

Introduction and Charge of the Meeting

1. Report progress since the Lol, ALCPG09
2. Make the work plan and milestones to complete the report ("TDR") by 2012 , under the condition of limited resources for about 1.5 years

T. Tauchi, ILD MDI workshop, 27 January 2010

RD Mandates Towards 2012

Items for the planning of the detector groups by RD

1. Continue R&D on critical components *to demonstrate proof of principle*
2. Define a **feasible baseline design**
(Options may also be considered.)
3. **Complete basic mechanical integration of the baseline design** accounting for insensitive zones
4. Develop a **realistic simulation model** of the baseline design, including faults and limitations
5. Develop a **push-pull mechanism** working with relevant groups
6. Develop a **realistic concept of integration with the accelerator** including the IR design

RD Mandates Towards 2012

IDAG monitoring: How ?

- It's difficult for IDAG to concentrate like for validation much longer time.
- It's hard for the detector groups to produce so much detailed material like LOIs too often.

Update of the LOIs will be enough to have their progress checked.

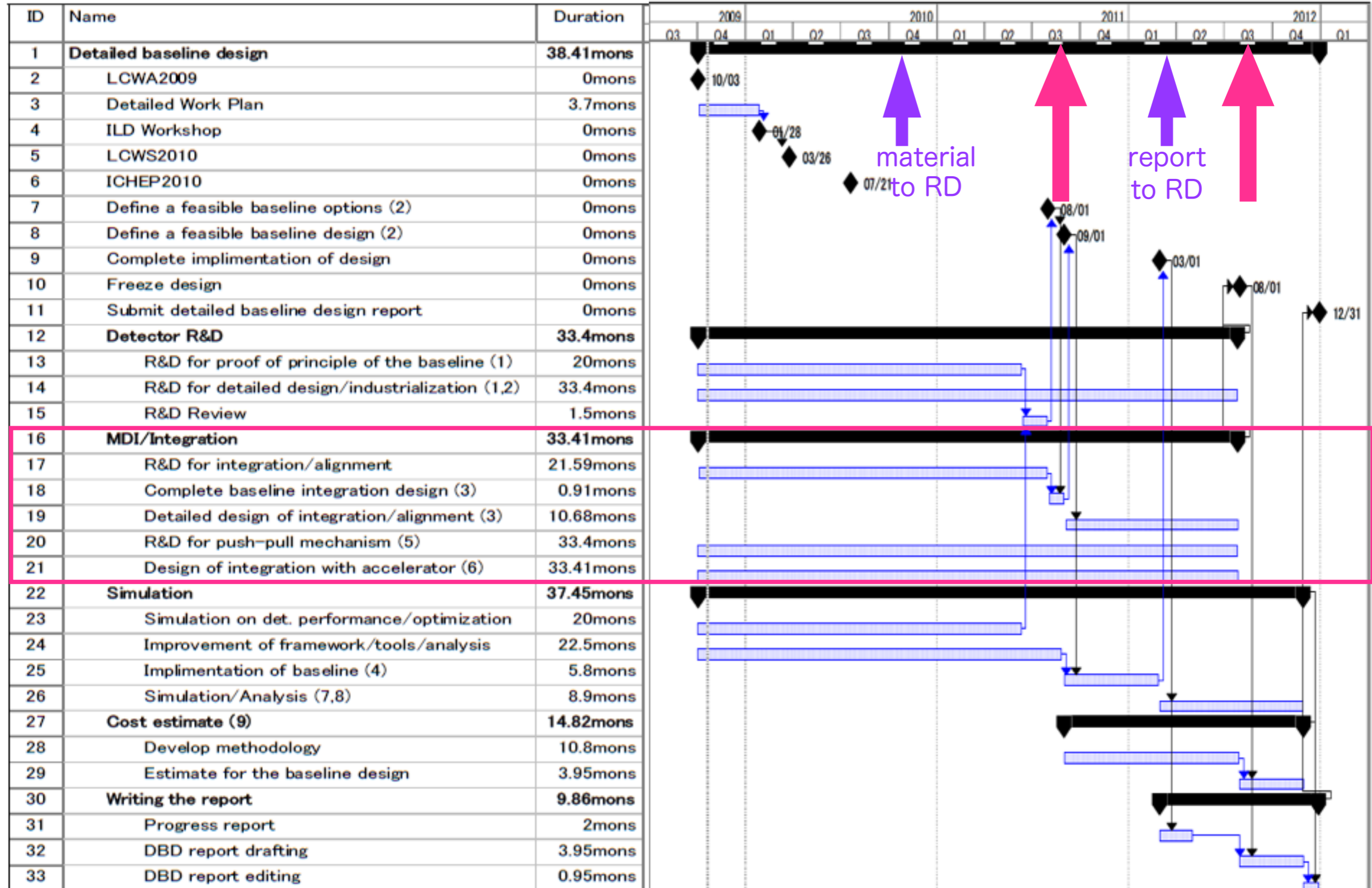
- There will be LC workshops twice a year, where IDAG members collect information about advancement, interview the detector groups and meet to discuss their findings.
- There will be two written documents available for their examination;

A) material of the groups for the RD's interim report in 2010,

B) status report early 2012, prepared for IDAG, before the groups start writing their final report. (This will be the last check by IDAG.)

