Reunion FCC-contacts

vendredi 10 avr. 2026, 09:00 → 10:35 Europe/Paris

09:00 → 09:45 **FCC-France-and International Partners à Marseille en Novembre 2026** 45m

Orateur: Fares DJAMA (CPPM)

09:45 → 10:10 **News de FCC / Evolution de FCC-France** 25m

Orateur: Gregorio Bernardi (APC Paris CNRS/IN2P3)

10:10 → 10:20 **Structure du site web FCC-PED Français** 10m

Orateurs: Catherine Biscarat (L2I Toulouse, CNRS/IN2P3, Université de Toulouse), Luc Poggioli (APC Paris, France)

10:20 → 10:35 **Tour de table** 15m

Orateurs: Bogdan Malaescu (LPNHE, CNRS), Catherine Biscarat (L2I Toulouse, CNRS/IN2P3, Université de Toulouse), Farès Djama (CPPM), Gaelle Boudoul (IP2I/AICP (CNRS/IN2P3)), Giovanni Marchiori (APC Paris), Jean-Baptiste De Vivie De Regie, Marco Delmastro (LAPP), Nicolas Morange (IJCLab), Roberto Salerno (LLR), Stephane Monteil (Laboratoire de Physique de Clermont - UCA/IN2P3), Ziad EL BITAR (IPHC)

6th FCC France & International Partners Workshop,

Marseille, 25-27 Novembre 2026

Nov, 25th-27th , 2026	Marseille			

- Venue : l'Hexagone
  - On the Luminy campus, at about 200 m from CPPM.
  - At 50 minutes by bus from downtown or 30 minutes from closest hostels
  - A nice and fully equipped **auditorium** of **100 seat**.
  - An **exhibition hall** next to the auditorium suitable for coffee and lunch breaks.
  - https://www.univ-amu.fr/fr/public/hexagone-coeur-de-campus-de-luminy
  - Closes everyday at **6:45 PM**: we have to adapt for the welcome cocktail, on November 25th.

- HR support from CPPM: Mme Angélique Pèpe, who has a long experience in event organisation.

- Other meeting rooms at Hexagone are too small.
- For **parallel sessions**, we will use the **CPPM auditorium** + if necessary another room at CPPM (20 seats).

- Lunches will be served in the exhibition hall, by a caterer (traiteur).
- Proposal for the workshop dinner on November 26th : Les Arcenaulx https://www.les-arcenaulx.com/

- A preliminary budget has been established.
- We will ask for grants from **IN2P3**, **Aix-Marseille Université** and **Ville de Marseille**.
- We will do our best to keep the **fees below 200 €** (includes lunches and workshop dinner).

Inscriptions payantes : TVA 10%			
TARIF 1	Chercheurs	200.00	60
TARIF 2	Etudiants	100.00	15
TARIF 3	Chercheurs invités	100.00	15

COUT VOYAGE	MUNICH Phys wkshop 1300	HELSINKI FCC-week 2000	FCC-France CPPM 500
APC+FCC-FR	3900	6000	2500
CPPM	1300	2000	1000
IJC Lab	2600	4000	1000
IPHC	2600	2000	2000
IP2I	3900	6000	3500
LAPP	2600	4000	1500
LLR	2600	4000	1500
LPCA	2600	2000	1000
LPNHE	2600	2000	1000
LPSC	1300	0	1000

FCC France 2025 :

Intro session

Status & Goals

Présidents de session: Giovanni Marchiori (APC Paris), Gregorio Bernardi (APC Paris CNRS/IN2P3)

14:00 **Welcome from APC, IN2P3 and IRFU** — 15m
Orateurs: Arnaud Lucotte (IN2P3), Giovanni Marchiori (APC Paris), Gregorio Bernardi (APC Paris CNRS/IN2P3)
2025:11:26 - FCC ...

14:20 **European Strategy Update** — 15m
Orateur: Gregorio Bernardi (APC Paris CNRS/IN2P3)
fcc-france-EU-Stra...

14:40 **Status of the FCC project** — 25m
Orateur: Michael Benedikt (CERN)
FCC-2511261030...

15:10 **French Activities in Accelerator R&D for Future Colliders** — 20m
Orateurs: Dr Maria De Los Angeles FAUS-GOLFE (IJClab), Maria De Los Angeles FAUS-GOLFE (IJCLab)
R&D_collliders_Fr... R&D_collliders_Fr...

15:35 **FCC-PED in the pre-TDR Phase** — 20m
Orateurs: Christophe Grojean (DESY (Hamburg) & Humboldt University (Berlin)), Christophe Grojean (DESY (Hamburg) and Humboldt University (Berlin))
Grojean.pdf

16:00 **Overview of theoretical studies for FCC-ee** — 20m
Orateur: Dr Giacomo Cacciapaglia (LPTHE)
Cacciapaglia_FCC...

last morning

08:30 → 09:30 **ECR session**
Présidents de session: Giulia DI GREGORIO (IJCLab), Louis Portales (CEA Paris-Saclay, IRFU, DPhP)

08:30 **Overview of the european ECR input to the ESPPU** — 20m
Orateurs: Abdelhamid Haddad (LPCA, Université Clermont-Auvergne, CNRS/IN2P3 (FR)), Abdelhamid Haddad (LPCA, Université Clermont-Auvergne, CNRS/IN2P3 (FR))
ECR input to the E...

08:50 **ECFA ECR panel takeaways** — 10m
Orateurs: Giulia DI GREGORIO (IJCLab), Louis Portales (CEA Paris-Saclay, IRFU, DPhP), Léa-Maria RABOUR (LLR)
ECR - French FCC...

09:00 **Discussion** — 30m

09:30 → 10:30 **Societal/environmental session: (Part 1)**
Président de session: Gaelle Boudoul (IP2I/AICP (CNRS/IN2P3))

09:30 **Authorisation, engagement, environment, sustainability aspects of the FCC** — 45m
Orateur: Johannes Gutleber (CERN)
FCC-2511280930-...

10:15 **questions/discussion** — 10m

10:30 → 11:00 **Coffee break**

11:00 → 11:30 **Societal/environmental session: (Part 2) Discussion / other contributions**
Président de session: Johannes Gutleber (CERN)

11:00 **Sustainability and Societal impact for the host countries** — 20m
Orateur: Jessica Leveque (LAPP)
Livrable Atelier C... Présentation 5th ...

