

The European Strategy - news

I. RESTRICTED*

Documents

1. Report to the Credentials Committee
2. Approval of the Draft Minutes of the Ninth European Strategy Session of Council
3. Adoption of the Agenda
4. Matters Arising from Previous Meeting
5. President's Report
6. ~~MEMBER STATE MATTERS~~
7. ~~MEMBER STATE MATTERS~~
8. ~~MEMBER STATE MATTERS~~
9. ~~MEMBER STATE MATTERS~~
10. ECFA Matters
 - Report on ECFA Activities
 - Report on ICFA meeting
11. Report from the Technology Transfer Network (J.M. Le Goff – Oral)
12. Report from the Communication Network (J. Gillies – Oral)
13. Report on FALC (President of Council – Oral)
14. ~~MEMBER STATE MATTERS~~
15. ~~MEMBER STATE MATTERS~~
16. Confirmation of the access status of the documents of the session
17. Other Business

CERN-Council-S/063/RA/Draft

CERN-Council-S/064

CERN/SPC/953
CERN-Council-S/065

CERN/SPC/954
CERN-Council-S/066

CERN/SPC/955
CERN-Council-S/067

CERN/SPC/956
CERN-Council-S/068

CERN/SPC/957
CERN-Council-S/069



ESFRI text draft

- The ESFRI report will be updated during 2010/early 2011 and we have been asked to start preparing our input – assuming a format similar to our 2008 input
- A proposal was tabled in the SPC and Council in June and September
- Changes in text since 2008:
 - Mentions “our” Preparatory Phase Projects started since 2006 (SLHC-PP, ILC-HiGrade and TIARA)
 - Mentions R&D for HE-LHC
 - Mentions Global Projects (possibly at CERN) beyond LHC
 - Several smaller updates ...
- A general wish to make European Strategy Preparatory Phase projects (current ones and future ones) more visible – at a level similar to the ESFRI projects
- This will be one of the main points to discuss with ESFRI during the Strategy update ... can only be considered with common efforts from ESFRI, EC and the Council

European Strategy Forum
on Research Infrastructures

ESFRI

EUROPEAN ROADMAP
FOR RESEARCH
INFRASTRUCTURES

Roadmap 2008

UPDATE 2008

> Structure of the report

>ESFRI and its mission	3
>Foreword.....	5
>Structure of the report.....	7
>Achievements of ESFRI.....	9
>The Updated Roadmap – what is new?	11
>The Roadmap: the landscape and its Projects	14
>Social sciences and Humanities	17
>Environmental Sciences	25
>Energy	39
>Biological and Medical Sciences.....	47
>Materials and Analytical Facilities.....	61
>Physical Sciences and Engineering	71
>e-Infrastructures	85
>What next?	88
>Glossary.....	89
>Roadmap Working Group Members, Experts, Drafting Group and Review Group Members	92
>ESFRI National Delegates.....	94
>References	98
>Notes.....	99



The European Strategy Status

- Introduction
- The Strategy Points – status, concerns/comments, next steps
- Overall summary

“However beautiful the strategy, you should occasionally look at the results.”
Winston Churchill



The European Strategy - intro

- **Working mode:** Most the topics discussed in the Strategy Sessions of Council have also been discussed in ECFA and/or the Directors' Meetings, and with ApPEC representatives in some cases. ECFA also reports yearly to the European Strategy Sessions of Council. The Directors' meetings will in the future be scheduled in line with the timetable of ECFA meetings, allowing specific topics to be prepared there as well, and there is potential for closer contacts and more frequent discussions with the National Laboratory representatives.
- An important operative role of Strategy Secretariat is therefore **to provide information flow between these bodies, making sure that the various matters are addressed correctly and topics prepared at the right time and level before being presented to the SPC if appropriate, and discussed in the Strategy Sessions of Council.**



The European Strategy

	Strategy Point	Comments
General issues	Council will update the Strategy	
Scientific activities	LHC completion and SLHC R&D Accelerator R&D Linear Collider Neutrino Physics Links to Astroparticle Physics Flavour Physics Links to Nuclear Physics Theory	
Organisational issues	Strategy follow up and set up strategy secretariat Engagement with other regions EU relationship Non member states relation to Strategy definition	Strategy update 2012 news Specific agenda point
Complementary Issues	Communication Network Technology Network and Transfer Industry Relation	Report Report



Scientific Issues

■ **LHC, Accelerator R&D and Linear Collider.**

- The LHC machine is now operating at 3.5+3.5 TeV and increasing luminosity, and clear plans are made for future operation, including a High Luminosity period 2020-30.
- Detector R&D is urgent as the detector changes, in 2020 in particular, are significant.
- The FP7 SLHC-PP project supports the first upgrade phase, a Design Study is being prepared for the High Luminosity changes.

