MDI in TDR and DBD

Karsten Buesser

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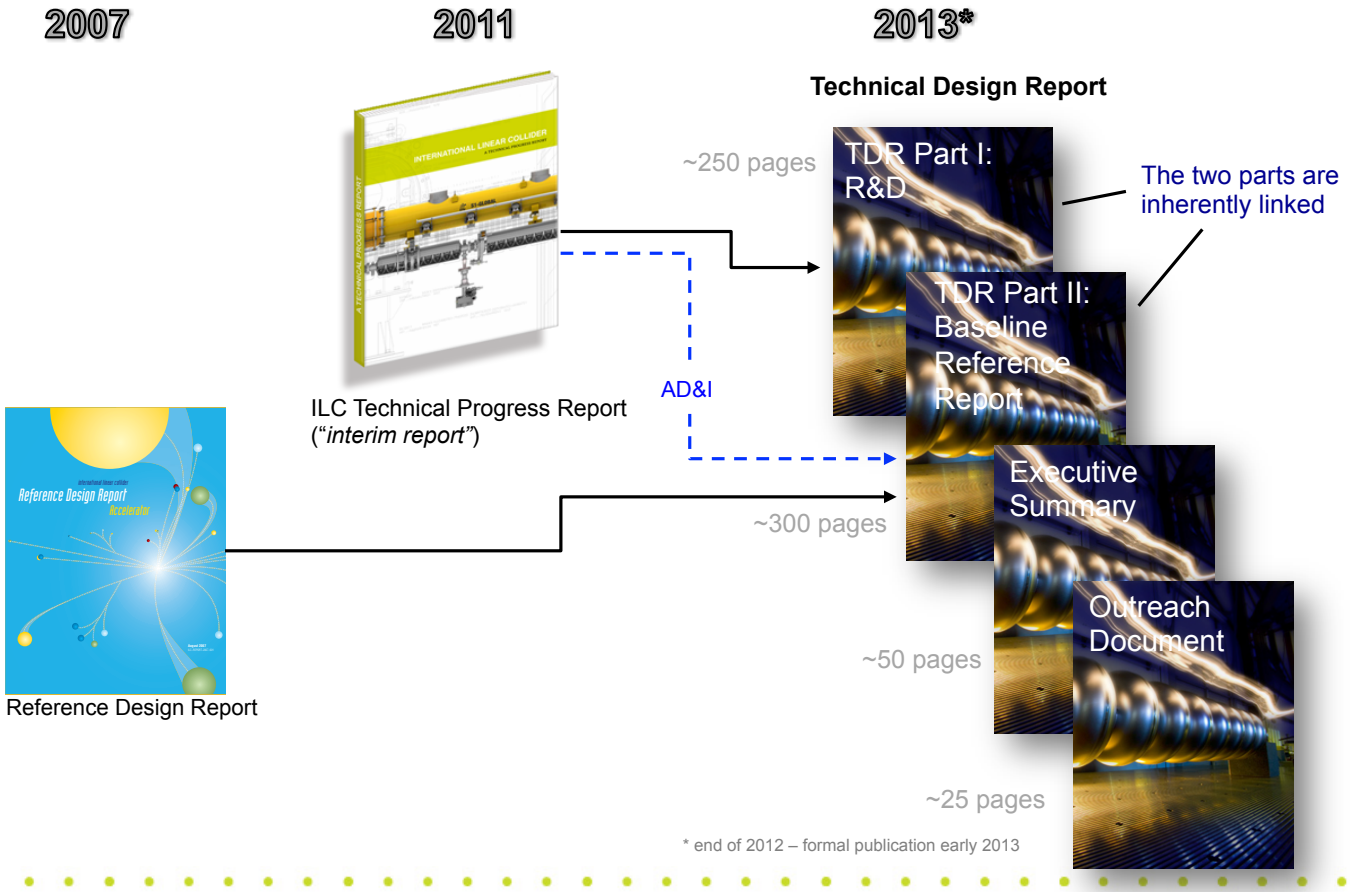
KILC12

Machine-Detector Interface Organisation

- A fruitful collaboration between:
  - MDI Common Task Group - Detector Organisation
  - BDS and CFS groups - GDE
  - SiD and ILD - Detector Concepts
  - close thematic links to CLIC
- MDI appears due to its common nature in the TDR as well as in the DBD