11:20 **Discussion** — 10m

11:30 → 12:30 **Prospects / Conclusions**
Présidents de session: Giovanni Marchiori (APC Paris), Gregorio Bernardi (APC Paris CNRS/IN2P3)

11:30 **Intervention de l'IN2P3 et de l'IRFU** — 30m
Orateurs: Jean-Luc BIARROTTE (CNRS), Nathalie BESSON (Dapnia/SPP)

12:00 **Conclusions / Perspectives** — 30m
Orateur: Gregorio Bernardi (APC Paris CNRS/IN2P3)

FCC France 2025 :

Other sessions

Physics Studies

Présidents de session: Bogdan MALAESCU (LPNHE, Paris, FRANCE), Jean-Baptiste De Vivie De Regie

16:45 **New developments for the FCC-ee Physics program**
Orateur: Michele Selvaggi (CERN)
FCC-France-Physics...

17:10 **QCD studies with jets for FCC-ee**
Orateur: Line Delagrange (LPNHE, Paris, France)
QCDwithJets@FCC...

17:28 **Improvements in ZH cross section measurements**
Orateur: M. Tom FOURNIER (APC Paris CNRS/IN2P3)
ZH_improvement_F...

17:46 **Precision measurements of Higgs branching ratios**
Orateur: Alexis Maloizel (APC, Paris)
FCC_DRD_France_N...

18:04 **Heavy Flavour recent results**
Orateur: Stephane Monteil (Laboratoire de Physique de Clermont - UCA/IN2P3)
FCC_FlavoursWS_s...

18:22 **Ultra granular calorimeter and flavour physics**
Orateur: Jean-Claude Brient (LLR)
FCC flavor physics ...

18:40 **Physics prospects for FCC-hh**
Orateur: Michele Selvaggi (CERN)
FCChh_fccfrance_v...

5 DRD Tracking

Présidents de session: Didier Contardo, Gaelle Boudoul (IP2I/AICP (CNRS/IN2P3))

09:00 **R&D CMOS (zoom)**
Orateur: auguste besson (Institut Pluridisciplinaire Hubert Curien)
FCCFrance_RD_CM...

09:20 **FCC-Seed concept (zoom)**
Orateur: jeremy andrea (IPHC)
FCC-SEED_FCCFran...

09:40 **Manta Project in DRD3**
Orateurs: Didier Contardo (IN2P3/CNRS), Didier Contardo
FCC_France_MANT...

10:00 **CMOS & timing**
Orateur: Philippe Schwemling (Université Paris Cité and CEA/Irfu/DPhP)
FCC_261125.pdf

10:20 **TPC & Ion Back Flow**
Orateurs: Paul Colas (CEA/DAPNIA Saclay), Serguei Ganjour (CEA/Saclay/IRFU/SPP)
Recent activities on...

0 **coffee break**

DRD Calorimetry

Présidents de session: Fares DJAMA (CPPM), Vincent Boudry (Laboratoire Leprince-Ringuet, CNRS/IN2P

11:00 **R&D High Granularly ECal**
Orateur: JEROME NANNI (LLR-CNRS-IN2P3)
FCC_DRD_Worksho...

11:20 **TSDHCAL (Zoom)**
Orateurs: Imad Laktineh ([UNIV CLAUDE BERNARD]UMR5822), imad laktineh (In2p3-ucbl)
Laktineh-FCCeeFra... Laktineh-FCCeeFra...

11:40 **ALLEGRO**
Orateur: Zhibo Wu
FCCFrance2025_AL...

12:05 **Grainita**
Orateurs: Mlle Yingrui Hou, Yingrui Hou (LPC Clermont)
GRAINITA_FCC_DR...

12:30 **MODOP - MaxICC**
Orateur: Suzanne GASCON-SHOTKIN (IP2I Lyon/Université Claude Bernard Lyon 1)
SuzanneMAXICCM...

15 Other DRD's

Président de session: Suzanne GASCON-SHOTKIN (IP2I Lyon/Université Claude Bernard Lyon

14:15 **The CALOROC family**
Orateur: Christophe de LA TAILLE (OMEGA)
CdLT_FCC_27nov20...

14:35 **DRD7 activity overview (zoom)**
Orateur: Marion BARBERO (CPPM)
DRD7activities.pdf

14:55 **Summary 1st FCC-ee TDAQ Workshop**
Orateur: Vincent Boudry (Laboratoire Leprince-Ringuet, CNRS/IN2P3, École polytechn
2025-11-27@FCC-F...

5:3 FCC Software and Analysis

Président de session: Ziad EL BITAR (IPHC)

15:15 **Progress on particle flow**
Orateur: Giovanni Marchiori (APC Paris)
2025:11:27 - Particl...

15:40 **Combined talk : Digitization for tracker/vertexing full simulation . Background**
Orateurs: Gaelle Boudoul (IP2I/AICP (CNRS/IN2P3)), Jessy DANIEL (IP2I, groupe
FCCFrance_Nov27_...

16:15 **APRIL Particle Flow Algorithm (Zoom)**
Orateur: Tanguy PASQUIER (IP2I, Univ Lyon 1)
FCC_France_2025_...

7:00 **Coffee break**

8:45 Participations Françaises aux futurs detector concepts

Présidents de session: Didier Contardo (IN2P3/CNRS), Gregorio Bernardi (APC Paris CNRS

17:00 **Introduction**
Orateurs: Gregorio BERNARDI (APC Paris, CNRS/IN2P3), Gregorio Bernardi (AP

17:20 **ALLEGRO**
Orateur: Fares DJAMA (CPPM)
ALLEGRO_Djama.pdf

17:30 **CLD**
Orateur: jeremy andrea (IPHC)
CLD_FCCFrance25...

17:40 **IDEA**
Orateur: Suzanne GASCON-SHOTKIN (IP2I Lyon/Université Claude Bernard Lyon 1
SuzanneIDEA_FCC_...

17:50 **ILD**
Orateur: Vincent Boudry (Laboratoire Leprince-Ringuet, CNRS/IN2P3, École polytechn
2025-11-27@FCC-...

