EDMS and Technical Documentation of the AIDA WP9 Infrastructures

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DESY
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Overview

- Objectives
- Benefits of an EDMS
- Achievements within AIDA
- Common access website: FLC-EDMS
- Outlook and summary

Introduction

- **AIDA Subtask 8.6.1**: Common test beam experiments at CERN and DESY.
  - Support for documentation within a framework which is long lasting and maintainable (this presentation):
    - Regular documents:
      - Publications, reports, notes, as well as meeting, conference and seminar related files.
    - Engineering documents and data:
      - CAD models, technical drawings, specifications, requirements, standards, engineering calculations, safety documents, quality control reports, contracts, etc.
    - Project management documents:
      - Project charter, scope statement, project management plan, communication management plan, risk management plan, quality management plan, procurement management plan, etc.
  - Support for combined detector test beam experiments.

Objectives

- The objectives for AIDA:
  - Support the process of information creation and administration.
  - Provide a secure filing and persistency of documents.
  - Allow effective search and navigation possibilities for easy finding of information.
  - Allow easy access from any desktop.
  - Provide information about the status of the documentation.

Benefits: Document Management under EDMS

- Secure data storage.
- Documents are visible to all registered users.
- Documents are easily retrievable (even with full text search).
- Version numbers are automatically created.
- Document release process is supported by a workflow (life cycle).
- Status is defined and visible.
- After check-in a copy of each document, a „neutral format“ (e.g. pdf) is created as presentation format for viewing.

Benefits: EDMS as a Tool for Collaborative Work

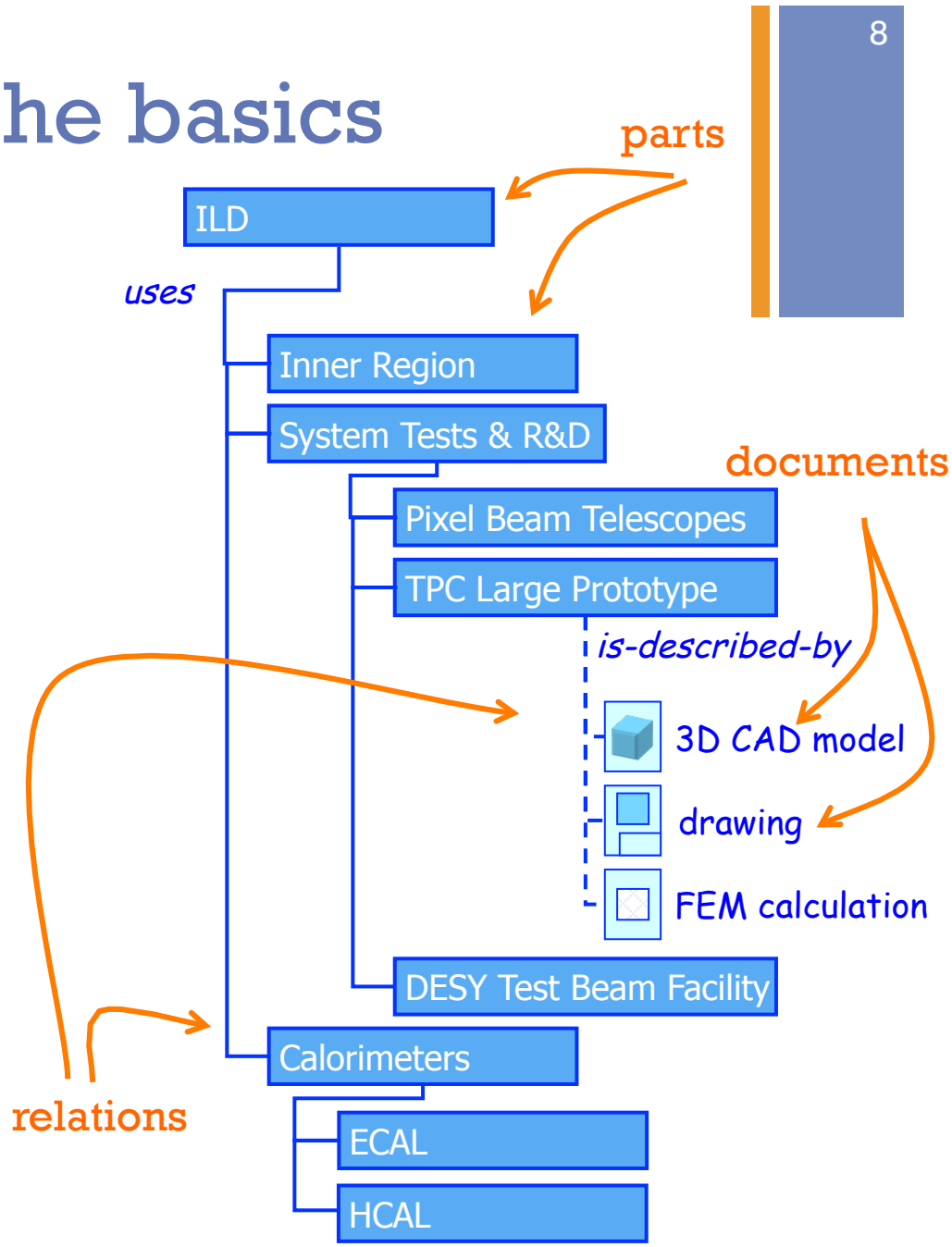
- Easy sharing of documents over the network
- Provides coherent information to all participants in case of changes.
- Enforces standardization.
- It allows the integration of heterogeneous software environments (e.g. CAD, Office …).
- Improves communication and information distribution.
- Improves development, design, and manufacturing processes.
- Supports creation of a project-wide knowledge-base.