Technical Design Report

Technical Design Report volumes

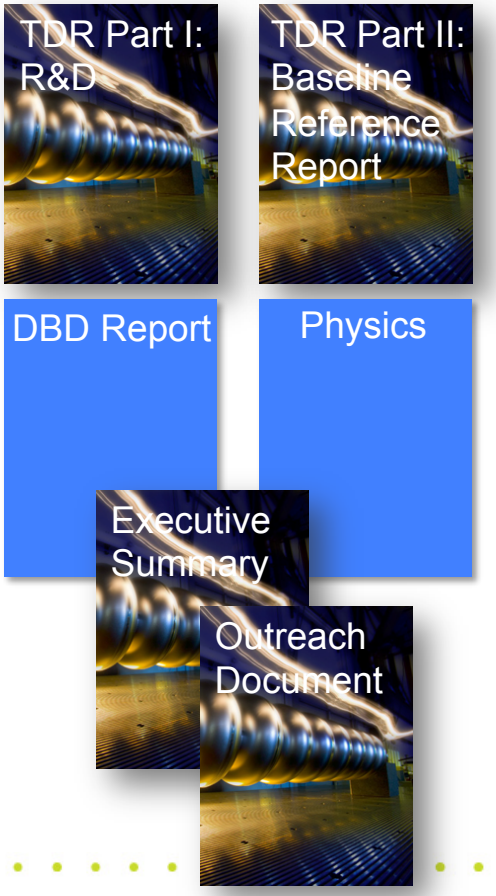


* end of 2012 – formal publication early 2013

TDR and DBD

Coordination with Physics & Detectors

- Time scale and scope
  - **important to publish the documents as a set, as was done for RDR**
- Look and feel
  - **Use the same templates and layout themes**
- Linkages + consistent technical content
  - **Especially important for MDI, machine layout, CF&S, cryo,…**
- Possible joint documents
  - **Joint Executive Summary**
  - **Outreach document**
- Primary coordination via respective TEBs
  - **Point of Contact: Phil Burrows**