Milestones of ILD

autumn,2011 autumn,2012



MDI Work Plan

Work Plan	Responsibility	Status	date
Push Pull			
platform		proposed	Mar.09
mechanism, e.g. air-pads, rails, Hilman rollers etc.			
stability during movement			
re-positioning within +/- 1mm and 100urad			
tolerable for synchrotron radiation and pairs ?			
self-shielding of detector with Pacman for radiations	T.Sanami	done for Lol	Mar.09
Pacman design	K.Sinram, A.Herve	on-going	Jan.10
cryogenics,i.e. flexible cryo & vacuum lines and current supply			
QDO			
support	H.Yamaoka, M.Jore	on-going	Jan.10
vibration	H.Yamaoka	on-going	Jan.10
re-positioning within +/- 200um and 5urad by actuator			
monitoting by MONALISA, integration ?			
opening endcap on the beam line ?	K.Buesser	on-going	Jan.10
1m wide space is very small and the endcap is very heavy			
opening and assembly at the garage position	C.Clerc	done for Lol	Mar.09
calibration and re-alignment (monitoring) of sub-detectors	sub-detector		
Z-pole running for the calibration in every time ?	sub-detector		
experimental hall design with SiD and accelerator	A.Herve	on-going	Jan.10
Beam induced backgrounds			
upstream/downstream beam backgrounds	LDC,GLD	to be updated	
collimation depth, aperture of beam pipes around IP	BDS	to be updated	
beam-beam backgrounds		done for Lol	Mar.09
aperture and material of beam pipes around IP	H.Videau	on-going	Jan.10

Work Plan	Responsibility	Status	date
Detector integration	Integration Coordinator ?		
each integration box separated by 'no-go zones'		proposed	Jan.10
support structures in 'no-go zones' ?			
strength of deformation and vibration			
cooling : all heat to be taken out by each sub-detector		proposed	Jan.10
cabling of signals and electric powers	U. Schneekloth	done for Lol	Mar.09
gas lines			
alignmnet and monitoring system and time	sub-detector		
calibration method and time	sub-detector		
Z-pole running and the integrated luminodity ?	sub-detector		
TPC requests 1pb^{-1} ; a few hours(days) with 10(1)% e^+ source			
Magnet System			
Coil and anti-DID	F.Kircher	on-going	Jan.10
Yoke design ; tail catcher and muon system	U. Schneekloth, R.Stromhagen	on-going	Jan.10
Coil in endcap			
Vacuum System	U.Suetsugu, H.Videau	done for Lol	Mar.09
Tools			
3D-CAD : CATIA	M.Jore	on-going	Jan.10
EDMS	C.Clerc	on-going	Jan.10
Collaborative tools			

Physics Scope at ILC

Work Plan

Responsibility

Status

date

Integrated luminosity to optimize the machine parameters
statistical and theoretical accuracies
the accuracies required by physics (channels and observable)

Running scenario

generic one in the ILC physics scope : 500fb^{-1} for 4years

T.Tauchi, R.Settles done

Sep.09

specific one with specific physics scenario

Detector Switchover Time Estimation : Goal

Procedures - about 2 days for the full push-pull operations after procedures have been optimized based on experiences	time in hours
Securing beams	1
Powering down of the detector solenoid (2GJ and 18.2kA to zero)	3
Stability work for pressure and temperature in the cryogenics system	3
Removing the radiation shield between detector and hall	2
Disconnecting all local supplies (in principle only the main bus-bar)	3
Disconnecting the beam pipe between the QD0 and the QF1 magnets	2
Moving the detector out towards its garage position (2.1mm/s in 15m)	2
Connecting back the main bus-bar in the garage position	3
Reversed procedure for the incoming detector	19
Pressure in the beam pipe: filled with inert gas and pumping to 10^{-5} Pa	several
Alignment and calibration of the detector system in the beam line	several

Comment : Stability due to movement of about 12kton detector - a site study

Conclusions

Let's define ;

Cooling strategy

Sub-detector integration strategy

Alignment strategy to estimate time in the push-pull

Calibration strategy to estimate time in the push-pul

Complete work plans with responsibility

Let's make milestones “monthly” as much as possible for

1. Baseline integration design by autumn 2011
2. Detailed design of integration and alignment by autumn 2012
3. Complete the report by end of 2012