



Spokesperson's Welcome

Roman Pöschl



CALICE Collaboration Meeting IJCLab and virtual – September 2021

- *First and above all I wish and hope that you, your Family, Colleagues and Friends are doing well*
- Good Morning, Good Afternoon, Good Evening
- Welcome to the CALICE Meeting at IJCLab
 - ... to the participants in the audience
 - ... and all the participants on their screens
- **This is the first CALICE Meeting at Orsay ever**
- Let me thank already now the local team for the organisation of the meeting
 - Valerie Brouillard, Sylvie Teulet for the logistics
 - Gregory Perrin for technical support (i.e. Transmission of the meeting)
- A particular welcome to Achille Stocchi the Director of IJCLab
- This meeting has received particular funding by the IN2P3, thanks to Laurent Vacavant



IJCLab: New Laboratory born in 2020 from the merger of 5 Orsay laboratories
CSNSM, IMNC, IPNO, LAL, LPT

740 Collaborators
220 Researchers & Professors
370 Engineers & Technicians

150 People accredited to supervise PhD

600 Articles in international peer-reviewed journals

140 PhD and Post-docs
50 European and International Research Grants
150 National and Local Research Grants

1 Engineering Pole

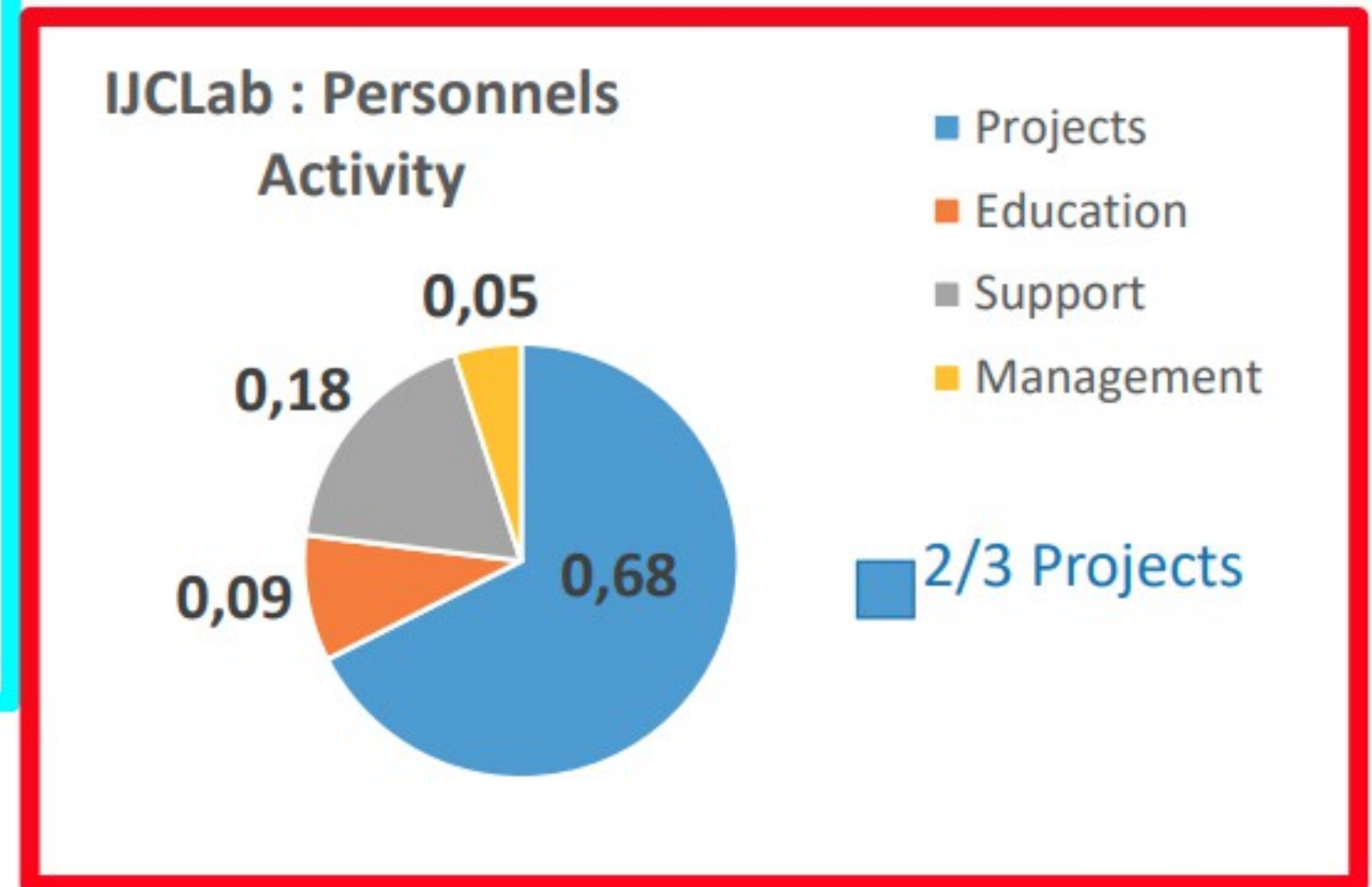
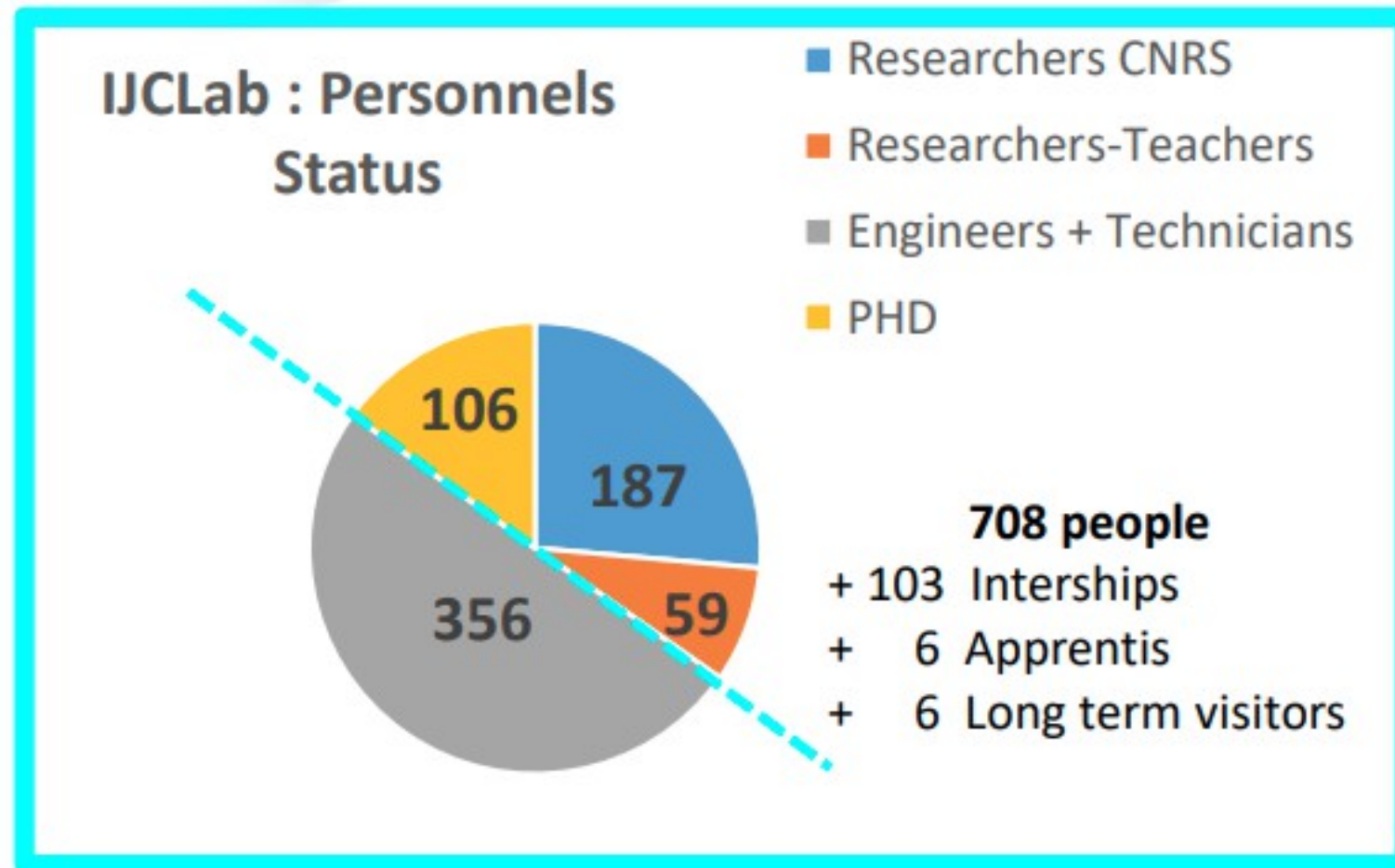
7 Scientific Poles

