The ESPPU Communications Strategy 2021-2025

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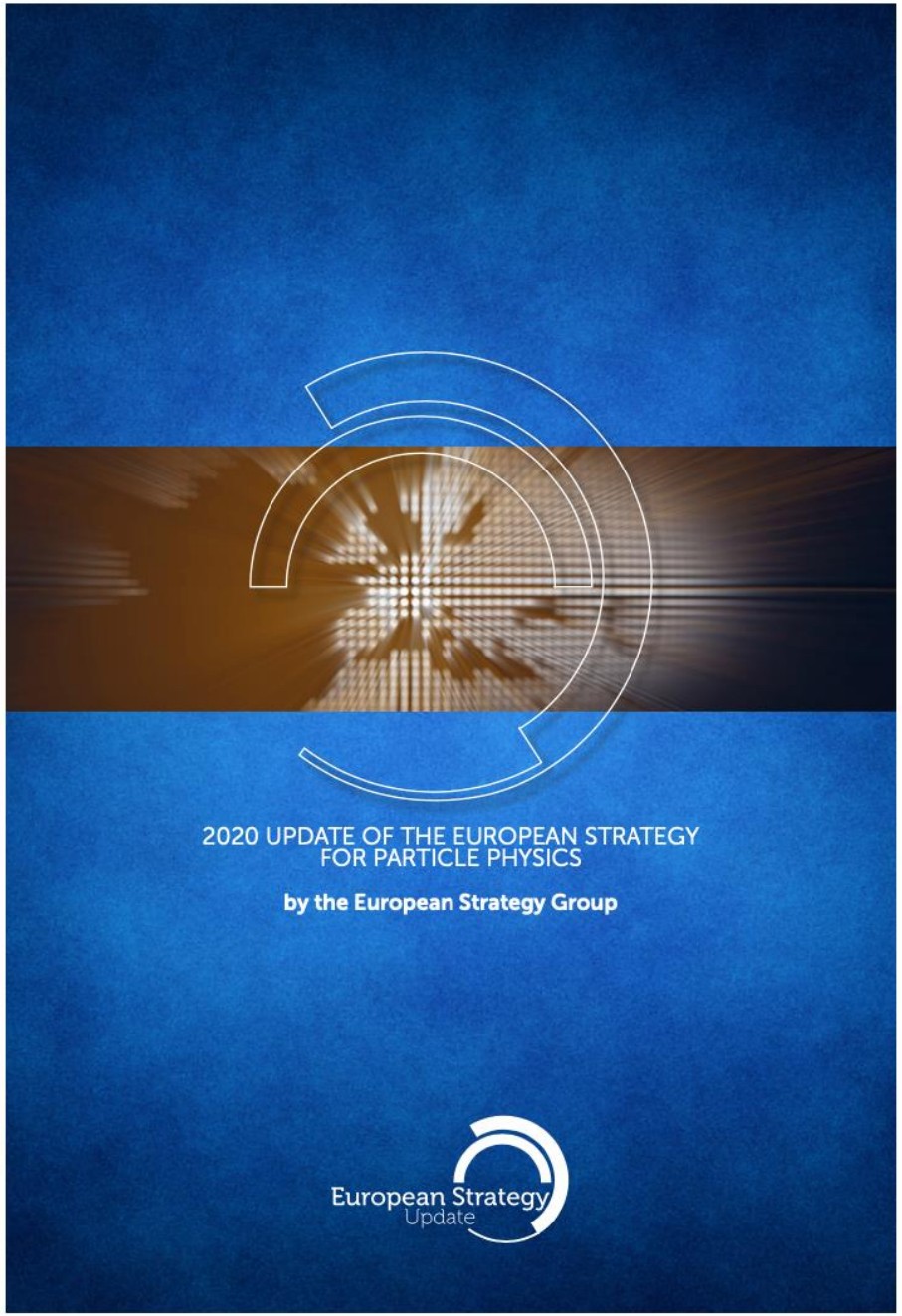
22nd IPPOG Meeting

18.11.2021



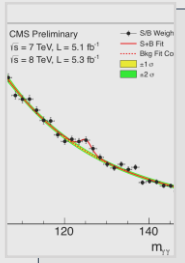
Main recommendations:

- Successful completion of the **HL-LHC upgrade** of the LHC machine
- An **electron-positron Higgs factory** as highest priority next collider
- **Ramping up R&D** on advanced accelerator, detector and computing technologies
- **Technical and financial feasibility study for a future 100 TeV hadron collider** at CERN, with an electron-positron Higgs factory as a possible first stage
- **Support long-baseline neutrino projects** in Japan and the USA, and a scientific programme complementary to high-energy colliders.

