

Reunion FCC-contacts

 Friday Jul 17, 2026, 9:00 AM → 10:30 AM Europe/Paris

- 9:00 AM → 9:30 AM

News de la stratégie, de FCC / Evolution de FCC-France

Speaker: Gregorio Bernardi (APC Paris CNRS/IN2P3)

🕒 30m
- 9:30 AM → 9:40 AM

FCC-France-Italie à Marseille en Novembre 2026 

Speaker: Fares DJAMA (CPPM)

🕒 10m
- 9:40 AM → 10:05 AM

Tour de table

Speakers: 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, Luc Poggioli (LPNHE Paris), Marco Delmastro (LAPP), Nicolas Morange (IJCLab), Stephane Monteil (Laboratoire de Physique de Clermont - UCA/IN2P3), Suzanne GASCON-SHOTKIN (IP2I Lyon/Université Claude Bernard Lyon 1), Vincent Boudry (Laboratoire Leprince-Ringuet, CNRS/IN2P3, École polytechnique), Ziad EL BITAR (IPHC)

🕒 25m

FCC-ee: supporting the decision-making

Council resolution on European Strategy invites the CERN management to:

- (22) to provide annual reports on the implementation of the Strategy update and the necessary information to support national decision-making processes

Some CERN Member States require an “options analysis” for parliamentary decision making

Limited resources have been allocated to ensure that such “options-analysis” documentation will be available to our Member States in 2028

- Resources: total of 5 FTE-years (2026-2028) of CERN staff for each of LEP3 and LCF
- This is primarily an on-paper exercise, mostly based on existing work, to provide:
 - reviewed design and reviewed cost model with uncertainties
 - risk analysis
 - assessment of the future R&D required (and potential costs)
 - discussion of why a scenario is not preferred based on the clear statements in the ESG Deliberation Document
- This is a necessary part of seeking FCC-ee approval

Output to be summarised
in short (10-20 page)
document to support the
FCC-ee decision making

Draft FCC Timeline – TBC

Planned FCC Phases:

- 2026-2028: Reference Design Phase (previously referred to as pre-TDR Phase)
- 2029-2033: Technical Design Phase
- 2033- : Project Implementation

Draft proposed “Council-level” Milestones

- Mar 2026: discussion of Reference Design Phase scope and deliverables ✓
 - **Jun 2026: Council approval of the FCC-ee Reference Design Phase** ✓
 - Sep 2026: input from Council on requirements for project approval
 - Dec 2026: decision in Council on the main features of the funding model
 - Mar 2027: decision on FCC governance model – following a discussion at a Council Retreat
 - Jun 2028: final review of Reference Design Phase
 - after June 2028: ready for a decision on FCC-ee
- 

FCC-ee

ECFA version of slide (Town Hall version speaks of 'CERN community')

The next two years will be critical to our success

- **FCC-ee** is the clear best option for the future of CERN and for global particle physics
- the outcome of the **European Strategy Update** is crystal clear
- At CERN, we will do everything possible to ensure the realisation of FCC-ee

At this time, it is important that the whole community gets behind our collective goal to secure FCC-ee as CERN's next flagship collider

Other messages from the pECFA meeting: Patrick's talk

Detector concepts are only one part of the story

- **From the "FCC Objectives, Deliverables, Milestones" Council Document**
These activities are aimed at demonstrating feasibility, integration compatibility and cost realism for the FCC-ee detectors, without committing to a final detector selection or to experiment collaborations forming. Expressions of interest for FCC-ee detectors will be invited after the project approval, with a view to moving towards detector conceptual design reports by 2033.
- **We aim to produce (≥ 6 , then) documented detector EoI's by Q1/Q2 2028**
 - Six detectors (or more) are too many for four interaction points and four CDRs
 - And they are not necessarily what will be built in 15 years from now
- **Evolving to experiment collaborations : LHC historical reminiscence**
 - Mar 1992: 12 detector EoI's are discussed in an ECFA-organised [Evian meeting](#)
 - Several EoI's merged to form collaborations (e.g., ASCOTT+EAGLE=ATLAS)
 - Oct 1992: ATLAS and CMS submit their formal LoI's (LHCb in 1993)
 - 1997-98: ATLAS, CMS, LHCb, ALICE receive formal approval to move to construction
- **In FCC PED, we have not yet reached the Evian-like stage**
 - We are well-equipped to facilitate the process, encourage and test ideas for new concepts, form working teams, compare subsystems/detector concepts, ...
 - But we believe FCC will require an Evian-like process, prior to moving to detector C(T)DRs ²⁷

Short digression – Is it too early ? A lesson we never learn...

- **A statement that is often heard from our leaders**
 - "It is too early to think of detector designs/collaborations – not before the end of LS3"
- **History teaches us exactly the opposite: A lesson from the CMS Hi-Lumi Tracker**
 - The first meetings started in May 2009 (after the installation of the 1st CMS Tracker)
 - With already reasonably **clear ideas** of what to do
 - With a **solid collaboration** in place – and **available** for detector design and construction
 - The device will be ready for installation in 2030
 - For a total of 21 years...
- **Already today, we do not have 21 years**
 - If the detectors are to be operating in 2045, we are already late
 - FCC-ee detectors are not going to be simpler than HL-LHC detectors
 - FCC-ee collaborations are not in place
 - We better start now if we want to stick to the current schedule
 - ... and if we want FCC-ee detectors that satisfy the requirements

29

The possible rôle of ECFA

- **We suggest that ECFA organises a series of Evian-like workshops**
 - Maybe on the model of the three successful Higgs/EW/top factory workshops
 - Starting immediately after the approval (Q2 2028)
- **This series of workshops would be intended to**
 - Provide a forum to working groups and to already forming proto-collaborations
 - Discuss in depth experimental ideas between the various groups
 - Review the different propositions
 - Check the compliance to physics requirements
 - Verify the compatibility with collider constraints
 - Discover advantages, disadvantages, and maybe also similarities
 - Encourage mergers towards four robust experiment LoI's
 - Form **four** collaborations no later than end 2029 - beginning 2030
- **Altogether, the announcement of such a clear plan from ECFA to the community**
 - Would be a strong incitement to generate the missing resources
 - Would encourage a structured community building in line with the FCC-ee timeline ²⁸