18:00 **Discussion**
Orateurs: Didier Contardo (IN2P3/CNRS), Didier Contardo

FCC France 2026 :

Sessions

DETECTORS

Vertex	Auguste/Jeremy
Tracking/Timing	Didier/Gaelle/Philippe Schwemling
TPC	Paul Colas

Allegro Cal	Nicolas/Giovanni
ECal/ILD	Vincent/Jean-Claude Brient
Grainita	Giulia Hull/Stephane

Detector concepts: Didier/Greg/Roy

PHYSICS

Higgs-EW	Marco, Jean-Baptiste
HF	Stephane, Romain
QCD-Top	Bogdan, Roberto
BSM:	Suzanne, Giacomo Cacciapaglia

Software:	Louis, Ziad, Giovanni
Web:	Catherine, Luc, Greg
Com:	Gaelle, Giovanni, Marco

modélisation/impacts du background?

FCC France 2026 :

Possible layout

Intro + Acc

1h30

Phys-1: Higgs / EW

1h30

Phys-2: Top / QCD
1h00

Vertexing / tracking

1h45

Calorimetry

1h45

Software

1h30

Detector Concepts and Other DRD's

2h00

ECR Session

1h00

Phys-3: Heavy Flavor/BSM

1h30

Outreach, Com, Web

1h00

Open session / Future

1h00

Outlook
0h30

FCC France 2026 :

Possible speakers ?

Intro + Acc

? ? ?

Phys-1: Higgs / EW

?

?

Phys-2: Top / QCD

? ?

Vertexing / tracking

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Calorimetry

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Software

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Detector Concepts and Other DRD's

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? ?

ECR Session

Phys-3: Heavy Flavor/BSM

? ?

? ?

Outreach, Com, Web

?

Open session / Future

?

Outlook

Next FCC-contacts meetings

19/1 Lyon

Wedn 9-10.30 21/1 : Conveners

26- 30/1 Munich

Friday 9-10.30 13/2 : Web

Friday 9-10.30 13/3 : FCC-France evolution

Friday 9-10.30 10/4 : FCC-France organisation **+17/4 and 24/4 for FCC-FR organisation ?**

Friday 9-10.30 29/5 : Progress for FCC week

8-12/6 : Helsinki (meeting in-person during the fcc week)

Monday 9-12.30 July 6 Jamboree

Friday 9-10.30 17/ 7 : FCC Structure evolution

Summer break

Friday 9-10.30 18/ 9 :

Friday 9-10.30 16/10 :

Friday 9-10.30 13/11 :

25- 27/11 Marseille / FCC-France and more

Friday 9-10.30 11/12 :

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https://indico.cern.ch/event/1552126/

FCC Week 2026 preparation status

(M. Benedikt, P. Charitos, D. Goldsworthy, J. Hadre, A. Ricci)

C. Grojean & Paolo Giacomelli, PED Coordination Meeting 09.04.2026

Registration

302 participants (288 on-site, incl. 24 students)

COUT VOYAGE	HELSINKI FCC-week 2000
APC+FCC-FR	6000
CPPM	2000
IJC Lab	4000
IPHC	2000
IP2I	6000
LAPP	4000
LLR	4000
LPCA	2000
LPNHE	2000
LPSC	0
L2IT	0

Row Labels	Count of ID
Austria	7
Belgium	5
Brazil	2
Canada	1
China	1
Denmark	1
Finland	3
France	21
Germany	15
Hungary	1
Italy	25
Latvia	1
Lithuania	1
Morocco	2
Netherlands	2
Norway	1
Poland	2
South Korea	1
Spain	6
Sweden	4
Switzerland	179
Thailand	1
Türkiye	2
United Kingdom	9
United States	9
Grand Total	302

Please register asap if you are planning to participate!
And encourage people around you to register!

Subject to modifications depending on the rooms availability

Day	Monday 8 Feb	Tuesday 9 June					Wednesday 10 June						Thursday 11 June					Friday 12 June	Day
Time	Plenary						Plenary											Plenary	Time
Room	Auditorium (F2044) (490 p.)	Pieni juhlasali (F4050) (200 p.)	Tekla Hultin (F3003) (130 p.)	F3017 (64 p.)	F3005 (50 p.)	F3020 (48 p.)	Auditorium (F2044) (490 p.)	Pieni juhlasali (F4050) (200 p.)	Tekla Hultin (F3003) (130 p.)	F3017 (64 p.)	F3005 (50 p.)	F3020 (48 p.)	Pieni juhlasali (F4050) (200 p.)	Tekla Hultin (F3003) (130 p.)	F3017 (64 p.)	F3005 (50 p.)	F3020 (48 p.)	Auditorium (F2044) (490 p.)	Room
08:30-09:00	Opening session	PED 1 Physics studies	FCC-ee optics design	Magnets	Electricity & Energy Management	IRIS EB 1	also available for PED if needed	PED 3 PSC	Optics Corrections	Magnet support & alignment	Integration	Industry Day	PED 7 Physics studies	Injector	injectors & extraction systems	MDI 2	FCC Baseline (SRF)	Summaries	08:30-09:00
09:00-09:30																			09:00-09:30
09:30-10:00																			09:30-10:00
10:00-10:30		Coffee Break					Coffee Break						Coffee beak					Coffee break	10:00-10:30
10:30-11:00	Coffee break	PED 2 Detectors	International Collaboration Board	Vaccum	RF Points and Cryogenics	IRIS EB 2	PED 4 Physics Studies	PED 5 Detectors	Collective Effects	Powering	Cooling & ventilation	Industry Day	PED 8 Dectectors	Booster overview	Beam intercepting devices	Safety	RF Hardware Development and System Integration for FCC	Summaries	10:30-11:00
11:00-11:30	Physics Keynote																		11:00-11:30
11:30-12:00																			11:30-12:00
12:00-12:30	FCC Status	Lunch break					conflict	Lunch break					Lunch break					Closing remarks	12:00-12:30
12:30-13:00	Lunch break																		12:30-13:00
13:00-13:30																			13:00-13:30
13:30-14:00		Scheduling, Planning and Resources	FCC-ee injector overview	Territorial Dialogue	MDI 1	IRIS WP and alignment 1	Operation and Performance	PED 6 Joint session PSC & Physics	Geodesy, Transport & Robotics		ECO	Industry Day	PED 9 Joint session PSC & Detectors	FCC-hh & High-field magnets	RF System Performance and Beam Stability	Geodesy, Transport & Robotics	Scientific Advisory Committee		13:30-14:00
14:00-14:30	Overview by FCC coordinators																		14:00-14:30
14:30-15:00																			14:30-15:00
15:00-15:30		Coffee Break					Coffee Break												15:00-15:30
15:30-16:00	Coffee break	Systems Engineering and Project-wide integration	Injector Machine-Specific Designs and R&D Progress	Civil Engineering and MATEX	EPOL 1	IRIS WP and alignment 2	Nordic–Baltic Engagement in Large-Scale Research Projects						SRF Technology Developments	Environment	Machine protection & Availability	EPOL 2			15:30-16:00
16:00-16:30	PED plenary																		16:00-16:30
16:30-17:00																			16:30-17:00
17:00-17:30		Poster session				Public Event													17:00-17:30
17:30-18:00																			17:30-18:00
18:00-18:30		Early Career Researchers																	18:00-18:30
18:30-19:00																			18:30-19:00
19:00-19:30	Welcome reception						Conference dinner												19:00-19:30
19:30-20:00																			19:30-20:00
20:00-20:30																			20:00-20:30
20:30-21:00																			20:30-21:00
21:00-22:00																			21:00-21:30