And also:

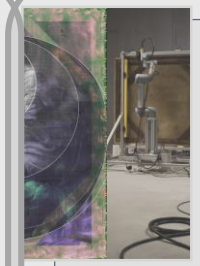
- Continued **support for a broad programme of theoretical research** covering the full spectrum of particle physics
- Continued and stronger **synergies with neighbouring fields** (namely nuclear and astroparticle physics)
- Expansion of **collaborative programmes between CERN and research institutes in its Member States, Associate Member States and beyond**
- **Environmental impact** of particle physics activities should continue to be carefully studied and minimised
- **Equality, diversity and inclusion** should be placed at the heart of all activities
- **Knowledge and technology transfer should be supported**, as well as engagement with industry
- **Public engagement, education and communication** in particle physics should continue to be recognised as important components of the scientific activity and receive adequate support.

Thematic areas of EPPCN-CERN working groups



Physics case for future colliders

- Insights into the Higgs boson
- Open questions in particle physics



Benefits to society

- Technology transfer to other fields
- Industry (Procurement)
- Education and training
- Human capital for other fields
- Public outreach

Minimising environmental impact

International Collaboration

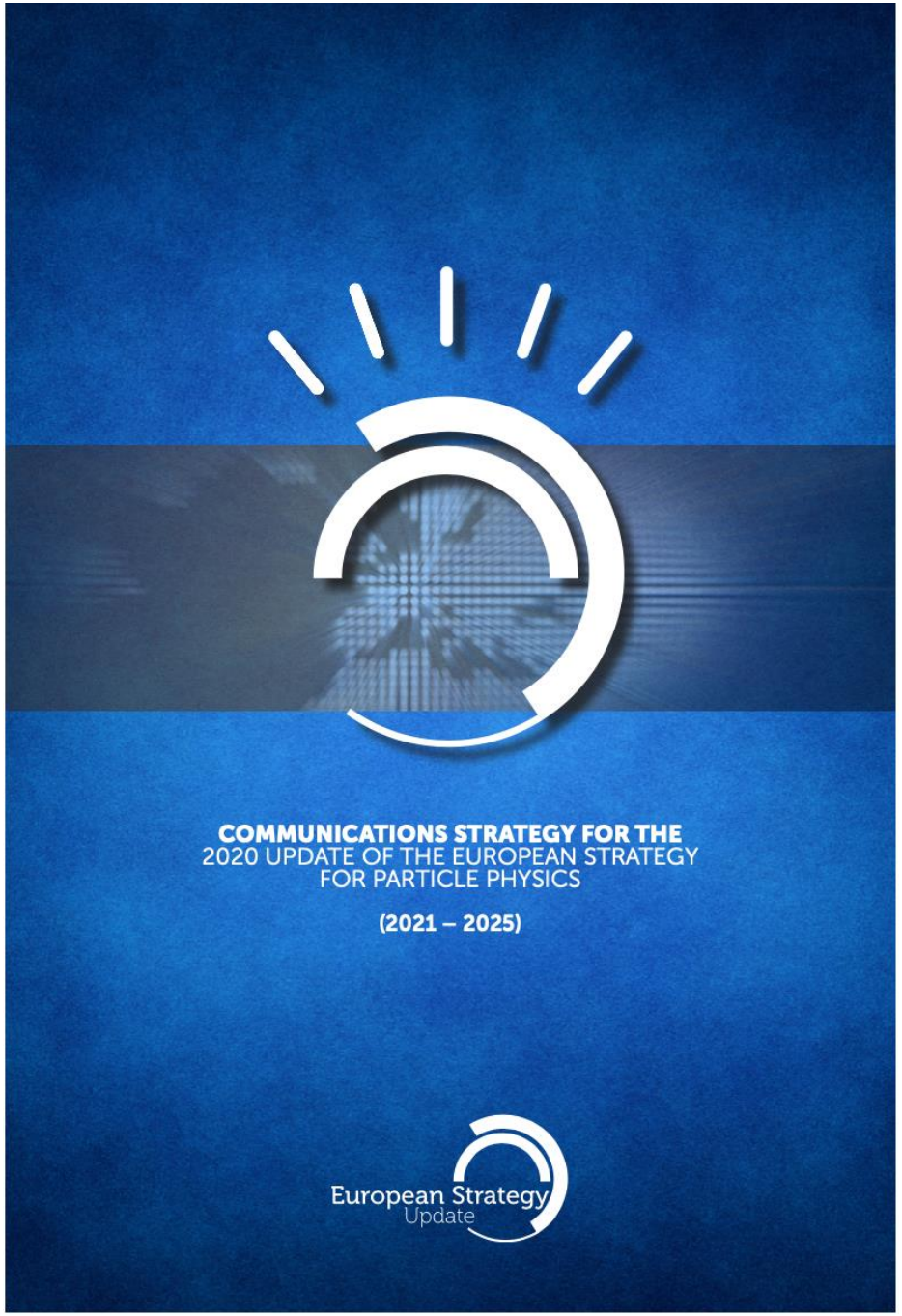
- Global endeavour
- With other communities