Towards "Evian": Adapt the working model of the DRD Collaborations

- **Following the overwhelming backing of FCC-ee in the ESSPU**
 - It may be appropriate for the DRDs to increasingly align their activities to FCC-ee
- **Focus on developments that are meaningful to FCC-ee detectors**
 - i.e., that **fit the specs and the requirements from FCC-ee**
 - With realisation and qualification of demonstrators (when of general interest)
- **Understand the needs of the current FCC-ee concepts and subsystems**
 - **Call meetings** with FCC-ee concept and subsystem group experts
 - ... and attend topical workshops organised by FCC-ee groups
 - Our working group organisation and mailing lists were designed with this aim in mind
- **Propose solutions to the needs and develop improvements to the solutions**
 - To consolidate existing concepts into credible proposals
 - And, possibly, to make innovative proposals for new subsystems
- **Share relevant data and algorithms in the common FCC software** ([key4hep](#)/[edm4hep](#))
 - Geometry, digitisation, local reconstruction, for 4π detector evaluation/optimisation
 - Test-beam data with full details: improve the quality of granular detector full simulation
 - For example, detailed shower simulation in granular electromagnetic and hadron calorimetry³⁰

Some Highlights from 2026 ESPP update

- FCC-ee, preferred option for the next flagship collider at CERN, as well as the future non collider initiatives, neutrinos, dark matter searches should be the major targets of the detector R&D
- The ECFA Detector Panel & recently established DRD Managers Forum should set up an appropriate framework to support and foster cross-DRD coordination
- Further initiatives addressing the ten General Strategic Recommendations (GSRs) topics also need to be organized jointly across all DRD collaborations
- Bidirectional Knowledge & Technology Transfer (KTT) must become integral to R&D process
- Dissemination & Communication should target a broad range of stakeholders, with a dedicated effort to reach diverse and underrepresented audiences



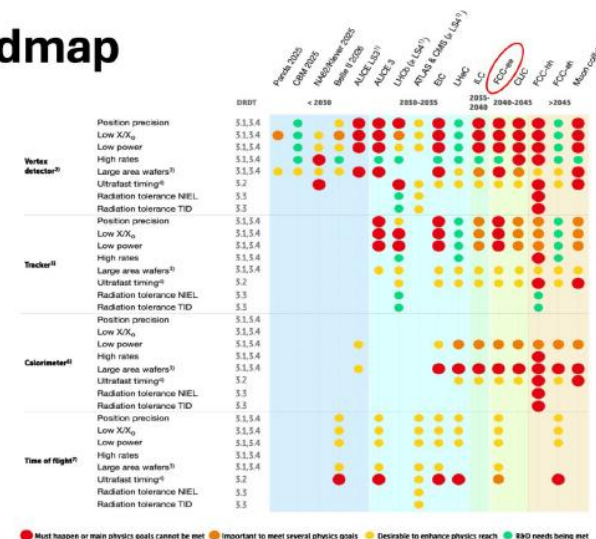
09/07/2026

Giuliana Rizzo, Felix Sefkow - ECFA Detector Panel

6

ECFA Detector Roadmap

- It's still valid
- After the Strategy Update, the focus of R&D targeted at collider detectors should move to FCC-ee
- Detector Roadmap Update only after FCC-ee approval



09/07/2026

Giuliana Rizzo, Felix Sefkow - ECFA Detector Panel

7

Strategic alignment with updated ESPP

- DRDs approved for initial period of three years → re-approval process in next months
 - Guidance for re-approval process by T. Bergaur @ DRD-MF meeting, April 2026
- The DRDC requests two documents for re-approval:
 - Status Report: max 5 pages
 - Proposal Update: max 10 pages + tables
- DRDs expected to reflect the Updated Strategy in their R&D programs for the next planning cycle
 - "Clearly highlight and prioritise developments aiming for FCC-ee experiments, based on the European Strategy outcome (for the relevant DRDs)"
 - For DRDs less directly connected to FCC-ee, the identification of the flagship project is less constraining
 - Ongoing and funded programs should continue in the near term
- Initial ideas/plans expected to be shown by DRDs their ECFA plenary presentations
 - today DRD1, 3, 4, 6 and in November DRD2, 5, 7, 8

Collaboration	Re-approval	Initial approval
DRD 1, 2, 4 & 6	Nov 2026	Dec 2023 [RB 247]
DRD 3 ¹ , 5 and 7	March 2027	June 2024 [RB 249]
DRD 8	Nov 2027	Dec 2024 [RB 251]

¹ Full approval following earlier preliminary approval

20 April 2026	Thomas Bergaur
---------------	----------------

Document 2: Proposal

This document should outline the plan for the next approval period and must include:

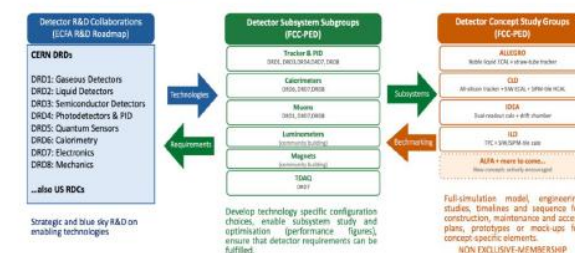
- High-level technological goals for the next period
- An updated work plan including a list of WPs, each with milestones, deliverables and resource estimates for the period 2027-2029. Include realistic funding estimates based on preliminary/informal interactions with funding agencies!
- Include some perspective (with fewer details) for the periods after 2029.

Clearly highlight and prioritise developments aiming for FCC-ee experiments, based on the European Strategy outcome (for the relevant DRDs)

DRD-FCC interface

- FCC-ee, as the **next flagship collider**, is a particularly important player in the strategic guidance to R&D
 - 39 EoI for detector R&D towards FCC-ee were submitted as input to ESPP
- Important to enhance interaction between:
 - DRDs
 - FCC-ee Detector Concept & Subsystem WGs
- A structured connection and mutual engagement encouraged
- Implementation remains with: → DRDs and FCC structures

Organizational Structure during the Reference Design Phase (2026-2028)



This organisation is aimed at fostering collaboration rather than competition, across the DRDs and the individual institutes, towards building a library of detector subsystems with different technologies (vertex detectors, trackers, luminometers, calorimeters, ...) and related software tools (geometry, digitisation, simulation, subsystem reconstruction and performance analysis) that can be used in a plug-and-play strategy to study and optimise their performance in several variations of detector concepts.