5 Research Platforms

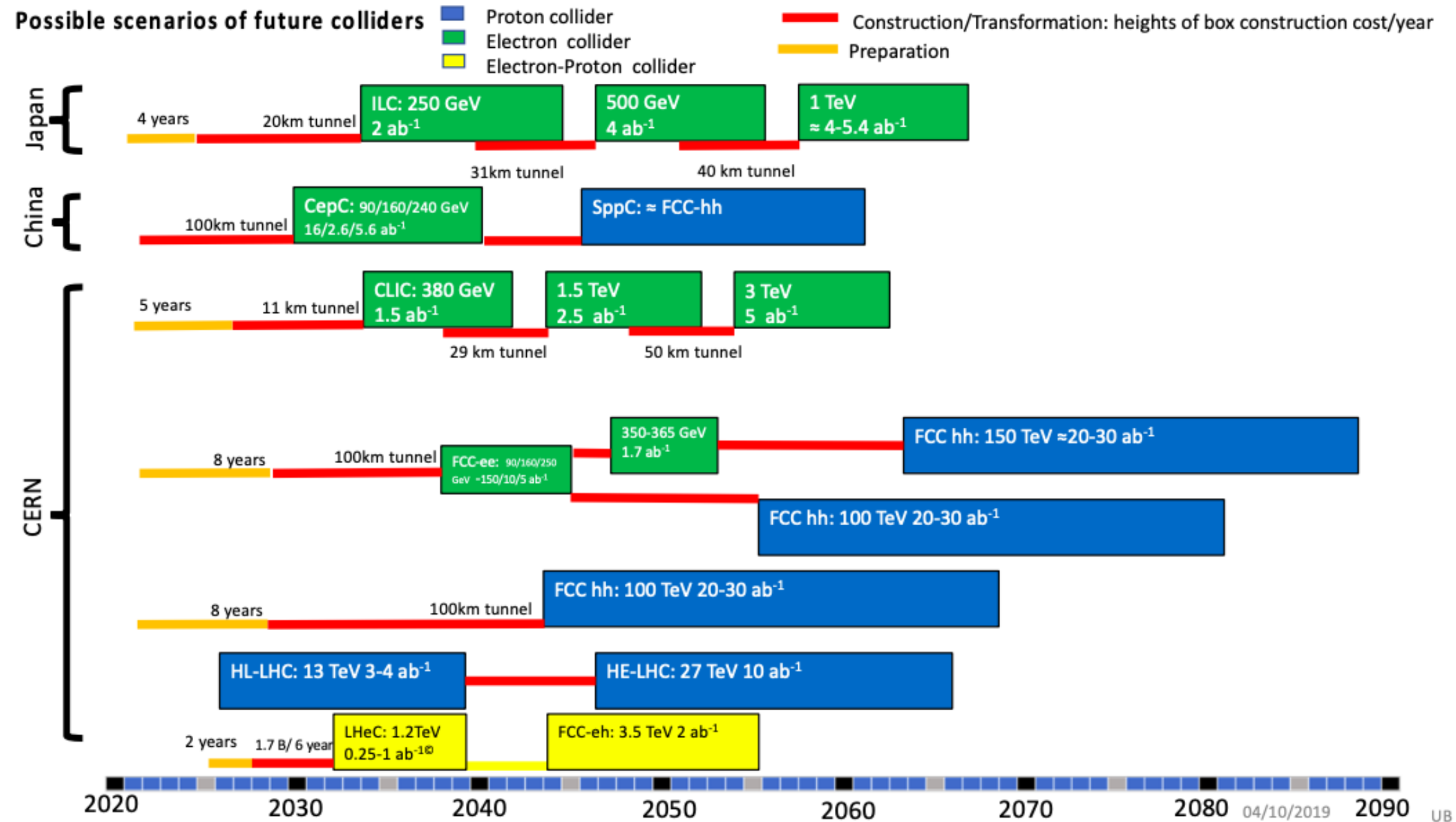
3 Technical Platforms

50000 m² of Buildings

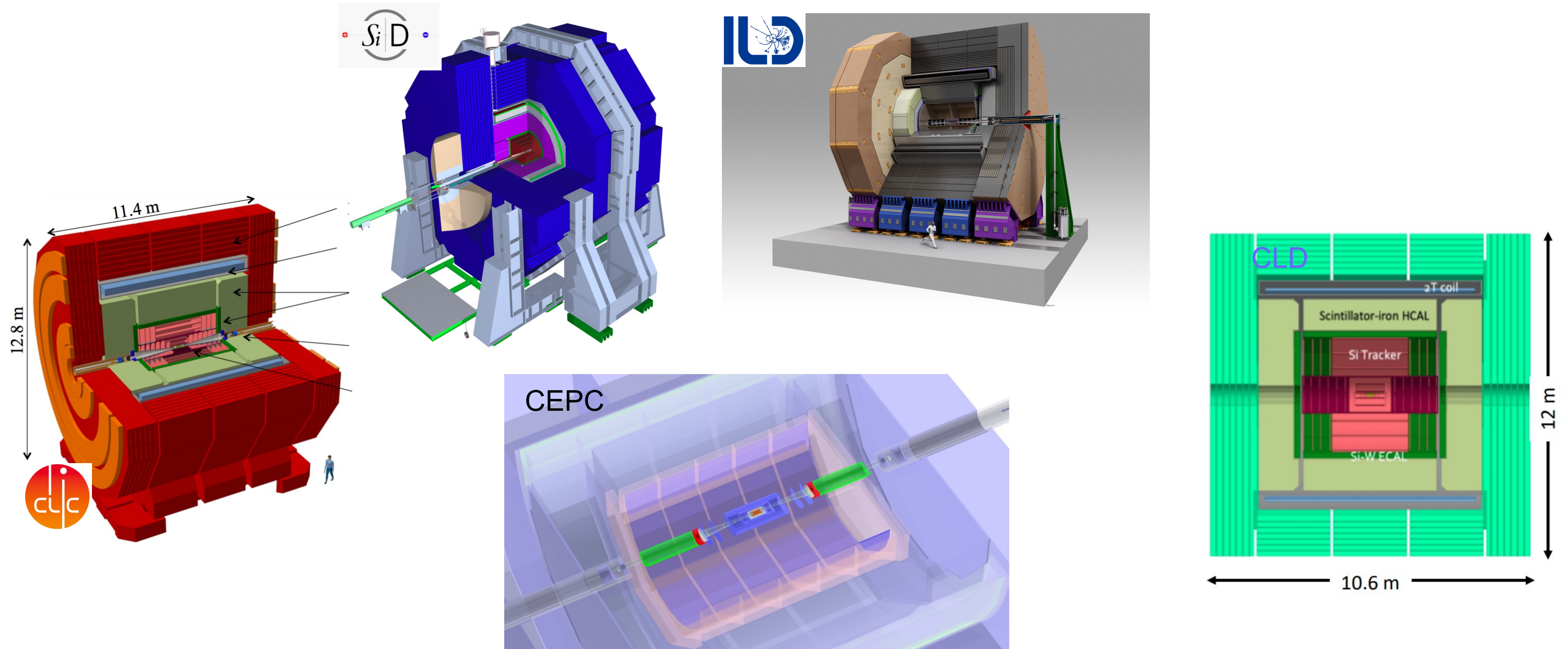
- Historical labs, responsible for the creation of the Orsay campus pre-dating the creation of the University
- Further teams/labs stemming from these labs and keeping close contacts
- Recent evolutions (Labex local network of labs, creation of Université Paris-Saclay) showed the relevance of closer links and the convergence on many research themes
- Several years of discussion/reflection led to the creation of **Laboratoire de Physique des 2 Infinis Irène Joliot-Curie**