EDMS Systems for AIDA

- Two different commercially available tools deployed and used:
  - EDMS at CERN
    - Within the Linear Collider Detector (LCD) Project
  - EDMS at DESY
    - In the configuration developed for the ILC project:
      - ILC document and relation types
      - ILC WBS Structure
      - ILC releasing/approval procedures, change management

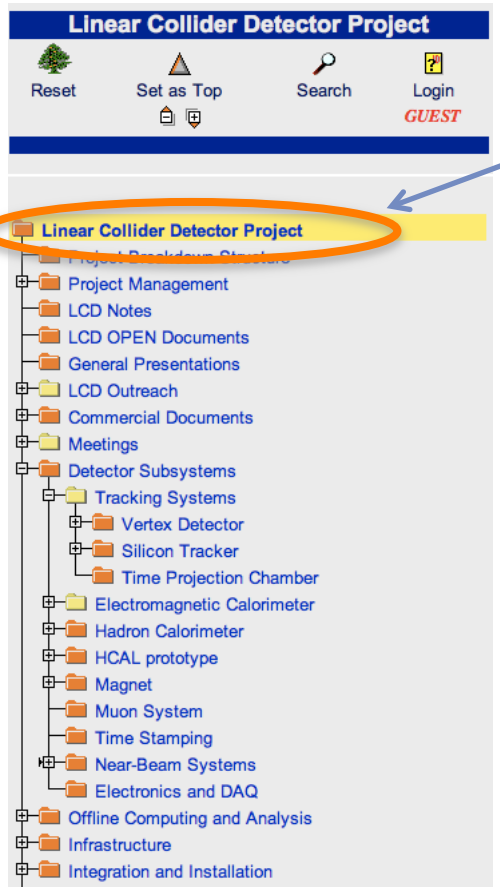
EDMS Structure: the basics

- A WBS divides the work into a logical hierarchy of parts.
  - parts
    - assemblies + components (or BOM, bill of materials).
  - documents
    - information containers that describe the elements of the WBS.
    - have files attached
      - for editing and viewing, e.g. DOC and PDF
  - documents and parts are collectively called EDMS items.
  - relations
    - link EDMS items together