IMFP2026 - Potential Spanish Contributions to Detectors for FCC-ee — Ivan Vilagrosa et al.

09/07/2026

Giuliana Rizzo, Felix Sefkow - ECFA Detector Panel

9

Some Highlights from
2026 ESPP update

Note added:

ECFA Detector Roadmap



- Some DRD's were not terribly happy with the new suggested focus
- A number of specific examples for FCC-ee-oriented R&D were given in my presentation (slides 31-34)
 - They may or may not be taken on board by the DRD collaborations
 - We shall insist, but just in case ...
- The next EP R&D programme is expected to start soon
 - The current programme is already more and more focussed on FCC-ee
 - A call will be sent to CERN/EP for a bottom-up gathering of ideas
 - Our FCC-ee needs should be compiled and appear prominently in the call

the flagship project is less constraining

- Ongoing and funded programs should continue in the near term
- Initial ideas/plans expected to be shown by DRDs their ECFA plenary presentations
 - today DRD1, 3, 4, 6 and in November DRD2, 5, 7, 8

09/07/2026

Giuliana Rizzo, Felix Sefkow - ECFA Detector Panel

8

- Implementation remains with: →
DRDs and FCC structures

This organisation is aimed at fostering collaboration rather than competition, across the DRDs and the individual institutes, towards building a "library" of detector subsystems with different technologies (vertex detectors, trackers, luminometers, calorimeters,...) and related software tools (geometry, digitisation, simulation, subsystem reconstruction and performance analysis) that can be used in a plug-and-play strategy to study and optimise their performance in several variations of detector concepts.

IMFP2026 - Potential Spanish Contributions to Detectors for FCC-ee — huan.vila@cea.es

9

09/07/2026

Giuliana Rizzo, Felix Sefkow - ECFA Detector Panel

Other messages from the pECFA meeting: Patrick's talk

The "Plan B" definition in the updated strategy

A descoped FCC-ee is the preferred alternative option for the next flagship collider

"Descoping scenarios **include** removing the top-quark run, constructing two rather than four interaction regions and experiments and decreasing the radiofrequency (RF) system power. These measures would **reduce the construction cost** by approximately 15%."



"Although this would have a **significant impact on the breadth of the physics programme** and the precision achieved, the descoped FCC-ee would still provide a very strong physics programme and a viable path towards high energies, compared to the alternative collider options. Should additional resources become available, **these descoped scenarios would be reversible**."

36

What is the plan B exactly? Staged or Descoped?

- The contours of the plan B are rather flexible
 - "Descoping scenarios include..."
 - This language offers significant freedom for tuning
 - In fact, the ESPPU secretariat is asking for input
 - "There is room, time, etc., to tune the descoped option" (P. Spiccas, FCC Physics Workshop)
- Maybe the most important statement of the recommendation:
 - "Should more resources become available, these descoped scenarios would be reversible"
- This sentence says that upgrades are possible in principle (with add'l resources)
 - In practice, it means that the later implementation of these stages must be kept open
 - In other words, the reversibility of the proposed descoped options must be first verified
- It specifies neither the time nor the implementation order of these stages
 - Giving in turn a lot of additional room for tuning indeed
- It is vague about the additional resources required for these staged upgrades
 - To preserve the FCC-ee scientific objectives, time could be such a resource
 - At CERN, time has always been our contingency – "Time is money"

37

Towards a better definition of the staged/descoped FCC-ee?

- We want to avoid a descoped FCC-ee
 - That is too good to be worth upgrading later
 - But not good enough and miss the scientific objectives
- It cannot be scientifically on par with, while more costly than, other scenarios
 - This would immediately resuscitate scenarios that have been discarded by the Strategy
- Spending 12.8 BCHF for a mediocre scientific outcome cannot be an option
 - The long-term consequences on CERN would be seriously detrimental
- The good news is that the ESG rushed version is the worst possible proposal
 - Any mitigation path to implement possible staging can only bring improvements
 - First thoughts are presented in the following few slides (see also [arXiv:2601.05283](https://arxiv.org/abs/2601.05283))
 - More studies will be pursued by the physics and accelerator group during the RDP
- The obvious first avenue to explore is to use time as a resource
 - To preserve the scientific objectives (at least for the lower energy runs)
 - To avoid shutting down a 12.8 BCHF facility after only 9 years (!) of exploitation
 - And anecdotally, to absorb the cumulative budget deficit (CBD) from FCC construction

39

Descoped / staged FCC-ee : A possible strategy

- Use time as contingency: We can start FCC-ee with much lower beam power
 - e.g., start with 10 MW at the Z pole, and defer the increase to the design value (or more) to later
 - ... and still make enormous impact on Higgs & EW measurements and on FIP searches
- What is essential is that the infrastructures allow for the implementation of
 - Four experiments from the beginning (not stageable!)
 - Increased power / reduced β_y^* – and indeed save money!
 - Higher beam energy (up to 365 GeV) at a later stage

in that order
- Work on multiple design change opportunities for cost/risk/time contingency during the RDP
 - While keeping the physics programme intact, with opportunities to augment it later

Opportunity	Impact / benefit
LCC optics	~10% less SR power at all energies ; greater flexibility (α_c , ϵ_s); much fewer high-power circuits ...
Collider RF frequency change 400 → 600 MHz	Demonstrated performance, gradient & Q_0 ; higher gradient; easier integration of cryomodules.
Semi-local solenoid compensation	Less fringe field, less emittance growth, enabling higher detector solenoid field (3T instead of 2T)
Layout changes (under discussion)?	Could potentially save 15% of RF cavities in the booster
Moving booster on top of its support	Greater stability, easier supporting structures
Polarised e^- photo-injector and e^+ polariser ring	Much greater availability
Change injector linac freq. to commercial S-band?	Components available off the shelf
New observables, better analyses, strategic operation	Shorter operation time for same physics outcome (or increased outcome with staged upgrades)

