FCC-contacts / DRD Status / May 12th 2023

Reunion FCC-contacts

vendredi 12 mai 2023, 13:00 → 14:30 Europe/Paris

Description

13:00 → 13:25 **News, ILD, ECFA, DRD, IN2P3** 25m

Orateur: Gregorio Bernardi (APC Paris CNRS/IN2P3)

13:25 → 13:50 **Tour de table des activités dans les labos / Objectifs pour les prochains workshops** 25m

Orateurs: Dr Fairouz MALEK (LPSC-Grenoble, CNRS-IN2P3, UGA), Farès Djama (CPPM), Giovanni Marchiori (APC Paris), Jan Stark (L2I Toulouse, CNRS/IN2P3, UT3), Jean-Baptiste de Vivie (LAL Orsay), Luc Poggioli (LPNHE Paris), Marco Delmastro (LAPP), Nicolas Morange (IJCLab), Roberto Salerno (LLR), Stephane Monteil (Laboratoire de Physique de Clermont - UCA/IN2P3), Suzanne GASCON-SHOTKIN (IPN Lyon), Vincent Boudry (LLR - CNRS, École polytechnique/IPP Paris), Ziad El Bitar (IPHC), auguste besson (Institut Pluridisciplinaire Hubert Curien)

13:50 → 14:15 **FCC-France en 2023 @ IPHC 22-24 November 2023 ?** 25m

Orateur: Ziad El Bitar (IPHC)

A few highlights of the P5 Townhall @ BNL

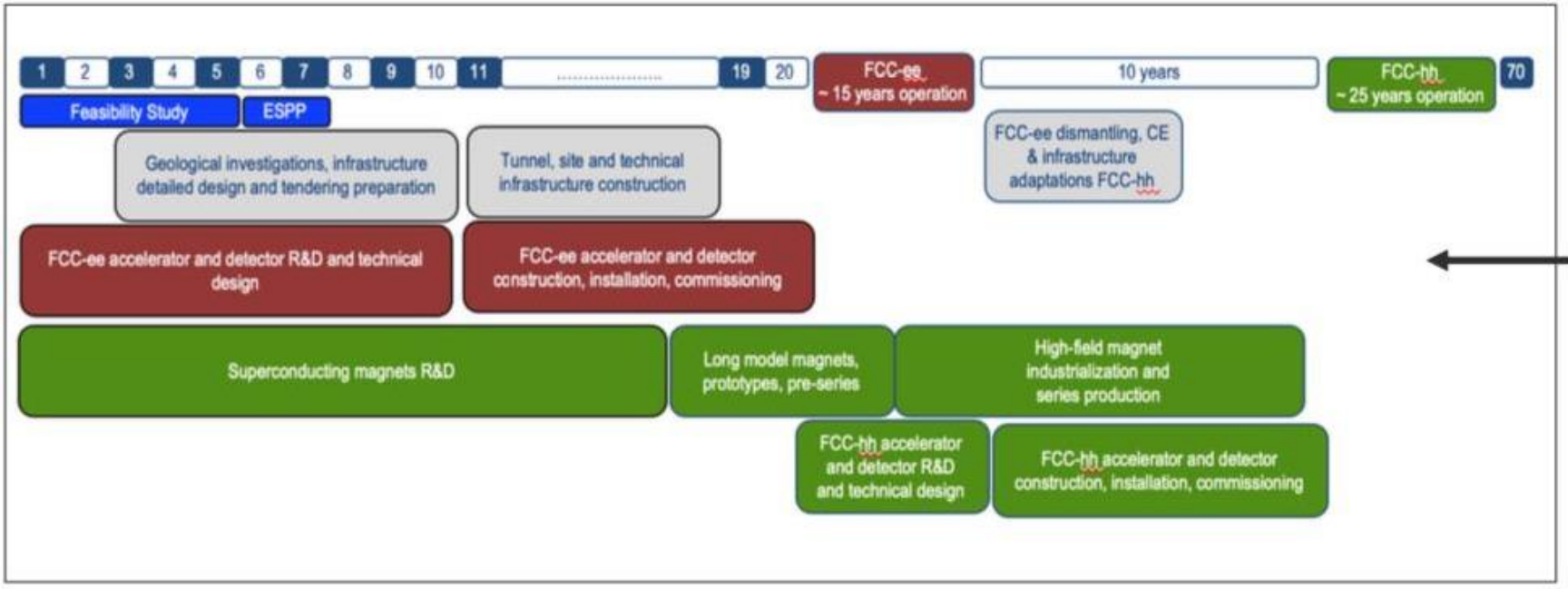
- Townhall meeting took place on Apr 12-14, 2023 at BNL
  - Indico site: https://indico.bnl.gov/event/18372/
  - Themes of the meeting
    - Energy Frontier (13/04) + Computational & Instrumentation Frontier (12/04)
  - CERN official delegation present in person in the room
    - Fabiola Gianotti, Michael Benedikt, PJ.
  - Important FCC talks (in person) – all excellent
    - Fabiola Gianotti (CERN Vision and Plans)
    - Srini Rajagopalan and Sarah Eno (Detector Challenges at FCC-ee and FCC-hh)
  - Remote talks
    - Yifang Wang (View from IHEP)
    - Masa Yamauchi (View from KEK)
  - Google Doc with Q&A (link)
    - 16+7 questions + follow-ups to Fabiola's and Srini's talk – all answered (Have a look)
    - 0 + 1 + 1 questions to IHEP + KEK + Linear Collider Detector talks – not answered