Current/Future Accelerator Projects



Courtesy of U. Bassler

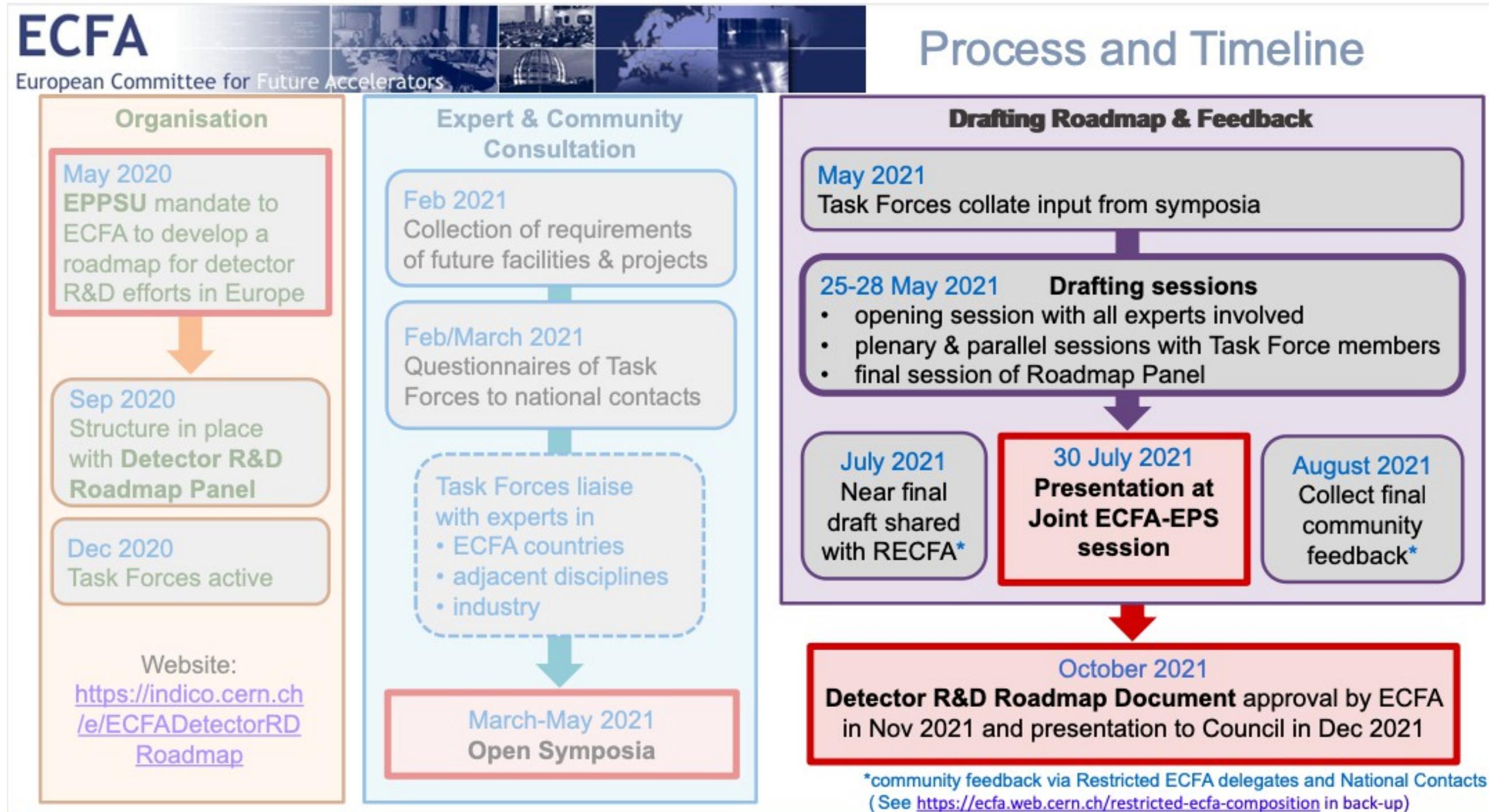


All planned e⁺e⁻ facilities feature at least one PFA detector with “CALICE Style” calorimeters

- PFA Calos also under discussion for EIC Detector(s)

- Remember e⁺e⁻ Higgs Factory is priority of European Strategy Update after HL-LHC
- ILC
 - International development team published proposal for preparatory lab (Pre-lab, arxiv: 2106.00602) supposed to pave the way to the construction of ILC
 - Committee set up by Japanese MEXT to evaluation recent progress of ILC and the Pre-lab proposal
 - Workshop for experiments at ILC (at and outside collisions): ILCX in October 2021, <https://agenda.linearcollider.org/event/9211/>
- CLIC activities continue
- FCCee
 - Physics and Detector efforts are getting more structures in view of Feasibility Design Report in 2025 (intermediate report in 2023)
 - EPJ+ essay: Calorimetry at FCCee underway (Co-author Felix Sefkow)
 - See FCC week in June 2021, <https://indico.cern.ch/event/995850/timetable/>
- CEPC
 - Activities continue (see also talks at this meeting)
 - CEPC Week in November 2021, <https://indico.ihep.ac.cn/event/14938/overview>
- Muon Collider
 - Interest in community is growing, see e.g. <https://indico.cern.ch/event/1037447/>

- Establishment of a Detector R&D Roadmap in reply to the update of the EPSSU
 - Roadmap should imagine detectors at future and “very future” (20+ years) projects
- Organised by ECFA
 - Creation in Autumn/Winter 2020/21
 - URL: <https://indico.cern.ch/event/957057/>
- Exchange with community through nine symposia since last meeting
 - All are relevant for us since calorimetry fetches from many topics
 - Symposium on Calorimetry on 7th of May 2021
- Brief status see next slide
- More details on Roadmap process by Phil Allport on Friday









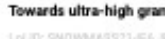
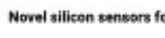


- Community study to prepare update of US Strategy on Particle Physics “P5 Process”
 - <https://snowmass21.org/start>
- (For us most relevant)
- Instrumentation Frontier Working Group 6 – Calorimetry
 - Co-chaired by Andy White
- Letters of Interest until 31st of August 2020
 - Letters submitted by CALICE
 - Organised through Technical Board
- Snowmass process is about to get out of Stand-by mode
 - Update on restart by Andy on Friday
- With the European Roadmap being finalised CALICE has high interest to engage more with the Snowmass process

CALICE Letters of Interest submitted to US Snowmass 2021 Community Study (August 31, 2020) · ILC Agenda (Indico) 25/09/2020 23:08