PED @ FCC 2026: 9+2+2

- 3 Physics Studies
- 3 Detectors
- 1 Software and Computing
- 1 Jt PSC & Physics
- 1 Jt PSC & Detectors
- 2 MDI
- 2 EPOL

PED @ FCC 2025 Vienna: 8+2+2

- 2 Physics case and Theory calculations
- 3 Detector concepts
- 1 Software and Computing
- 2 Physics Performance and Detector Requirements
- 2 MDI
- 2 EPOL

WEB status

Output of last SPC and Council meeting

Alternative Collider Scenarios (Presentation to the SPC)

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FCC-ee

Some key points from the European Strategy Group (ESG) report regarding FCC:

- Strong endorsement of the physics and strategic case for FCC-ee as the next flagship collider for CERN
  - Near consensus on this point within the particle physics communities in CERN's Member States
- To reflect the strength of this case for FCC-ee, and not knowing the reason why the FCC might not go ahead, the ESG was unable to rank potential alternative options
  - A descoped/staged FCC-ee was considered as the best possible alternative option

However, it is expected/required by several of our Member States that we present alternative scenarios (options) to aid internal national decision-making processes

- But the ESG didn't identify an alternative option

The CERN Strategy 2026-2028 builds on the European Strategy for Particle Physics

- Consequently, FCC-ee is our sole priority for CERN's next Flagship Collider. We aim to be ready for CERN Council to take a decision in 2028 and will ask for a "go" / "no-go" decision on FCC-ee alone
- In parallel, we propose to provide one or two "Alternative Collider Scenarios" at a level of detail suitable for an options analysis to help the decision-making process for FCC-ee
  - but not a choice between FCC-ee and an alternative

The proposed approach for alternative(s)

To enable a decision on FCC-ee to be taken in the context of understanding what not going forward might imply:

- CERN will develop one or two lower-cost *"Alternative Collider Scenarios"* at a level of detail that is sufficient for consideration in an **options analysis**
- The scenario(s) will include:
  - a reviewed design
  - a justified cost model with uncertainties
  - risk analyses
  - and a clear roadmap for any subsequent R&D steps
- Given existing pressure on resources, the studies of any alternative options cannot be close to the level of the FCC Feasibility Study and *will not* include siting studies
- Similarly, any related R&D activities during 2026–2028 will be very limited, except where synergistic with those for FCC. Proposing primarily "on-paper" exercises.
  - The aim is a level of detail suitable for an options analysis, not project launch nor a direct choice with respect to FCC-ee. This is all we can realistically achieve within the time available.

Alternative Scenario(s) – a possible approach

Confidential

Machine	Precision Physics	BSM physics	Phys vs CEPC	[illegible]	Const. cost (BCHF)	Path to ≥10 TeV
FCC-ee	22	23				
LCF250/ LCF550	15	17			15.8	
CLIC380/ CLIC1500	14	18			14.5	
LCF250	10	16			9.4	
CLIC380	10	16			7.5	
LEP3	14	17			4.1	
LHeC	8	7			2.1	

Guided by the European Strategy

- One or Two scenarios?
- Assume scenarios have to be lower in cost compared to FCC-ee <10 BCHF
- Sufficiently strong physics case
- *One scenario that could fit within CERN's existing budget (<5 BCHF)*
- *A second alternative collider scenario (?) with a cost in the range 5-10 BCHF*

Proposed level of resources (material and people)

- Given priority of HL-LHC and the ATLAS and CMS upgrades, we **propose a total annual cost of ~2.5 MCHF per study** and potentially some R&D that is synergistic with that for FCC-ee
  - This would be sufficient to bring an alternative collider scenario to the point where it could be considered in an options analysis, but not an approval process or a choice with respect to FCC-ee
  - And to reiterate, due to resources and time, this would largely be an on-paper exercise

Alternative Scenario(s) – what they are not

Presentation of any "alternative collider scenario" will need care

- Our priority is FCC-ee
  - Scientifically it is the right machine
  - It provides a possible path to a very high-energy hadron collider
  - It would enable Europe to retain leadership of global particle physics and contributing to the technological competitiveness of Europe
- Any alternative
  - Has a significantly weaker scientific case
  - Vulnerable to competition, e.g. would not be competitive with a machine like the CepC
  - Ultimately would risk losing European leadership of particle physics – an area of current European leadership at the forefront of technology

In the event that FCC-ee were not approved

- Options would need to be considered by the community; potentially in a targeted strategy process – noting that the launch of such a process would be a decision for Council

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Alternative Collider Scenarios (SPC discussion)

Confidential

- Conclusion of the SPC discussion …

> There was substantial discussion of the proposed strategy. The SPC fully supports the European Strategy for Particle Physics (ESPP) and emphasizes that the work done over the past years was a very significant and thorough effort by the community, which led to unambiguous conclusions. Therefore, great care should be taken to ensure that the proposed CERN strategy should be recognised to be in line with the recommendations of the ESPP. The presentation should be reconsidered to avoid referring to the 'development of alternative scenarios,' and instead emphasize the allocation of a relatively modest 2.5 MCHF per year to further studies of open questions about different collider options identified during the ESPP process, that would help the decision process on FCC-ee in 2028. In CERN's consideration of which scenarios to consider for these studies, it should carry great weight that the ESPP has already scientifically prioritised a descoped/staged FCC-ee over all other options considered.

