# Project Implementation Plan

**Philip Burrows**

***John Adams Institute, Oxford University***

***and CERN***

# Outline

- **Project implementation Plan ‘PiP’:**
  **Review of status of second drafts – today**
  **Next steps**

- **Complete set of CLIC documents**

- **Reminder of ESU update process**

# PiP outline with responsibles

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | **PiP** | | | | |
| 2 | **Chapter** | **Section** | **Pages** | **Comments** | **Responsible** |
| 3 | | | | | |
| 4 | **Intro** | | 3 | | **Steinar** |
| 5 | | | | intro, context, recall CDR, describe document | |
| 6 | **380 DB** | | 30 | | **Daniel** |
| 7 | | Injectors | 2 | | Steffen |
| 8 | | DR | 2 | | Yannis |
| 9 | | RTML | 2 | | Andrea |
| 10 | | ML | 3 | | Daniel |
| 11 | | BDS | 3 | | Rogelio (Edu) |
| 12 | | MDI | 3 | | Lau |
| 13 | | Post. Coll. and beam-dump | 2 | here, also technical study | Rogelio (Ryan&Lau) |
| 14 | | Integrated studies | 3 | simulations, include operation/energy scanning, machine p | Daniel |
| 15 | | DB acc | 2 | | Steffen (Roberto&Avni) |
| 16 | | DB recomb | 2 | | Roberto (Andrea&Edu) |
| 17 | | Beam transport | 2 | | Andrea |
| 18 | | Decelerators | 2 | | Daniel |
| 19 | | Dump lines | 2 | | Andrea |
| 20 | | | | | |
| 21 | **380 KL** | | 7 | | **Daniel** |
| 22 | | Introduction and parameters | 2 | | Daniel |
| 23 | | Main linac design | 3 | | Daniel |
| 24 | | Main Linac technical unit | 2 | Module and RF unit (Klystron, pc, RF) | Carlo |
| 25 | | | | | |

# PiP outline with responsibles

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 26 | **Higher energies (technical description)** | | 10 | | **Daniel** | |
| 27 | | Introduction, and example paramete | 2 | "1.5 TeV included in 3 TeV" (1DB to 2 DBs) | Daniel | |
| 28 | | upgrade from Klystron version | 2 | | Daniel | |
| 29 | | Impact on systems | 2 | ML, sources, DB, ... "no problem!" | Daniel | |
| 30 | | Progress on 3 TeV BDS? | 2 | improvements on 3TeV design | Edu | |
| 31 | | Energy upgrades with future techon | 2 | | Erik | |
| 32 | **Technologies** | | 60 | Hardware and technical studies | **Nuria** | |
| 33 | | Sources and injectors | 3 | MB and DB | Steffen | |
| 34 | | Magnets | 3 | including powering | Jeremie | |
| 35 | | PETs and all acc. structures | 3 | refer to "performance" chapt, both DB and K | Nuria (Steffen, Alexei, Igor) | |
| 36 | | Klystrons | 3 | L,X,DB,inj, incl new developments | Olivier (Steffen, Igor, Gerry) | |
| 37 | | Modulators | 3 | | Olivier (Davide, Gerry) | |
| 38 | | Module | 3 | K and DB machine | Carlo | |
| 39 | | Pulse compressors | 3 | both Injectors and Klystron machine | Igor | |
| 40 | | Vacuum | 3 | | Cedric | |
| 41 | | Instrumentation | 3 | | Thibaut | |
| 42 | | Beam transfer | 3 | | Mike | |
| 43 | | Beam interception devices | 3 | collimators, photon absorbers DR | TBD | |
| 44 | | MDI | 3 | technical studies | Lau | |
| 45 | | Beamdumps | 3 | techncial studies (what about post collision line?) | TBD | |
| 46 | | Controls, timing, feedback | 3 | | Mick | |
| 47 | | Machine prot | 3 | technical studies | Michael | |
| 48 | | Alignment | 3 | include survey | Helene | |
| 49 | | Stabilzation | 3 | | Kurt | |
| 50 | | Ground motion measurements | 3 | sensor development | Laurent | |
| 51 | | Wigglers | 3 | | Paolo | |
| 52 | | | | | | |

