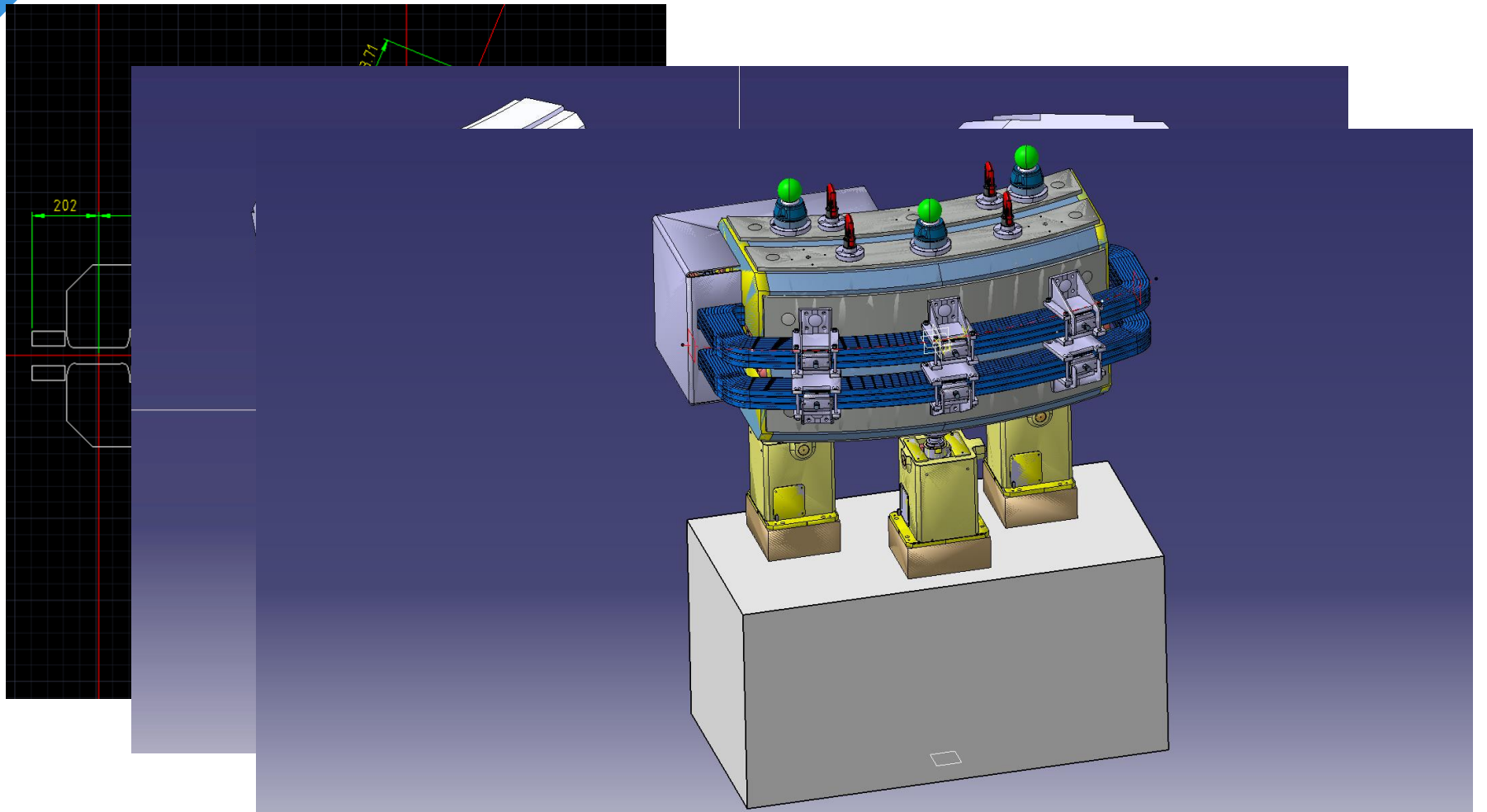


From optics to layout and positioning

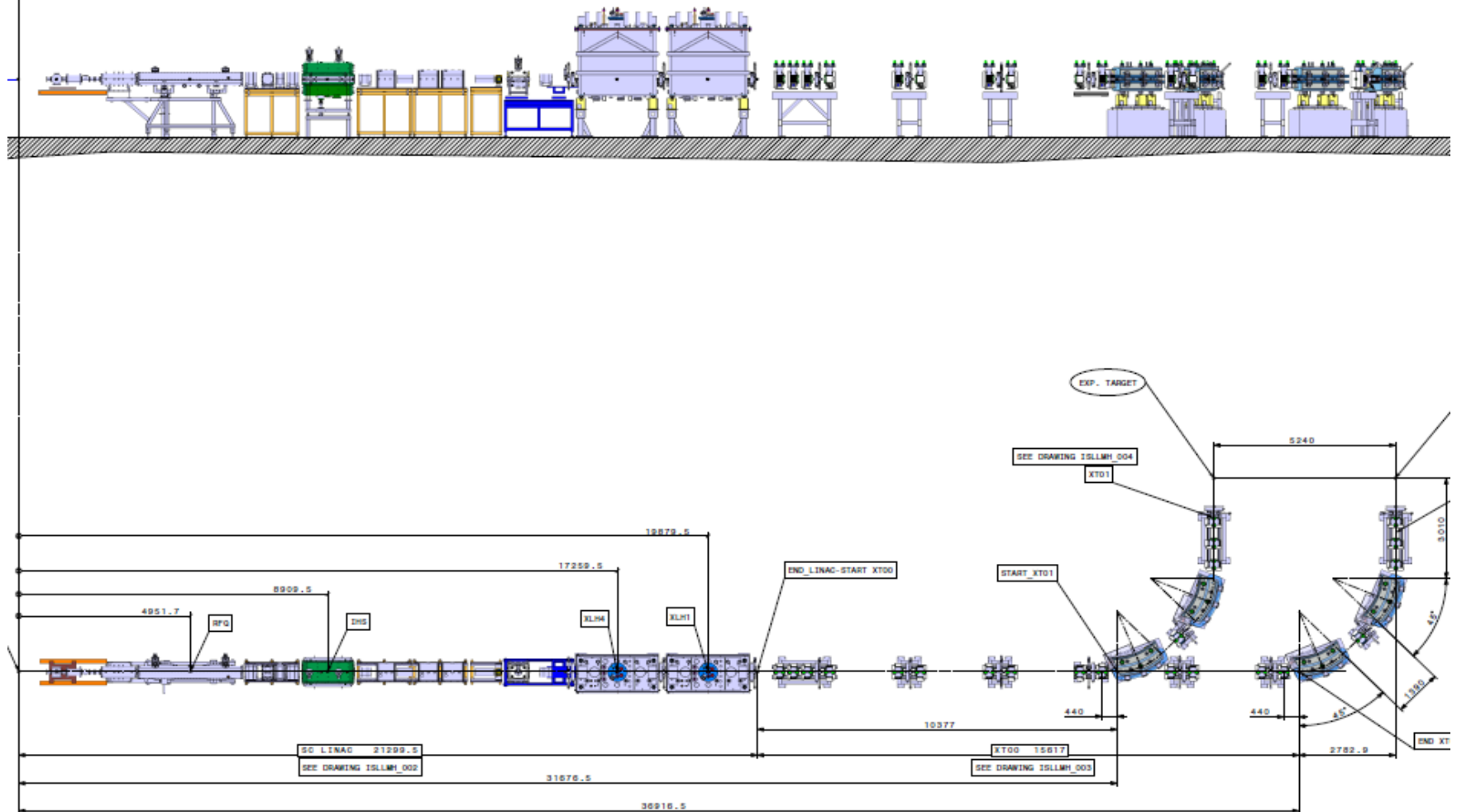
Linac Stage1				
SLOT NAME	LENGTH	START	STOP	CENTRE
ZERO POINT = Dipole Centre XSEP.MB100				0
XLRFQ,BDB.0100	300	951	1251	1101
XLRFQ,BFC.0200	300	951	1251	1101
XLRFQ,BBO.0300	300	951	1251	1101
XLRFQ,ZQP.0400	150	1402	1552	1477
XLRFQ,ZQS.0500	150	1602	1752	1677
XLRFQ,ZQP.0700	200	2414	2614	2514
XLRFQ,ZQP.0800	200	2664	2864	2764
XLRFQ,ZQP.0900	200	2914	3114	3014
XLRFQ,ZQS.1000	200	3164	3364	3264
XLRFQ,ARFQ.1150	3047	3428	6475	4952
XLRFQ,MQ.1100	60	6566	6626	6596
XLRFQ,MQ.1200	80	6665	6745	6705
XLRFQ,MQ.1300	60	6784	6844	6814
XLIHS,BDB.0050	300	7014	7314	7164
XLIHS,BFC.0100	300	7014	7314	7164
XLIHS,BBO.0200	300	7014	7314	7164
XLIHS,ABUN.0250	253	7442	7695	7568
XLIHS,MQ.0300	60	7794	7854	7824
XLIHS,MQ.0400	80	7893	7973	7933
XLIHS,MQ.0500	60	8012	8072	8042
XLIHS,AIHS.0550	1500	8160	9660	8910
XLIHS,MQ.0600	63	8568	8631	8599
XLIHS,MQ.0700	104	8651	8755	8703
XLIHS,MQ.0800	63	8775	8838	8806