Fostering diversity and inclusion

Members of WGs: EPPCN delegates, CERN IT-ECO, CERN IPT-KT, CERN HSE

Goal

To ensure sustained support for the recommendations of the European Strategy for Particle Physics and their implementation



SWOT analysis of the ESPPU (communications perspective)

Developed by the working groups, to establish the baseline of the current landscape of the field of particle physics, main threats and opportunities.

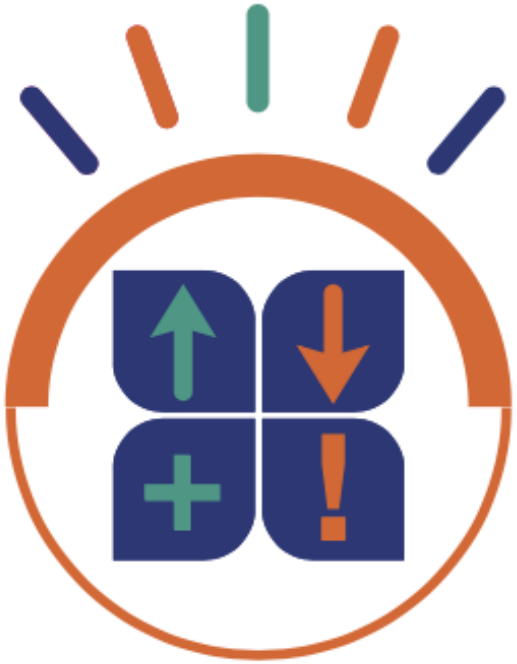
Was the basis for the development of the communications strategy

STRENGTHS

- Scientific Heritage: 50 years of colliders have transformed our understanding of the universe's fundamental constituents, including the Higgs discovery
- Decades of proven success in delivering ever-more ambitious projects, through CERN, for example, the LHC
- Large colliders are good value for money: they serve many thousands of researchers, in tens of countries, over several decades, with a positive return on investment
- Technologies developed for collider-based HEP have found applications in other areas of society (med tech, environment, aerospace, www). The innovative R&D that is needed for future colliders will bring new benefits to society
- Skills acquired and training provided are highly valued by employers across sectors
- HEP is a proven source of inspiration to young minds, attracting many people into science
- CERN is one of humankind's greatest example of countries coming together for a common good
- HEP has a deeply-ingrained culture of knowledge sharing and open collaboration

OPPORTUNITIES

- We don't know what 95% of the universe is made of, nor why matter should exist in the first place. Experimental exploration is the only way to find out.
- The unexpected: it is impossible to know what lies at the next energy frontier but progress in new knowledge is guaranteed.
- Public interest in science and the importance of evidence-based policy-making has become more prevalent due to COVID-19
- Major colliders for scientific exploration are a shining light in a fractured world, demonstrating what can be achieved when countries come together with a common mission
- HEP is not the only field of fundamental exploration. Continued and stronger synergies with other fields are possible.



WEAKNESSES

- Claims of exciting physics beyond the Standard Model lying 'just around the corner' at previous colliders have not materialised
- Upfront cost for new projects, in particular for the FCC (i.e. tunnel)
- Disunity: no clear consensus in the community on which machine should follow the LHC
- Change in paradigm: theory lacking a clear guide for what a new collider will discover (this was not the case for the LHC)
- HEP is less tangible to the general public than many other scientific domains
- The potential environmental impact of the future colliders (energy consumption, carbon footprint, pollution)
- Complexity of communication products (press releases, etc) about incremental ("everyday") science
- Sense in some quarters of lack of ownership of CERN as a national lab, by Member States

