Organization mid 2011-2016
Initial comments

The organization covers the CLIC accelerator activities but also including:

- ILC-CLIC WGs
- Detectors for CLIC-ILC in the framework of the CDR and later implementation plan
  - Only very few MoU appendixes or agreements cover detector studies currently, the work is organised in working groups for the CDR, through technology collaborations, and in collaboration with ILC detector concepts
- Physics – as above (LCD covers detectors/physics)
- Site studies for CLIC (through ILC-CLIC WG it covers also ILC siting)

This talk will have a bias towards the accelerator part.

Priority now has been to make plans for **the actual work** needed 2011-2016 (see talk about WPs). Organization will be adapted as needed (also taking into account global LC organisation) and several steps can be foreseen:

1. **Adapt this year to new CLIC work-plan and associated working groups (main point today)**
2. Adapt collaboration structure next year (will only discuss briefly)
3. Follow development of LC organization, clearer by end 2011? (will impact point 2. in particular) – see agenda point introduced by Tatsuya Nakada
4. Detector/physics organization to be addressed towards the second half of the year and after CDR volume 2 (will only discuss briefly)

Work-plan for the coming years

Before 2011

CDR (2011), CLIC feasibility established

2011-2016 – Project Preparation phase

Goal for 2016: Develop a project implementation plan for a Linear Collider (at CERN):

- ✓ addressing the key physics goals as emerging from the LHC data
- ✓ with a well-defined scope (i.e. technical implementation and operation model, energy and luminosity), cost and schedule
- ✓ with a solid technical basis for the key elements of the machine and detector
- ✓ including the necessary preparation for siting the machine at CERN
- ✓ within a project governance structure as defined with international partners

After 2016 – Project Implementation phase, including an initial period to lay the grounds for full approval

Considering the preparation steps foreseen and the resources situation it is clear that several key tasks will need further effort before the project can move into construction:

- finalization of the CLIC technical design, taking into account:
  - results of technical studies done in the previous phase
  - final energy staging scenario based on the LHC Physics results, which should be fully available by the time
- possible construction of CLIC Zero as first CLIC phase
- further industrialization and pre-series production of large series components with validation facilities
- further detector and physics studies, with increased emphasis on technical coordination issues and integration
- revision of the project implementation plan of CLIC, following the energy staging strategy and detailed resource discussion with all partners – providing the basis for a staged or full approval, and subsequent construction start up

During this initial period we will need to produce the necessary documents to support a proposal for CLIC construction start-up

The next steps – focusing points

In order to achieve the overall goal for 2016 the follow four primary objectives for 2011—16 can defined:

These are to be addressed by activities (studies, working groups, task forces) or work-packages (technical developments, prototyping and tests of single components or larger systems at various places)

Define the scope, strategy and cost of the project implementation.

Main input:

- The evolution of the physics findings at LHC and other relevant data
- Findings from the CDR and further studies, in particular concerning minimization of the technical risks, cost, power as well as the site implementation.
- A Governance Model as developed with partners.

Define and keep an up-to-date optimized overall baseline design that can achieve the scope within a reasonable schedule, budget and risk.

- Beyond beamline design, the energy and luminosity of the machine, key studies will address stability and alignment, timing and phasing, stray fields and dynamic vacuum including collective effects.
- Other studies will address failure modes and operation issues.

Indentify and carry out system tests and programmes to address the key performance and operation goals and mitigate risks associated to the project implementation.

- The priorities are the measurements in: CTF3+, ATF and related to the CLIC Zero Injector addressing the issues of drivebeam stability, RF power generation and two beam acceleration, as we as the beam delivery system.

  (other system tests to be specified)

  (technical work-packages and studies addressing system performance parameters)

Develop the technical design basis. i.e. move toward a technical design for crucial items of the machine and detectors, the MD interface, and the site.

- Priorities are the modulators/klystrons, module/structure development including testing facilities, and site studies.