Highlights from Fabiola's talk

- Very strong presentation from Fabiola (slides attached to the agenda)
  - The destinies of CERN and US-HEP and CERN are strongly coupled
    - CERN is committed to the success of DUNE
    - FCC will only be possible with a strong participation of US-HEP
  - FCC timeline (called "realistic schedule"): FCC-ee comes first
    - In written: "Any collider cannot start physics operation at CERN before 2045-2048"
      - → Verbally: "Additional contribution from outside may allow an earlier start, e.g., 2042 or 2043"
      - → In the google doc: "I think the gap could be shortened, but it would require additional resources from outside CERN"
  - FCC parameters and number of interaction point
    - For the 1st time, the parameters are shown with FOUR interaction points
      - → 2 million Higgs in three years, 2 million top pairs in four years
      - → 8×10^{12} Z in four years

        Of which 5-6 x 10^{12} hadronic decays
    - Science value for 4 IP investment is noted and praised
      - → Robustness, Statistics, Detector diversity to maximize physics output, …

FCC timeline



Note: FCC Conceptual Design Study started in 2014 leading to CDR in 2018

Technical schedule:
FCC-ee could start operation **in 2040 or earlier**

Realistic schedule takes into account:

- ❑ CERN Council approval timeline
- ❑ past experience in building colliders at CERN
- ❑ that HL-LHC will run until ~ 2041

→ **ANY future collider at CERN cannot start physics operation before 2045-2048** (but construction will proceed in parallel to HL-LHC operation)

FCC-ee: main machine parameters

Parameter	Z	WW	H (ZH)	ttbar
beam energy [GeV]	45	80	120	182.5
beam current [mA]	1280	135	26.7	5.0
number bunches/beam	10000	880	248	36
bunch intensity [10^{11}]	2.43	2.91	2.04	2.64
SR energy loss / turn [GeV]	0.0391	0.37	1.869	10.0
total RF voltage 400/800 MHz [GV]	0.120/0	1.0/0	2.08/0	4.0/7.25
long. damping time [turns]	1170	216	64.5	18.5
horizontal beta* [m]	0.1	0.2	0.3	1
vertical beta* [mm]	0.8	1	1	1.6
horizontal geometric emittance [nm]	0.71	2.17	0.64	1.49
vertical geom. emittance [pm]	1.42	4.34	1.29	2.98
horizontal rms IP spot size [μm]	8	21	14	39
vertical rms IP spot size [nm]	34	66	36	69
luminosity per IP [10^{34} $cm^{-2}s^{-1}$]	182	19.4	7.3	1.33
total integrated luminosity / year [ab^{-1}/yr] 4 IPs	87	9.3	3.5	0.65
beam lifetime (rad Bhabha + BS+lattice)	8	18	6	10
	4 years 5 x 10^{12} Z LEP x 10^5	2 years > 10^8 WW LEP x 10^4	3 years 2 x 10^6 H	5 years 2 x 10^6 tt pairs

- x 10-50 improvements on all EW observables
- x10 Belle II statistics for b, c, τ
- up to x 10 improvement on Higgs coupling (model-indep.) measurements over HL-LHC
- indirect discovery potential up to ~ 70 TeV
- direct discovery potential for feebly-interacting particles over 5-100 GeV mass range

Up to 4 interaction points → robustness, statistics, possibility of specialised detectors to maximise physics output

Highlights from Srini's talk

- **Very enthusiastic presentation about US engagement on FCC-ee detectors**

Summary

- Higgs Factory is slated to be the next high priority Energy Frontier project following the completion of HL-LHC.
  - FCC-ee, ILC and CEPC have similar challenges and comparable timelines advocated by resp. Labs.
  - This makes it essential for these communities to coordinate on detector technologies targeting these projects, at least for the next few years until respective project approvals.
- We encourage the P5 to comment in its report that:
  - *Following the completion of the HL-LHC construction, the highest priority project is the development of an e^+e^- collider that will allow significant opportunities for precision measurements in the electroweak and the Higgs sector. With support from the agencies, the U.S. must begin to organize its efforts to develop a cohesive and strategic program, invest in the required and targeted detector development efforts, and prepare the groundwork for a significant participation in these projects following their respective approvals.*
- and recommend:
  - *Motivated by the strong scientific importance of FCC as a Higgs factory, and the initiative at CERN to host it including the FCC feasibility study, the U.S. must promptly engage, at appropriate levels, in targeted accelerator and detector design and prepare the groundwork to projectize these efforts in anticipation of an FCC approval in 2028.*

Other highlights

- **Updated ILC timeline (most optimistic case): 2040**

  - Comment from a VIP : this is no longer "timely" and becomes incompatible with ESU20.

> ***The timely realisation of the electron-positron International Linear Collider (ILC) in Japan would be compatible with this strategy and, in that case, the European particle physics community would wish to collaborate.***

- **IHEP presentation**
  - No update on CEPC (only one slide shown)

Other highlights

- **And muon colliders ?**
  - **The highlight is that there was nothing really specific about muon collider at BNL**
    - **One theory talk by Patrick Meade (mostly about Higgs potential and HHH measurement)**
      - ➔ Advocating the need for a collider at the 10 TeV scale (μμ or pp)
    - **Two detector challenge talks**
      - ➔ Muon collider detector challenges by Sergo Jidariani

> - We are asking P5 to:
>   - Recommend establishing a Muon Collider R&D program with the goal for technical readiness by ~2040
>   - Recommend that DOE and NSF recognize muon collider work within the EF base program proposals, including software and simulations
>   - Support the formation of a US Muon Collider effort to coordinate US impact while engaging in global efforts
>   - Enable US to compete for hosting a global Muon Collider

      - ➔ Excellent FCC-hh detector challenges talk by Sarah Eno

> Conclusions
>
> - In order to take advantage of the great physics potential of FCC-hh, extensive detector development is necessary.
> - the exact needs are documented in the FCChh CDR, and the BRN and ECFA roadmap