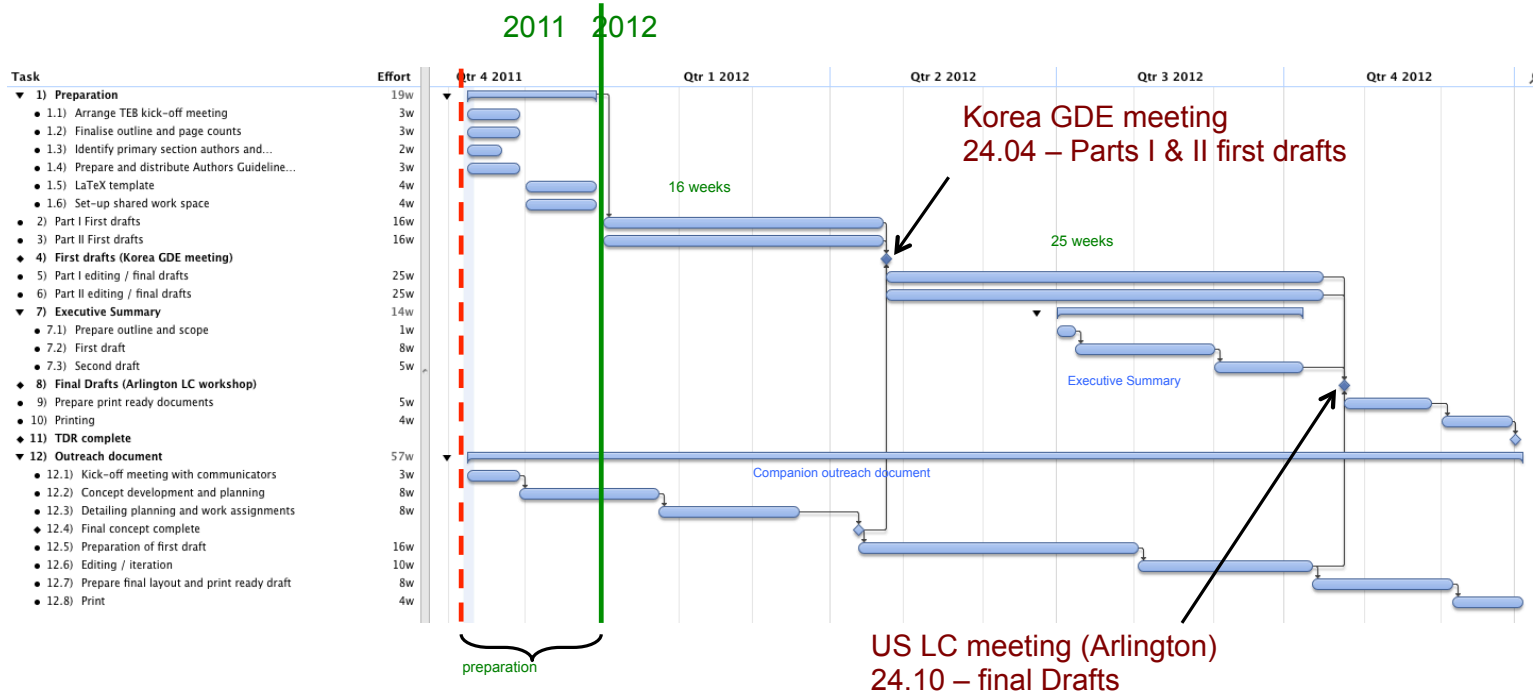
Technical Editorial Board

- Chair: John Carwardine (ANL)
- Part I (R&D) editors
  - **Jim Kerby (FNAL)**
  - **Hitoshi Hayano (KEK)**
  - **Eckhard Elsen (DESY)**
- Part II (Baseline) editors
  - **Nan Phinney (SLAC)**
  - **Nobu Toge (KEK)**
  - **Phil Burrows (OXU)**
- PMs (Ross, Walker, Yamamoto)
- Tech. support
  - **Benno List (DESY)**
  - **Maura Barone (FNAL)**

ilc-tdr-teb@desy.de

TDR Schedule

Tentative Schedule



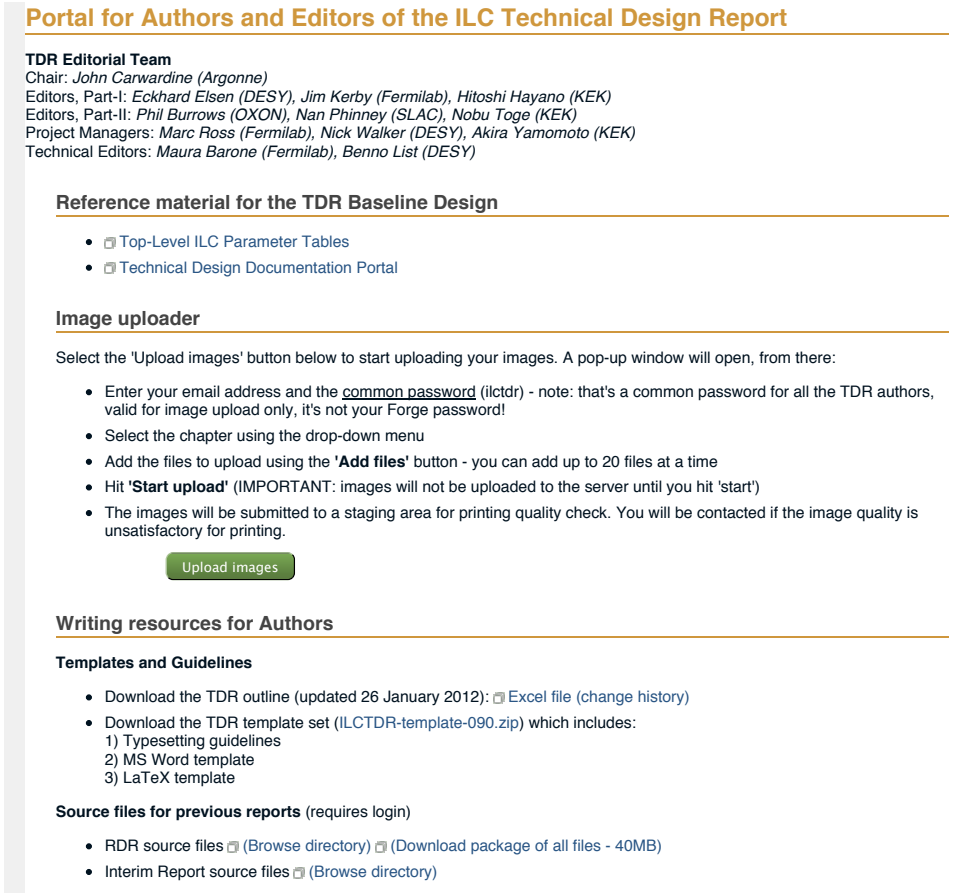
Very aggressive schedule!