Other messages from the pECFA meeting: Next ECFA Chair

- **Paris' mandate is coming to an end (31.12.2026)**
 - He has been a game changer during his mandate
 - The procedure for his succession has started
 - The chair-elect will have a strong impact on FCC
 - Before, during, and after (?) the project approval
- **Candidates: Daniela Bortoletto (UK), Arnaud Ferrari (Sweden), Roberto Tenchini (not in rECFA)**
 - The first two are rECFA members
 - The first one already applied last time
- **Election scheduled on 12 September 2026**
 - Each rECFA member votes (like in the Eurovision show)
 - You may want to speak with your country representative
 - You may also want to discuss with Greg Bernardi
 - Member of rECFA and PED coordination group
- **The floor is open for questions and discussion.**

Restricted ECFA Composition

Chair	Prof. Paris Sphicas	Appointed Jan. 2024
Secretary	Dr Lidija Zivkovic	Appointed July 2024
Members		
Austria	Dr Thomas Bergauer	Appointed Jan. 2024
Belgium	Prof. Barbara Clerbaux	Appointed Jan. 2026
Bulgaria	Prof. Mariyan Bogomilov	Appointed July 2022
Croatia	Dr Dinko Ferencek	Appointed July 2024
Cyprus	Prof. Panos Razis	Appointed Oct. 2017
Czech Republic	Dr Zdenek Hubacek	Appointed Jan. 2025
Denmark	Prof. Ian Bearden	Appointed Jan. 2026
Finland	Prof. Panja Luukka	Appointed Jan. 2024
France	Dr Gregorio Bernardi	Appointed Jan. 2023
Germany	Prof. Heiko Lacker	Appointed July 2021
Greece	Prof. Dimitrios Sampsonidis	Appointed Jan. 2024
Hungary	Dr Ferenc Siklér	Appointed Jan. 2021
Italy	Dr Sandra Malvezzi	Appointed Jan. 2024
Israel	Prof. Eilam Gross	Appointed Jan. 2018
Latvia	Dr Kārlis Dreimanis	Appointed Jan. 2026
Lithuania	Prof. Grazina Tautvaisiene	Appointed Jan. 2025
Netherlands	Dr Rosemarie Aben	Appointed Jan. 2026
Norway	Prof. Farid Ould-Saada	Appointed Jan. 2024
Poland	Prof. Justyna Lagoda	Appointed Jan. 2021
Portugal	Prof. Patricia Conde Muino	Appointed July 2020
Romania	Dr Gabriel Stolcea	Appointed Jan. 2022
Serbia	Prof. Lidija Zivkovic	Appointed Jan. 2022
Slovakia	Dr Pavol Strizenec	Appointed May 2016
Slovenia	Prof. Borut Paul Kerševan	Appointed July 2026
Spain	Prof. Celso Martinez Rivero	Appointed Jan. 2021
Sweden	Prof. Arnaud Ferrari	Appointed July 2023
Switzerland	Prof. Rainer Wallny	Appointed Jan. 2024
Türkiye	Prof. Erkan Özcan	Appointed Jan. 2022
United-Kingdom	Prof. Daniela Bortoletto	Appointed July 2022
Ukraine	Dr Igor Kyrylin	Appointed July 2024
CERN	Dr Richard Hawkings	Appointed Jan. 2024

- **CSEF** (Comité Suisse d'Évaluation du FCC) works under the aegis of the State Secretariat for Education, Research and Innovation (SERI).
- **CSEF** members represent the concerned offices and departments of the Swiss Confederation, the Canton of Geneva, as well as experts from UZH and PSI representing the scientific community.
- CSEF conducted a structured evaluation of **FSR** (+ other high-level documents) and send some very detailed comments that we need to reply to (no assessment on financial feasibility). Their report (and our replies) will be public and can/will be used by the opponents.
- A first **visit** of CSEF took place on 25/02/25
- A new **visit** is foreseen on (Friday) **04/09/26**:
 - Morning: high level exchange between committee and director general
 - Afternoon: discuss their comments in small groups

- **CSEF** (Comité Suisse d'Évaluation du FCC) works under the aegis of the State Secretariat for Education, Research and Innovation (SERI).
- **CSEF** members represent the concerned offices and departments of the Swiss Confederation, the Canton of Geneva, as well as experts from UZH and PSI representing the scientific community.
- CSEF conducted a structured evaluation of **FSR** (+ other high-level documents) and send some very detailed comments that we need to reply to (no assessment on financial feasibility). Their report (and our replies) will be public and can/will be used by the opponents.
- A first **visit** of CSEF took place on 25/02/25
- A new **visit** is foreseen on (Friday) **04/09/26**:
 - Morning: high level exchange between committee and director general
 - Afternoon: discuss their comments in small groups

- **PDS (Physics, Detectors, Software) Recommendations:**
 - a) Strengthen detector and software development through focused R&D for the FCC-ee, ensuring alignment between theoretical precision, experimental design, and computational capacity.
 - b) Validate the planned size of the two large experimental caverns against the range of FCC-hh detector requirements to avoid costly retrofits in the future.
 - c) Develop a sustainable, scalable computing strategy that considers integration of member states national resources, leverages AI/ML, and builds on synergies with HL-LHC efforts.
 - d) Review the balance between independent experimental collaborations and shared frameworks to optimize scientific excellence and efficiency.
- **Other recommendations** for Accelerator Development, Environment, Sustainability (lack of socio-economic benefit assessment), Safety (lack of estimate of the volume of radioactive waste), Civil Engineering, Engagement with the different public stakeholders.

Swiss Evaluation Report

Comment / Recommendation	Page / Section
Clear Show Stopper	
None	
Possible Show Stopper	
None	
Potential Bottle Neck	
None	
Noteworthy Concern	
Achieving the necessary alignment between theoretical and experimental precision and tailoring detector configurations to the diverse set of physics channels and discovery opportunities remains a significant challenge.	Ch. 1
High-Performance Computing (HPC) is found to be critical for specialised, high intensity but short-term tasks (e.g., AI/ML development, physics simulations, statistical studies). National and institutional computing resources could significantly contribute if integrated into the FCC Virtual Organization (VO) via the DIRAC framework. Recommendation: More details are needed on how this integration would work in practice. Also some way to exchange and collaborate with HL-LHC should be designed soon.	Ch. 8
Data storage needs for FCC-ee Z-pole will be comparable to projections of LHC. Including simulated samples will increase requirements on storage. Recommendation: Develop a plan to sustainable approach the issue is important	Ch. 8
Recommendation: Further detail the planning on a technical level for AI/ML integration in simulation, reconstruction, analysis and detector optimization.	Ch. 8
Recommendation: Generalise the approach for a common software Framework especially for detector R&D efforts and future experimental collaborations.	Ch. 8
Recommendation: The links with the LHC computing and software community should be strengthened. This facilitates knowledge transfer, incentivizes synergies and ensures alignment across major CERN projects. A long-term plan and strategy should be developed in the next two years.	Ch. 8
Strong Point	
The CSEF appreciates the optimization regarding the <u>sequencing and duration of different center-of-mass collision energies</u> . The quasi-flexible running scheme enhances FCC-ee's	Ch.1