  (technical work-packages providing input and interacting with all points above)

“Resource – drivers”

Preliminary

Activity	Description	Deliverables (2016)	Material budget
Proj. Implementation, scope, cost studies, site, physics reach	Update and improve CLIC cost model & civil engineering studies	• Technical Design (TD) and Project Implementation Plan (PIP) of CLIC Zero • Improved cost model, feedback to CLIC baseline review, site studies	
Beam phy			
CTF3 +			
CLIC Zero			
RF Structures	Design a of 12 GH structur and ass		and assembly procedures
RF test infrastructure	Building and ope power R		out 12 slots, running
Prototypes of critical components	Technic build an prototy critical c		d, beam tested est with beam, extraction

Work-program (I refer to talk by Roberto Corsini):

- The work is organized in WPs covering from hardware (very straight-forward WPs) to working-groups (attempt to also describe as WPs)
- Key reasons: Needed for planning inside and outside CERN, review and progress follow up of objectives, documentation
- Task-forces as needed (time-limited for very specific goals)

WP:

- Document in APT system, adapted such that external teams can be included
- Including links to document with WP text

Top level agreements:

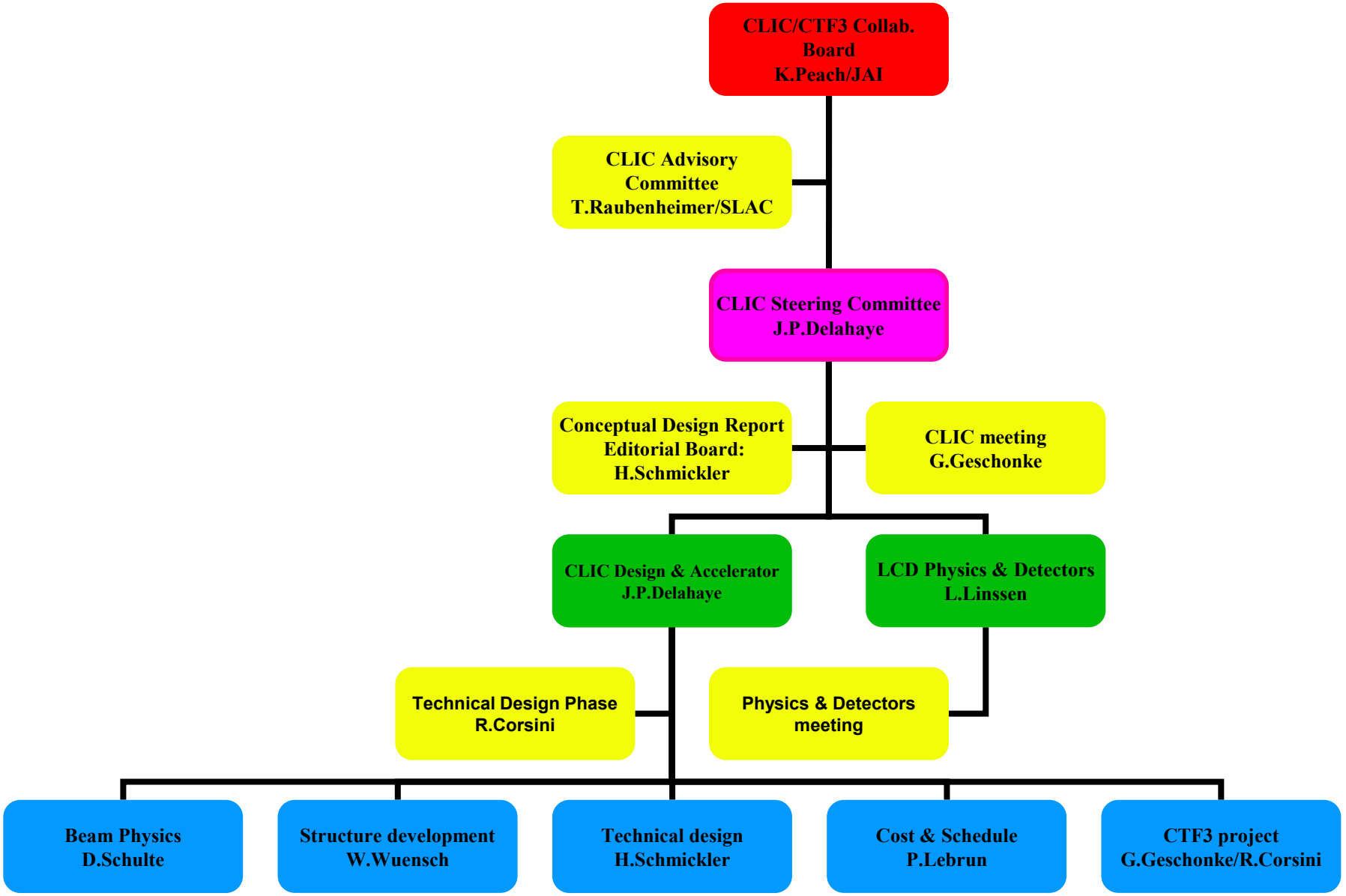
- MoU, K-contracts, Collab. Agreements

Appendices kept updated by 6 monthly review

Keep all in EDMS

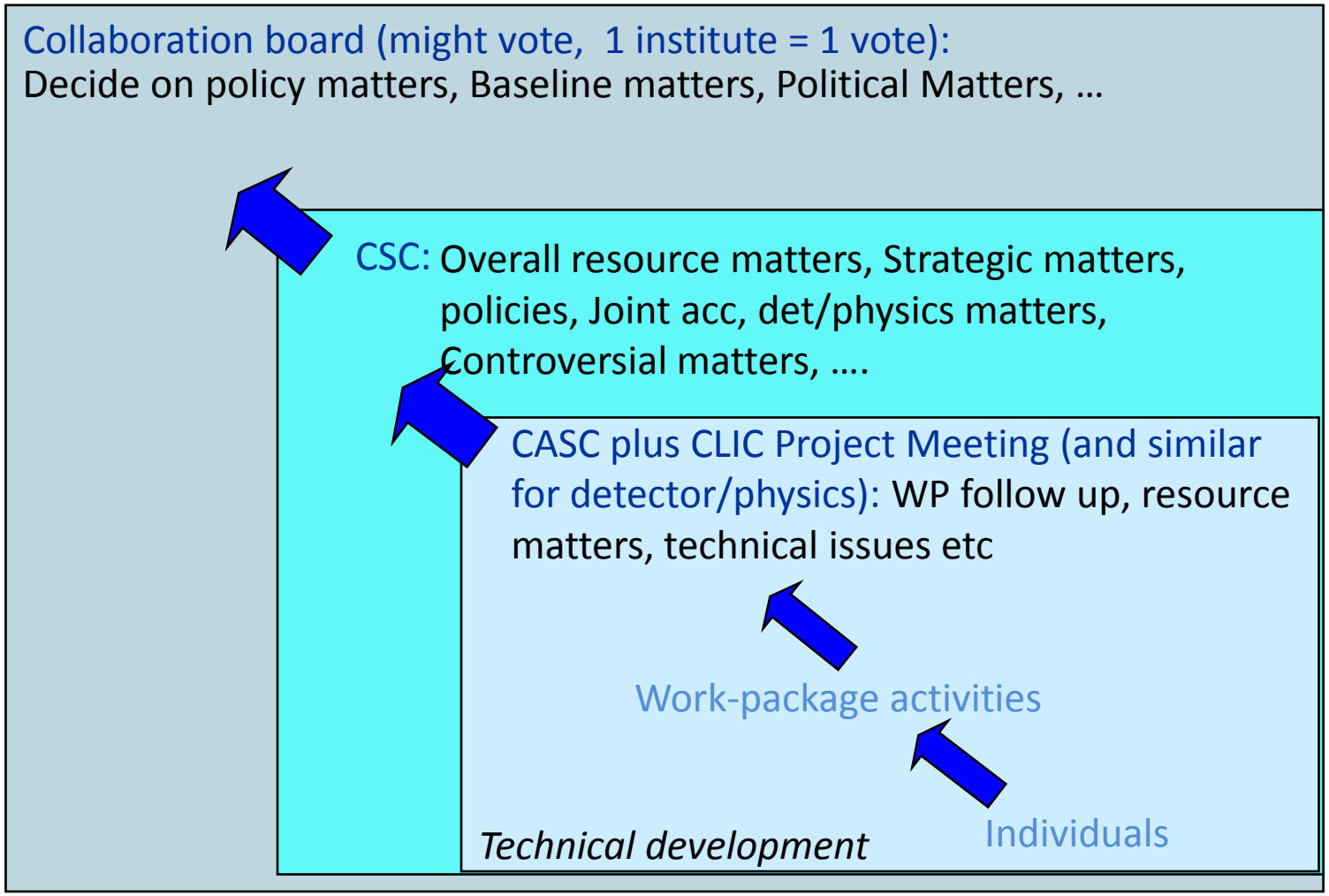
See talk of Roberto Corsini

Organogram 2009



From the actual work to overall decisions

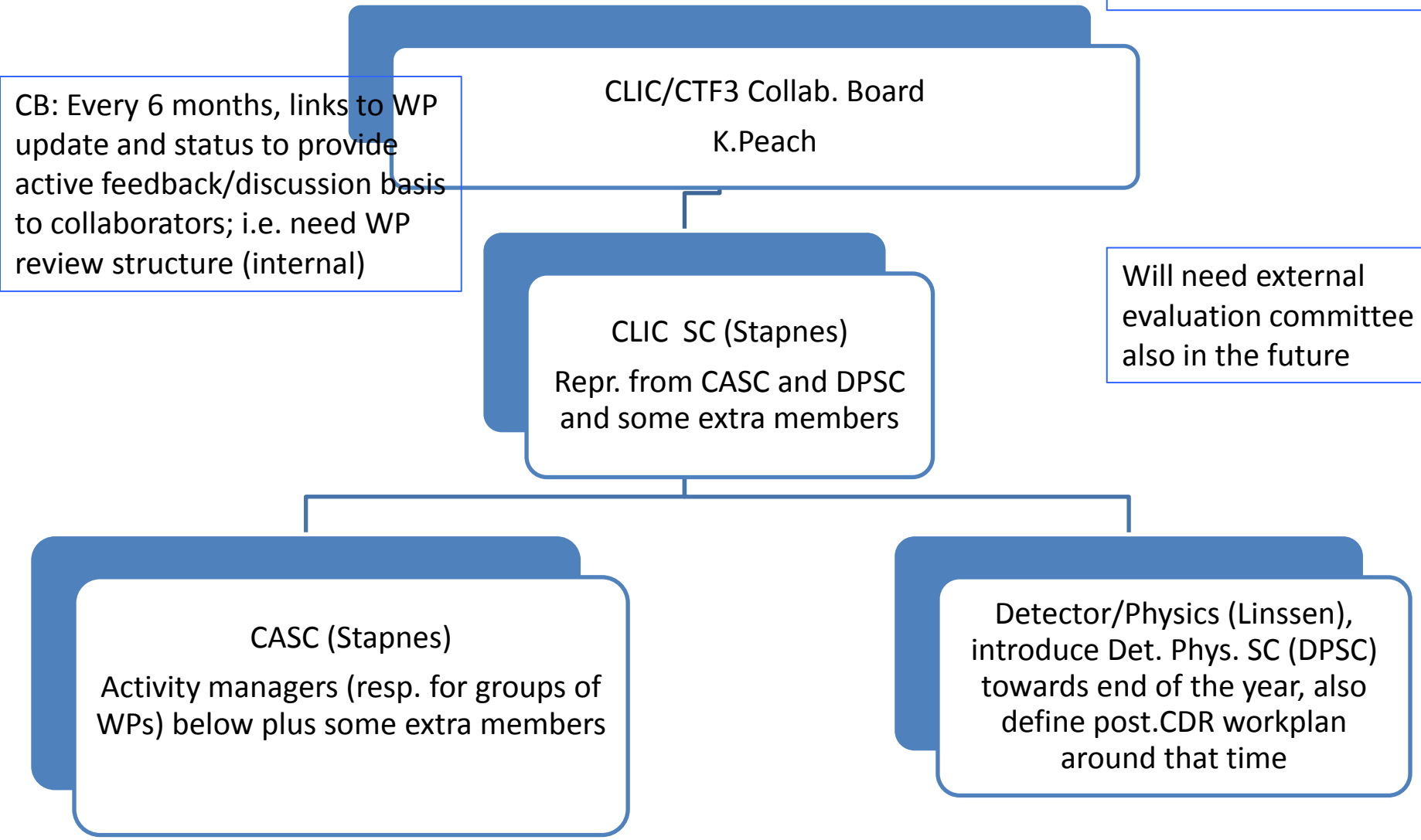
- Keep decisions at the right level
- Prepare matters bottom up (while some matters might need to be initiated top-down)
- Information flow both way