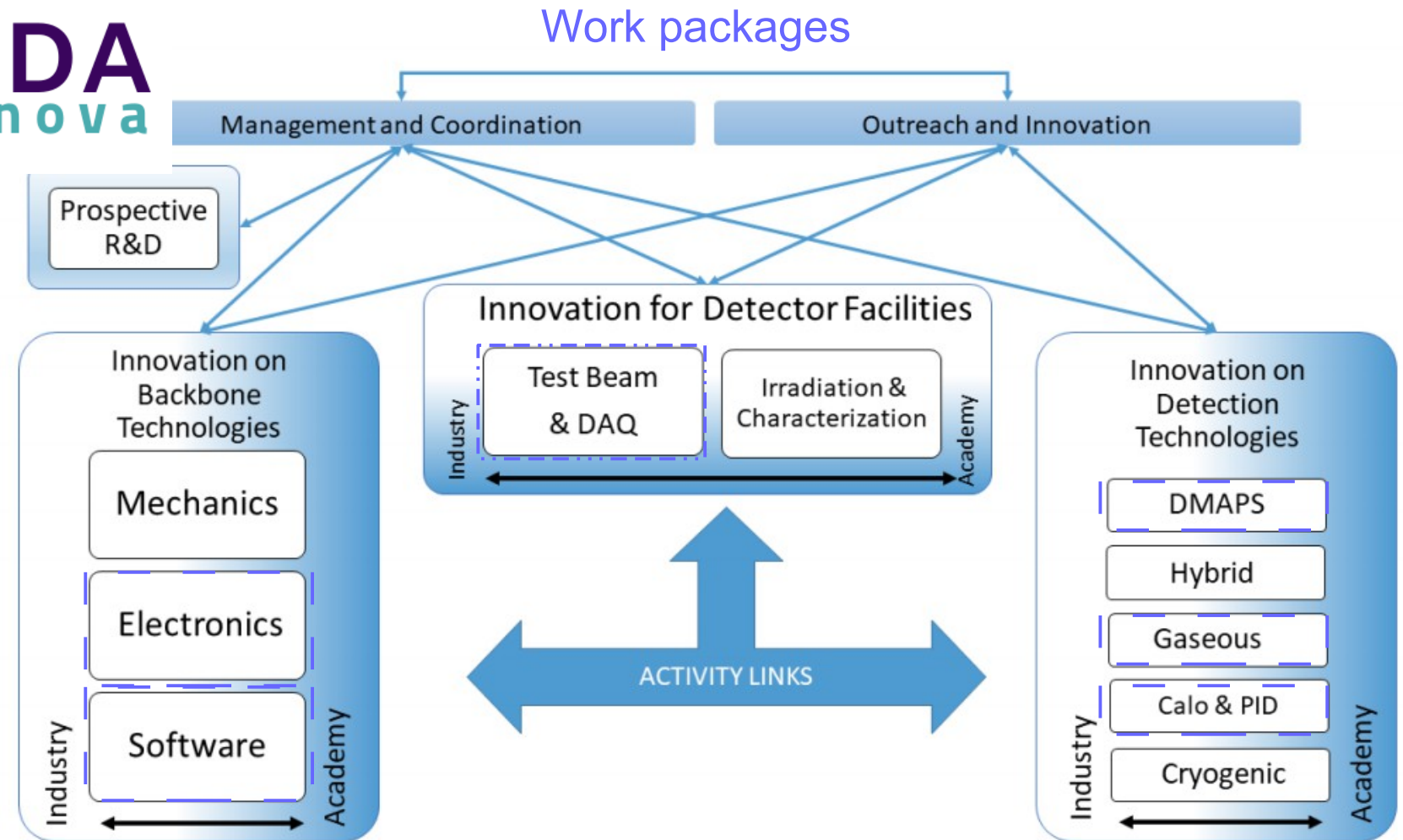
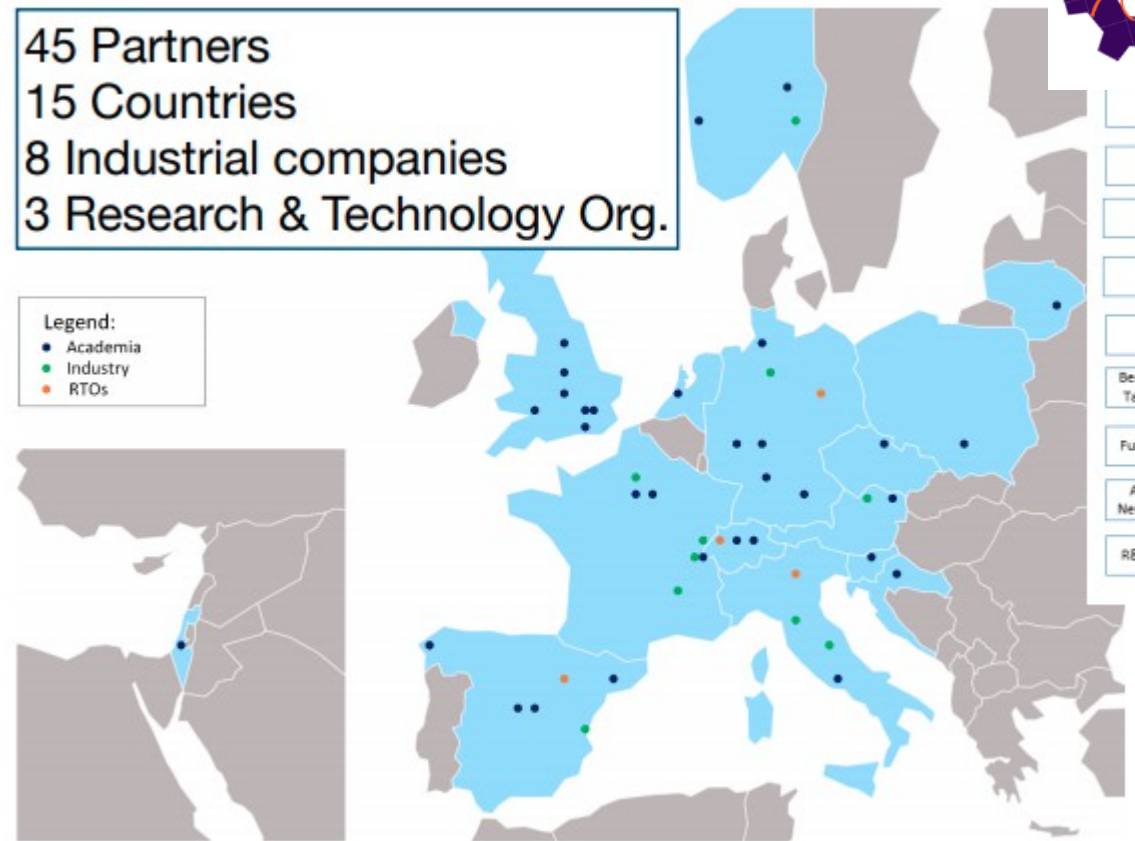
CALICE Letters of Interest submitted to US Snowmass 2021 Community Study