Confidential

- Then, in the Council meeting …
  - Presentation to the Council was modified accordingly
  - Two antagonistic resolutions were then submitted to a vote
  - The successful resolution complies with the above
    - We probably need to speak with our representatives in Germany, Austria, Norway, UK, and France – possibly before the Budapest Council meeting

FCC France Future

Previous Status of FCC-France in the Grey book

Laboratoire de Physique Nucléaire et de Hautes Energies	Centre National de la Recherche Scientifique	Paris	France	(TL) MALAESCU, BOGDAN (DTL) CALDERINI, GIOVANNI
Université Clermont Auvergne		Clermont-Ferrand	France	(TL) MONTEIL, STEPHANE (DTL) MADAR, ROMAIN JACQUES
Institut Pluridisciplinaire Hubert Curien	Centre National de la Recherche Scientifique	Strasbourg	France	(TL) EL BITAR, ZIAD (DTL) GOFFE, MATHIEU
Laboratoire Leprince-Ringuet	Centre National de la Recherche Scientifique	Palaiseau	France	(TL) BOUDRY, VINCENT
Laboratoire APC - Astroparticules et Cosmologie	Centre National de la Recherche Scientifique	Paris	France	(TL) BERNARDI, GREGORIO (DTL) MARCHIORI, GIOVANNI
Institut de Physique des 2 Infinis de Lyon	Centre National de la Recherche Scientifique	Villeurbanne	France	(TL) BOUDOUL, GAELLE (DTL) GASCON-SHOTKIN, SUSAN
LAPP-Laboratoire d'Annecy de Physique des Particules	Centre National de la Recherche Scientifique	Annecy-Le-Vieux	France	(TL) LAMANNA, GIOVANNI (DTL) BRUNETTI, LAURENT

Current Status of FCC-France in the Grey book

IJCLab - Laboratoire de physique des 2 infinis Irene Joliot-Curie	Université Paris-Saclay	Orsay	France	(TL) MORANGE, NICOLAS RENE JEAN (DTL) SCHUNE, MARIE-HELENE
Laboratoire des 2 Infinis Toulouse L2IT	Centre National de la Recherche Scientifique	Toulouse	France	(TL) BARBUT, HANNA
CEA Paris-Saclay	Université Paris-Saclay	Gif-Sur-Yvette	France	(TL) BARBUT, HANNA (DTL) SCHWEMLING, PHILIPPE
Laboratoire Leprince-Ringuet	Centre National de la Recherche Scientifique	Palaiseau	France	(TL) BOUDRY, VINCENT
Laboratoire de Physique Subatomique et de Cosmologie	Centre National de la Recherche Scientifique	Grenoble	France	(TL) DE VIVIE DE REGIE, JEAN-BAPTISTE
Laboratoire de Physique Nucléaire et de Hautes Energies	Centre National de la Recherche Scientifique	Paris	France	(TL) MALAESCU, BOGDAN (DTL) CALDERINI, GIOVANNI
Université Clermont Auvergne		Clermont-Ferrand	France	(TL) MONTEIL, STEPHANE (DTL) MADAR, ROMAIN JACQUES
Institut Pluridisciplinaire Hubert Curien	Centre National de la Recherche Scientifique	Strasbourg	France	(TL) EL BITAR, ZIAD (DTL) ANDREA, JEREMY (DTL) BESSON, AUGUSTE GUILLAUME
Laboratoire APC - Astroparticules et Cosmologie	Centre National de la Recherche Scientifique	Paris	France	(TL) BERNARDI, GREGORIO (DTL) MARCHIORI, GIOVANNI
Institut de Physique des 2 Infinis de Lyon	Centre National de la Recherche Scientifique	Villeurbanne	France	(TL) BOUDOUL, GAELLE (DTL) GASCON-SHOTKIN, SUSAN MARY
LAPP-Laboratoire d'Annecy de Physique des Particules	Centre National de la Recherche Scientifique	Annecy-Le-Vieux	France	(TL) DELMASTRO, MARCO (DTL) BRUNETTI, LAURENT

Mandate of future Master Projet Leader

2 or 3 years ?

Candidates

At least 3 persons have been cited by the contact persons as good candidates

Tour de table

15m

Orateurs: Bogdan Malaescu (LPNHE, CNRS), Catherine Biscarat (L2I Toulouse, CNRS/IN2P3, Université de Toulouse), Farès Djama (CPPM), Gaelle Boudoul (IP2I/AICP (CNRS/IN2P3)), Giovanni Marchiori (APC Paris), Jean-Baptiste De Vivie De Regie, Marco Delmastro (LAPP), Nicolas Morange (IJCLab), Roberto Salerno (LLR), Stephane Monteil (Laboratoire de Physique de Clermont - UCA/IN2P3), Ziad EL BITAR (IPHC)

FCC France 2026 :

Sessions

DETECTORS

Vertex	Auguste/Jeremy
Tracking/Timing	Didier/Gaelle/Philippe Schwemling
TPC	Paul Colas
Allegro Cal	Nicolas/Giovanni
ECal/ILD	Vincent/Jean-Claude Brient
Grainita	Giulia Hull/Stephane
Detector concepts:	Didier/Greg/Roy

PHYSICS

Higgs-EW	Marco, Jean-Baptiste
HF	Stephane, Romain
QCD-Top	Bogdan, Roberto
BSM:	Suzanne, Giacomo Cacciapaglia
Software:	Louis, Ziad, Giovanni
Web:	Catherine, Luc, Greg
Com:	Gaelle, Giovanni, Marco

FCC France 2026 :

Possible layout

Intro + Acc + MDI

1h30

Phys-1: Higgs / EW

1h30

Phys-2: Top / QCD
1h00

Plenary: Vertexing / tracking/ Software

1h30

Parallel 1
Calorimetry
1h45

Parallel 1
Tracking
1h45

Parallel 2
Calorimetry
1h45

Parallel 2
Tracking
1h45

Detector Concepts and Other DRD's

2h00

ECR Session

1h00

Phys-3: Heavy Flavor/BSM

2h00

Outreach, Com, Web

1h00

Open session / Future

1h00

Outlook
0h30

FCC France 2026 :

Possible speakers ?

Intro + Acc + MDI

? ? ?

Phys-1: Higgs / EW

?

?

Phys-2: Top / QCD

? ?

Plenary: Vertexing / tracking/ Software

?

Parallel 1 Calorimetry

?

Parallel 1 Tracking

?

Parallel 2 Calorimetry

?

Parallel 2 Tracking

?

Detector Concepts and Other DRD's

? ?