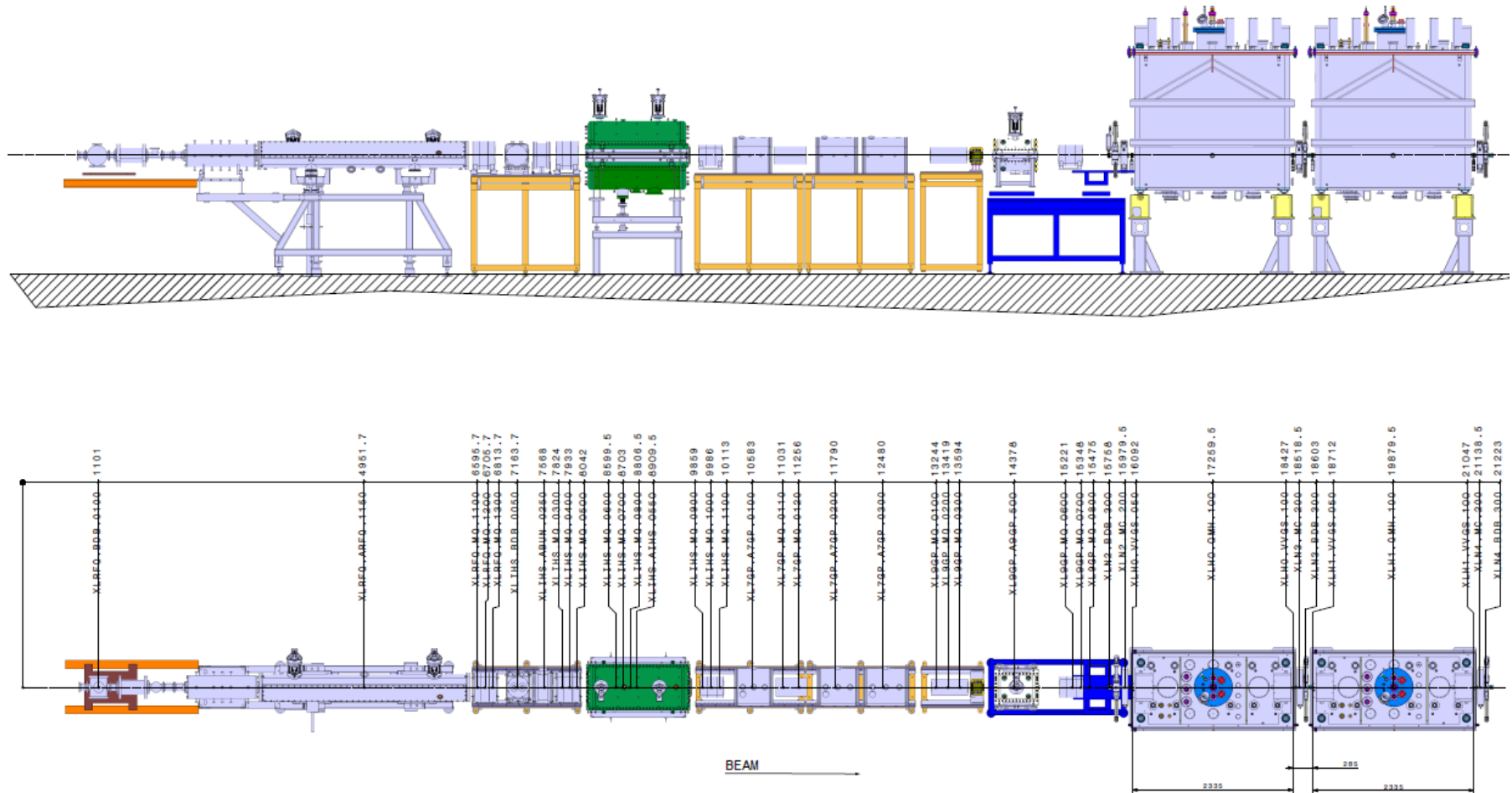
From initial sketches to 3D models



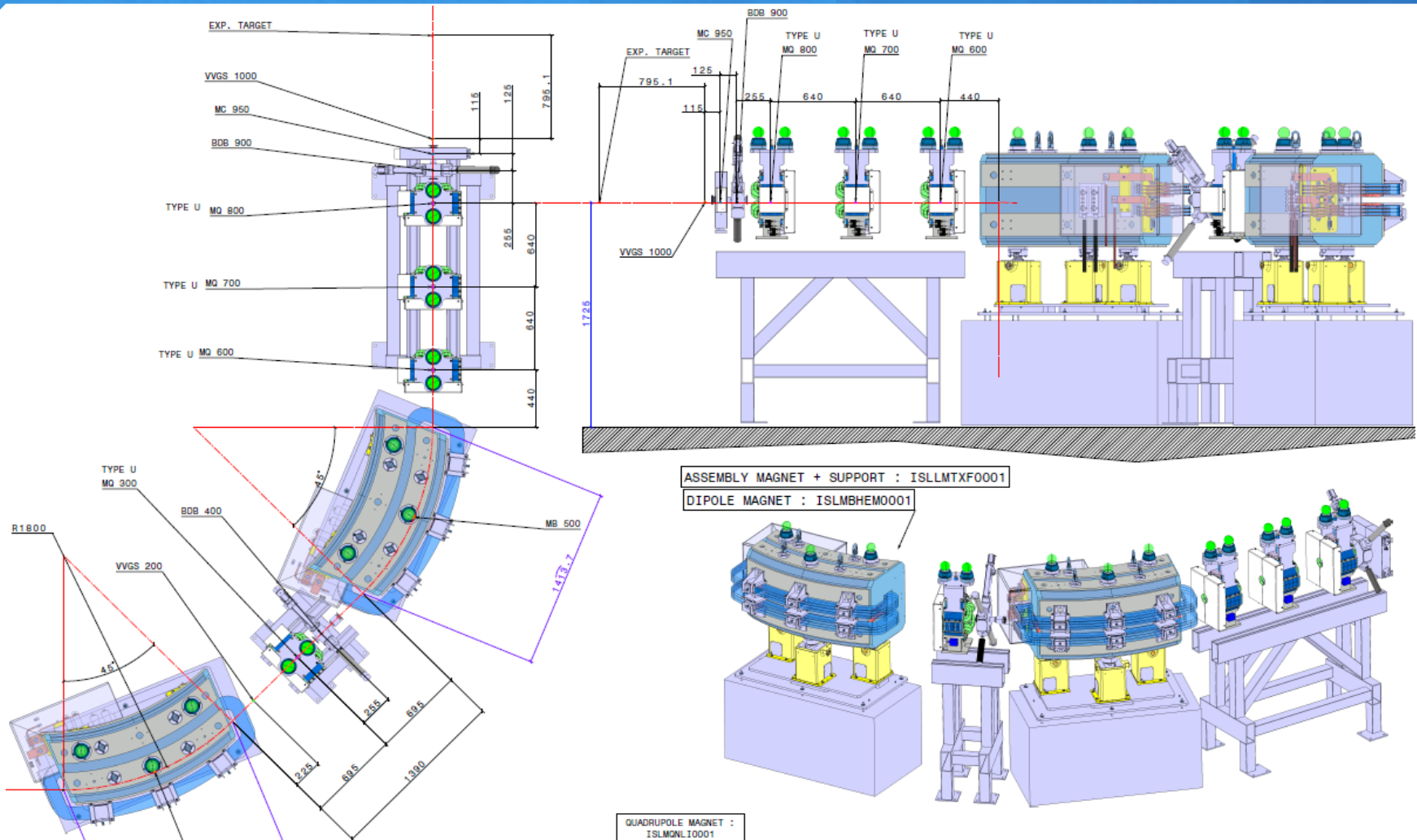
To complete 3D/2D layout model



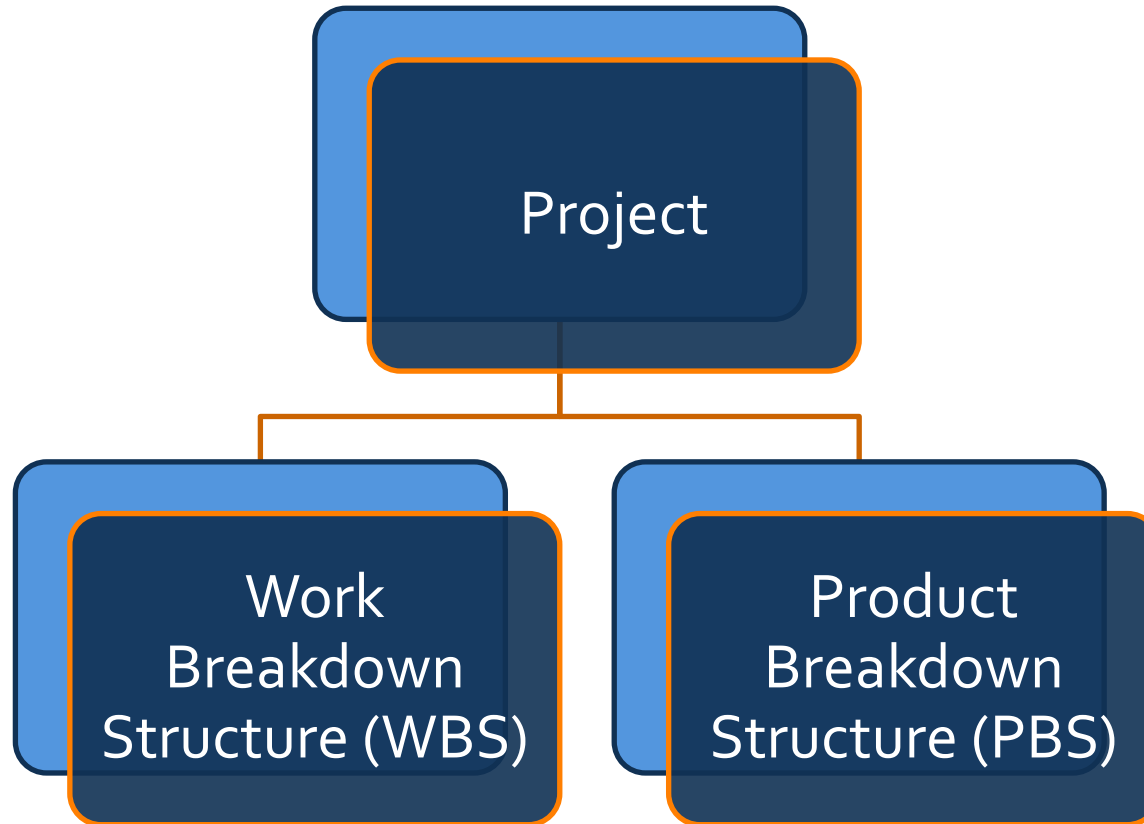
Linac layout model



Transfer line layout model



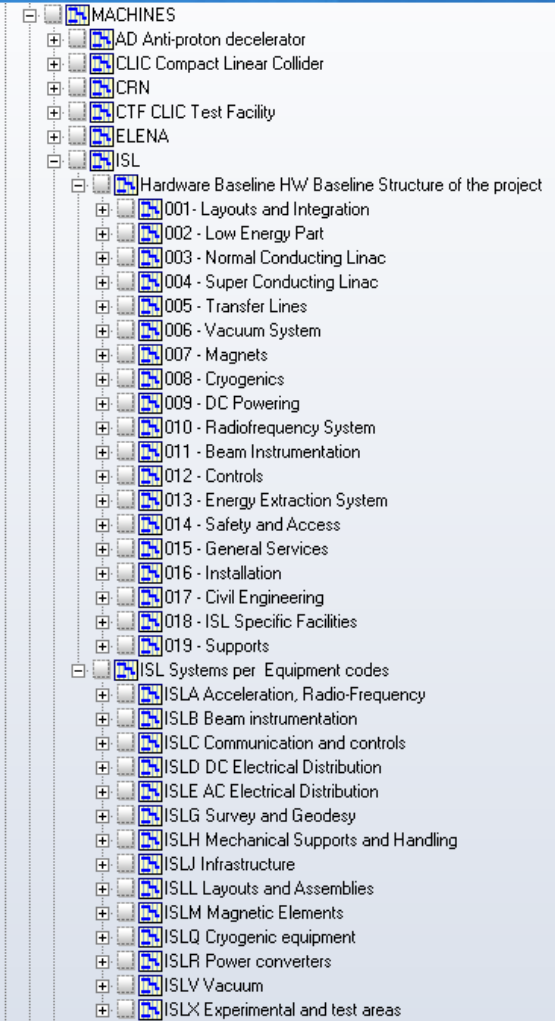
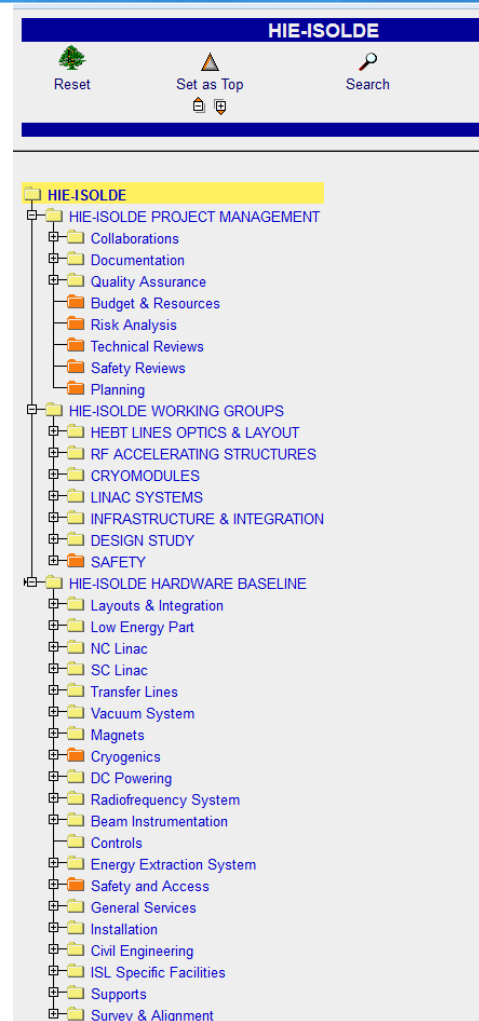
Configuration Management: What is PBS?



Also known as the “Hardware Baseline”: the final deliverable in terms of installed machine documentation.

Configuration Management: the Tools

- + Hardware Baseline definition and maintenance in SmarTeam™ and EDMS
- + Configuration and change management: leading the approval process of all change requests (ECRs)



Documentation Management

- + Definition of the applicable document types
- + Documentation templates definition
- + Approval process management