Overall impressions from the P5 BNL Townhall meeting

- The presence of an official CERN delegation was very much appreciated
  - Especially in contrast with KEK and IHEP remote participation
- Fabiola's talk (and Q&A) will be remembered
  - FCC-INT (ee, then hh) appears as a very concrete project, with a realistic schedule
  - US HEP is an essential and indispensable partner for the success of FCC
- A very concrete step on the way towards FCC approval

Overall impressions from Sarah Eno on the P5 SLAC Townhall meeting

On the plus side

- Less gossipy than BNL, fewer weird rumors
- excellent FCC talks by Zimmermann and Shiltsev
- Shiltsev talk showed a well-planned proposed US contribution with participation from entire US accelerator community
- Both senior speakers from FNAL (Stratakis, Bhat) clearly stated that a e+e- Higgs factor is first. Bhat said "want whichever e+e- that can come soonest". Bhat also made for the first time positive FCC comments.
- Jindariani approached both Srini and me to talk about uniting the field. Recognition of the Dune bill.
- Some talk about how best to educate the field on realistic time scales.
- Somewhat rambling talk by Nakada on how to move towards ILC funding could not have helped ILC case

Some continuing possible concerns

- Still a lot of enthusiasm among the young (<40) for muon collider. In the open comments section, 1 FCC comment by "young" (Gonski), while 4 on muon collider (Pedro, De Petrillo, Holmes, Homiller)

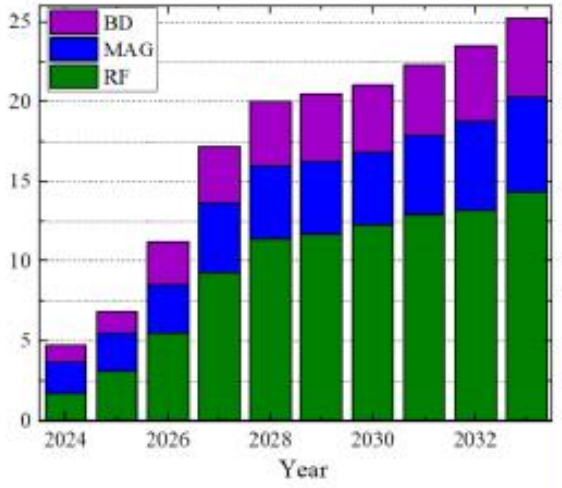
Possible US accelerator contributions: From V. Shiltsev talk

Possible Fabrication Elements - for Consideration (the US contribution TBD)

1) 2.1 GV 800 MHz SRF for Higgs, 28 CMs *O*(0.2B$)
2) 18.4 GV of 800 MHz SRF for *ttbar*, 244 CMs *O*(1.7B$)
3) 6-20 GeV S-band C^3 type linac *O*(0.25B$)
4) IR magnets for 4 IPs *O*(0.6B$)
5) Magnets for the collider and booster rings *O*(1B$)
6) 270 km of vacuum beam pipes (collider, booster) *O*(0.3B$)
7) Several km RF bypass beamline (switch btw tt and ZH) - TBD
8) Beam instrumentation/polarization *O*(0.15B$)
   - Collimation, halo monitors | Polarization wigglers, meters, sources | TMCI feedback
9) Technical Infrastructure contributions - TBD
   - Alignment | Radiation protection | Safety systems | Power converters


Vladimir Shiltsev | US FCC Accel.

Possible US-FCC-ee pre-CD2 Contributions



Vladimir Shiltsev | US FCC Accel.

Total 2024-33: 18-
Incl. Labor: 333

Area	Total M$
RF systems	95
Magnets/MDI	53
Design/Dynamics	36

NB: cost of the post CD- (2033) fabrication phas- much higher and depen- the scope/elements (TE

Relevant US Expertise

	ANL	BNL	FNAL	LANL	LBNL	JLab	SLAC	Unive
SRF cavities/CMs			■			■	■	Cornell,
RF sources/modul.	■						■	IIT, Stan
Copper RF linac	■			■			■	NIU, IIT
IR magnets		■	■		■			FSU, MIT
Booster/MR magnets	■	■	■		■			
Beam Optics	■	■	■	■	■	■	■	Cornell,
Collimation		■	■				■	
Polarization		■	■			■		Cornell,
Instrumentation	■	■	■		■	■	■	many
Infrastructure	■	■	■	■	■	■	■	

- the US has the expertise and interest to execute this broad program of R&D and to fabricate such a set of deliverables

10

Vladimir Shiltsev | US FCC Accel.