Organogram for the future

Might interact with overall global LC consortium at some stage (CB and CSC)

CB: Every 6 months, links to WP update and status to provide active feedback/discussion basis to collaborators; i.e. need WP review structure (internal)



Will need external evaluation committee also in the future

Accelerator part

CASC (weekly – shorten meeting if possible)

Focus below on links to WPs and the activity managers for these work-packages

2-3 more with major work-package responsibilities (tbd) - asap

1-2 representatives from line management (group level) – from July if possible

Tech. Secretary for Proj. meetings when needed (Tecker) - now

Augier as secretary for CASC

- LC implementation issues (Lebrun) – e.g. cost, schedule, power, interface to site and civil engineering (incl. conv. facilities?) WPs in GS, ILC-CLIC common issues and industrial studies
- Beam physics and machine parameters (Schulte) – work-packages form specific studies urgent, as a staged approach for volume 3
- Systemtests (e.g. CFT3+) including preparation of CLIC 0 (Corsini) – work-packages formulated
- Technical developments and integration (Schmickler) – work-packages formulated
- RF structure development (Wuensch) – work-packages formulated

Introduce CLIC Project Meetings: Overall technical discussions every 6-8 weeks (focus on accelerator project)

- Increase communication between various parts of the project and the project partnes
- Allow external collaborators to get an overview

Keep Friday CLIC meetings/seminars:

- Will partly be used as follow up, prep. CLIC project meetings when appropriate, will keep the news, skip the minutes

Comment: The work-packages in these activity areas covers (should cover) the relevant machine activities from sources to dump (i.e. the entire PBS) related to the topic of the WPs:

- with the exception of the RF structure work which is in reality a Technical Development (a subset of the Technical Developments above). Given its importance and focus in next period it is nevertheless kept as its own activity area.

CLIC Steering Committee

LC study leader (Stapnes)

Activity managers (Lebrun, Schulte, Corsini, Schmickler, Wuensch)

Detector/Physics Studies (Linssen) plus two covering physics (theory, phenomenology) and a rep from detector/physics SG at a later stage – to be determined

Collaboration Spokesperson (already in)

Review Office leader when identified

Additional members ex-officio: CB chair (Peach), ILC representative (Foster), RECFA contact (Fuster) - CERN line management (tbd)

All together 9-10 people*, supported by the CLIC "support office"

Meet every 6-8 weeks, linked to CLIC Project Meetings (one week before?)

Implement changes in ex-officio participation as soon as possible

Detector/Physics changes in second half of this year – to be discussed in more detail

JPD and GG remain invited until end September – without obligations to come !

Some comments about functions

Function	Comment	CASC repr.	CSC repr.
Activity managers	WPs definition and follow up	Members	Members
Spokesperson	R.Corsini	Member	Member
Resource Coordination	Incl. being our assigned contact to AT departments for resource planning	Schmickler	Schmickler
Review office leader	WP reviews and other reviews as deemed necessary - person needed	Member	Member
ILC-CLIC WG conveners	Key posts by Lebrun, Schulte, Peach, Linssen	(Suggested by)	(Approved by)
CDR (later Project Implementation Plan to be started)	Currently we have the CDR responsible	Schmickler	Schmickler Linssen
Safety for final projects		Lebrun	Lebrun
Schedule holder (2011-16)		Stapnes	Stapnes

CLIC support office: Augier as project assistant covering the project administration, with help from Filippova for WPs documentation and updates, Technical Secretary for Project Meetings (Tecker) – more needed ?