THREATS

- Yesterday's news: perception of a lack of progress (e.g. since finding the Higgs) due to long periods between major discoveries
- Supertanker: perception of wanting to build "another LHC, only bigger" reflects lack of agility of the field
- Perception that particle physics (already) gets too much share of limited funding
- COVID impact on national/global economies: public and policy-makers are less interested in fundamental research than in medicine, climate change.
- Rise of nationalism: lack of interest in international collaboration, greater focus on domestic agendas
- China builds its own collider: negative impact on future of European HEP
- Perceived lack of interest in action towards environment and sustainability concerns in future collider projects
- Power of social media and certain mainstream media in creating and amplifying misinformation about future colliders

Objectives of the ESPPU communications strategy

Our stakeholders will support the recommendations of the ESPPU because:

- They are surprised and excited to learn that ~95% of the universe is unknown and that **this and other profound mysteries about our origins linked to the Higgs boson can be addressed by a future collider**.

- They acknowledge or have been reassured, inspired or surprised by the **ways that particle physics research has impacted all our lives**.

- They are aware that there is a **strong and growing culture of environmental responsibility** and engagement within CERN and the particle physics community concerning current and future large-scale projects.

Promoting diversity and inclusion, and raising awareness of the value of global collaboration in pushing the frontiers of knowledge are cross-cutting goals to the above.

Target Audiences

Priority audiences (high interest; high power)
Governments/Decision makers (at local, regional and national level; of CERN Member States, CERN Associate Member States, CERN Host States, CERN Observer States and potential CERN Member states
Particle physics community (including CERN)
Local communities away from the LHC
Environmental associations, interest groups, activists
Industry
Media and influencers (as vectors)

Secondary audiences (lower interest; high power)
General public in CERN Member States, Associate Member States, Host States and Observer States
Local communities near the LHC
Scientific communities from other fields
Donors

Other target audiences*
Teachers and students
General public in potential CERN Member States and non-Member States
International Organisations (e.g United Nations, NGOs)

*These audiences are key target audiences for the field in the long-term, but with less power to influence the ESPPU within the 5-year timeframe that this communications strategy refers to

Key messages (relevant for all target audiences):

1. Many fundamental mysteries about the universe remain to be solved, including those linked to the Higgs boson. A future collider is a unique tools to unlock these outstanding mysteries in a controlled way. [Narrative: Increase understanding of the universe]

2. Innovation for a future collider and other large-scale projects will create technologies that can change the way we live and work, and address societal challenges, ranging from health to the environment. [Narrative: Benefits to society/knowledge & technology transfer]

3. A future collider will bring industrial, economic and social benefits to local, regional, national and global partners. [Narrative: Return on investment]

4. The particle physics community constantly strives to develop sustainable research facilities and is transparent in communicating its environmental impact. [Narrative: Environmentally responsible research]

5. Collider-based research is one the most compelling example of countries coming together for a common good. It is a proven source of inspiration for future generations. [Narrative: Inspire and strengthen relationships between nations and cultures]

Messages per primary target audience

Drivers (what motivates their interest in the ESPPU)	Desired Outcomes (changes in knowledge, attitude or behavior)	Messages

All messages detailed in the full document

Governments/Decision-makers

Particle physics community (including CERN)