US-FCCee Planning Panel

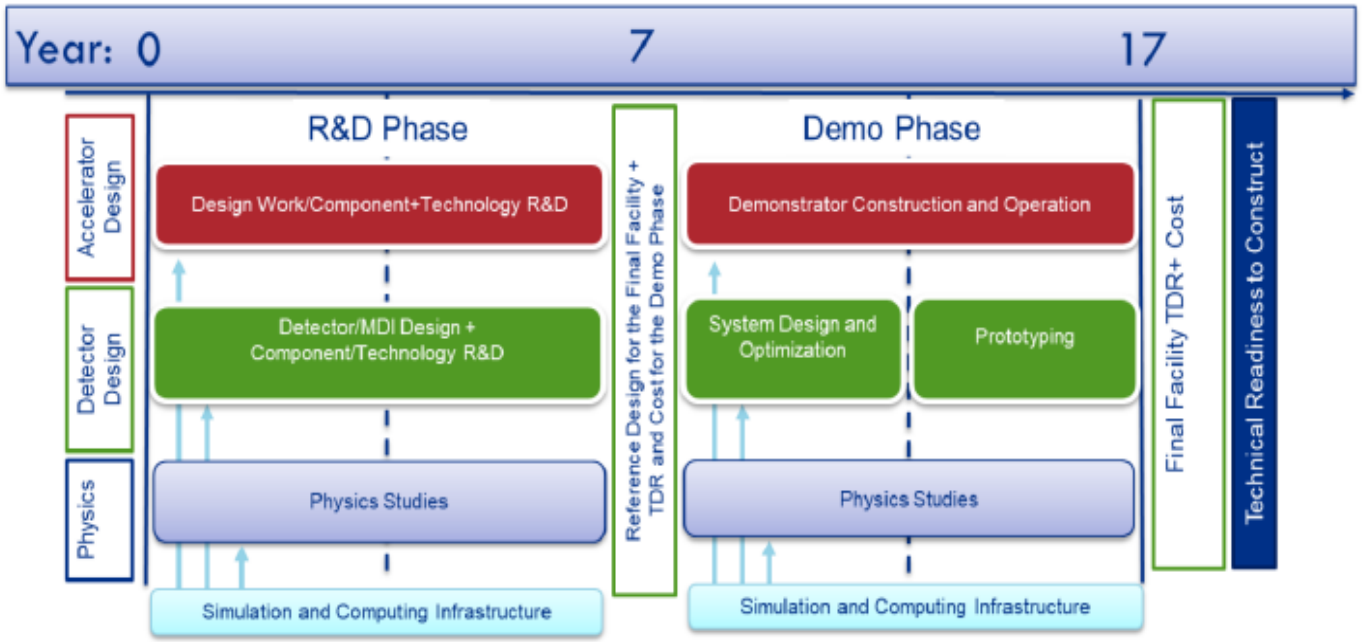
Kathleen Amm (BNL)
John Byrd (ANL)
Steve Gourlay (FNAL)
Matthias Liepe (Cornell)
Sergei Nagaitsev (JLab)
Tor Raubenheimer (SLAC)
Sergey Belomestnykh (FNAL)
Yunhai Cai (SLAC)
Mark Kemp (SLAC)
Michiko Minty (BNL)
Soren Prestemon (LBNL)
Vladimir Shiltsev (FNAL)

With contributions from: Michael Benedikt, Helen Durand, Eliana Gianfelice-Wendt, Georg Hoffstaetter, Vladimir Kashikhin, Andy Lankford, Emilio Nanni, Mark Palmer, Vittorio Parma, Franck Peauger, Srini Rajagopalan, David Sagan, Frank Zimmermann, Silvia Zorzetti

First Annual U.S.
Future Circular Collider (FCC) Workshop 2022

Stratakis

US Muon Collider timeline



A possible MuC US R&D roadmap for accelerator

2024-2030

- Complete design & simulation of the whole MuC complex, including a neutrino flux mitigation system (include designs for a Fermilab MuC option)
  - Take into account engineering aspects of the design, establish operating parameters and develop technology concepts with potential to meet these parameters
- Proceed with (limited) prototyping & technology R&D
  - Rapid cycling dipoles: magnet prototype, including its power deliver system
  - Proton bunch compression tests at existing facilities
  - Target material study & pion yield measurement at existing facilities
  - Design and testing of high gradient SRF cavities (325, 650, 1300 MHz)

  Synergistic with other programs
  - Engineering design and begin fabrication of a 1.5-cell cooling cell prototype
- Define what we like to **further test**, how and where after 2030
- **By 2030, achieve enough technical maturity for the construction of the demo facility in 2030s and potential construction of the collider facility in the 2040s.**

  It is crucial for the US to engage **NOW** if we want an MC as a future option!

Fermilab

Pushpa Bhat

Fermi National Accelerator Laboratory

On behalf of

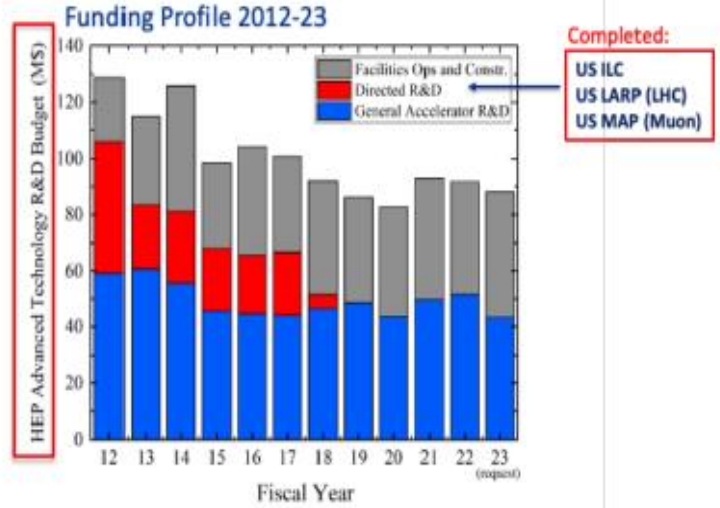
arXiv:2207.06213

July 14, 2022

U.S. National Accelerator R&D Program on Future Colliders

P.C. Bhat[1,†], S. Belomestnykh[1,5], A. Bross[1], S. Dasu[6], D. Denisov[4], S. Gourlay[7], S. Jindariani[1], A.J. Lankford[8,†], S. Nagaitsev[1,2,†], E.A. Nanni[3], M.A. Palmer[4], T. Raubenheimer[3], V. Shiltsev[1], A. Valishev[1], C. Vernieri[3], F. Zimmermann[9]