In parallel:
- cost estimation
- TDD for EDMS

We like a challenge ☺

TDR Portal

- forge.linearcollider.org/tdr
- access to templates, guidelines
- repository for writing
- mostly for registered authors



Portal for Authors and Editors of the ILC Technical Design Report

TDR Editorial Team
Chair: *John Carwardine (Argonne)*
Editors, Part-I: *Eckhard Elsen (DESY), Jim Kerby (Fermilab), Hitoshi Hayano (KEK)*
Editors, Part-II: *Phil Burrows (OXON), Nan Phinney (SLAC), Nobu Toge (KEK)*
Project Managers: *Marc Ross (Fermilab), Nick Walker (DESY), Akira Yamomoto (KEK)*
Technical Editors: *Maura Barone (Fermilab), Benno List (DESY)*

Reference material for the TDR Baseline Design

- Top-Level ILC Parameter Tables
- Technical Design Documentation Portal

Image uploader

Select the 'Upload images' button below to start uploading your images. A pop-up window will open, from there:

- Enter your email address and the common password (ilctdr) - note: that's a common password for all the TDR authors, valid for image upload only, it's not your Forge password!
- Select the chapter using the drop-down menu
- Add the files to upload using the **'Add files'** button - you can add up to 20 files at a time
- Hit **'Start upload'** (IMPORTANT: images will not be uploaded to the server until you hit 'start')
- The images will be submitted to a staging area for printing quality check. You will be contacted if the image quality is unsatisfactory for printing.

Upload images

Writing resources for Authors

Templates and Guidelines

- Download the TDR outline (updated 26 January 2012): Excel file (change history)
- Download the TDR template set (ILCTDR-template-090.zip) which includes:
  1) Typesetting guidelines
  2) MS Word template
  3) LaTeX template

Source files for previous reports (requires login)

- RDR source files (Browse directory) (Download package of all files - 40MB)
- Interim Report source files (Browse directory)

TDR Part I

- ILC R&D in Technical Design Phase
- 280 pages total
- R&D topics:
  - SCRF
  - Beam Test Facilities
  - Accelerator Systems (incl. BDS and MDI)
  - CFS and Siting
  - Post-TDR R&D

Part I Section „BDS and MDI“

- Primary author: Andrei Seryi, corresponding editor: P. Burrows
  - 2nd: KB; 3rd: Brett Parker
- Total expected pages: 15
- Expected content: R&D done since the RDR on the BDS and MDI
- Possible topics (IMHO):
  - BDS lattice work
  - MDI magnet R&D
  - Feedback system R&D
  - Push-pull R&D (ARUP studies, vibrational issues, ...)
  - ...

Last All-author Meeting Comments

- On BDS/MDI in Part I of TDR:
- From the meeting notes:

5. Accelerator Systems R&D

e. BDS / MDI (Seryi)

- Mostly will be MDI related R&D. BDS will be reproduced from Interim Report, with possible update from NIM dump report

TDR Part II

- The ILC Baseline Reference
- 338 pages total
- Topics:
  - Parameters
  - Main Linacs, SCRF
  - Electron Source
  - Positron Source
  - Damping Rings
  - RTML
  - BDS and MDI
- Global Technical Systems
- Commissioning, Operations, Availability
- CFS
- Upgrade option
- Post-TDR Engineering
- Project Implementation Planning
- Cost and Schedule