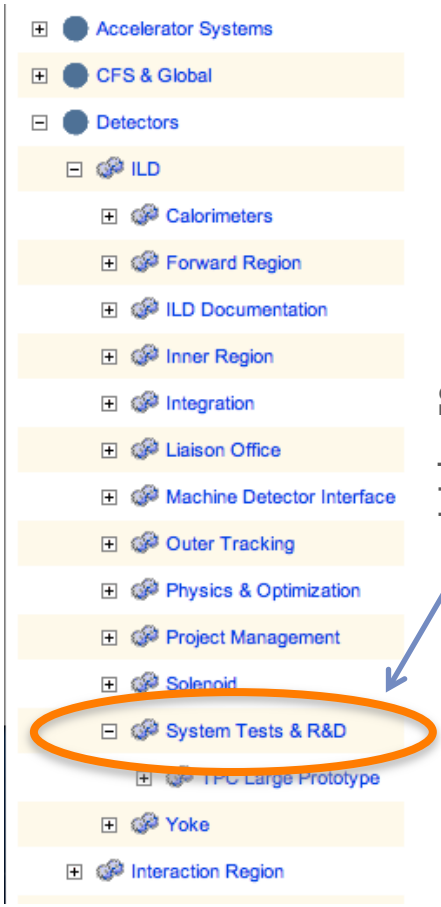
Structures for AIDA Documents

- LCD WBS at CERN



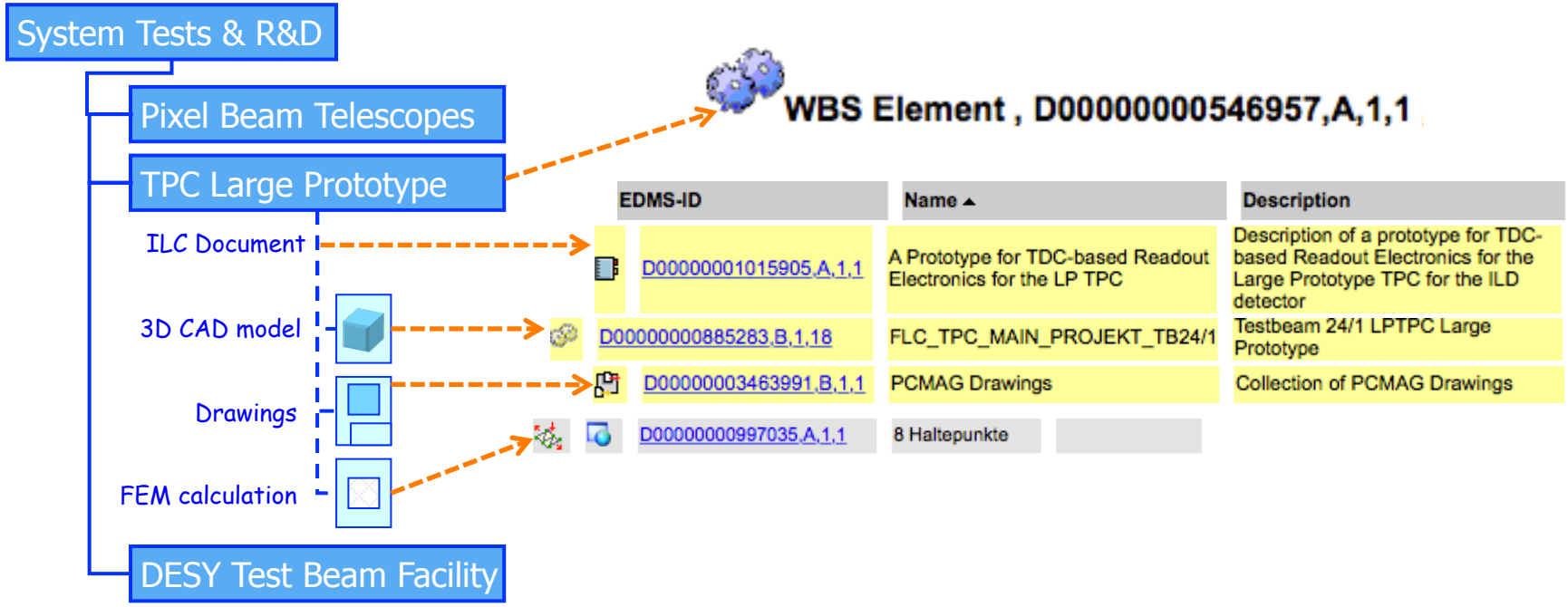
Structure for AIDA docs in CERN EDMS

- ILD WBS at DESY



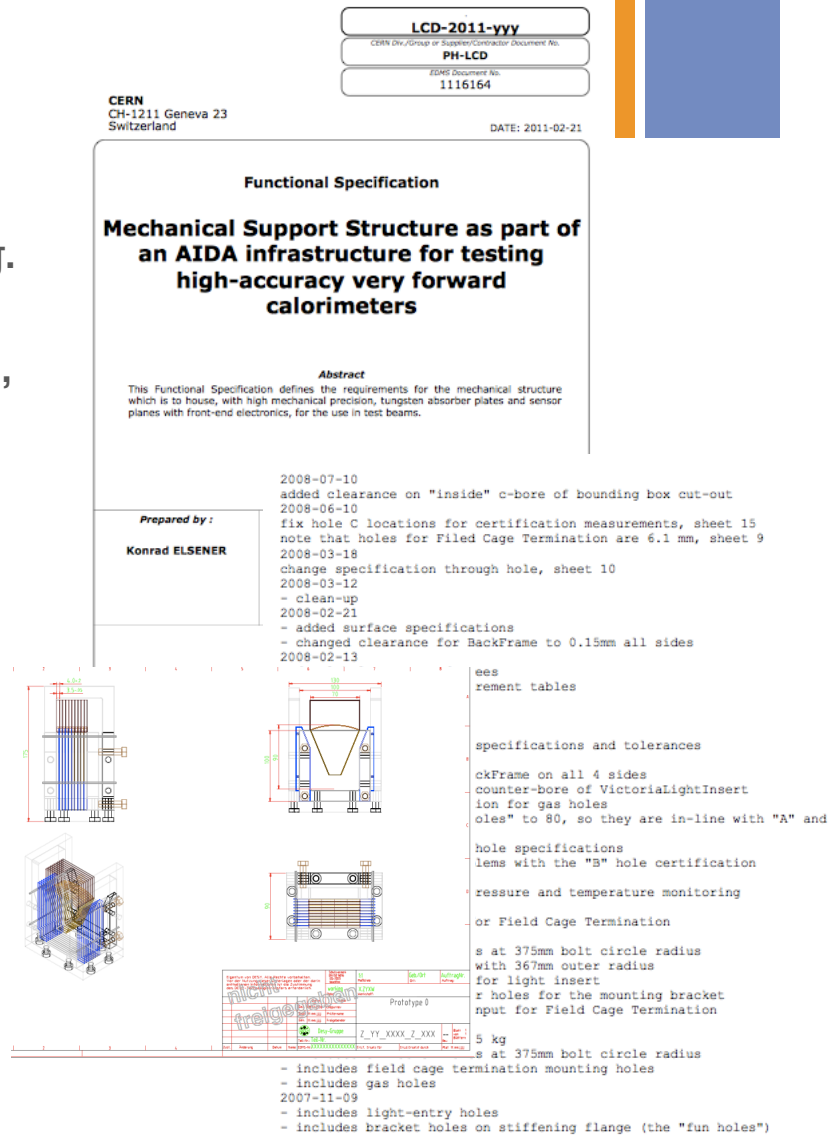
Structure for AIDA docs in DESY EDMS

Structures for AIDA Documents



AIDA Documents in EDMS

- Technical notes:
  - Descriptions and status reports of the infrastructures, e.g. D000000001015815;
  - Specifications and mechanical tolerances, e.g. D00000001016055;
  - Studies of physics performance of prototypes, e.g. EDMS document no. 1065080
  - …more than 150 documents on the R&D activities.
- 3D engineering designs:
  - D00000000885283,B,1,18: Full 3D model of the TPC LP and surrounding infrastructure.
  - In general, many drawings, specifications, requirements, FEM analyses, etc.
- Collection of documents is an ongoing process.



LCD-2011-yyy

CERN Div./Group or Supplier/Contractor Document No.
PH-LCD

EDMS Document No.
1116164

CERN
CH-1211 Geneva 23
Switzerland

DATE: 2011-02-21

Functional Specification

Mechanical Support Structure as part of an AIDA infrastructure for testing high-accuracy very forward calorimeters

Abstract

This Functional Specification defines the requirements for the mechanical structure which is to house, with high mechanical precision, tungsten absorber plates and sensor planes with front-end electronics, for the use in test beams.

Prepared by :

Konrad ELSENER

2008-07-10
added clearance on "inside" c-bore of bounding box cut-out
2008-06-10
fix hole C locations for certification measurements, sheet 15
note that holes for Filed Cage Termination are 6.1 mm, sheet 9
2008-03-18
change specification through hole, sheet 10
2008-03-12
- clean-up
2008-02-21
- added surface specifications
- changed clearance for BackFrame to 0.15mm all sides
2008-02-13

ees
rement tables

specifications and tolerances

ckFrame on all 4 sides
counter-bore of VictoriaLightInsert
ion for gas holes
oles" to 80, so they are in-line with "A" and