- + Consulting the project engineers

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EDMS NO. 1265125	REV. 1.1	VALIDITY RELEASED
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REFERENCE HIE-PM-QA-0001

Date: 2013-05-31

QUALITY ASSURANCE DEFINITION

HIE-ISOLDE Product Breakdown Structure

ABSTRACT:

The aim of this document is to define the Product Breakdown Structure also known as the Hardware Baseline for the ISOLDE facility, to describe the logic behind it and to clarify the types of documents that should be saved under the resulting structure in EDMS and SmarTeam.

This work is initiated and conducted in the context of HIE-ISOLDE project but can be extended to cover the whole ISOLDE facility i.e. the target area, the accelerating structure, the transfer lines and the whole infrastructure, as well as auxiliary facilities in SM 18 and Building 252, excluding all the experimental posts.

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HIE-ISOLDE members

This document is uncontrolled when printed. Check the EDMS to verify that this is the correct version before use.

Quality Assurance

- + Equipment Naming Convention definition: establishing a common language among project participants
- + Work group leader for the deployment of Q-Checker at CERN: CAD data quality assurance tool



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Date : 2014-01-06

Quality Assurance Definition

ISOLDE EQUIPMENT NAMING CONVENTION

ABSTRACT:

This document outlines the convention for identifiers and names of the equipment belonging to the ISOLDE facility. Identifier codes for equipment design, drawings, physical equipment and accelerator layout components are defined or recalled. The convention is applicable to existing as well as future equipment. The naming principles are based on the conventions for identifiers of equipment in the PS-Complex, combined with the naming experience gained with LHC and Linac4.

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DOCUMENT SENT FOR INFORMATION TO:

Summary

- + Translation of optics into 3D layout
- + Early development of approximate geometries
- + Offered common reference and feedback for the redesign loop
- + Supporting activities :
 - + CAD data management in ST: structure creation and maintenance
 - + Documentation management: structure creation and maintenance of PBS in EDMS
 - + Naming Convention definition, QA support
- + Validation of the actual installation to be done