Part II Section „BDS and MDI“

- Primary author: Andrei Seryi, corresponding editor: Phil Burrows
  - 2nd: Toshiaki Tauchi, 3rd: KB
- Subsections:
  - Top-level parameters and layout
  - Lattice description
  - IR layout and MDI
  - Magnets and power supplies
  - Vacuum system
  - Instrumentation and feedback systems
  - High-power beam dumps

Last All-author Meeting Comments

- On BDS/MDI in Part II of TDR:
- From the meeting notes:

8. Beam Delivery System and MDI (Seryi)

- Some progress has been made on the writing. Not on the BDS chapter itself, but for an article on the beam dumps, which has been accepted for publication at NIM (by now already published).
- Design work has resumed on the lattice, aiming to finalize the remaining minor pending changes, and writing will have to wait till summer
- Final doublet write-up also won't come until the summer
- John C: we will need to discuss the writing schedule (summer is very late)
- *MDI: should be discussed at a joint session at KILC for Editors and MDI working group.* Both Tom Markiewicz and Phil Burrows will be at KILC
- Gerry: there are still costing decisions to be made on MDI

MDI in the DBD Document

- DBD Document also has more than one place where MDI issues would appear:
  - One common chapter on general MDI issues for SiD and ILD
  - MDI sections in the ILD and SiD parts of the DBD
- We need to agree on how to separate topics
- One proposal:
  - Every concept-related topic (beampipes, backgrounds, QD0 supports/ alignment) should go into the concept sections
  - Everything else in the common chapter

DBD Common MDI Chapter

- Authors: MDI Common Task Group, corresponding editor: J. Fuster
- Possible topics:
  - Experimental Hall Layout
  - Surface Buildings
  - Common Services (incl. cryo)
  - Push-pull system (platforms, ARUP)
  - QD0 magnet design
  - ...
- Overlaps with TDR are probably OK
- Timeline: ready before LCWS12 (Arlington), drafts probably earlier

DBD SVN Repository

- https://svnsrv.desy.de/k5websvn/wsvn/General.ilcdbd/?
- Authorisation probably required....

General.ilcdbd - Revision 4

Subversion-Projekte: General.ilcdbd
Revision: HEAD Los
(root)/trunk/

Revisionsinformation

Letzte Änderung: Revision 4 - behnke - 2012-03-02 14:43:27 - Revision 3
Logeintrag: cleanup

Letzte Änderung - Vergleich mit vorheriger - Log anzeigen - RSS

Pfad	Letzte Änderung	Log anzeigen	Download	RSS
tags/	2 48t 19h behnke	Log		RSS
trunk/	4 48t 18h behnke	Log		RSS
Beaminstrumentation/	1 48t 19h behnke	Log	Download	RSS
frontmatter/	1 48t 19h behnke	Log	Download	RSS
Introduction/	1 48t 19h behnke	Log	Download	RSS
MDI/	1 48t 19h behnke	Log	Download	RSS
RandD/	1 48t 19h behnke	Log	Download	RSS
commondefs.tex	1 48t 19h behnke	Log		RSS
ILCDBD-frontpage.tex	1 48t 19h behnke	Log		RSS
ILCDBD-master.bib	1 48t 19h behnke	Log		RSS
ILCDBD-master.pdf	1 48t 19h behnke	Log		RSS
ILCDBD-master.tex	1 48t 19h behnke	Log		RSS
ILCTDR.cls	1 48t 19h behnke	Log		RSS
resetcounters.tex	1 48t 19h behnke	Log		RSS
utphys_mod.bst	1 48t 19h behnke	Log		RSS

Technical Design Documentation

Technical Design Documentation for the Machine Detector Interface (MDI)

This is a collection of documents about the Machine Detector Interface.

- Documents in EDMS
- Experimental Hall CFS Criteria

Documents in EDMS

- CAD model of the QD0 and QDEX1A magnet assembly: D*1019413
- CAD model of Collimator design: D*0968245
- Experimental hall drawings:
  - Single central shaft: D*0967715
  - Two side shafts:D*0967795
  - Two side shafts + access:D*0967755
- Engineering Specifications: D*0967835
- Functional Requirements on the Design of the Detectors and the Interaction Region, ILC-NOTE-2009-050: D*0951395

http://www.linearcollider.org/GDE/technical-design-documentation/Machine-Detector-Interface