

The logo features a large white circular graphic composed of two concentric arcs, resembling a stylized 'C' or a partial circle. The text 'European Strategy' is written in a white, sans-serif font across the top of the circle, and the word 'Update' is written in a smaller, white, sans-serif font below it.

European Strategy
Update

The Physics Preparatory Group

What is it and what will do?

Fabio Maltoni — 20 Dec 2024

Remit

The remit of the European Strategy Group (ESG), established in June 2024, is to develop an update of the European Strategy for Particle Physics and submit it for approval by the Council. **The aim of the Strategy update should be to develop a visionary and concrete plan that greatly advances human knowledge in fundamental physics through the realisation of the next flagship project at CERN.** This plan should attract and value international collaboration and should allow Europe to continue to play a leading role in the field.

The ESG should take into consideration:

- the input of the particle physics community;
- the status of implementation of the 2020 Strategy update;
- the accomplishments over recent years, including the results from the LHC and other experiments and facilities worldwide, the progress in the construction of the High- Luminosity LHC, the outcome of the Future Circular Collider Feasibility Study, and recent technological developments in accelerator, detector and computing;
- the international landscape of the field.

The Strategy update should include the preferred option for the next collider at CERN and prioritised alternative options to be pursued if the chosen preferred plan turns out not to be feasible or competitive. The Strategy update should also indicate areas of priority for exploration complementary to colliders and for other experiments to be considered at CERN and at other laboratories in Europe, as well as for participation in projects outside Europe.

Remit

The ESG should review and update the Strategy and add other items identified as relevant to the field, including accelerator, detector and computing R&D, the theory frontier, actions to minimise the environmental impact and to improve the sustainability of accelerator-based particle physics, the strategy and initiatives to attract, train and retain the young generations, public engagement and outreach.

The ESG should submit the proposed Strategy update to the Council by the end of January 2026.

Timeline for the update of the European Strategy for Particle Physics



PPG

Physics Preparatory Group (PPG)

The remit of the Physics Preparatory Group (PPG) is to prepare the scientific contribution to the work of the ESG (the “Briefing Book”), based on the input it gathers from the community. The PPG has the following composition:

Working Group			
	Co-convener (PPG member)	Co-convener	Scientific Secretary
Electroweak physics	Monica Dunford (DE, exp)	Jorge de Blas (ES, theory)	Emanuele Bagnaschi (IT)
Strong interaction	Cristinel Diaconu (FR, exp)	Andrea Dainese (IT, exp, HI)	Chiara Signorile-Signorile (DE)
Flavour physics	Gino Isidori (CH, theory)	Marie-Hélène Schune (FR, exp)	Maria Piscopo (NL)
BSM physics	Fabio Maltoni (BE/IT, theory)	Rebeca Gonzalez Suarez (SE, exp)	Benedikt Maier (UK)
Neutrino physics and cosmic messengers	Pilar Hernandez (ES, theory)	Sara Bolognesi (FR, exp)	Ivan Esteban (ES)
Dark matter and dark sector	Jocelyn Monroe (UK, exp)	Matthew McCullough (CERN, theory)	Yohei Ema (CERN)
Accelerator science and technology	Gianluigi Arduini (CERN, acc)	Phil Burrows (UK, exp, acc)	Jacqueline Keintzel (CERN)
Detector instrumentation	Thomas Bergauer (AT, exp)	Ulrich Husemann (DE, exp)	Dorothea vom Bruch (FR)
Computing	Tommaso Boccali (IT, exp, comp)	Borut Kersevan (SL, exp, comp)	Daniel Thomas Murnane (DK)

Input

<https://indico.cern.ch/event/1439855/overview>

Cover page (1 page)

Each document submitted should carry a single cover page containing no more than the title, the contact person(s) and an abstract.

Comprehensive summary (maximum 10 pages)

The submitted document must be no more than 10 pages long (excluding the cover page) and must provide a comprehensive and self-contained summary of the in

Format and deadline for submission

The cover page and the comprehensive summary are to be submitted in portable document format (pdf) by 31 March 2025. The back-up document should have a cover page with the same title and contact persons and with the words “Back-up Document” added.

Input

<https://indico.cern.ch/event/1439855/overview>

Submitting input: Select the “Submit input” tab and then click on the “Submit new abstract” button and upload both the main document and the addendum (if any) following the instructions in the “Attachments” field. Please copy the abstract of your input into the field labelled “Content”. Please also indicate one or more submission themes (tracks) to which your input relates:

- Physics streams, matched to the PPG physics groups
 - Electroweak physics incl. Higgs
 - Strong Interactions
 - Flavour physics
 - BSM physics
 - Neutrinos and cosmic messengers
 - Dark matter and dark sector
- Technology streams, matched to the PPG groups
 - Accelerator technologies
 - Detector instrumentation
 - Computing
- Additional streams mapped to ESG working groups
 - Input from the National HEP communities and National Laboratories
 - Projects and large experiments
 - Communication, Education, Outreach, Knowledge and Technology transfer, Career issues
 - Sustainability
 - Others (e.g. personal contributions)

Input

<https://indico.cern.ch/event/1439855/overview>

Distribution

All the documents submitted will be forwarded to the PPG and the European Strategy Group (ESG). Unless explicitly requested otherwise, they will also be made public. The option not to make a given document public will be available upon submission via the dedicated portal.

Please note that Indico always refers to submitted documents as "abstracts".
Should you encounter problems submitting a file, please contact us at this [address](#).