Monday Aug 31, 2020, 10:00 AM → 8:00 PM Europe/Zurich

10:00 AM → 10:10 AM	Physics potential and prototyping of technological solutions for timing layers in highly granular calorimeters	10m
<small>Lol ID: SNOWMASS21-IF6_IF9_CALICE-038</small> 		
10:10 AM → 10:20 AM	Development of Highly Granular Scintillator Strip Electromagnetic Calorimeter	10m
<small>Lol ID: SNOWMASS21-IF6_IF9_CALICE-058</small> 		
10:20 AM → 10:30 AM	CALICE R&D for a highly granular silicon tungsten electromagnetic calorimeter, SiW-ECAL	10m
<small>Lol ID: SNOWMASS21-IF6_IF9_CALICE-077</small> 		
10:30 AM → 10:40 AM	CALICE R&D for compact readout systems for highly granular calorimeters	10m
<small>SNOWMASS21-IF6_IF9_CALICE-082</small> 		
10:40 AM → 10:50 AM	Developments Towards a SiPM-on-Tile Based Analogue Hadron Calorimeter (AHCAL)	10m
<small>Lol ID: SNOWMASS21-IF6_IF9_CALICE-099</small> 		
10:50 AM → 11:00 AM	Timing Semi-Digital Hadronic Calorimeter (T-SDHCAL)	10m
<small>Lol ID: SNOWMASS21-IF6_IF9_Lakshmi-Calice-050</small> 		
11:00 AM → 11:10 AM	High-Granularity Crystal Calorimetry Letter of Intent	10m
<small>Lol ID: SNOWMASS21-IF6_IF9_Yong_Liu-064</small> 		
11:10 AM → 11:20 AM	Digital Hadron Calorimetry	10m
<small>Lol ID: SNOWMASS21-IF6_IF9_Yasar_Ozal-048</small> 		
11:20 AM → 11:30 AM	Towards ultra-high granularity calorimetry	10m
<small>Lol ID: SNOWMASS21-IF6_IF9-067</small> 		
11:30 AM → 11:40 AM	Novel silicon sensors for high-precision 5D calorimetry	10m
<small>Lol ID: SNOWMASS21-IF6_IF9-078</small> 		

<https://agenda.linearcollider.org/event/8647/>
https://agenda.linearcollider.org/event/8647/?print=1 Page 1 of 1

Map of participants



- European project for detector development targeting advanced communities
 - To unfold synergies and enhance coherence in European detector R&D
 - Scientific coordinator Felix Sefkow
- Project started on April 1st 2021
 - Kick-off meeting 13-16th of April <https://indico.cern.ch/event/1003419/timetable/#20210413.detailed>
- Close coordination with European Detector R&D Roadmap and of course developments in other regions
- CALICE activities spread over several workpackages

- The CNRS/IN2P3 and the German Helmholtz Association are about to found a common research laboratory



- DMLAB created technically by CNRS
- MOU under negotiation
- Particle Flow Calorimetry among scientific projects within this IRL
 - Topic carried by CALICE Members
- Kick-off planned 2021

- Reminder: CALICE got invited in 2020 to sign the Diversity Charter formulated by ECFA-NUPECC-APPEC
- Topic(s) has/have been discussed in meeting of CALICE ad-hoc panel on 7/1/21
 - General support to the actions expressed in the Charter
 - ... but also clear criticism on formulation on monitoring and actions
- Meanwhile the charter draft has been significantly revised
- Next steps discussion
 - Discussion in ad-hoc panel in September
 - Dedicated IB Session with decision to sign (or not) the Charter

- 100 registered participants from four continents
 - Back to classical organisation
 - Thanks to the conveners for having compiled the agenda
- 35 talks in total
 - Lots of new ideas/developments/extensions of existing technologies
 - CALICE data and machine learning becomes more and more important
 - Usefulness of CALICE data for wider audience and publication of data
 - More and more talks on timing (hardware and software)
- Again “Other Application” Session this time
 - Highly Granular Liquid Argon Calorimeters and status of CMS HGCal
- ECR Forum on Friday

Electronics/DAQ: Christophe de la Taille (taille@omega.in2p3.fr), Taikan Suehara (suehara@phys.kyushu-u.ac.jp)

ECAL: Vincent Boudry (boudry@llr.in2p3.fr), Adrian Irles (irles@lal.in2p3.fr),
Tohru Takeshita (tohru@shinshu-u.ac.jp), Jianbei Liu (liujianb@ustc.edu.cn)

