Welcome

- Our June meeting:
  - ICFA statement, plans for the International Develop Team (IDT) – neither mandate nor composition final at that time
  - Bilateral agreements KEK – individual European Lab or FAs (example CERN-KEK) for IDT work
  - Accelerator plans and ideas presented (relatively clear how to move forwards wrt to European Planning (EJADE report) – some examples were shown)

  - We did not have enough time to discuss the physics and detector activities and our view of future priorities in that area. In particular the organisation of the Higgs factory physics and detector support at CERN was discussed and several questions asked.
    - However, also a feeling that physics & detector activities would gain less from “regional” structuring than accelerator contributions

News

Updates:

- The mandate of the “International Development Team” (IDT) was finally approved on 2.8: https://icfa.fnal.gov/wp-content/uploads/ICFA_release_of_ILC_IDT_Proposal.pdf
- The members of the team took longer to become public: https://icfa.fnal.gov/wp-content/uploads/ICFA_IDT_Structure.pdf
- We had hoped that the situation and organisation of CERN’s Higgs factory activities would be clearer - as we discussed back in June. Still being shaped.
- In the Plenary ECFA meeting in July, ECFA chair Jorgen D’Hondt touched on ECFA’s role (from page 10 onwards: link). See also thoughts about detector R&D roadmap panel in his slides.

Since June several developments Next slides

IDT overall and WG1:

- Prepare a proposal for the organization and governance of the ILC Pre-Lab (2022-25)
- Prepare the work and deliverables of the ILC Pre-laboratory and workout a scenario for contributions with national and regional partners
- Understand what is needed to get the Pre-lab started (constraints and opportunities)
- WG1 and European involvement

- Start of Pre-lab does not require full approval of the entire project
- Workplan for each of these WGs in progress, and work to adapt their composition – initial thinking for WG2 and WG3 below

Pre-lab 2022-25: Accelerator core activities

Technical preparations /performance & cost R&D [shared across regions]

- SRF performance R&D, positron source, nanobeam (ATF3) etc

Final technical design and documentation [central project office in Japan with the help of regional project offices (satellites)]

- Engineering design and documentation, WBS, costs, schedule, review, resource planning and follow up, etc

Preparation and planning of ILC deliverables [distributed across regions, liaising with the central project office and/or its satellites]

- Prototyping and qualification in local industries and laboratories (from SRF prod. line to individual WBS items)

CE, local infrastructure and site [host country assisted by selected partners]

Europe can contribute in many areas

(European planning document 2018)

	Germany DESY	France CEA Saclay	France LAL	Italy INFN Milan	Poland IFJ PAN	Poland WUT	Poland NCBJ	Russia BINP	Spain CIEMAT
Linac									
Cryomodules	✓	✓		✓					
SCRF Cavities	✓			✓					
Power Couplers	✓		✓						
HOM Couplers							✓		
Frequency Tuners	✓								
Cold Vacuum	✓							✓	
Cavity String Assembly	✓	✓							
SC Magnets	✓				✓				✓
Infrastructure									
AMTF	✓				✓	✓		✓	
Cryogenics	✓								
Sites & Buildings									
AMTF hall	✓								

Table 2: Responsibility matrix for cryomodule production and testing for the European XFEL.

	Germany DESY	France CEA	France IPNO	Italy Elettra	Italy INFN-LASA	Poland IFJ-PAN	Spain ESS Bilbao	Sweden ESS	Sweden Uppsala	UK STFC
RF systems				✓			✓	✓		
LLRF									✓	
Cryomodules		✓	✓							
SCRF Cavities		✓	✓		✓					✓
Power Couplers		✓	✓							
HOM couplers										
Frequency Tuners		✓	✓							
Cold Vacuum		✓	✓					✓		
Cavity String Assembly		✓	✓							
RF Tests (Cavites)	✓									✓
RF Tests (Cryomodules)		✓	✓			✓		✓	✓	

Table 3: Responsibility matrix for the cryomodule production and testing for the ESS.

	CERN	DESY	Czech Republic	France	Germany	Italy	Israel	Netherlands	Norway	Poland	Serbia	Spain	UK
Vertexing	✓	✓	✓	✓	✓	✓				✓		✓	✓
Tracking	✓	✓		✓	✓			✓				✓	✓
Calorimetry	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
MDI	✓	✓							✓				✓
System Integration	✓	✓		✓								✓	

Table 6: An overview of present activities in the area of ILC-related detector R&D and integration in Europe.