- The FP7 EUCARD and TIARA projects are key activities in the accelerator R&D area, and for next year a new Integrating Activity project after EUCARD will need to be submitted, and TIARA will start up. We aim to discuss joint programming with the EC in the area of accelerator R&D, as outlined in the TIARA proposal, relevant for next framework programme.

- The [CLIC/CTF3](#) collaboration aims for a Conceptual Design Report (CDR) in 2011 and [Common activities](#) have been taken up with ILC. The [ILC](#) TDR is being prepared for 2012.
- The Council Paper on [Global Projects](#) addresses European Participation in global projects.
- The [ILC-HiGrade Preparatory Phase](#) project is addressing the industrialization of high-gradient RF-cavities, and worked to develop a Governance Model for a future linear collider.
- The [AIDA](#) FP7 Integrating Activity project focusing on R&D infrastructures is close to start-up.

- Reduction in CLIC resources in the 2010 CERN MTP makes it mandatory to increase the collaborative effort for the next phase of the project.
- It is important to develop further, as part of the Strategy update, the possibility of a linear collider at and hosted by CERN.



Scientific Activities

■ **Neutrino, Astroparticle and Flavour physics.**

- The [EUROν FP7 project](#), which is a Design Study for a High Intensity Neutrino Oscillation Facility in Europe, studies options a future neutrino facility and is hence central for future planning.
- The International Design Study (IDS-NF) for a Neutrino Factory, including studies at test facilities such as MICE in the UK, has a very significant European participation.
- The [ECFA-CERN Neutrino Strategy Workshop](#) at CERN in October 2009, and the report of the [SPC Neutrino panel](#) were other important events of the last year.
- A new important element is the initiative to establish an [ECFA committee to receive and review the intermediate design reports](#) for possible future neutrino facilities as developed in the EUROν and IDS-NF frameworks.

- As reported in the Frascati meeting a workplan has been prepared with ApPEC. The main elements of this workplan were presented to Council and the ApPEC SC in June and the document has now been sent to both.
- Council has some comments to the document (clarification asked concerning one point), and ApPEC might also have comments, but hopefully the document can be agreed on both sides in future meetings. The main areas of contact remain and the combined work is quite well defined ...

- Two flavour factories aiming for very high luminosities are currently being planned, SuperB in Italy and SuperKEKB in Japan. The [SuperB project](#) was presented to the Council in Sept. 2009 and the Council will follow its development in the TDR phase. The [SuperKEKB project](#) in Japan has received important initial funding and European physicists have central responsibilities in the detector upgrade.
- It is important to follow the flavour factories in the next period, and also to make sure precision experiments are properly considered in the Strategy update.



Scientific Activities

- **Nuclear physics/Fixed target and Theory.**
- NuPECC is in the process of developing a [Long Range Plan \(LRP2010\)](#) for the area of European Nuclear physics. The plan will be presented and discussed at the ECFA meeting at CERN at the end of November.
- [The Diversity Workshop at CERN in May 2009](#) was the forum for many presentations and ideas about future projects at CERN, including also neutrino projects (3.4) and precision experiments (3.6).
- This is an area where more work is needed, and it will be important to follow up this after the ECFA presentation in November.
- While the Theory Strategy point itself is very general, the Strategy discussion document mentions several specific areas, i.e. promoting interactions between theory and experiments, the importance of CERN's visitor programme, support of lattice field theory and role/use of EU networks. It is possible to identify positive developments in these areas during the period covered by the present Strategy. However, no systematic assessment has been made.



The European Strategy

	Strategy Point	Comments
General issues	Council will update the Strategy	
Scientific activities	LHC and SLHC R&D, Accelerator R&D, Linear Collider, Neutrino Physics, Links to Astroparticle Physics, Flavour Physics, Links to Nuclear Physics, Theory	Workplan with ApPEC
Organisational issues	<p>Strategy follow up and set up strategy secretariat</p> <p>Engagement with other regions</p> <p>EU relationship</p> <p>Non member states relation to Strategy definition</p>	<p>Strategy update 2012</p> <p>Enlargement Working Group: Opening of CERN, Global Project Paper. Report from FALC in Council</p> <p>CERN-EC annual meeting</p> <p>Define in REMIT for 2012 update</p>
Complementary Issues	<p>Communication Network</p> <p>Technology Network and Transfer</p> <p>Industry Relation</p>	<p>Report from Comm. Netw.</p> <p>Report from TNet</p> <p>No systematic studies of “problematic” contracts during LHC construction</p>



Main points

Strategy Update:

- Prepare the remit for the 2012 Strategy update and appointments to the Preparation and Strategy Groups.
- Define the international participation in the 2012 Strategy update.
- Initiate the Strategy update process.