Reviews

Three main types (WP follow up, Critical items, Spending) :

- 6 monthly review (more or less required)
- Review of critical areas (as identified)
- Review before large spending on any item (more or less required) – in most (all?) cases it can be made part of the 6 monthly updates above

- Review office leader set up with appropriate review team adapted to the purpose of review, reports in CLIC project meeting. In addition to the relevant technical responsible the reviews have to be closely monitored by the resource coordinator

- This is a time-consuming and demanding task …. can we find someone from the outside that can do it ? This would be a key task where a person from outside could make key contribution.

- We will also need an external Advisory Body (ACE++) but this is a different matter

Meetings

- 6 monthly CB board preceded by WPs cycle of updates

- Overall Project Meetings Wed 1.6, Fri 8.7, Fri 2.9, Fri 21.10 or 28.10, Fri 9.12 covering:
  - General news and issues (minutes, action, critical issue list, report on reviews), special reports if applicable (45 min)
  - Then RF issues, Technical issues, Beam-dynamics, CTF3 etc .. average 45 min per activity (3 hours)
  - Detector and physics news/key issues (30 min)
  - Around the areas – i.e. all parts of the machine (30 min)
  - Wrap up, next meeting and AOB (30 min)
  - 9.00-15.00 in 60-6-015 – can we make it shorter?
- Keep Friday CLIC meetings for topical presentations/seminars

- Keep weekly CASC, let CSC meetings follow Proj. Meeting schedule (every 6 to 8 weeks)

- Activity area meetings (move as much as possible to Project Meetings) – need to revisited

- WP/working group meetings will adapt (many will continue) in the second half of this year

CSC and CB

- Assuming we keep two CB meetings per year - some main roles are:
  - Discuss and make policy decisions concerning strategic issues (e.g. input to LC organization and relations with such organizations , staging scenarios, etc) – here the timing is not so easy
  - Discuss results of the WPs reviews including status of all FA contributions, agree on actions for follow up as appropriate – consider a major role in the future for the CB
  - Resource situation, monitoring and follow up as needed
  - Advisory group reports
  - Elect Spokesperson and CB chair – maybe other functions
  - Decide on collaboration issues, new members, policies for publications, etc ..
- All topics prepared by CSC (and CASC, DPCS) and Review Office so in practice there has to be clear recommendations from “the executive branch” concerning decisions, follow up needed, actions – and only major ones need a CB decision

Collaboration participation

- Currently planning has focus on WPs and work needed the coming years – how can we make it easier for the collaboration to participate:
  - Adapt meeting schedule to make it possible for people outside CERN to more easily participate (proj. meetings, CSC, detector SC probably all ok, for CASC still difficult but not impossible to run on WEBEX)
  - Attempt to use "outside" CERN wherever possible, and also look more into Proj. Associate possibilities in cases where heavy CERN presence is needed
  - Focus CB more on feedback on WPs to collaboration

- The "political role" of the CB, and role of Spokesperson versus the CERN Linear Collider Study Leader need to clarified too:
  - Develop next year taking into account LC general changes and in preparation for next SP election

- Some possibilities/options that we need to decide on:
  - Have Coll. Spokesperson external to CERN as a rule
  - Review leader likewise
  - Consider how we organise the CLIC input to the overall LC collaboration
  - Can we develop better regional structure and representation (for example deputies to Spokesperson from other regions) ?

Summary

- WPs for 2011-16 being worked out addressing key objectives for the period
- Introduce overall Proj. meeting and two new cycles: 6 month CB with focus on WP follow up, and 6-8 Proj. Meeting (open) per year
- Change roughly 50% of CSC and CASC – but still CERN dominated beyond what is numerically reasonable
- Will introduce Detector Physics SC (DPSC) and develop also workplan for detector work towards 2016 after volume 2
- Adapt other meetings at work-package and working group level
- Still too much CERN dominated – need more key external persons (review leader, physics and more in the detectors/physics area)

- More changes needed for collaboration but move slightly slower (LC general changes clearer by end 2011/early 2012 and current SP period ends Feb 2013) – this has less impact on the execution of the programme