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| 53 | **CEIS** | | 20 | | **John** |
| 54 | | Civ. Eng | 3 | | John |
| 55 | | Electicity supply | 3 | | Davide |
| 56 | | CV | 3 | | Mauro |
| 57 | | Transport and Installation | 3 | | Ingo/Michael |
| 58 | | Safety systems | 3 | incl. enviroment and access | Simon |
| 59 | | Radiation studies | 3 | | Markus |
| 60 | | Cryo | 3 | in case of SC solenoid, check | Dmitri |
| 61 | **Implementation** | | 10 | | **Steinar** |
| 62 | | Schedule and staging | 3 | | Marzia |
| 63 | | Cost | 3 | | Steinar |
| 64 | | Power | 3 | | Alexej |
| 65 | | Key issues (studies not complete) | 2 | Isssues for next period, risks (pointing to other document) | Daniel (Steinar) |
| 66 | **Performance** | | 20 | | **Roberto** |
| 67 | | Introduction | 2 | Overview, inlcude reference to SLC | Daniel (Roberto, Phil) |
| 68 | | Drive Beam | 3 | CTF3 | Roberto |
| 69 | | BDS beam dynamics | 3 | ATF2, FFTB | Rogelio |
| 70 | | Main linac beam dynamics | 3 | FACET+ELETTRA | Andrea |
| 71 | | RF systems | 3 | Swiss FEL, X-boxes, Compact light, ... | Walter (Nuria, Gerry) |
| 72 | | DR | 3 | Light sources whatever | Yannis |
| 73 | | Availability studies | 2 | refer to other big projects? | Odei |
| 74 | | Other effects | 2 | magnetic fields, what else? | Edu, Daniel |
| 75 | **SUM** | | **160** | | |

# PiP procedure + next steps

## First draft of every section due April 13th

- → Review all sections at CLIC Project Meeting, April 19th
- → What's missing?
- → Areas where more effort needed?

## Complete draft of every section due June 15th

- → Review at today's Project Meeting
- → Overall document integration
- → Detailed text editing, cross-referencing, labels, references …

## Polished PiP draft due August 31

- → final editing, prepare executive summary with CLICdp
- → prepare input to ESU short document(s)

## ESU submission by December 18th

# Technical matters

- **Chapter leaders accepting material submitted in latex (+ Word) format**
- **Mick, Markus providing technical support**

**Next:**

- **Now: final feedback from Chapter leaders to Section authors in latex/Word**
- **Early July: Editors assimilate all chapters/sections + convert to latex where needed**
- **Then: latex document integration, cross-referencing, labelling, references, text polishing …**
- **Late July: complete draft of whole PiP**
- **Late August: polished draft; only final cost etc. numbers, or expected R&D results, to be added before submission**

# European Strategy documents

- **Official short submissions:**
  - **1) CLIC project (accelerator + detector)**
  - **2) CLIC physics**

- **Supporting documents ('yellow reports'):**
  - **1) CLIC Project implementation Plan 'PiP' (~160pp):**

    **Accelerator parameters, cost, power, site, staging, construction schedule, summary of main technical issues, preparation phase summary**
  - **2) CLIC preparation-phase (2020-2025) plan (~60pp):**

    **Critical parameters, status and next steps - what is needed before project construction, strategy, risks + mitigation**
  - **3) Executive summary (~60pp):**