Guided evaluation of FSR Vol. 1: noteworthy concern:

- Theory calculations,
- Computing incl. ML/AI
- Data storage

versatility and maximizes its physics output. Increased attention to <u>flavor and QCD physics</u> underscore the richness of intensity frontier physics.	
Establishing <u>four interaction points</u> as the baseline configuration is a significant advancement. The benefits of this choice are clearly and convincingly presented. It provides greater flexibility in both the experimental program and the operational model.	Ch. 1
Although reaching the required precision goals in <u>theoretical predictions</u> will take many years, the work initiated during the FCC feasibility study has already begun to define a <u>clear roadmap</u> . Approval of the FCC project will serve as a catalyst for deeper engagement from the theory community. The impressive progress in improving the precision of LHC predictions, surpassing initial expectations, provides strong confidence in the ability to achieve the ambitious theoretical precision targets set for FCC	Ch. 3

	Mai	Juin	Juillet	Aout	Septembre	Octobre
Débat public fr 		4/06 : 18h-21, lancement du débat public, ArchPark à Archamps	02/07 : Réunion publique thème "MATEX et le chantier et impact paysagers", à Annemasse	Pause 1er au 15/08	08/09 : Réunion publique thème "Impacts et opportunités socio-économiques", à Valserhône	01/10 : clôture du site internet du débat public
		17/06 : Réunion publique, thème "Science & société" à Lyon	08/07 : Réunion publique, thème "l'eau et hydrogéologie" (prélèvement, consommation, gestion, rejet, hydrogéologie), à Cruseilles	26/08 : Le Forum des acteurs (salon avec stands des parties prenantes), suivi d'un temps d'échange en plénière, La Roche-sur-Foron	21/09 : webinaire thème : "Cycle complet, énergie, le raccordement" (avec la présence de RTE), en ligne	
		23/06 : Webinaire thème "les alternatives scientifiques / option zéro du projet FCC", en ligne	09/07 : Webinaire thème "retour d'expérience LEP/LHC", en ligne		TBC 24/09 : Réunion publique thème "environnement et territoires", à Annecy	
Concertation ch 					TBC 30/09 : Dernière réunion publique thème (en fonction des sujets ayant émergé au cours des 4 mois.), à Ferney-Voltaire	
	18/05 : lancement de la concertation, Uni mail à Genève	TBC, 25/06 matin : Eclairage des controverses, Thème 1 : "FCC Pourquoi ici et maintenant", Genève	TBC, 07/07 : Première permanence riverain, BC, Suisse	Pause 1er au 15/08	02/09 : Seconde permanence riverain, Presinge ou chouxlex, Suisse	01/10 18h-21h : fin de la concertation, réunion de clôture, Cem (cloture du site internet de la concertation CH)
	22/05 : visite du Portail de la Science, CERN	TBC, 25/06 matin : Eclairage des controverses, Thème 2 : "Matex", Genève		27/08 matin : Visite site OSL puis ALICE, CERN, France, (40 personnes)	Dialogue avec le monde économique, FER, Genève	02/10 : clôture du site internet de la concertation suisse
	26/05 : visite du Portail de la Science, CERN	24/06 : visite du Portail de la Science, CERN (en option)		28/08 matin : Balade exploratoire site PB, Presinge/chouxlex, Suisse, (40 personnes)	Dialogue avec les élus nationaux, Berne / Dialogue avec les élus cantonaux, Genève	
		28/06 : visite du Portail de la Science, CERN (en option)		29/08 matin : Atelier de travail cartographique riverain, thème "focus implantation site PB" : Chouxlex ou Presinge, (40 personnes)	18 et 19/09 : Atelier de la relève, (séminaire avec 30 jeunes), CERN	
					15/09 : Webinaire thème : "Financement et coût du FCC"	
Porte-parole généraliste du CERN à prévoir						
Porte-parole généraliste du CERN à prévoir + Experts						
Événement commun France/Suisse envisagé						
Date définitive						

Meetings on sensitive issues (water, excavated materials) went well (with non-CERN experts debunking alarming statements by virulent opponents).

(Note: Online events tend to be less polemical as questions/comments are screened by the organisers.)

PED-relevant meetings:

- **17 June** “Science and society”: in general good meeting but violent attacks against CERN and supremacy of particle physics by non-HEP scientists.
- **23 June** webinar “alternative scenarios” (aka ESPPU in 2h): CNDP invite LCF (J. List) and LEP3 (C. Mariotti) but solid talk by P. Sphicas on the ESPPU process and why it is fully legitimate!
- **25 June** “Why here and now?": FCC is not perceived as a priority in time of climate crisis; decision process is judged as non-democratic.
- **20 July** webinar “lessons learnt from LEP/LHC”: general intro by DG, talks by S. Myers, M. Manfred Buhler-Broglin, M. Spiro, S. Jezequel

Voici le lien pour s'inscrire au webinaire du 20 juillet 18h30

<https://www.debatpublic.fr/projet-accelereur-particules/webinaire-retour-dexperience-des-grands-collisionneurs-du-cern-9307>

New MDI organisation for the RDP

To align with the overall FCC Reference Design Phase organisation, the MDI activities are **thematically grouped into five Working Groups**. This new organisation will facilitate broader international participation, optimise CERN's contribution, and ensure the timely delivery of the highest-priority Reference Design Phase objectives by the end of 2027:

- Consolidation of the project baselines
- Demonstration of design compliance with the project performance requirements
- Increase of the maturity level for the various designs from feasibility study and reduction of the technical and financial risks
- Potential impact on civil engineering for underground caverns and surface sites.