[†]Lead contacts



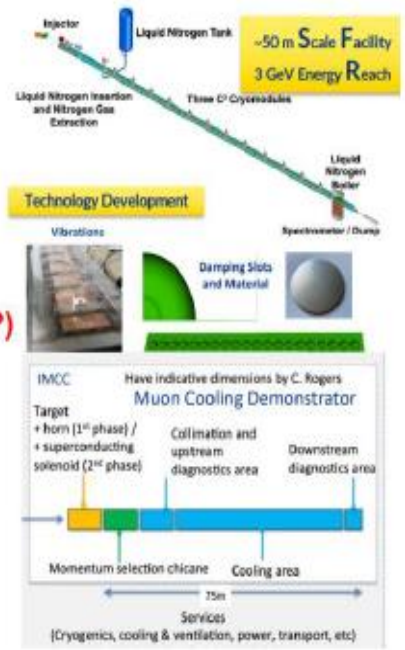
C³ and Muon Collider R&D plans call for demonstrators

C³ Demonstration R&D Plan (2024-30)

- **Demonstrate operation of fully engineered and operational cryomodule**
- Demonstrate operation with full cryogenic flow
- Multi-bunch photo injector - high charge bunch to induce wakes, tunable delay witness bunch to measure wakes
- Demonstrate fully operational gradient 120 MeV/m (and higher > 155 MeV/m)
- **Fully damped-detuned accelerating structure**

Muon Collider Demonstrator R&D (2031-40?)

- Fermilab is a possible site for the demonstrator
- TDR for the demonstrator to be produced by 2030
- Modular approach, add as demo progresses
- Component materials R&D to demonstrate radiation and shock resistance
- High field magnet tests with muon production, cooling, acceleration
- High gradient, NC RF cavities in cooling channel and SRF for acceleration
- **Demonstrate a fully integrated module as an**

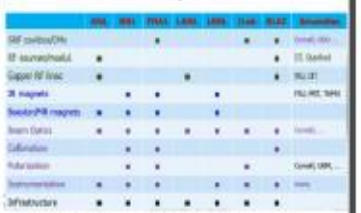


Future Circular Collider (FCC)

See talks by Zimmermann, Shiltsev

- Dec. 2020 ← CERN-DOE agreement signed
- US represented in FCC organization
  - Lia Merminga (Steering Committee), Andy Lankford (CB Vice-Chair), Tor Raubenheimer (co-lead for accelerator)
  - US-FCC Planning Panel has been formed just recently
- Plan for US-CD0 in 2029, assuming project approval in 2028
- Opportunities/interests for US efforts
  - High Q_0 SRF (400/800 MHz) R&D, NCRF (C^3-type cavities), SC IR magnets R&D, MDI, polarization, Beam Instrumentation, beam physics, (FCC-hh magnets)

Relevant US expertise



First US-FCC workshop @ BNL held Apr. 24-26, 2023
https://indico.cern.ch/event/1244371/

Fermilab

First time she has had positive information on FCC

1st US FCC Workshop @ BNL, April 24-26

- Link to conference webpage and indico timetable

1st US FCC Workshop @ BNL, April 24-26

- It was a **big success**, with many people interested in FCC (over 180 people signed-up to the WS, more than 100 in person). All the attendants were very enthusiastic about our FCC-ee program. The timing (close to the P5) was clearly excellent.
- It went very well. The US members really appreciated the friendly, open, and collaborative interactions with the Europeans that came. They **greatly appreciated the large in-person participation by Europeans**. There were many useful conversations about getting involved that hopefully will be fruitful. Many people said the will now sign up for our usfcc listservs and indicate their detector interests. Many people said "this forced me to actually learn about fcc, and it looks very exciting".
- Very positive opinion of the workshop. Clearly there is a **significant team which wants to be part of the project**, in all aspects and would like corresponding responsibilities. There are developing activities in most aspects (Accelerator, PED) and are putting forward collaboration proposals which are a plus for the collaboration. They also **want to be better recognized** (cf the discussion with Dmitri) inside the collaboration, so they can make the point at the US level to get initial funding. It would be good to be clear what are the US institutions who are contributing to FCC, and if they become visible, it will prompt other institutions to join.
- There a few things, that triggered my attention, and which are a bit political: In this respect quite interesting were the two talks on Monday afternoon about the snowmass perspective (Tricoli and Roser). They show probably a better cross section through the different opinions existing in the US.

1st US FCC Workshop @ BNL, April 24-26

- Overall atmosphere rather good as in general the attending people seemed **supportive** for FCC and already looking beyond Feasibility Study Report. This might have have been expected from the attending people, which however represented only a fraction of the US community. Noticeable was the **absence of LBL** (I might be mistaken, four people registered, but not sure if any was present; no contribution from them). In general little presence from west coast (perhaps the distance?).
- Also, there was some **criticism from high level**, questioning if particle physics at larger and larger infrastructures makes still sense; we might need to improve on communication, also inside the scientific community.
- For **software**, genuine interest from BNL, MIT and Argonne (HepSim). FNAL interest is in view on muon collider, they seem not available for short term collaboration.
- The workshop was **very successful at kick-starting the US effort** on FCC and at **building a community**
- It looks like **BNL** could be a **strong driver** in spreading FCC enthusiasm across the US. BNL has a very wide spectrum of expertise and could contribute to **many aspects in detector R&D + software**
- From the round table discussion on detectors, it looks like the **local interest is mostly focused on the Noble Liquid** based detector concept
- **Sarah Eno** is very good at motivating people to join :-)
- The talks in the **Detector** parallel session on Tuesday morning seemed to be well received
- Even though also well received, the **tutorials** on Tuesday would have require more time to be really useful

1st US FCC Workshop @ BNL, April 24-26

- My impressions from the workshop are quite positive. It is always extremely useful to discuss **in person** with potential new collaborators, especially to clarify the doubts about being involved in a big **LHC collaboration and a future project** (and which one). Plus, it makes a big difference to build upon existing collaborations from previous experiences, and again having the time to chat in an informal setting is extremely helpful. I am aware that the financial and political situation of the US is complicated, but I felt a strong value and appreciation by our US colleagues to have a significant number of Europeans coming there in person. They know how much easier is to connect on zoom nowadays, and it was repeated to me many times how much they **appreciated our presence**. I had the opportunity of making several connections that I am currently pursuing on physics, computing and detector aspects.