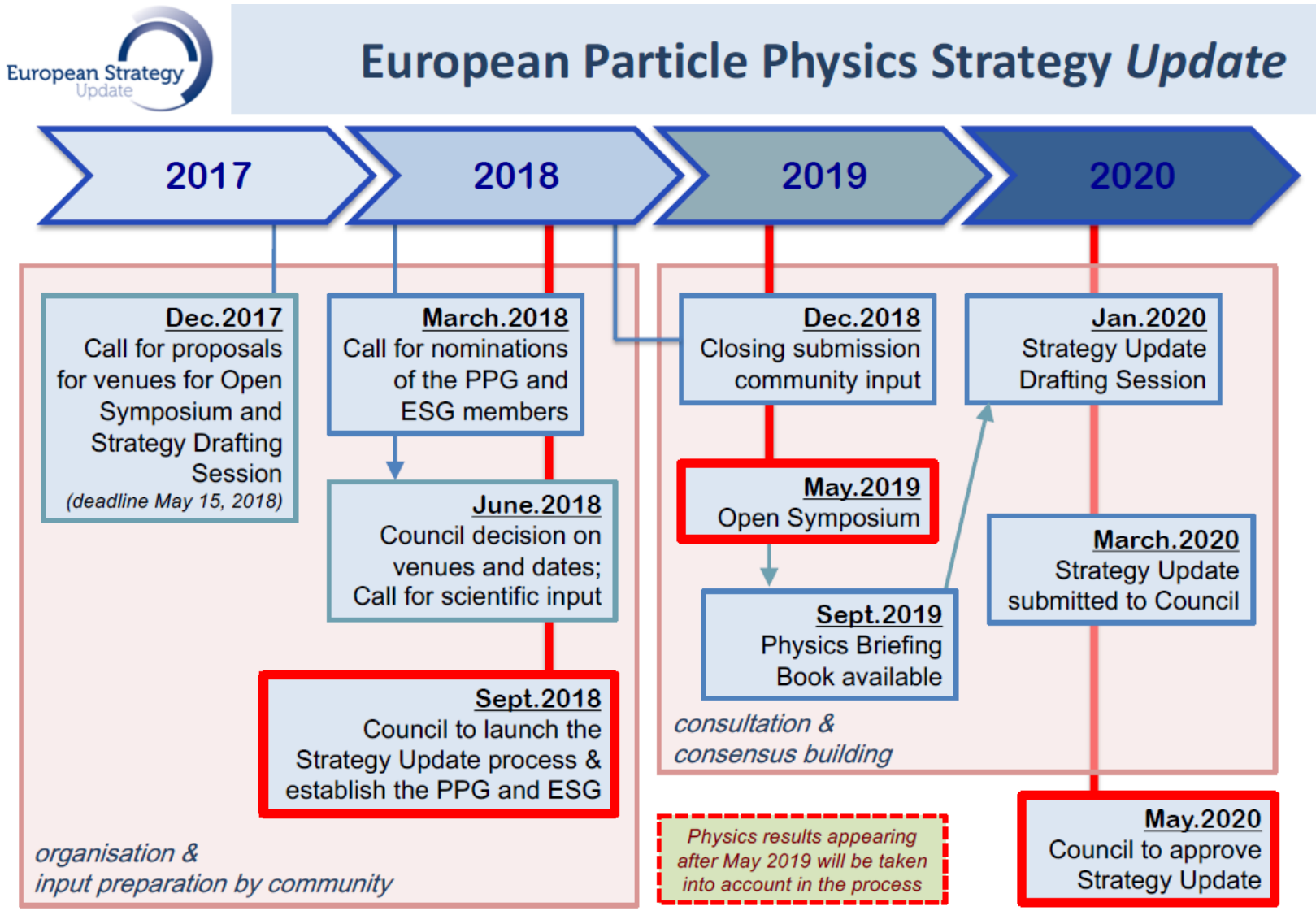
    **Accelerator, detector, physics**

- **Supporting physics papers (H, t, BSM …), detector R&D reports, technical documentation in EDMS etc.**