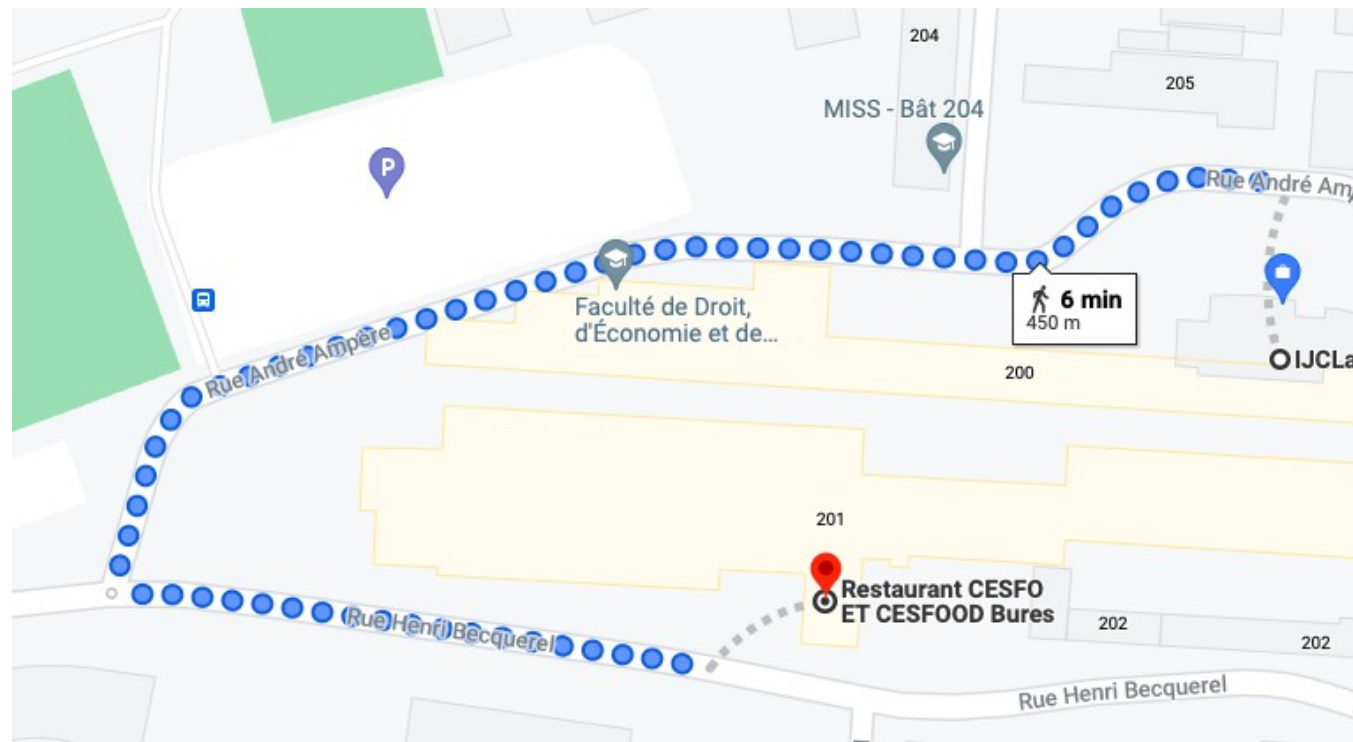
SDHCAL and DHCAL: Mary-Cruz Fouz (mcruz.fouz@ciemat.es), Burak Bilki (Burak.Bilki@cern.ch)

AHCAL: Katja Krüger (katja.krueger@desy.de), Wataru Ootani (wataru@icepp.s.u-tokyo.ac.jp)

Analysis: François Corriveau (corriveau@physics.mcgill.ca), Gerald Grenier (grenier@ipnl.in2p3.fr)

Other Applications: Roman Pöschl (roman.poeschl@ijclab.in2p3.fr)

- Coffee breaks/welcome breakfasts will be served in Salle Bleue, which is just next to the auditorium
 - The sanitary rules impose that food has to be consumed **outside** of closed rooms (except canteen)
- Lunch is taken at the CESFO Restaurant Bures



- Five minutes walk
- Lunch boxes were served at Board Meetings (will leave door open)

- Starting times: Tomorrow 10.30am, Friday 9am (sorry for US participants)
 - If you're in a hurry, complimentary breakfast is available here ;-)

- In July I got re-elected as the CALICE Spokesperson for a term of another two years
- I would like to thank the IB Members and all of you for the confidence witnessed by this election
- It's a pleasure and honour to serve CALICE in this position

I wish us all a great CALICE Meeting

Backup



2020 Strategy Statements

4. Other essential scientific activities for particle physics

Instrumentation R&D critical for present and future endeavours

- Delivering the near and long-term future research programme requires advances in instrumentation through focused and transformational R&D
- There is a clear need to strengthen existing R&D collaborative structures and to create new ones, and to foster an environment that stimulates innovation and collaboration with industry
- The National Laboratories and research institutes in Europe play a central role by providing access to dedicated infrastructures and test facilities, specialised expertise and user support
- A roadmap should be developed by the community (ECFA's role) taking into account progress with emerging technologies in adjacent fields

c) The success of particle physics experiments relies on innovative instrumentation and state-of-the-art infrastructures. To prepare and realise future experimental research programmes, the community must maintain a strong focus on instrumentation. *Detector R&D programmes and associated infrastructures should be supported at CERN, national institutes, laboratories and universities. Synergies between the needs of different scientific fields and industry should be identified and exploited to boost efficiency in the development process and increase opportunities for more technology transfer benefiting society at large. Collaborative platforms and consortia must be adequately supported to provide coherence in these R&D activities. The community should define a global detector R&D roadmap that should be used to support proposals at the European and national levels.*

19/06/2020

CERN Council Open Session

23

H. Abramowicz, Strategy Secretary



- **European project AIDAInnova approved in November**
 - Action with 22.5 MEUR total budget out of which 10 MEUR EU funding
 - Targets advanced communities
 - Thanks to the Project Preparation Team lead by F. Sefkow
- **The plans for CALICE R&D are part of the proposal**
 - Among others ...
 - Workpackages on Gaseous Detectors, Microelectronics, DMAPS
 - **Workpackage on Calorimetry and Particle ID**
 - Lead by K. Krüger, R. Ferrari and R.P.
 - High level electronics integration including spin-offs
 - Large scale scintillator detectors
 - Future R&D on SiPMs
 - Workpackages on Testbeam infrastructure and software
- **Project will start on April 1st 2021 and will run for four years**
 - Kick-off meeting 13/4/21 – 16/4/21
 - <https://indico.cern.ch/event/1003419/overview>