The final words by Sarah

Thank you

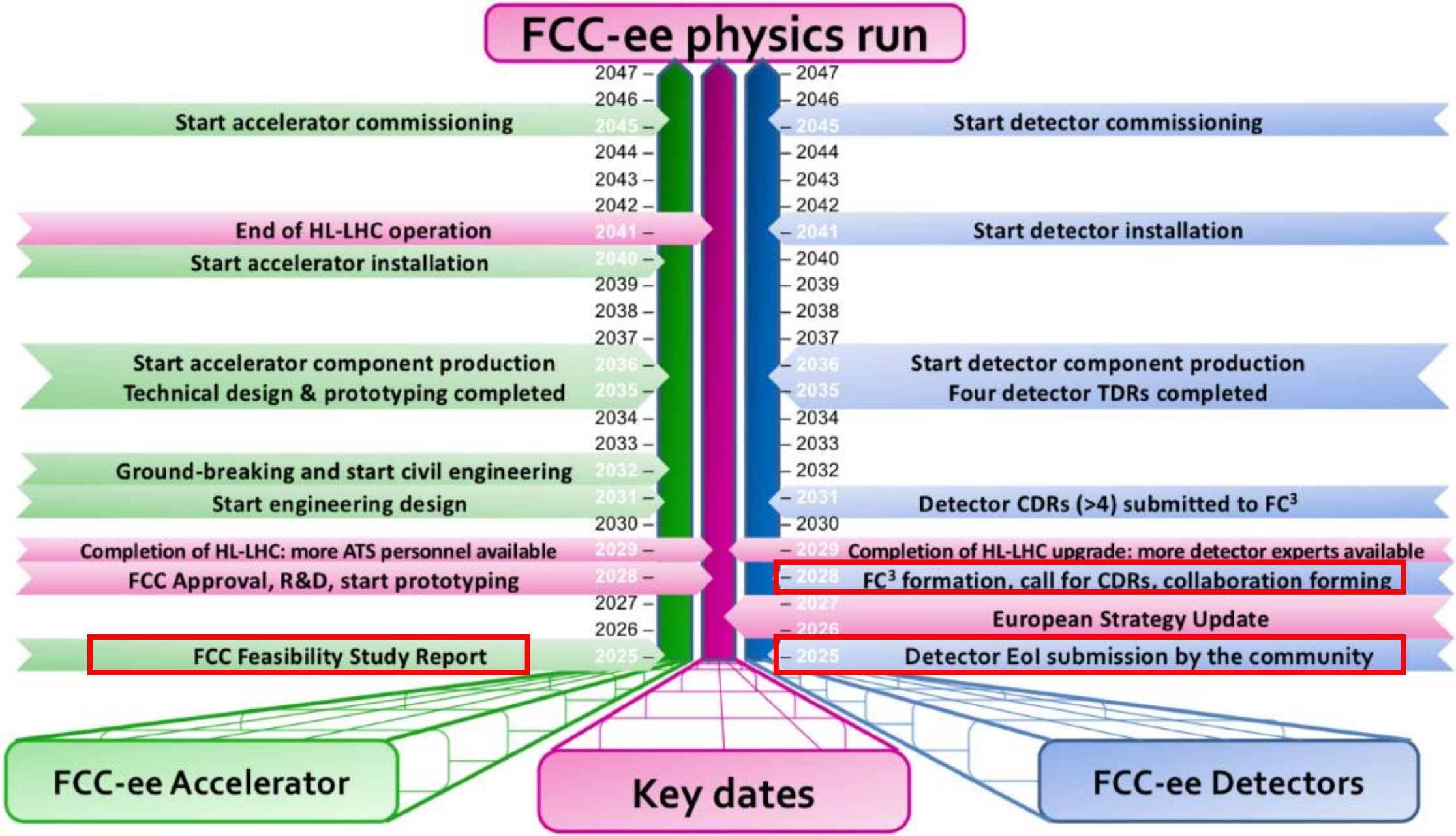
- My sincere thanks to everybody for taking the time to come to this workshop
- I know how stretched we all are, time-wize, financially, etc
- I see this meeting as a key investment in our future, something that will be celebrated 20 years in the future, at FCC-ee turn-on, as the beginning of strong US participation in a new machine.
- But more than that, you are going to be glad you came here, because this is the start of a whole lot of fun!

FCC Collaboration building

Some proposals following the FCC-US workshop

Gregorio Bernardi
APC Paris, CNRS/IN2P3
For the FCC Collaboration

(FCC Week 2022, Sorbonne, Paris, 30 May – 3 June 2022)


FCC-ee physics run
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Start accelerator commissioning
End of HL-LHC operation
Start accelerator installation
Start accelerator component production
Technical design & prototyping completed
Ground-breaking and start civil engineering
Start engineering design
Completion of HL-LHC: more ATS personnel available
FCC Approval, R&D, start prototyping
FCC Feasibility Study Report
Start detector commissioning
Start detector installation
Start detector component production
Four detector TDRs completed
Detector CDRs (>4) submitted to FC3
Completion of HL-LHC upgrade: more detector experts available
FC3 formation, call for CDRs, collaboration forming
European Strategy Update
Detector EoI submission by the community
FCC-ee Accelerator
Key dates
FCC-ee Detectors

Status of Global FCC Collaboration @ CDR

Increasing international collaboration as a prerequisite for success:
→links with science, research & development and **high-tech industry** will be essential to further advance and prepare the implementation of FCC