# Thanks to everyone for your contributions!

# This is a vital process for making the case for CLIC

# ESU process


European Strategy Update
European Particle Physics Strategy Update
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2018
2019
2020
Dec.2017
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(deadline May 15, 2018)
March.2018
Call for nominations of the PPG and ESG members
June.2018
Council decision on venues and dates; Call for scientific input
Sept.2018
Council to launch the Strategy Update process & establish the PPG and ESG
organisation & input preparation by community
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Closing submission community input
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consultation & consensus building
Physics results appearing after May 2019 will be taken into account in the process
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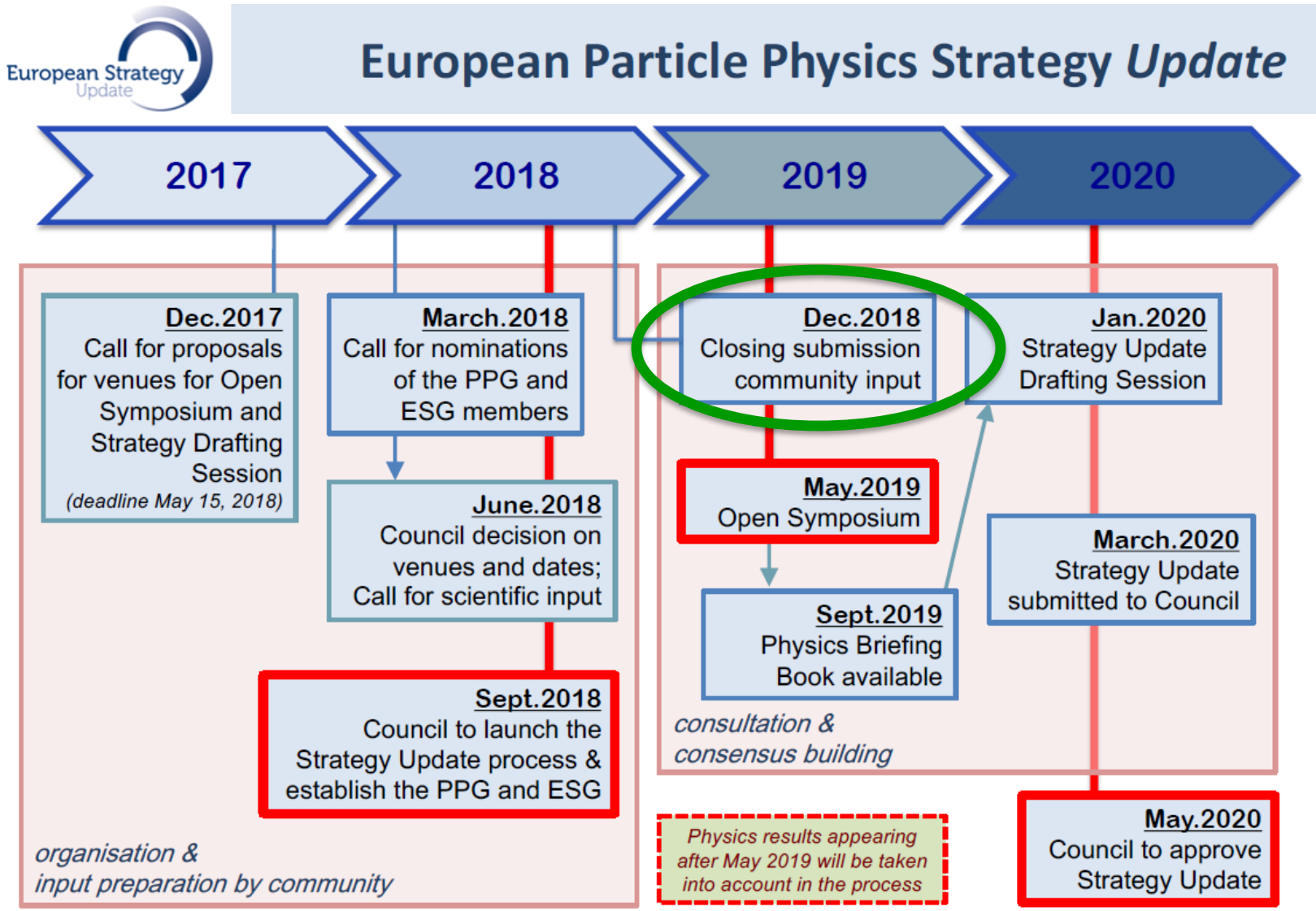
Strategy Update Drafting Session
March.2020
Strategy Update submitted to Council
May.2020
Council to approve Strategy Update