- CALICE got invited to join the European ECFA-APPEC-NUPECC effort on recognition of individuals in big collaborations
 - Djamel Boumeddine is member of this working group for ECFA
 - R.P. Participated in meetings in July 2020 and October 2020
- For further information see also
 - <https://www.nikhef.nl/~i93/JENAS/RecognitionJENAS.pdf>
- CALICE Feedback to Questions by ECFA-APPEC-NUPECC Recognition Working Group (November 2020)
 - See: <https://twiki.cern.ch/twiki/pub/CALICE/WebHome/calice-recognition-nov2020.pdf>
- It's not exclusively about Early Career Researchers but we think that Early Career Researchers are most sensible to this topic
- Call for ECR Forum attached to this meeting
 - We have asked Adrian and Marisol to set up this first forum
- Discussion at Institution Board
 - Report from IB tomorrow



- Three working groups

WG1: Prelab setup

Chaired by T. Nakada

WG2: Accelerator

Chaired by S. Michizono

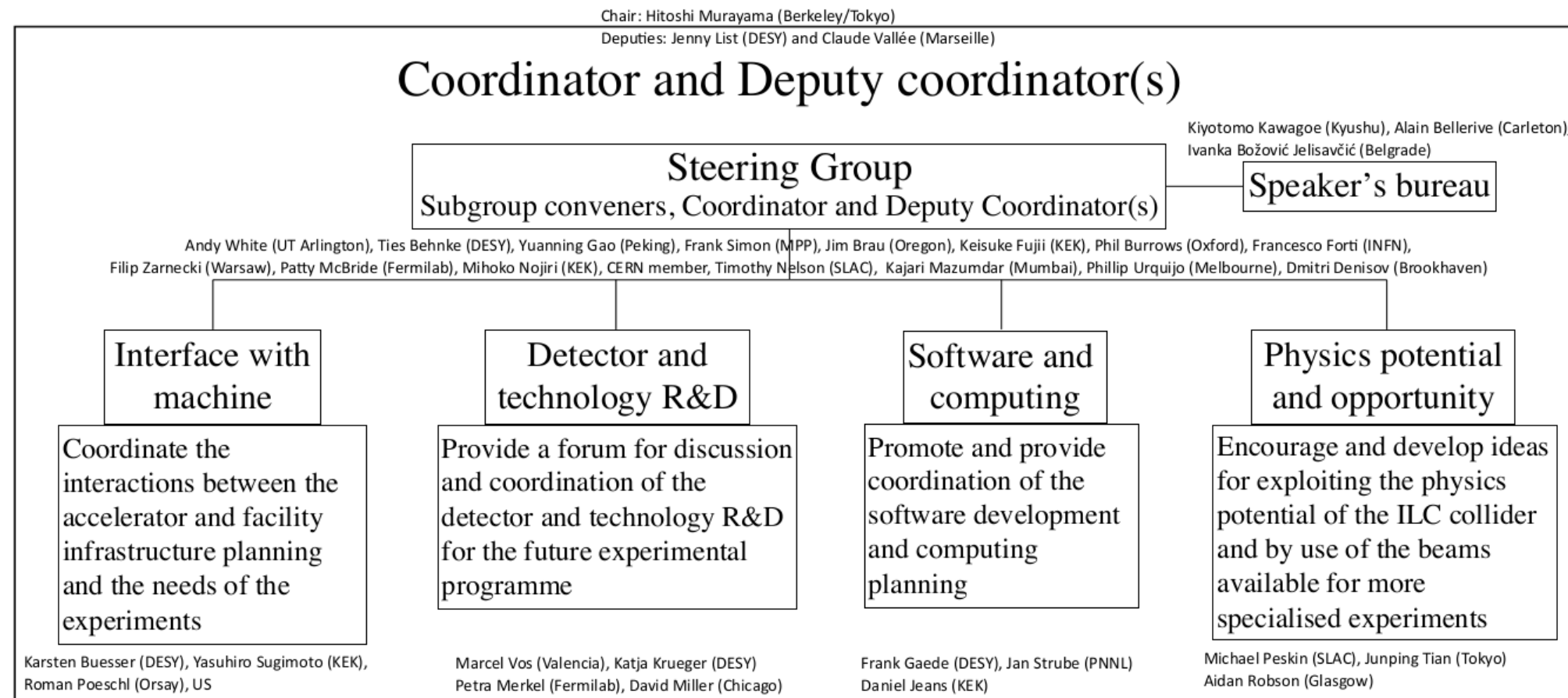
WG 3: Physics and Detector

Chaired by Hitoshi Murayama

- On Aug 2nd 2020 ICFA announces new phase towards Preparation of ILC
- Aug. 20th 2020 Formation of International Development Team
 - Under supervision of ICFA
- Charge is to prepare the ILC Pre-lab

- url: <https://linearcollider.org/team/>

WG3 Organisation and mandates



- WG3 got organised over Autumn/Winter 2021
- Mandate: <https://linearcollider.org/idt-wg3-mandate/>
 - In short (my) words: Take stock of what is there but in particular motivate newcomers and fresh ideas
- Preparation of ILC Workshop on Potential Experiments (ILCX) in Autumn
- CALICE well represented in panel
- More details by Frank on Wednesday

EC-funded Detector R&D Projects

PF6: EUDET: 2006-2010

- Detector development for linear collider

FP7: AIDA: 2011-2014

- Detector development for LHC upgrades and linear colliders
- Project-specific work packages

FP8: AIDA-2020: 2015-2020

- Common LC and LHC work packages
- New communities: large cryogenic neutrino experiments, new topics
- New innovation measures, with industry

All had a strong leverage on matching funds from national sources typically factor 3

There is no other mechanism to provide coherence on European level