Atlas: 182/42
CMS: 247/57

147 Institutes

30 Companies

34 Countries

EC H2020

FCC Feasibility Study: Aim is to increase further the collaboration, on all aspects, in particular, on Accelerator and Particle/Experiments/Detectors (PED), to render it a **fully global project**

Enlarging the Collaboration

FCC Global Collaboration Working Group (FGC)

Informal Forum of National Contacts (IFNC)

Two approaches, one more accelerator-oriented (FGC), one more PED oriented (IFNC) to engage with countries with mature communities, a long-standing participation in CERN's programmes and the potential to contribute substantially to the Organization's long-term scientific objectives, to facilitate opportunities for national participation in the Feasibility Study

- **Work with national laboratories, institutes and universities** as well as **industry** to carry out the following mandate:
  - Encourage an **expanded membership**.
  - Explore **opportunities** for future prospective participants, in particular on the Accelerator side
  - Support new participants in **application process**.
  - Assist the new participants in defining **areas of collaboration**.
  - Conclude relevant **agreements**.
  - Facilitate the **integration** process.
  - Facilitate interest in **CERN non-core areas** - geology, geodesy, logistics, materials science.
  - Prepare the foundations for research and contributions by **industry.**
  - Liaise with **national contact persons** and **forums**.

➔ MoU and Collaboration Board

Convened by E. Tsesmelis (CERN international relations)

- **Contact directly Physics groups in a country,** typically from LHC or Future Colliders groups to ask them **to join as new institution**
  - Discuss the physics case and the opportunities
    → To study **R&D/ Detector concepts** for FCC
    → To expand the FCC Physics scope via the study of **physics case studies**
    → To improve the **theoretical calculations** to exploit the FCC physics potential
  - Help **forming a national FCC group**, with strong PED component, which can hold its national FCC meetings, including the Accelerator community when possible
  - Identify at least one **National Contacts** to exchange information between country situation and FCC management. (e.g. for the U.S.:J. Butler, D. Denisov, S. Eno) and to strengthen the national community
  - Exchange experience across countries (**IFNC meetings**)

➔ MoU (sometimes) and IFNC

Convened by G. Bernardi and T. Lesiak (National Contacts)

FGC: FCC Engagement Meetings

- **Overview**
  - Extended forums with interested countries to discuss collaboration with FCC on all topics
  - Topics:
    - Introduction to FCC Feasibility Study.
    - Presentation of FCC physics, experiment, detector, accelerator and global collaboration.
    - Presentations from the country scientific community.
  - **Recent Meetings**
    - Mexico (mini meeting on accelerator)
      - 21 June 2021
    - Republic of Korea
      - 3 September 2021
    - Pakistan
      - 14 September 2021
    - Portugal
      - 26 November 2021
    - Estonia
      - 2 March 2022
    - Greece
      - 18 January 2023

Much interest expressed by participating countries and the FCC looks forward to stronger / deeper involvement

IFNC: FCC PED kick-off Meetings

- **Overview**
  - Forums with interested countries to discuss collaboration with FCC on PED topics
  - Topics:
    - Introduction to FCC Feasibility Study.
    - Detailed presentations of FCC physics, experiment, detector. More general on accelerator and global collaboration.
  - **Recent Meetings (examples)**
    - Nordic Countries (Denmark, Norway, Sweden, Finland)
      - March 2021
    - India
      - November 2022
    - Brazil
      - March 2023
  - **On-going discussions**
    - Chile, Canada, Argentina
      (Japan and China have special status…)
    - Not yet deeply involved European countries
    - Not yet fully convinced (European) countries → ECFA

>10 outside-Europe countries with National Contacts identified

Status of the enlargement of the collaboration to be provided at mid-term & final review

Further expansion strategies

- FCC collaboration keeps growing,

  → Inside participating countries

  → New countries joining explicitely the PED effort, often on top of already existing accelerator effort

Is growing pace slowing down ?

How to get further institutions involved, with clear commitments ?