ECR Session

Phys-3: Heavy Flavor/BSM

? ?

? ?

Outreach, Com, Web

?

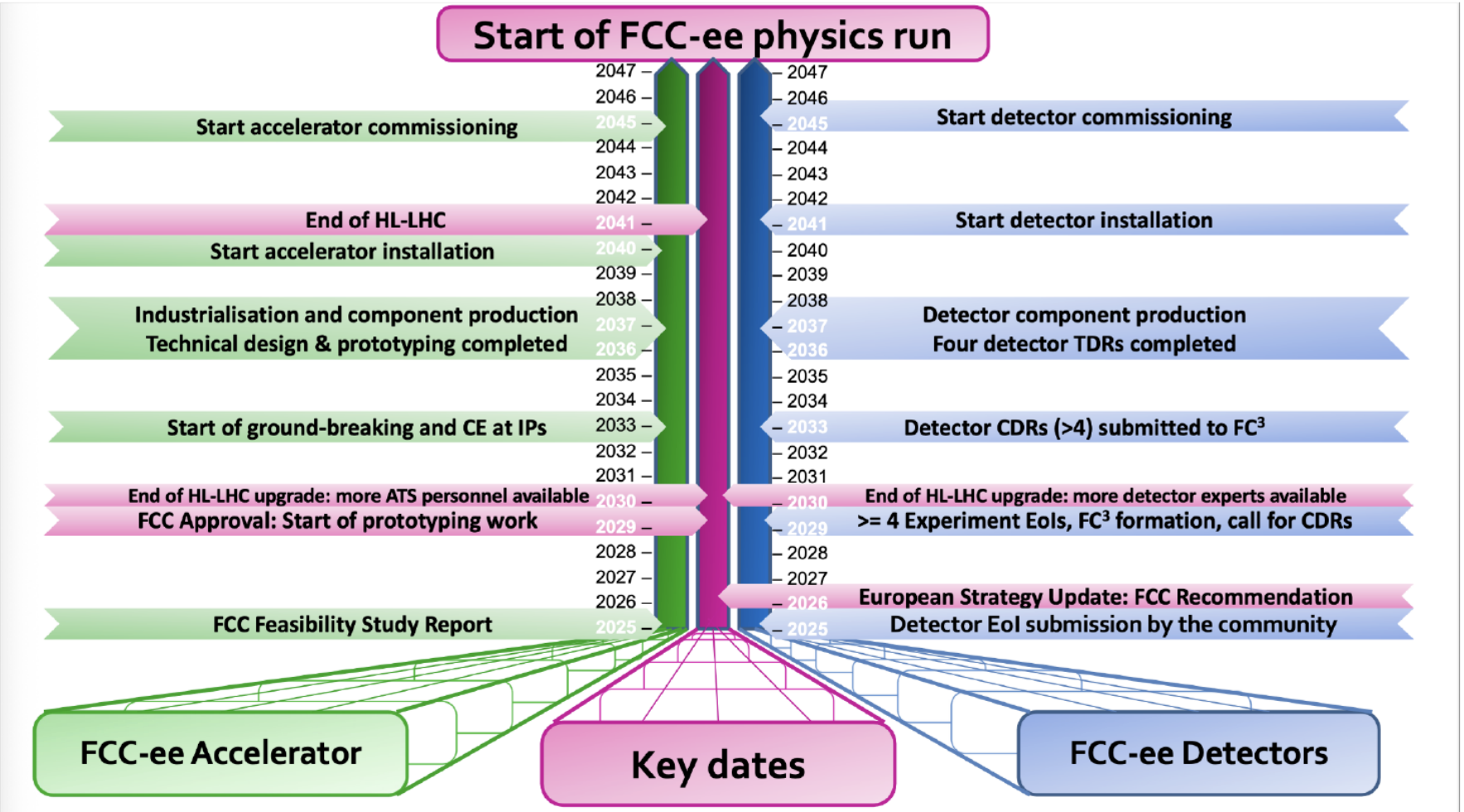
Open session / Future

?

Outlook

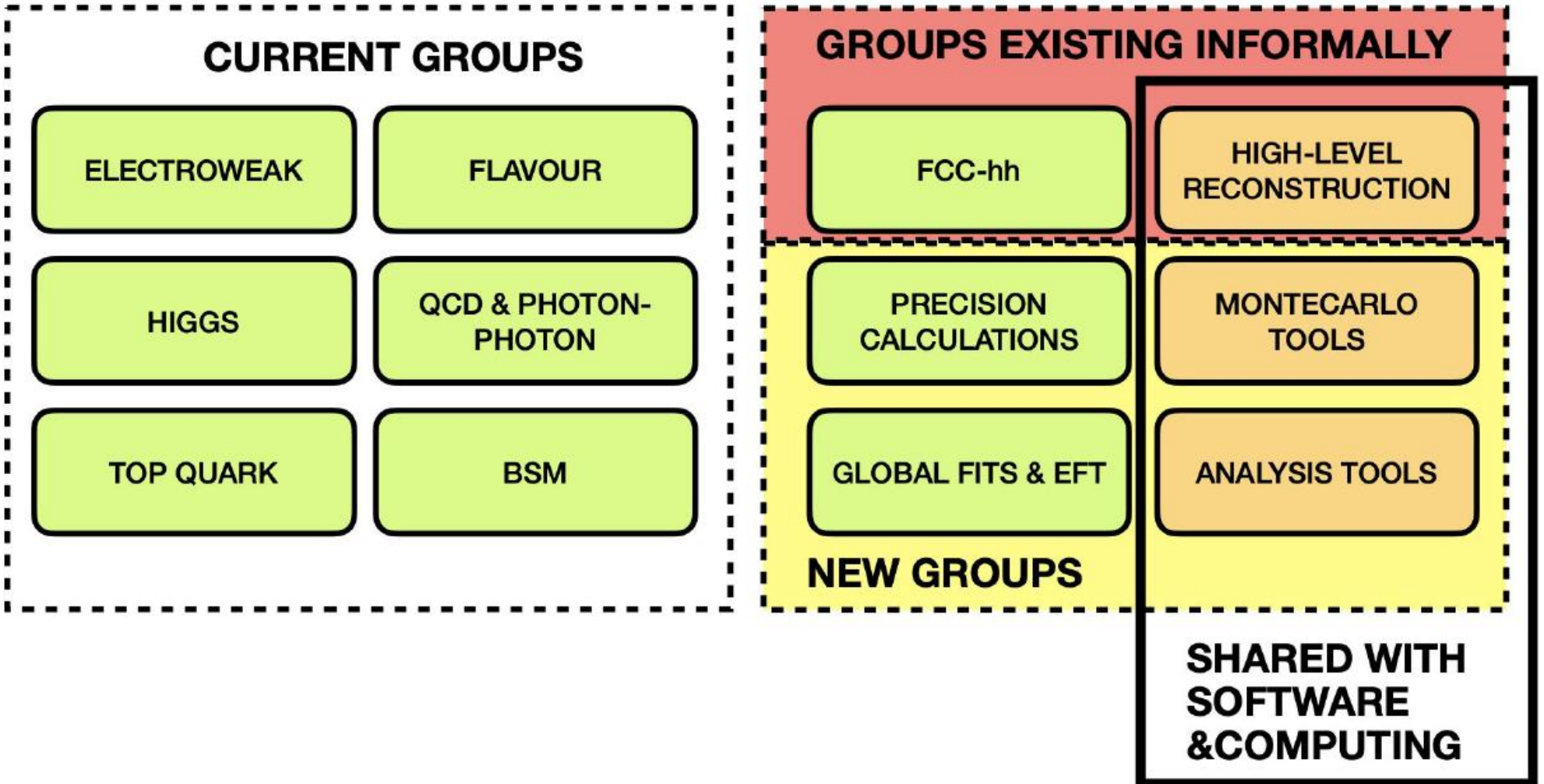
FCC Physics, Experiments, Detectors (PED)
Objectives for the project design phase (2026–2033)