hole specifications
lems with the "B" hole certification

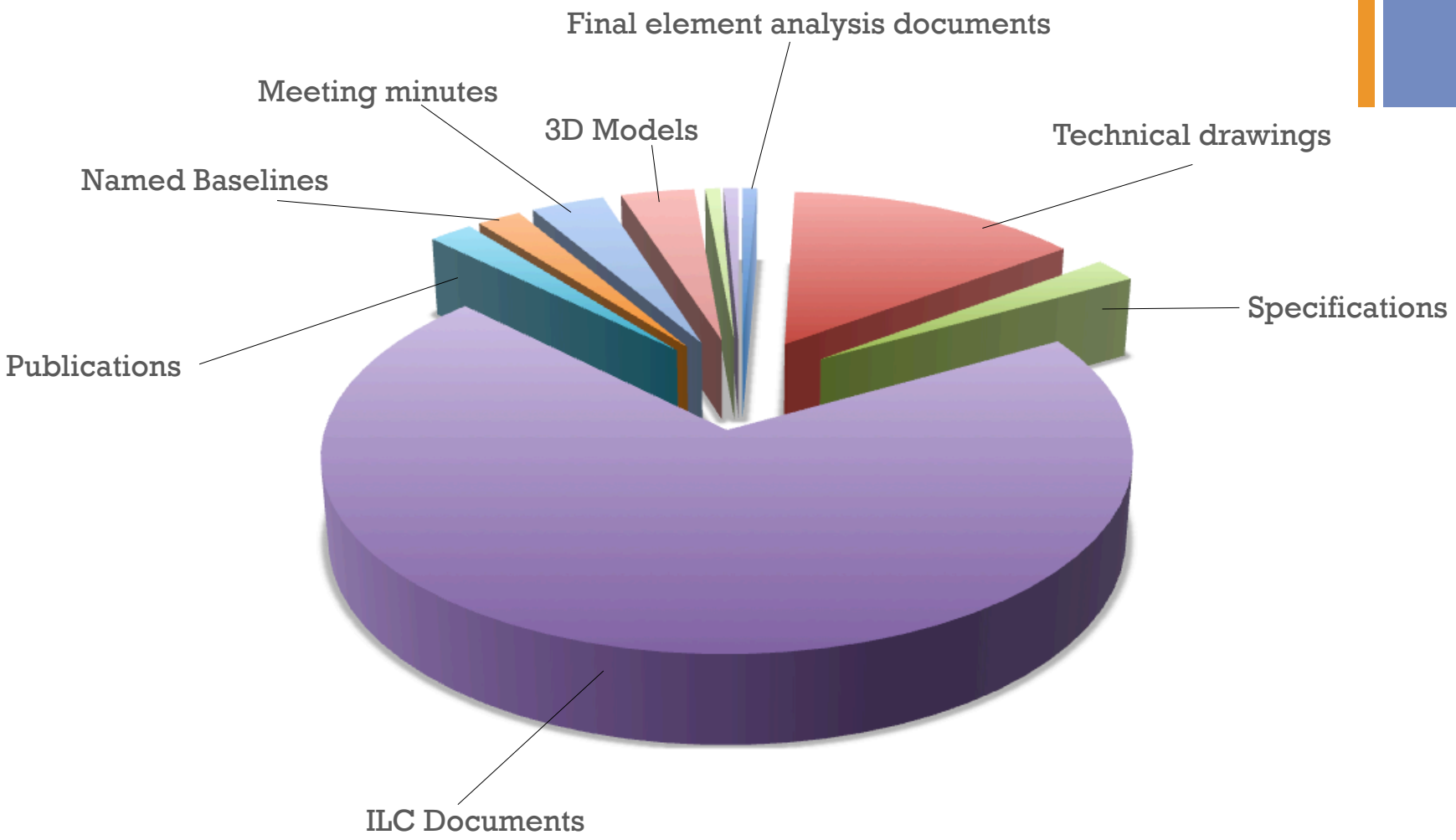
ressure and temperature monitoring

or Field Cage Termination

s at 375mm bolt circle radius
with 367mm outer radius
for light insert
r holes for the mounting bracket
nput for Field Cage Termination

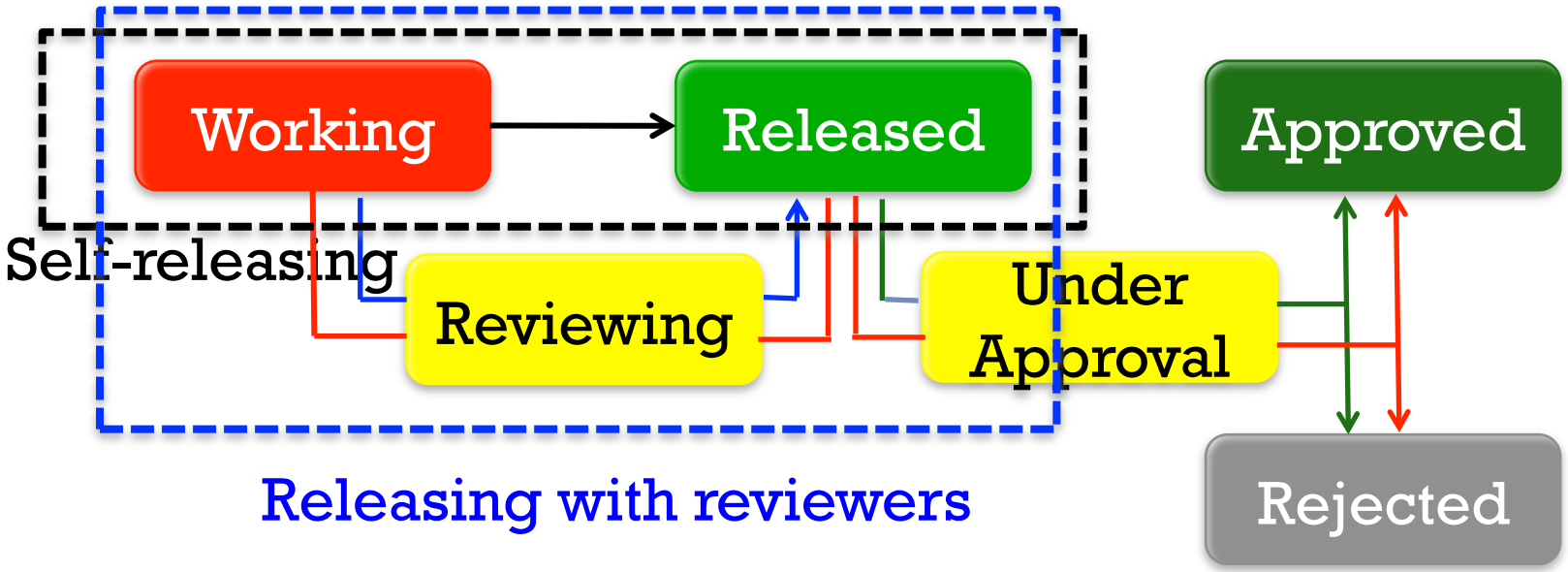
5 kg
s at 375mm bolt circle radius
- includes field cage termination mounting holes
- includes gas holes
2007-11-09
- includes light-entry holes
- includes bracket holes on stiffening flange (the "fun holes")