	CERN	France LAL	France LAPP	Germany DESY	Spain IFIC	UK Oxford	UK RHUL
Goal 1							
Very-low β	✓						
Ultra-low β	✓						
Halo control		✓			✓		
Wakefield/Intensity	✓				✓	✓	✓
Instrumentation	✓	✓			✓	✓	✓
Ground motion	✓		✓			✓	
Background				✓			✓
Goal 2							
Stabilisation/Feedback		✓				✓	

Table 4: An overview of present European activities in ATF2.

Topic	Details
Beam-dynamics	Overall accelerator design Modeling and simulation tools
Damping rings **RTML** **BDS** **MDI**	Design Optimisation and performance studies
Cost and power	Cost comparison and reviews Power estimates and comparison
Physics and Detector	Physics studies Detector design Software tools

Table 5: An overview of present common activities between ILC and CLIC.

Obviously, if one includes the capabilities in Europe
built up in other project further away from "ILC technology" – LHC for example, light sources also – these tables will be much more filled

Pre-lab 2022-25: Accelerator core activities

Overall:

Technical preparations /performance & cost R&D [shared across regions]

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Final technical design and documentation [central project office in Japan with the help of regional project offices (satellites)]

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European priorities:

Pursue R&D interests and capabilities, material and personnel, link to strategic interests

European Project Office(s) – mostly personnel

Identification and preparation of ILC deliverables – one main one is a European SFR module line, then other individual WBS items

Contributions by single person/groups with special skills

This can start without having a final green light for the ILC proper, but will require "increased certainty" during the Pre-lab phase

Partner in Pre-lab activities

For planning and preparation on an ILC deliverable from a lab or FA:

- R&D required at some level
- Final specifications, technical documentation, tender documents
- Prototyping and qualification in (local) industry, followed by tests and verifications in industry or labs

So participation in and resources for several of the headings on the previous slide

Pre-lab 2022-25: Detector timeline

LHC:

- EoI April 1992 (12 submission – general and specialized), LoI October 1992 (reduced number), Technical Proposals December 1994 (further reduction), Approval early 1996
- First system TDR end 1996 (done system by system over the next years) - see pile on the right
- Requested, evaluated by LHCC - set up by CERN (responsibility of the Research Director)
- New cavern excavations started after (e.g. ATLAS 1998 and handed over five years later)
- LHC overall was approved December 1994 (but in the pipeline, with positive slope, since end 1991)

ILC (initial IDT thoughts for discussion)

- EoI mid-end 2022, LoI end 2023 (for reduced set?), Technical Proposal (or overall TDR) end 2025 for final set of experiments
- Requested and evaluated by "ILCC" – initially set up by the Prelab management, final approval however by ILC-laboratory
- Need "convergence towards approval" during Prelab, such that sufficient resources can be engaged at acceptable risk by the stakeholders

On-going/urgent actions (with European bias)

Next:

- Communication and News being set up (IDT level) with European participation

- More details on WGs planning, more discussions in community, among others in ALCWS – we should participate
- More participants in WGs from Europe

- Define timelines (short term and for Pre-lab)

- Define and map out European "ambitions" for Pre-lab phase
- Understand and explore funding opportunities for Pre-lab activities

Next

- The Americas LCWS is announced for 19-22 October 2020 (https://conf.slac.stanford.edu/awlc2020/). Its focus will be on pre-lab activities and also on the US planning, given the Snowmass process in progress.
- National meetings and initiatives

- It is not yet clear when the next LCWS will take place in 2021 but it is possible that it will be in Europe (but most likely all remote).
- It is suggested to introduce a monthly European information meeting. For the next months, we would like to suggest three dates:
  - Wednesday 4.11 10:00-12:00
  - Wednesday 9.12 10:00-12:00
  - Wednesday 13.1 10:00-12:00.

  Typical agenda: European WG1, 2, 3 members to report about WG activities, as well as national updates (as "fixed" agenda points), plus topical/current issues and discussions.
- Please forward emails to relevant colleagues and also ask them to sign up for the mailing list ilceurope-general@desy.de if they are interested to participate in future meetings. This can be done with a simple email to sympa@desy.de, with the subject line SUBSCRIBE ilceurope-general [firstname lastname]
  If you want to un subscribe use UNSUBSCRIBE ilceurope-general
- Jorgen has also kindly offered to "advertise" wider using ECFA mailing lists, we suggest to do for next meeting
- Contact Thomas (thomas.schoerner@desy.de) or myself concerning WEB pages or email