The overall timeline for the FCC project from 2025 all the way to the start of the FCC-ee operations is illustrated in the schematic graph below, with the FCC-ee accelerators key major milestones in green on the left and the FCC-ee detectors major milestones in blue on the right.



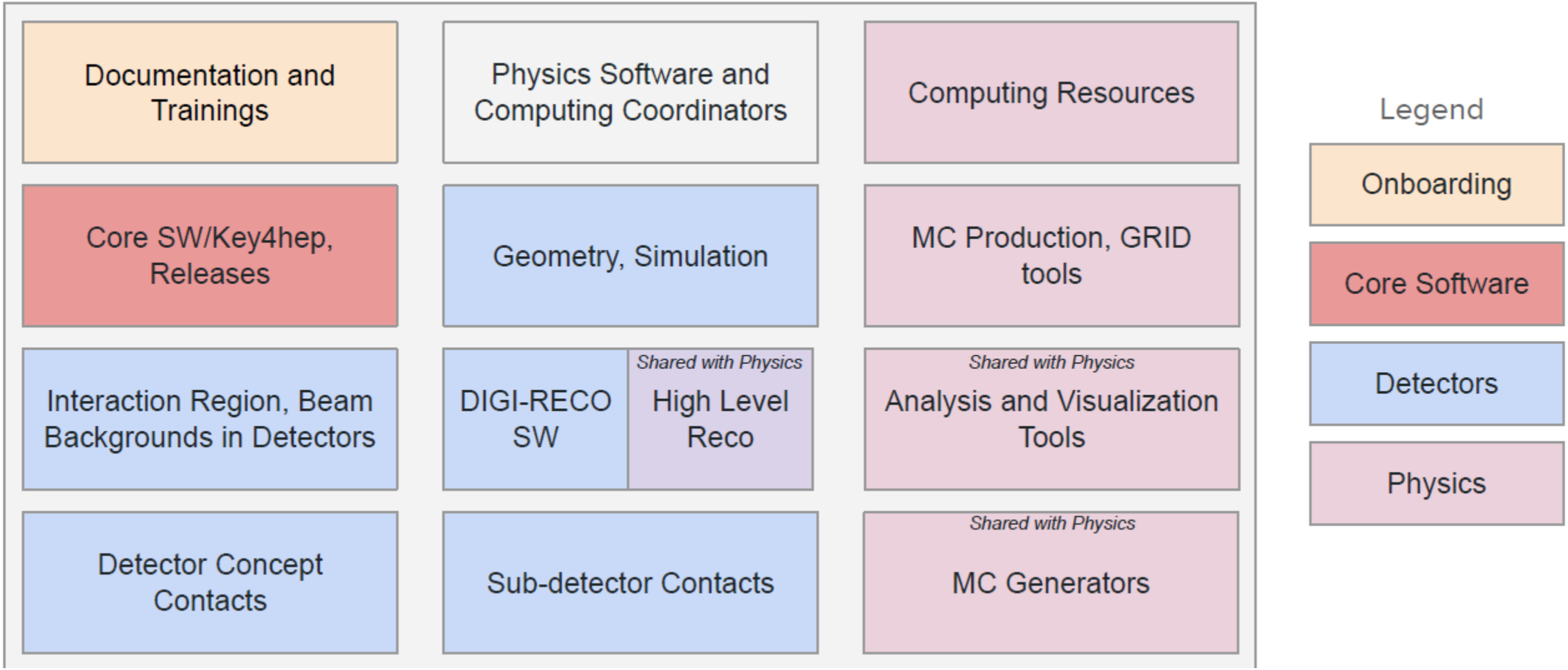
Physics Studies new organization proposal

Jorge, Matthew, Patrizia, David, Michele



FCC Physics Software And Computing

New organizational structure



PED priority items for the pre-approval phase

1. Lay the foundations for the conceptual design studies of four (or more) **detectors**
2. Consolidate **IR** layout, detector integration, and related background mitigation
3. Collaborate with **IT** to develop a computing architecture model for experiments
4. Complete the **software & analysis toolkit** to ease detector performance comparison
5. Confirm, with full analyses, the current uncertainty estimates on **EWPOs** (Z and W)
6. Gather the worldwide **theory community** to address the theoretical challenges
7. Streamline and optimise the procedure for **centre-of-mass energy calibration**
8. Develop an efficient PED **Education/Communication/OutReach/InReach** strategy
9. Ascertain the **detector cost estimate**
10. Articulate the physics case, feasibility, and schedule implications of **other √s stages**
11. Anticipate FCC-PED **structure and management** in the project phase (2027-2033)

Planning scenario towards 4 experiments at FCC-ee

french interests associated with an R&D program in red

- 2023 DRD formation, French contribution w/ ongoing R&D related to FCC-ee systems:
  - DRD1 TPC, DRD3 VD-Tracking/PID layers; DRD6 HG-E(H)Calo, LNG-ECalo, CrystalShashlik-ECal (GRAiNITA)