EDMS Document Types for AIDA



Release Procedures

- Life cycles available in EDMS at DESY:
  - Some involve specific roles in EDMS



- For AIDA documents: currently only self-release, within ILC-EDMS configuration.

What You Need to Use the System

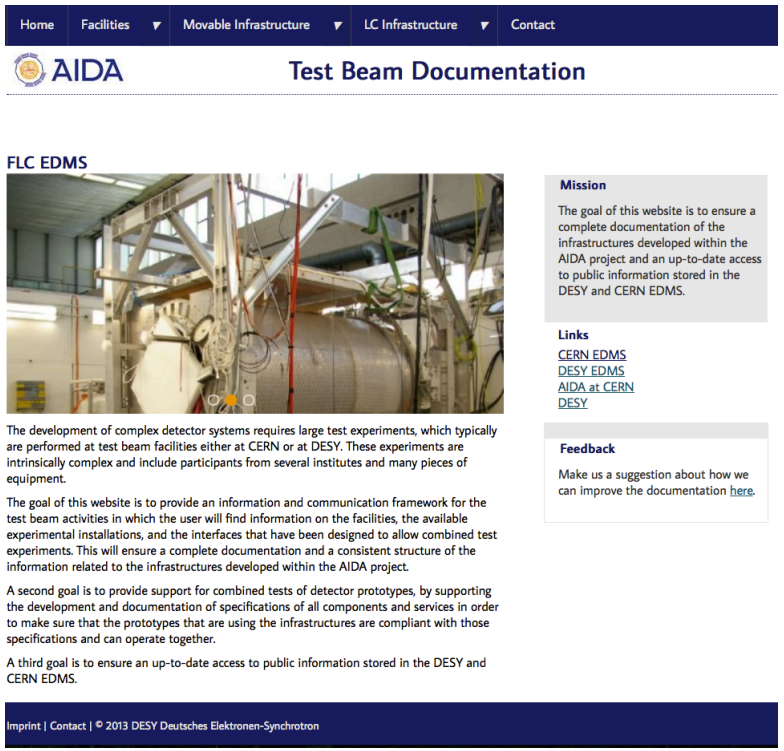
- For reading you have to register and need to learn only a minimum of EDMS vocabulary and methodology.
- For making documents available to others, you need to know more about EDMS:
  - You need to define the metadata
  - You need to check in the document to the EDMS system
  - You need to release the document to make it available to the world.

Access from the Web

- Support for easy and up-to-date access into the EDMS, for the casual user:
  - Use of EDMS*direct* links at DESY:
    - http://edmsdirect.desy.de/TB_ILC/?no=D000000000546957&conf=getGePartFull
  - Use of regular EDMS Hyperlinks at CERN:
    - https://edms.cern.ch/nav/P:CERN-0000079435:V0/P:CERN-0000079535:V0/TAB3
  - URLs to be embedded into user's website, e.g.
    - http://flc-edms.desy.de.