Scientific:

- Continue to keep focus on physics results from the LHC and in the neutrino sector as guidance in preparation of the Strategy update.
- Consider how the CLIC programme and other investments for future projects can be maintained given the foreseen reductions in the CERN MTP.

Information and coordination:

- Consider the coordination of national programmes and the Strategy update.
- Continue to develop contacts with the EC and the ESFRI process to make sure that the 2012 update process is taken fully into account.

Issues related to the Strategy points:

- The Strategy Secretariat and associated bodies to address the points that are least developed, namely contacts with NuPECC and the points concerning Theory and Industry Relations.
- Increase Strategy-related activities in Directors' meetings and continue the important activities in ECFA relating to the Strategy implementation and follow-up.
- Address detailed points as outlined in chapters 2-5 above, including following up the workplans with the EC and ApPEC.

The Council is invited **to take note and comment on the 2010 Strategy status report**, make **suggestions for format and content improvement** in the future, and **approve the Strategy follow-up points in chapter 6** as priorities for the coming year



Addition

- It is important to make the assessment of the status of the Strategy known to the community, therefore we would like to turn this document into a WEB page – and in the process include the comments received from SPC and Council
- The WEB page will become available from the Strategy Session of Council WEB page
- Two corrections will be made:
 - ESGARD's role and work will be mentioned under the accelerator R&D point
 - There is an incorrect reference to that dark energy and gravitational waves are not part of the current ApPEC roadmap, this will be removed.
- The document is openly available at:
<http://indico.cern.ch/materialDisplay.py?contribId=7&materialId=1&confId=104212>



Timeline for Strategy Update

- Start in March 2011 Council week, remit, composition of Strategy Group and Prep. Group, procedures/steps and timescales
 - Preparation group has 4 members nominated by RECFA in addition to the Chair
- June 2011 Council: A (fairly) complete name list for the Strategy Group
- July 2011 EPS: “Kick off” meeting, review status, raise (some) main questions (half a day), discussion
- From July 2011: Be prepared for and encourage/collect input from community, international interactions and consultancy – for Briefing Books or equivalent
- Sept 2011 Council: Final implementation plans discussed
- October 2011 (3-6.10.2011): ICFA seminar at CERN, “global” perspective on roadmap(s)
- An “Orsay like” meeting ~Feb-March 2012 (~2-3 days) – maybe wait for winter conferences
- A “Zeuthen like” meeting ~May-June 2012 (~a full week)
- Approval in ~September 2012 Council session in Brussels, arranged with the help of the EC

REMIT for Strategy Update (2005 version)



- At a meeting in Zeuthen-Berlin from 2-5/6 May 2006, the Strategy Group shall produce a Draft Strategy Document (DSD) addressing the main lines of Particle Physics in Europe, accelerator-based and non-accelerator based, including R&D for novel accelerator and detector technologies. [Representatives of the Observer States, and the chairmen of FALC, ApPEC and NuPECC will be invited to attend the meeting as observers.](#)
- The DSD shall comprise a series of ordered and concise statements, of 1-2 pages, followed by presentations and discussions of the initiatives not exceeding 25 pages.
- In the DSD, the SG shall aim:
 - to enhance the visibility of existing European particle physics programmes;
 - to foster increased collaboration among Europe's particle physics laboratories and institutes;
 - [to promote a coordinated European participation in world-wide projects;](#)
 - [to reiterate the CERN Council's 2004 position on the European strategy for the International Linear Collider;](#)
 - to encourage knowledge transfer to other disciplines, industries, and society;
 - to outline priorities, at least implicitly;
 - to consider time scales;
 - [to follow a thematic or project approach, whichever is more appropriate.](#)
- The SG shall submit the DSD to the CERN Council for discussion and unanimous approval at a special meeting in July 2006.
- The Preparatory Group of the SG shall organize and carry out all the necessary preparatory work required to bring the Berlin meeting to a successful conclusion.
- [The term of office of the SG will end at the time of the special Council meeting dedicated to the discussion and approval of the Strategy Document.](#)

REMIT Draft for 2012 – main points



Some points being considered (many similar to the 2005 statement):

- to enhance the visibility of existing European particle physics programmes;
- to foster increased collaboration among Europe's particle physics laboratories, institutes and universities;
- to review the status of the implementation of the 2006 Strategy;
- to promote a coordinated European participation in global projects and in regional projects outside Europe;
- to consider preparatory steps for a next project at CERN after LHC in a global context;
- to encourage knowledge transfer to other disciplines, industries, and society;
- to outline priorities, at least implicitly;
- to consider time scales and resources;
- to follow a thematic approach with special emphasis on future large infrastructures/projects;
- to consider CERN's future participation in experiments outside the Geneva Laboratory as part of the Strategy implementation;
- to review the current follow up structures and procedures for the Strategy and consider improvements.