The work of the five thematic Working Groups will be coordinated by dedicated conveners (to be nominated), under the guidance of the MDI WP Coordinators. The WP Coordinators will ensure the overall coherence of the programme, foster harmonisation across the transversal MDI activity, and minimise duplication of effort.

MDI working groups

WG1 - IR Optics and Beam Dynamics

- Definition of the final-focus quadrupole systems
- Define baseline detector-field compensation scheme
- Optimisation of the shielding solenoid field shape
- Specify the optics correction elements,
- Definition of permissible field errors, alignment tolerances and stability requirements to ensure achievement of design luminosity
- Develop a beam-based alignment procedure for the IR quadrupoles
- Specification and integration of fast beam feedback systems,
- Optimise the IR optics for the minimisation of the synchrotron radiation levels in the interaction region and detector environment
- Evaluate the various sources of IR heat loads

WG2 – Detectors and beam induced background

- Inner Detectors
 - integration concepts for inner detectors and vacuum chamber
 - R&D plan
- Beam-Induced Backgrounds and Shielding
 - Accelerator-to-detector simulation workflow
 - Consolidate realistic MDI geometry models
 - Single beam losses and synchrotron radiation, and transport into detector systems
 - Beam-beam backgrounds and transport into detector systems
 - Optimise shielding, masking, and vacuum chamber radius
 - Following detector background estimates of collision debris, determine shielding requirements for IR magnets.
 - Evaluate TID and fluence for detectors and accelerator systems

WG3 – Accelerator technical systems

- Design of final focus superconducting magnets
- Design of the cryogenic systems
- Design of the beam vacuum systems
- Design of the beam instrumentation
- Beamstrahlung monitor
- Radiation studies
- R&D plan

WG4 – Metrology, alignment and adjustment strategy

- Alignment strategy
- Characterization of the various sources of instability
- Structural analysis methodology
- Support structures, positioning systems
- Design compliance
- R&D plan

WG5 – Global integration studies for MDI, Detectors and Experimental cavern including infrastructure

- MDI systems static and dynamic envelopes
- Global experimental cavern integration
- MDI and detector assembly/disassembly scenario
- Assessment of removal/installation of cavern vacuum chambers
- Proof of concepts of MDI Far End vacuum supporting structures

New MDI organisational structure

MDI WP

Manuela Boscolo,
Fabrizio Palla, and a
technical coordinator
from CERN

WG 1

IR optics and Beam dynamics

Will interface with, and report progress also to

Accelerator and booster design pillar

WG 2

Detectors and beam induced backgrounds

PED & Accelerator and booster design pillars

WG 3

Accelerator technical systems

Technical systems pillar

WG 4

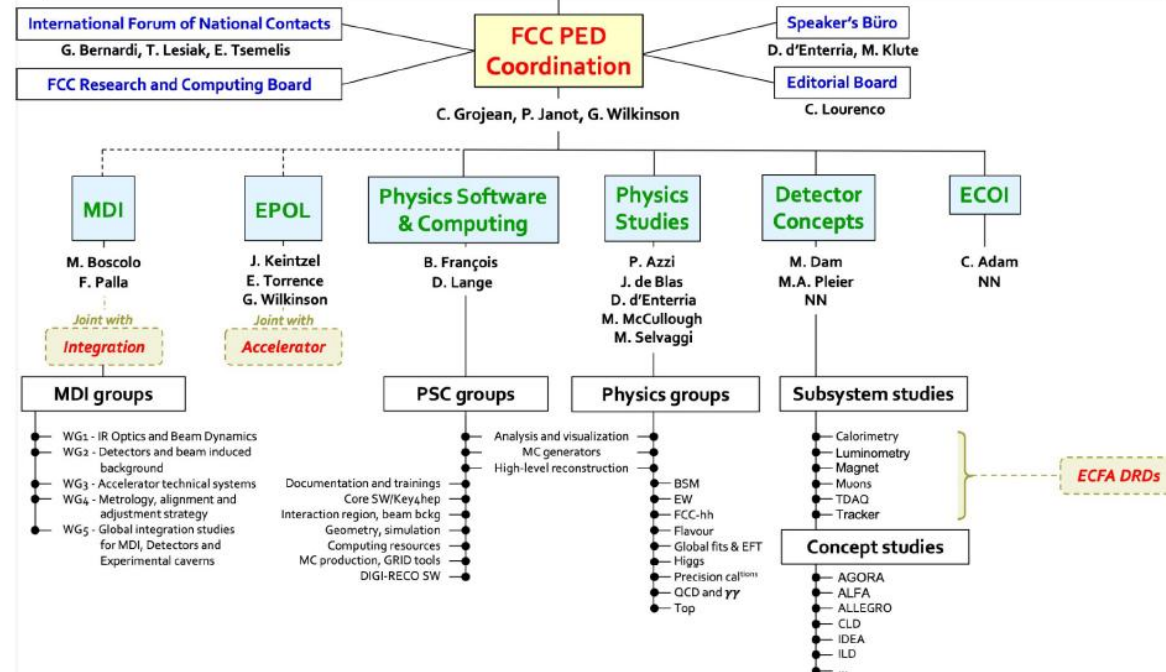
Metrology, Alignment and adjustment strategy

Accelerator Technical systems & System
Engineering Project Integration pillars

WG 5

Global integration studies for MDI, Detectors and
Experimental caverns

System Engineering Project Integration &
Technical Infrastructure pillars





- PED workshop embedded in FCC week
 - Pros and Cons are discussed in this [google doc](#).
- We'll make sure that enough space/time is allocated to PED