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Industry

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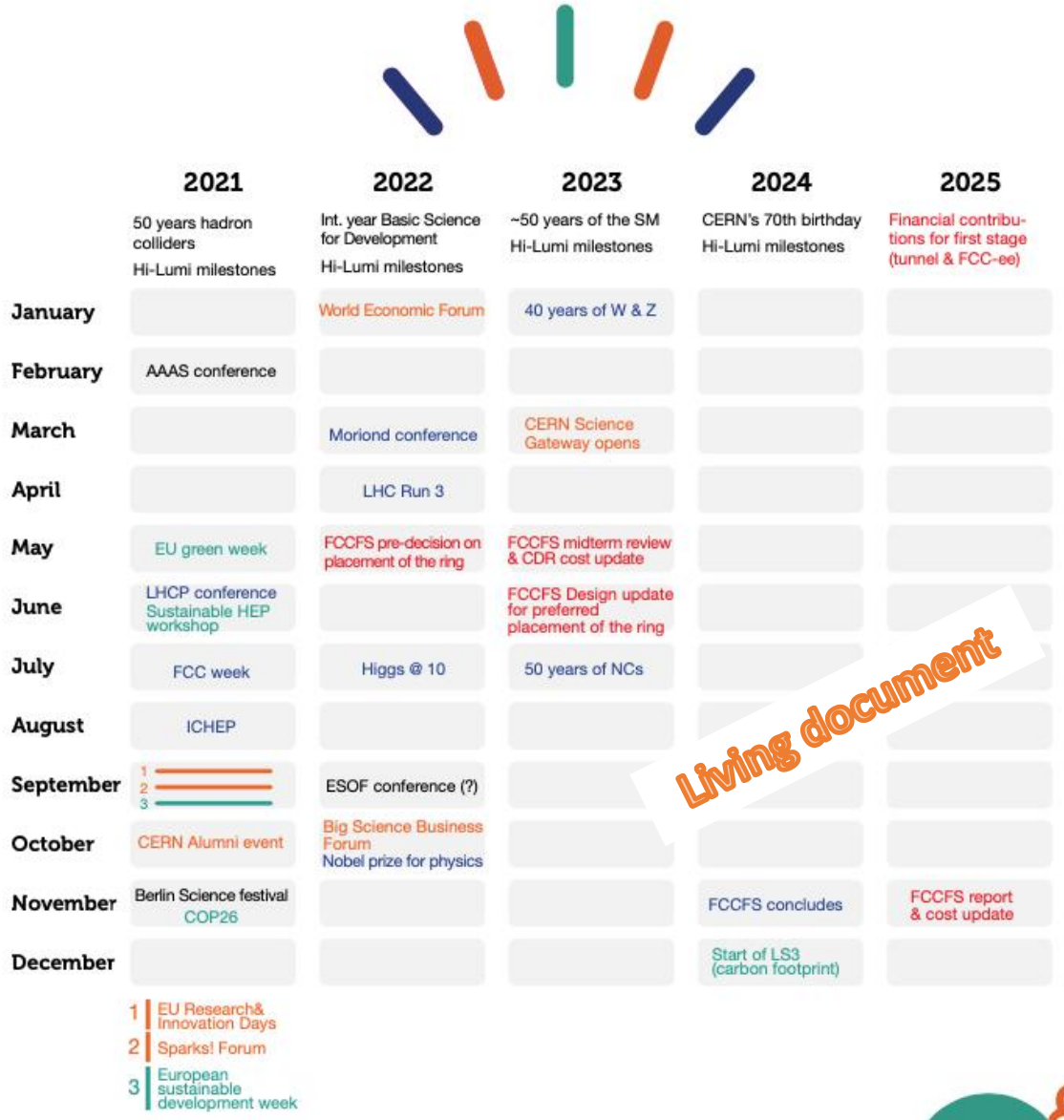
Communication hooks

Includes:

- Generated from within the particle physics community
- External hooks (ex: World/International Days, AAAS)

EPPCN members will identify country-specific communication hooks relevant for the ESPPU

Specific channels and products for each communication hook will be defined



Ambassadors and partners

Will be identified for each communication action/campaign and engaged accordingly.

Ambassadors

Individuals (mostly) who could be invited to advocate for the recommendations of the ESPPU.

The goal is to have many voices speaking for the ESPPU: within CERN, within the HEP community and beyond.

Will come from:

- Particle physics community
- Wider scientific community (biomedicine, climate research)
- Other areas of society: culture, finance, high-tech, non-governmental organisations, humanitarian field, diversity & inclusion, environment & sustainability

Partners

- Within CERN (CERN Council, LHC collaborations, CERN departments, CERN and Society Foundation, CERN Alumni)
- In Member States and Associate Member States (Universities and research institutes, Funding agencies, BICs)
- Other Big Science projects (ITER, SKA, XFEL, ESS, SESAME, EIROForum)
- Physics Societies (APS, EPS, country-specific societies)
- UN organisations/programmes (UNESCO, UNFCCC, UNEP)
- European Commission
- National, federal and local authorities
- 2050 Today initiative (for environmental impact)
- **HEP Communication and outreach networks (IPPOG, Interactions)**

Status of the ESPPU communications strategy document

Aug-Oct 2021

- Feedback collected
- Revisions and edits to draft

Nov 2021

- Draft shared with CERN DG
- Draft shared with CERN Council (incl. SPC)

Dec 2021

- Comms strategy presented to Council
- Comments/ approval by CERN Council

Dec 2021 / Jan 2022

- Public version on EPPCN website
- Internal version circulated to all EPPCN members

How can EPPCN and IPPOG work together?

Over to you!

Thank you!