AIDA Documentation Website

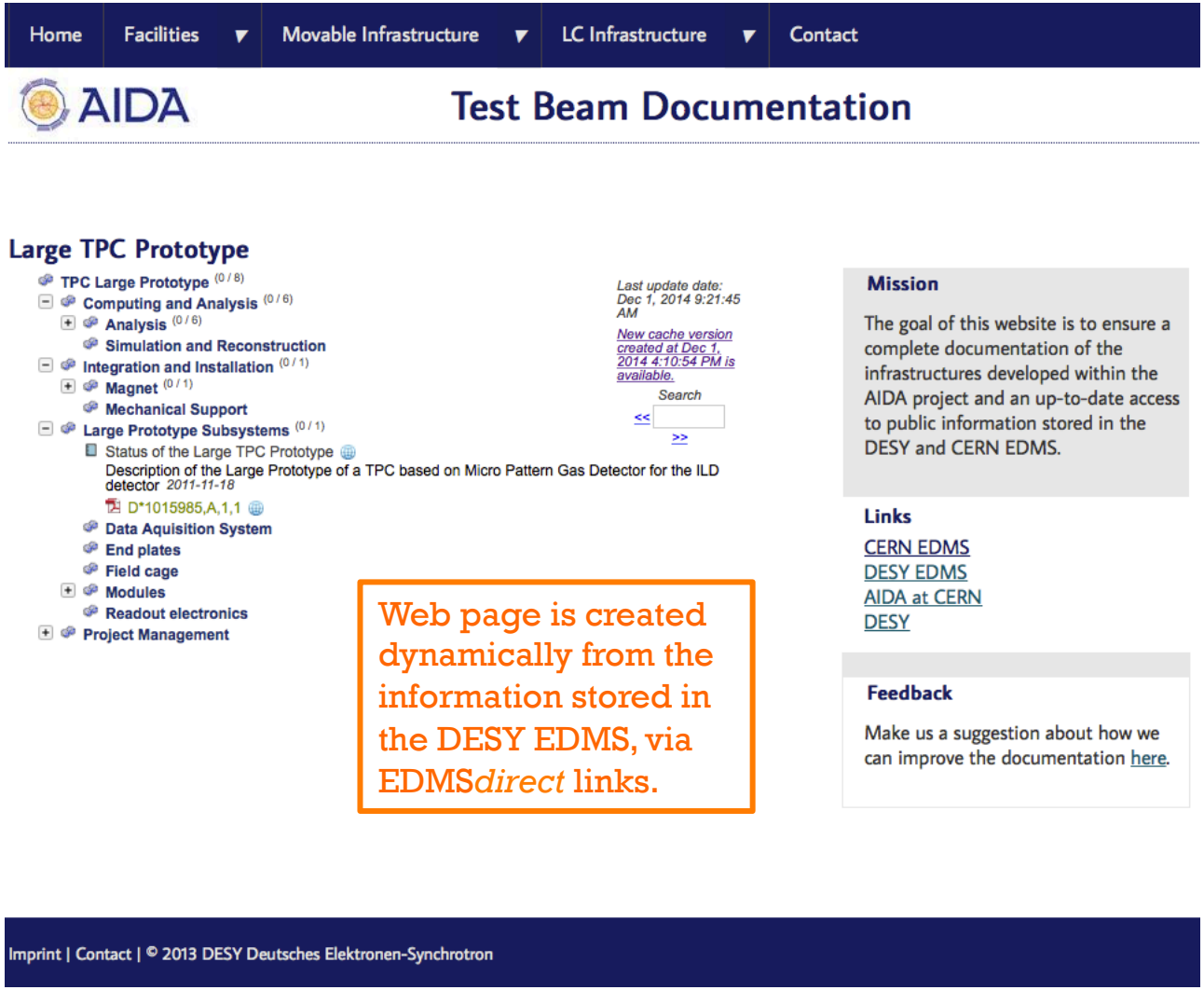
- Website to easily access the public documents stored in the DESY and CERN EDMS.
  - no password or user registration is required.
- URL: http://flc-edms.desy.de
- Focuses on documentation of test beam facilities and detector types for linear collider.
- Announced on AIDA website during the 3rd Aida Annual Meeting.
- Feedback to collect user requirements,
  - however, no input received yet from the experimental community