Tentative Timetable

Day	Monday 12 Apr.				Tuesday 13 Apr.												Wednesday 14 Apr.												Thursday 15 Apr.												Friday 16 apr.		Day	
Time	Plenary 1	Plenary 1	Plenary 2	Parallel 1	Parallel 2	Parallel 3	Parallel 4	Parallel 5	Parallel 6	Board Room	Board Room	Board Room	Board Room	Plenary 1	Plenary 2	Parallel 1	Parallel 2	Parallel 3	Parallel 4	Parallel 5	Parallel 6	Parallel 7	Board Room	Board Room	Board Room	Board Room	Plenary 1	Plenary 2	Parallel 1	Parallel 2	Parallel 3	Parallel 4	Parallel 5	Parallel 6	Board Room	Board Room	Board Room	Board Room	Plenary 1	Plenary 2	Time			
Room	Theatre format (500 p.)	Theatre format (500 p.)	Theatre format (250 p.)	Theatre format (100 p.)	Theatre format (100 p.)	Theatre format (50 p.)	Theatre format (100 p.)	Theatre format (80 p.)	Theatre format (80 p.)	10 p.	10 p.	10 p.	U-shape or round table (30 p.)	Theatre format (500 p.)	Theatre format (250 p.)	Theatre format (100 p.)	Theatre format (100 p.)	Theatre format (50 p.)	Theatre format (100 p.)	Theatre format (80 p.)	Theatre format (80 p.)	Theatre format (80 p.)	10 p.	10 p.	10 p.	U-shape or round table (30 p.)	Theatre format (500 p.)	Theatre format (250 p.)	Theatre format (100 p.)	Theatre format (100 p.)	Theatre format (50 p.)	Theatre format (100 p.)	Theatre format (80 p.)	Theatre format (80 p.)	10 p.	10 p.	10 p.	U-shape or round table (30 p.)	Theatre format (500 p.)	Theatre format (250 p.)	Room			
08:30-09:00	Plenary		physics Workshop					BCD Booster & Collider Design	CE Civil Engineering	TSY Technical Systems	reserve	reserve	reserve	reserve			Physics Workshop	Physics Workshop	Physics Workshop	INJ Injector Complex	TIN Technical Infrastructure res	TSY Technical Systems	Ind.D Industry Day	reserve	reserve	reserve	reserve			Physics Workshop	Physics Workshop	Physics Workshop	BCD Booster & Collider Design	SPR Planning and Resources	TSY Technical Systems	reserve	reserve	reserve	reserve	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 Break												Coffee break												Coffee break			10:00-10:30
10:30-11:00	Plenary		physics Workshop					BCD Booster & Collider Design	CE Civil Engineering	TSY Technical Systems	reserve	reserve	reserve	reserve			Physics Workshop	Physics Workshop	Physics Workshop	INJ Injector Complex	TIN Technical Infrastructure res	TSY Technical Systems	Ind.D Industry Day	reserve	reserve	reserve	reserve			Physics Workshop	Physics Workshop	Physics Workshop	BCD Booster & Collider Design	SEI Systems Eng. and Int.	TSY Technical Systems	reserve	reserve	reserve	reserve	Summaries		10:30-11:00		
11:00-11:30																																										11:00-11:30		
11:30-12:00																																											11:30-12:00	
12:00-12:30	Lunch break	Lunch break											Governance working lunch	Lunch break												Lunch break												Closing remarks			12:00-12:30			
12:30-13:00																																										12:30-13:00		
13:00-13:30																																											13:00-13:30	
13:30-14:00	Plenary		Physics Workshop	Physics Workshop	Physics Workshop	BCD Booster & Collider Design	TIN Technical Infrastructure res	TSY Technical Systems	reserve	reserve	reserve	reserve				Physics Workshop	Physics Workshop	Physics Workshop	BCD Booster & Collider Design	TIM Territorial Implementation	TSY Technical Systems	Ind.D Industry Day	reserve	reserve	reserve	reserve			Physics Workshop	Physics Workshop	Physics Workshop	INJ Injector Complex	TIN Technical Infrastructure res	TSY Technical Systems	reserve	reserve	reserve	reserve	Scientific Advisory Committee		13:30-14:00			
14:00-14:30																																											14:00-14:30	
14:30-15:00																																												14:30-15:00
15:00-15:30	Coffee Break												Coffee Break												Coffee break													15:00-15:30						
15:30-16:00	Coffee break		Physics Workshop	Physics Workshop	Physics Workshop	BCD Booster & Collider Design	TIN Technical Infrastructure res	TSY Technical Systems	reserve	reserve	reserve	reserve				Physics Workshop	Physics Workshop	Physics Workshop	BCD Booster & Collider Design	TIM Territorial Implementation	TSY Technical Systems	Ind.D Industry Day	reserve	reserve	reserve	reserve			Physics Workshop	Physics Workshop	Physics Workshop	INJ Injector Complex	TIN Technical Infrastructure res	TSY Technical Systems	reserve	reserve	reserve	reserve		15:30-16:00				
16:00-16:30	Plenary		Physics Workshop	Physics Workshop	Physics Workshop	BCD Booster & Collider Design	TIN Technical Infrastructure res	TSY Technical Systems	reserve	reserve	reserve	reserve				Physics Workshop	Physics Workshop	Physics Workshop	BCD Booster & Collider Design	TIM Territorial Implementation	TSY Technical Systems	Ind.D Industry Day	reserve	reserve	reserve	reserve			Physics Workshop	Physics Workshop	Physics Workshop	INJ Injector Complex	TIN Technical Infrastructure res	TSY Technical Systems	reserve	reserve	reserve	reserve		16:00-16:30				
16:30-17:00																																											16:30-17:00	
17:00-17:30		POSTER SESSION (min. 50 posters)												SPAIN SESSION																										17:00-17:30				
17:30-18:00	WELCOME RECEPTION																																										17:30-18:00	
18:00-18:30																																											18:00-18:30	
18:30-19:00																																											18:30-19:00	
19:00-19:30																																											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	
																																												21:30-22:30

- **PED @ FCC week**
 - Keynote talk on Monday morning
 - Plenary session on Monday afternoon
 - PED summaries on Friday morning
 - Poster session on Tuesday late afternoon
- **PED workshop (with separate indico agenda)**
 - 2 plenary sessions of 90'
 - 10*3 parallel sessions of 90' (could be reduced, but we'll have 3 rooms available).
 - TBD: Satellite plenary event on Friday afternoon?