- 2025 French EoI contributions to ESPP 2025
  - subystems :Si/W-ALLEGRO-GRAiNITA-DRCrystal E-Calo, TSDHCAL; VD/Seed, Tracking/PID layers
  - Detector Concepts : ALLEGRO, CLD, IDEA, ILD ←

- 2028-2029 after FCC approval $\gtrsim$ 4 collaborations forming…:

- 2031-2032 CDR - selection of 4 detector concepts (FCC-Committee)
  - cost considerations, merging of collaborations, possibly systems/technology variants remaining…

- 2035-2036 TDR - final selection of subsytems and technologies

Current institute interests

By subsystems (based on ongoing R&D)

- Tracking (DRD1, DRD3)
  - TPC : IRFU
  - VD - Tracking/PiD : APC, CPPM, IPHC, IP2I, IRFU, IJCLab, LPNHE
- Calorimetry (DRD6)
  - HG-E(H)Calo : IJCLab, LLR, LPNHE, (IP2I)
  - LNG-ECalo : APC, CPPM, IJClab, LAPP, LPSC
  - CS-ECalo: IJCLab, LPCA

By detector concepts (based on ongoing R&D)

Calorimetry driven	VD, Tracking/PID driven
CLD/ILD : IJCLab, LLR, LPNHE, IP2I (if RPCs) ALLEGRO : APC, CPPM, IJCLab, LAPP, LPSC CSDC : IJCLab, LPCA IDEA : ?	IPHC, IP2I,1 of any concept IRFU, 1 of any concept (CLD/ILD if TPC)

By Physics areas

- Higgs : APC, CPPM, IJCLab, IP2I, IRFU, LAPP, LLR, LPSC, L2IT
- ElectroWeak : IJCLab, IRFU, LAPP, LPNHE, LPCA LPSC
- Top : IPHC, IP2I, LPCA
- BSM : CPPM IJCLab, IPHC, IP2I, IRFU, LLR
- HFL : IJCLab, IRFU, LLR, LPCA
- QCD : LPNHE

Considerations for preparation of detector concept choices (2026-2027)

- Contributions to at least 3 detector concepts appear plausible
  - process/leadership for collaboration formation not yet defined
  - need to think how we will contribute to this process in France
- 2026-2027 French community should prepare decisions
  - ➢ teams should increase/reach critical mass, contribution wishes of HL-LHC teams should be identified now, even if they can only join around CDR time $\gtrsim$ 2030
  - institutes can formulate their current preferences for calorimetry & tracking association
    - to assess in common global detector concepts performance (PED framework see C. Grojean)
  - institutes can prioritise contributions to subsystem(s) at an early stage (if involved in several)
- IRFU/IN2P3 management can provide guidance on process and calendar to approve contributions
- Plenty of work in front of us !

FCC France Italie

- FCC-PHYS-ORG : liste pour les fcc-contacts, initialement 1 contact / labo, mais elle a grossi, now 20 persons for 12 labs, IN2P3 et IRFU

- FCC-PED-1 : permanents ayant signé la note GT01 (« FCC-France ») environ 60 physiciens et quelques ingé

- FCC-PED-2 : même chose avec Postdoc et étudiants en plus (70 personnes)

- FCC-PHYS-ALL: liste d'information pour personnes interessées par news sur FCC (260 personnes)

- NEW: FCC-PHYS-IN2P3: chefs de groupe, 1 par labo (exception pour Labo resp. IN2P3)
  dans les meetings de cdg, les cdg peuvent se faire remplacer.

Discussions de type forum peuvent avoir lieu dans PHYS-ORG ou PED-2

Recommendations of the FCC feasibility study mid-term review committee related to the FCC community development

1. to work with the scientific community, institutes, laboratories and funding agencies to ensure support and resources for **four experiments**, facilitating the exploitation of the full scientific potential offered by the large investment in the FCC-ee facility;

2. to dedicate additional human and financial resources to the project, with a resource-loaded schedule of work and clear priorities;

3. to develop the coordination and structure to enable theoretical work needed to match the anticipated experimental precision of the FCC data, both at CERN (fellows, scientific associates, visitors) and by engaging Collaborating Institutes (e.g., European networks);

4. to establish a dedicated FCC team in the CERN research sector, with specific new positions associated, and to quantify its size and makeup in terms of seniority so that the resources required can be estimated.

➔ We need to keep enlarging and organizing further our collaboration

Next Steps in FCC Collaboration building, as seen from IFNC

We have National Contacts (informally also Regional Contacts), Institute contacts in some countries but not all

To be more organized, one of the issue is the different way the institutes/Universities are “registered”:

Some have MoU’s, some depend on a National Mou, some have an addendum to the MoU specifying the commitments, some have informal registration (on IFNC excel tables)

We have now a new possibility: Register the institutes under the FCC collaboration, to appear in the Grey book, with a Leader (and possibly a Deputy team leader).

The goals for the IFNC in the pre-TDR phase could be to

0) Agree with the project managers that we could develop a scheme where MoU are more specific to any type of FCC contributions, while the Grey book could be more focused on the PED activities

1) Develop “FCC WORLDWIDE” in the FCC-PED-WEB.CERN.CH official web site to describe the overall international organization, for FCC at large (MoU’s) and for FCC-PED (via the Grey book, see below)

2) have the current PED active institutes to register in the Grey Book, with a TL and possibly a DTL. At least one of the two must be active in FCC-PED (in some institutes the “boss” of the institute wants to be institute contact, i.e. TL in this new approach)

….

Next Steps for IFNC during the pre-TDR phase

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2) have the current PED active institutes to register in the Grey Book, with a TL and possibly a DTL. At least one of the two must be active in FCC-PED (in some institutes the “boss” of the institute wants to be institute contact, i.e. TL in this new approach).

3) Obtain from the TL/DTL one page of the expertise of the lab, and the activities in which the institute is involved and wants to be involved. This would be stored centrally, country by country, and could be accessible to all FCC-PED members (we would obtain for each country something similar to the national notes we were discussing in the last IFNC meeting)

4) With the help of the National Contacts, contact more LHC teams (244 in ATLAS, 257 in CMS, 98 in LHCb) to ask if/when they would join FCC, starting from the countries already active in FCC. We could thus monitor the growth of the FCC-PED community.