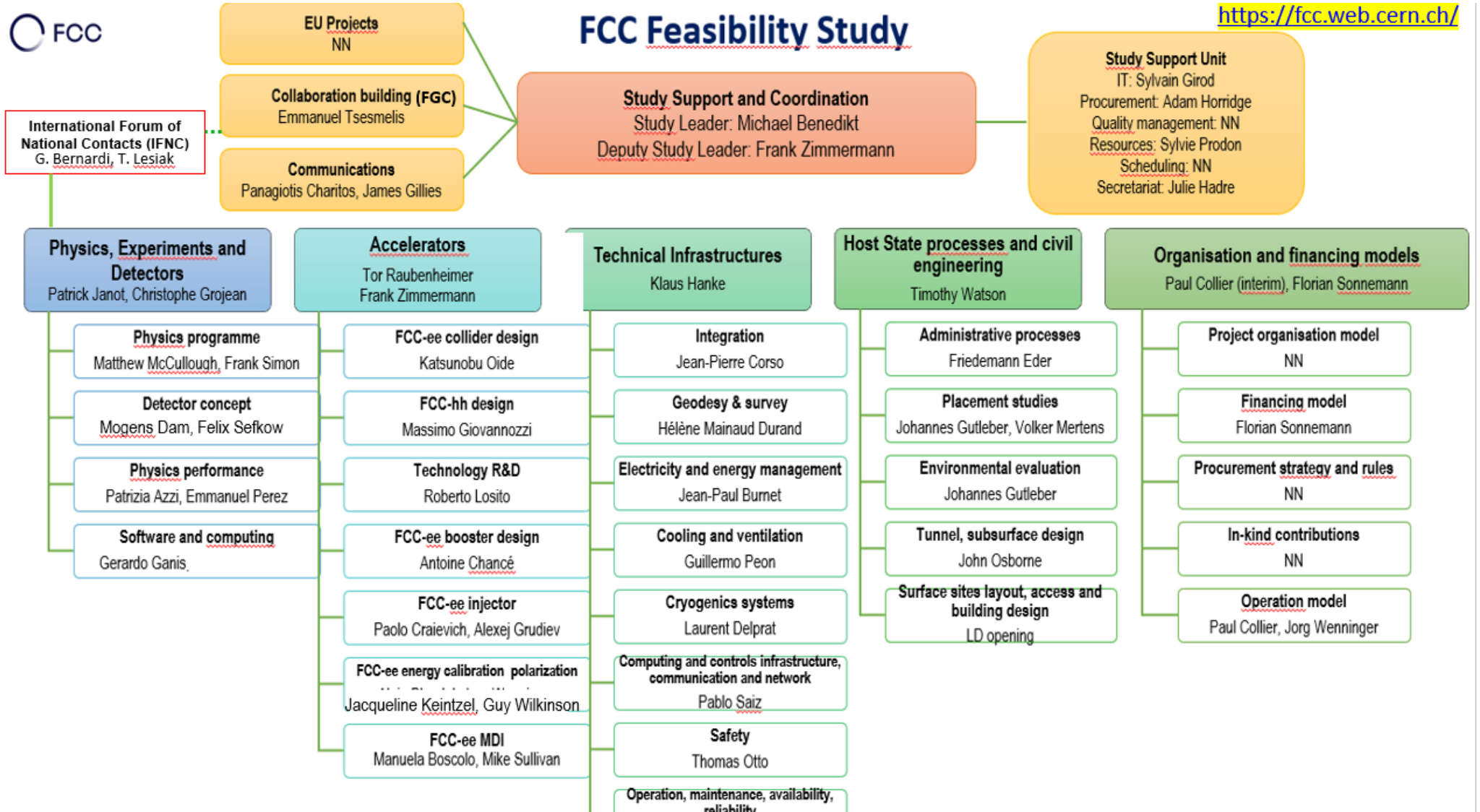
1) Render the IFNC more visible (request from the contacts at the US-FCC workshops) ?

2) Develop an informal structure under the National Contacts ?

- Could be useful for the Detectors EoI
- Will be necessary when the protocollaborations will be forming

IFNC : International Forum of National Contacts

- The IFNC remains an informal body, it is a forum, but it shows clearly the goal of being an INTERNATIONAL collaboration.
- Its links with FGC could appear explicitely in the main organigram page:



Informal structure under the National Contacts

- Currently we have a **Collaboration Board** in which all institutes who have signed an MOU are represented.

This includes all types of contributions, from all pillars of the project, which is good, and this is the body which has to be informed by the project management.

- However, institutions which have difficulties to sign the MOU (for legal reasons) or which belong to a bigger institute which has signed the MOU (like INFN or IN2P3) are not strongly represented in the Collaboration board. When a national community grows, it is also difficult to keep track who is doing what, even at an informal level, when there is only one national contact to communicate with.
- In particular, we want to extend the number of institutes working on PED, and this could be a good opportunity to attract more people. More visibility will also give them more commitments. It will be easier to find out who is doing what, and at which level of commitment.
- So it is well possible to work with the national contacts to find out who is the institute contact of the different institutes involved in a given country.
- It will also be easier to communicate directly in the PED domain.
- This can be also helpful in institutes or countries which have several lines of future colliders
- This is of course not a mandatory step for every country, but for those who are organised in that way, it is good that these contacts are also known at the PED management level.


FCC
WEEK
2023
5 – 9 June
If agreed, we will try to make progress by the FCC week. Still thinking about organizing an informal event there

FCC Week 2023

- Indico webpage: https://indico.cern.ch/event/1202105/
- Registration open till May 5
- Registration fees:
  - 580 EUR (320 EUR for students)
  - 150 EUR for 1-day pass

Who is going ?

- Plenary Speakers:
  - G. Salam "Physics Motivations"
  - Mid-term milestones: M. McCullough, A. Freitas (TBC), NN
  - G. Wilkinson, PED summary
- PED parallel session update:
  - Next item. See gdoc.
- Poster session:
  - Thursday 5pm-6pm with wine&cheese
  - Encourage people to propose a poster
  - Best-poster award
- ECR/Young researchers session
- Public event at the Royal Society
  - Thursday evening, 7pm
- Conference dinner on Wednesday

News from ECFA I

- Second Higgs/EW/Top Factory ECFA Workshop,
  - 11-13 October 2023, Capaccio-Paestum
  - Webpage: https://agenda.infn.it/event/34841/
  - Registration open till Oct. 4 (Sept. 13 if you want to have a seat on the bus from/to Naples airport)
  - Fees: 460 EUR will full board at the conference hotel
- Do we want to organise a FCC satellite meeting?

Who is going ?

Tour de table

APC
CPPM
IJC Lab
IPHC
IP2I
LAPP
LLR
LPC
LPNHE
LPSC
L2IT

FCC/Higgs Factory France workshop @ IPHC 22-24 Novembre

IPHC organisera le FCC France/Higgs Factory workshop du mercredi 22 midi au vendredi 24 Novembre 14h

Organisation locale:

Organisation scientifique

Thèmes/ organisation des sessions:

- DRD / FCC oriented → Auguste, Didier, Giovanni, Nicolas, Vincent ?
- Software: → Ziad ?
- Physics Cases studies → Fairouz, Fares, Marco, Roberto, Stéphane ?
- Synergies FCC/ILC → Luc, Suzanne, ILC-person(s) ?
- General/Proto-collaborations/EoI Detecteurs → Greg+All ?