Prochains meetings FCC-contacts

6 Juillet : Jamboree

17 Juillet

18 Septembre

16 Octobre

13 Novembre

25-27 novembre: FCC-France workshop

11 Décembre

Demandes budgetaires

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	MADRID FCC week	FCC IFNC/FGC	FCC-France	FCC-meet CERN	FCC- wkshop	TOTAL (kE) TOT	ASKING (kE) 2027	rappel dotation 2026	main master projet	Prévisions Physiciens: 15% FTE ou plus en 2027 FTE = FTE,FCC+FTE,DRD reliés à FCC (ALLEGRO, SEED etc...) * = stages L3,M1 encadrés(+0,1FTE), M2 déclarés séparéments	Prévisions Physiciens entre 5 et 10% en 2026	tot FTE >15% exp-phys	total FTE all exp-phys	total FTE IT + all exp-phys
COUT VOYAGE	2000	1200	500	400										
APC+FCC-FR	8000	6000	2000	2000		18,0	18	14	allegro	BER(0,6*), MAR(0,6*), MAZ (0,2), SEL(0,2),FOU(0,5),YUD(0,3) M26(0,2)	BOM(0,1), POG(0,3))	2,6	3,0	3,0
FCC-Wkshop					5000	5,0	5	3						
CPPM	2000		1000	1500		4,5	5	6	allegro	DJA(0,35*)	BAM(0,1),MON(0,05)	0,4	0,5	0,7
IJC Lab	4000		1000	0		5,0	5	8	allegro grainita	MOR(0,4*), HUZ(0,5) SCH(0,3),KLE(0,3)	SER(0,1),FOU(0,1) AMH(0,05),BAR(0,05), LEF(0,35)	0,9 0,6	1,1 1,1	1,8 1,6
IPHC	4000		2000	3200		9,2	9	9	gram	AND(0,2), ELB(0,5),CON(0,2), CPJ (0,5), SEN(0,2), BER (0.5), MED (0.3)	BAU(0,1),BES(0,1)	2,4	2,6	3,1
IP2I	3900		3500	300		7,7	8	9	gram	BOU(0,6), CON (0,6),GAS(0,5), DAN(0,3),VER (0,3), SAB (0,5),M26(0,2),f	GRE(0,05),LAK(0,05),MIR(0,05)	3,3	3,5	5,5
LAPP	2600		1500	600		4,7	5	9	allegro	ARN(0,2),BOU(0,1),DEL(0,3*), GAG(0,2),LEV(0,1),PD1(0,5)		0,9	1,1	1,1
LLR	2600		1500	1500		5,6	6	9	ecal	BOU(0,50*), CHA(0,15*), SAL(0,45*), SHYI(0,5), HAL(0,5),M26(0,2)	BRI(0,1)	2,3	2,4	2,4
LPCA	4000		1500	4800		10,3	10	6	grainita	CHA(0,3),MAD(0,2), MON(0,2), YER(0,9),WEB(0,9),MOE(0,9),LEM(0,2),DIV(0,2)		3,2	3,2	3,4
LPNHE	4000		1000	400		5,4	5	6	gram	MAL(0,3), PD(0,9)	BLO(0,5)	1,2	1,7	1,7
LPSC	2000		1000	1600		4,6	5	6	allegro	DEV(0,15),PAN(0,15),M26(0,2)		0,5	0,5	0,5
L2IT	0	0	0	0		0,0	0	0	comp	BIS(0,15)	STA(0,05)	0,2	0,2	0,2
TOTAL-2026	37100	6000	16500	16300	5000	80,0	80	85				18,4	20,8	24,8

6th FCC France & International Partners Workshop,

Marseille, 25-27 Novembre 2026

FCC France 2026 :

Sessions

DETECTORS

Vertex
Tracking/Timing
TPC

Auguste/Jeremy
Didier/Gaelle/Philippe Schwemling
Paul Colas

Allegro Cal
ECal/ILD
Grainita

Nicolas/Giovanni
Vincent/Jean-Claude Brient
Giulia Hull/Stephane

Detector concepts: Didier/Greg/Roy

PHYSICS

Higgs-EW
HF
QCD-Top
BSM:

Marco, Jean-Baptiste
Stephane, Romain
Bogdan, Roberto
Suzanne, Giacomo Cacciapaglia

Software:
Web:
Com:

Louis, Ziad, Giovanni
Catherine, Luc, Greg
Gaelle, Giovanni, Marco

FCC France and international Partners workshop 2026

Mercredi a-midi

Welcome STATUS-Acc + MDI + acc-
France-report

2h00

Phys-1: Higgs / EW
1h30

Accelerator 1
1h30

Phys-2: Top / QCD
1h30

Accelerator 2
1h30

Jeudi matin

Parallel 1
Calorimetry
2h00

Parallel 1
Tracking
2h00

Parallel 2
Calorimetry
1h45

Parallel 2
Tracking
1h45

Jeudi a-midi

Plenary: MDI / Background
0h45

Plenary: tracking/ Calo/ Soft
1h15

Plenary:
Detector Concepts and
Other DRD's
2h00

Vendredi matin

ECR Session

1h00

Phys-3: Heavy Flavor/BSM

2h00

Outreach, Com, Web

1h00

Open session / Future

1h00

Outlook
0h30

6th FCC France and its International Partners Workshop

25–27 nov. 2026

Fuseau horaire Europe/Paris



Accueil

Ordre du jour

Liste des Contributions

Ma conférence

... Mes Contributions

Inscription

Liste des participants

contact

✉ gregorio@in2p3.fr

✉ giovanni.marchiori@apc...

Dear Colleagues,

The sixth FCC - France and International Patrnrs workshop will take place at CPPM in Marseille, in an in-person mode. Zoom connection will nevertheless be available to follow the sessions for those who cannot be on site, but not for presentations.

It will take place from Wednesday, November 25, 2026, 14:00 to Friday, November 27, 13:00 on the Luminy campus, at CPPM and a neighboring building.

The workshop aims at reviewing the overall FCC status and the implications of the FCC French teams, in order to strengthen the synergies, and intensify the French participation in the FCC reference design ("pre-TDR") phase. Studies on physics and the constraints that this physics entails on detectors, in particular the physics of FCC-ee, but also FCC-hh will be presented. Progress on Theory and on Accelerator for FCC will be reported. There will also be dedicated societal/environmental and ECR presentations.

The preliminary agenda visible on this site is close to being finalized.

Registration will open on July 20th

Please get ready to join us in Marseille !



Commence le 25 nov. 2026, 13:00

Finit le 27 nov. 2026, 13:00

Europe/Paris



Aucun document.



Inscription

Vous êtes inscrit(e) à cet événement

[Voir les détails >](#)

- Venue : l'Hexagone HR support from CPPM: Mme Angélique Pèpe
 - 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.



- 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/>

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