FLC-EDMS

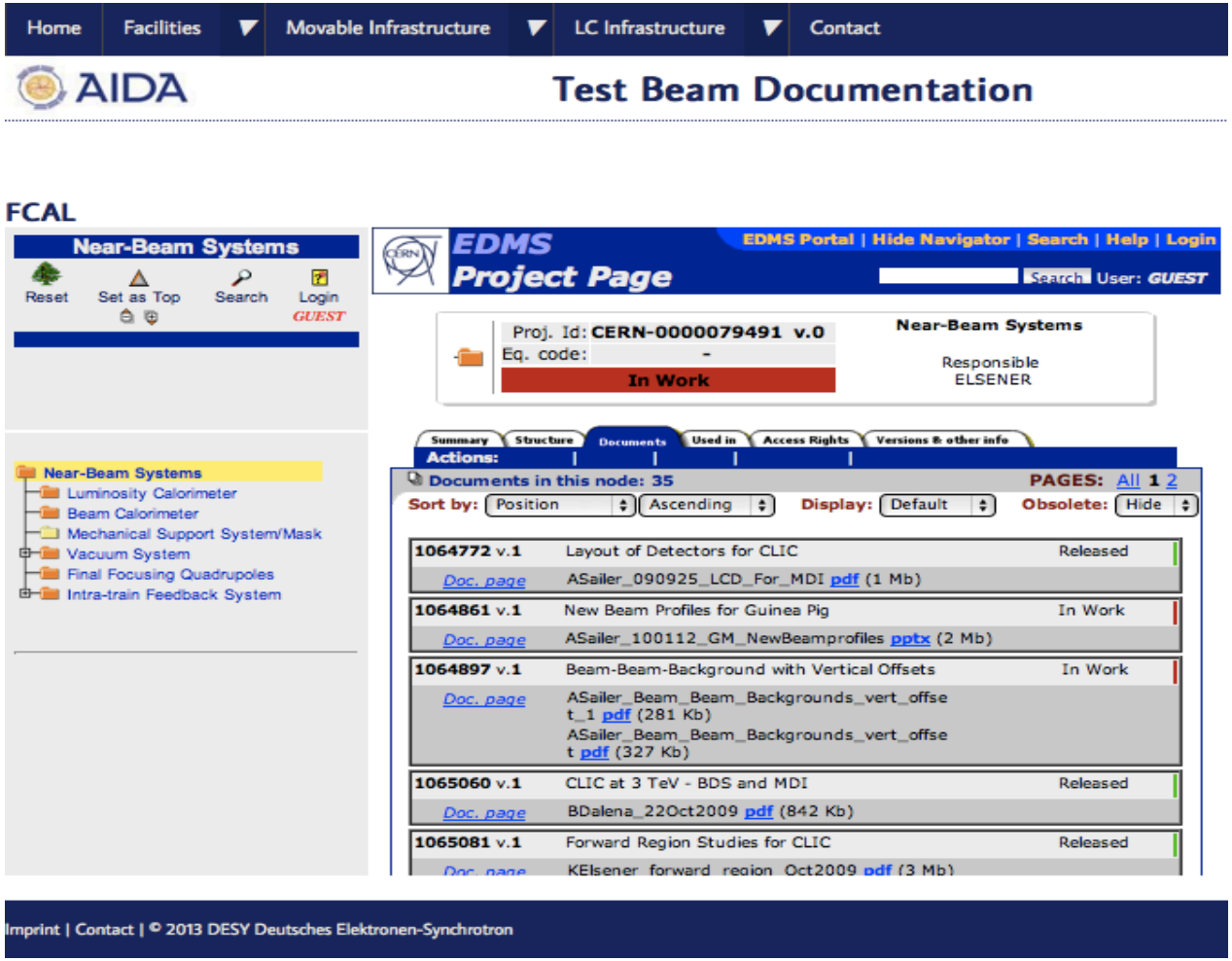
- Conceived as a central documentation portal for all AIDA partners and the outside world.
- ZMS website, easy to fill content.
- It is fully operational and regularly maintained by DESY.
- Most of the web pages are created dynamically from the information in the EDMS systems, via web interfaces.
  - Several external pages still embedded into FLC-EDMS, need to be migrated to EDMS.

Access to DESY EDMS



Web page is created dynamically from the information stored in the DESY EDMS, via EDMS*direct* links.

Access to CERN EDMS



Web page is created dynamically from the information stored in the CERN EDMS, via Hyperlinks.

First User Statistics

- Number of visitors: 57
- Actions per visitor: 130
- Total time of visits: 12259 s

How was EDMS used within AIDA?

- Mostly as document management system.
- Typical achievements include:
  - Defined and maintained system breakdown structures
  - Established processes for contributing, updating and publishing information
  - Collected documents and linked them to the structures
  - Performed quality control on the repository
- Further possibility:
  - Use EDMS for collaborative work.

Outlook

- Uncertain whether there is support for the EDMS within AIDA-2
- Important To-Dos
  - Consolidation of existing design documentation.
  - Consolidation of workflow processes: release/review, change control, collaborative work.
  - Extension of EDMS to support further PM activities:
    - Scheduling
    - Cost estimation
    - Monitoring and control
    - Risk analysis

Summary

- Many documents, CAD models, drawings were uploaded in EDMS at DESY and CERN
  - Collection and uploading of documents was an ongoing process during the entire project life.
- Documentation is organized according to a WBS
  - All of the existing documents are connected to the WBS, work in progress to connect them between each other.
- Possible next steps relate to further development of processes to support our activities
  - Start with releasing with reviewers for the engineering documents, through collaborative work and change control, to supporting project management activities.