# ESU process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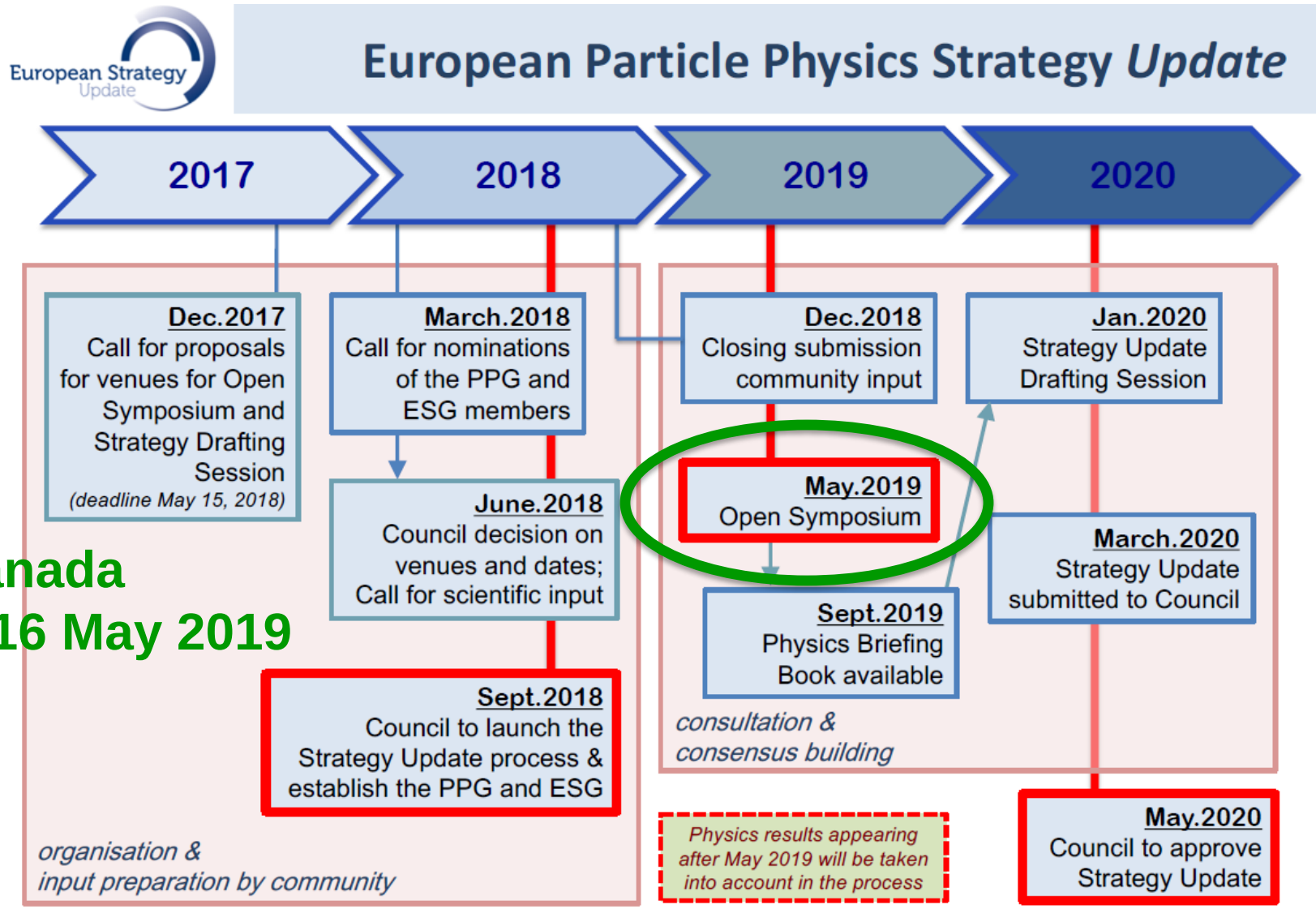


**Granada**
**13-16 May 2019**

# ESU process

## Composition of the Strategy Secretariat

**Members**

- The Strategy Secretary - HA
- SPC chair – Keith Ellis
- ECFA chair – Jorgen D'Hondt
- Chair of *the European Laboratory Directors Group* – Lenny Rivkin

*The European Laboratory Directors Group*

- CERN
- CIEMAT
- DESY
- IRFU
- LAL
- NIKHEF
- LNF
- LNGS
- PSI
- STFC-RAL

# ESU process

European Strategy Update

## Composition of the PPG

**Members**

- The Strategy Secretary (chair)
- SPC chair
- ECFA chair
- Chair of the the European Laboratory Directors Group
- Four members recommended by the SPC
- Four members recommended by ECFA
- One representative appointed by CERN
- Representative(s) from Asia (≤2)
- Representative(s) from the Americas (≤2)

15 to 17 people

# ESU process

European Strategy Update

## Composition of the ESG

**Members**
- The Strategy Secretary (chair)
- One representative appointed by each CERN MS (22)
- One representative appointed by each of the Labs participating in the European Laboratory Directors Group including its Chairperson (9)
- CERN DG
- SPC chair
- ECFA chair

**Invitees**
- President of CERN Council
- One government representative from each AMS and OS (7+3)
- One representative from the European Commission
- Chairs of ApPEC, NuPECC, FALC, ESFRI
- Members of the PPG (17 - Secretariat)

62 to 64 people

# ESU process

European Strategy Update

## Input Template for the EPPSU 2020

The template for input to the process is in preparation.

Expected template layout:

- Cover page with abstract
- Core document of 10 pages (scientific context, objectives, methodology, readiness, expected challenges)
- Addendum (community, timeline, construction and operational cost, computing requirements)

*The big detailed documents (reports and publications) will be used as links within the official input document.*

Deadline: December 18th 2018

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European Strategy Update

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