The REMIT is in the process of being drafted ..



FP7 projects in 2009-10

- Two key projects submitted in December 2009:
 - AIDA (Integrating Activity addressing the topic: Infrastructures for Detector R&D)
 - TIARA (Invited preparatory phase project from the European Strategy: Infrastructures for Accelerator R&D)Both successful (65-80% of budgets approved), will start early 2011

- New calls in July 2010 – with submission end Nov 2010
 - Most relevant for us: Design Studies (bottom up, not targeted) and Integrating Activities:
 - Design study for High Luminosity – LHC
 - Integrating activities topical but less suited for us than last time, however contains an interesting opening for high energy cosmic rays, multi-messenger project for astroparticle physics
 - New type of projects: "Implementation of common solutions for a cluster of ESFRI infrastructures in the field of "Physics and Analytical Facilities". Synergies in the development of key critical components common to the ESFRI Infrastructures in the field of Physics and Analytical Facilities. Some specific activities related to accelerator or detector components are identified. IT infrastructures and Relations with Industry are other areas where co-operation can be implemented. This project (CRISP) has been submitted.



CERN-EC annual meeting

- Took place Monday 6.9 – it is a part of the CERN-EC MoU and the workplan between CERN and the EC
- Met with three Directors-Generals of the EC
- DG Research (Robert-Jan Smits), DG Education and Culture (Jan Trzuszczński), DG Information Society (Robert Madelin), as well as with the Commissioner for Science, Research and Innovation (Máire Geoghegan-Quinn).
- Some key topics discussed:
 - Current and future FP7 projects in “our” area (covering RI, E-Infra, Open Access, Knowledge transfer)
 - Marie Curie networks and their importance
 - FP7 evaluation and the input provided by CERN
 - Next framework programme
 - Joint programming in the area of Accelerator R&D in the future.
 - Simplification of 3rd party rules
 - EC’s role in the Strategy Update process
 - The Strategy Update in Brussels in 2012
 - Global projects and challenges connected to them
 - Future workshops in specific areas, as a follow up of Physics for Health but also other possibilities
 - Implementation of ESFRI projects and role of the EIROForum organizations
 - Energy research and the ITER situation



Summary

- Positive status of the 2006 Strategy Implementation – we are following the Strategy very well (indicating that it was well constructed and quite realistic even though we need to add a year or two to some of the foreseen schedules at that time)
- Preparation of the 2012 Strategy Update continues
- Very useful annual meeting (linked to the CERN/EC MoU) with the EC in September
- Very important now to promote Particle Physics and Fundamental Research in views of FP8 and ESFRI developments, for all those of you that have contacts to national representatives responsible for defining the future of these “programmes/activities”.





Elements of the ApPEC workplan

The areas of cooperation included in the workplan are divided into two broad categories:

- *General Policy Issues*, which address overall implementation aspects and future orientations of the two main operational activities of the two Sides:
 - Cross-representation and consultancy, beyond what exists already
 - Discussion of ApPEC's role in the forthcoming Strategy Upgrade (and CERN's role in the ApPEC roadmap update)
 - ApPEC's involvement in the CERN Scientific Enlargement discussions over the coming 2 years (will become part of the Strategy update)
 - Discussion of future more formal links between CERN and ApPEC (also linked to the Strategy Update)

- *Thematic Cooperation Areas*, where concrete cooperation activities can be identified and implemented over the 2-year duration of the workplan. Possibilities are:
 - Common CERN-ApPEC theory programme.
 - CERN/ApPEC common outreach activities.
 - Common issues related to Open Access, IT tools, Administrative tools
 - Common R&D calls and more generally CERN participation in ASPERA where CERN is a partner.
 - Use of testbeams and other facilities relevant for projects of common interest.
 - CERN support to possible future projects in the area of astroparticle physics.

Format:

Short text with a description and objectives, a description of how the workplan is approved, monitored and kept updated.