Status report on CLIC accelerator documents

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and CERN

European Strategy documents

- **Official CLIC submissions (NB these must be very short!):**
  - **CLIC project (accelerator + detector)**
  - **CLIC physics**

European Strategy documents

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  - **CLIC physics**

- **Supporting documents with accelerator contributions (allowed to be long):**
  - **CLIC Project implementation Plan 'PiP' (yellow report):**
    - **Accelerator parameters, cost, power, site, staging, construction schedule, summary of main technical issues, preparation phase summary**
  - **CLIC preparation-phase (2020-2025) plan (note):**
    - **Critical parameters, status and next steps - what is needed before project construction, strategy, risks + mitigation**
  - **CLIC 2018 summary report (yellow report):**
    - **Accelerator, detector, physics**

European Strategy documents

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- **Additional supporting documents with detector/physics contributions:**
  - CLIC physics potential (yellow report)
  - Detector technologies for CLIC (yellow report)
  - A detector for CLIC: main parameters and performance (note)

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						

PiP outline with responsibles

	A	B	C	D	E
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 schedule

First draft of every section due April 13th

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

Complete draft of every section due June 15th

- → Reviewed at CLIC Project Meeting, June 27th
- → 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 documents

CERN yellow report submission by December 1st

ESU submission by December 18th

CLIC preparation phase document

1 Introduction.

Recap of status today

2 Main issues to address for next phase

Technical issues (e.g. technical developments, systems tests - focus on luminosity performance)

Implementation issues (e.g. cost/power and site)

Strategic issue (e.g. industrial base and collaborations)

3 Programme

Components: Modules, structures, test-stands, magnets, drivebeam components, various technical systems

System tests: Xbox, CLEAR, DB FE, LNF … mention also eSPS

Key collaboration projects

Site studies, infrastructure

Industrial network

4. Resources and timeline

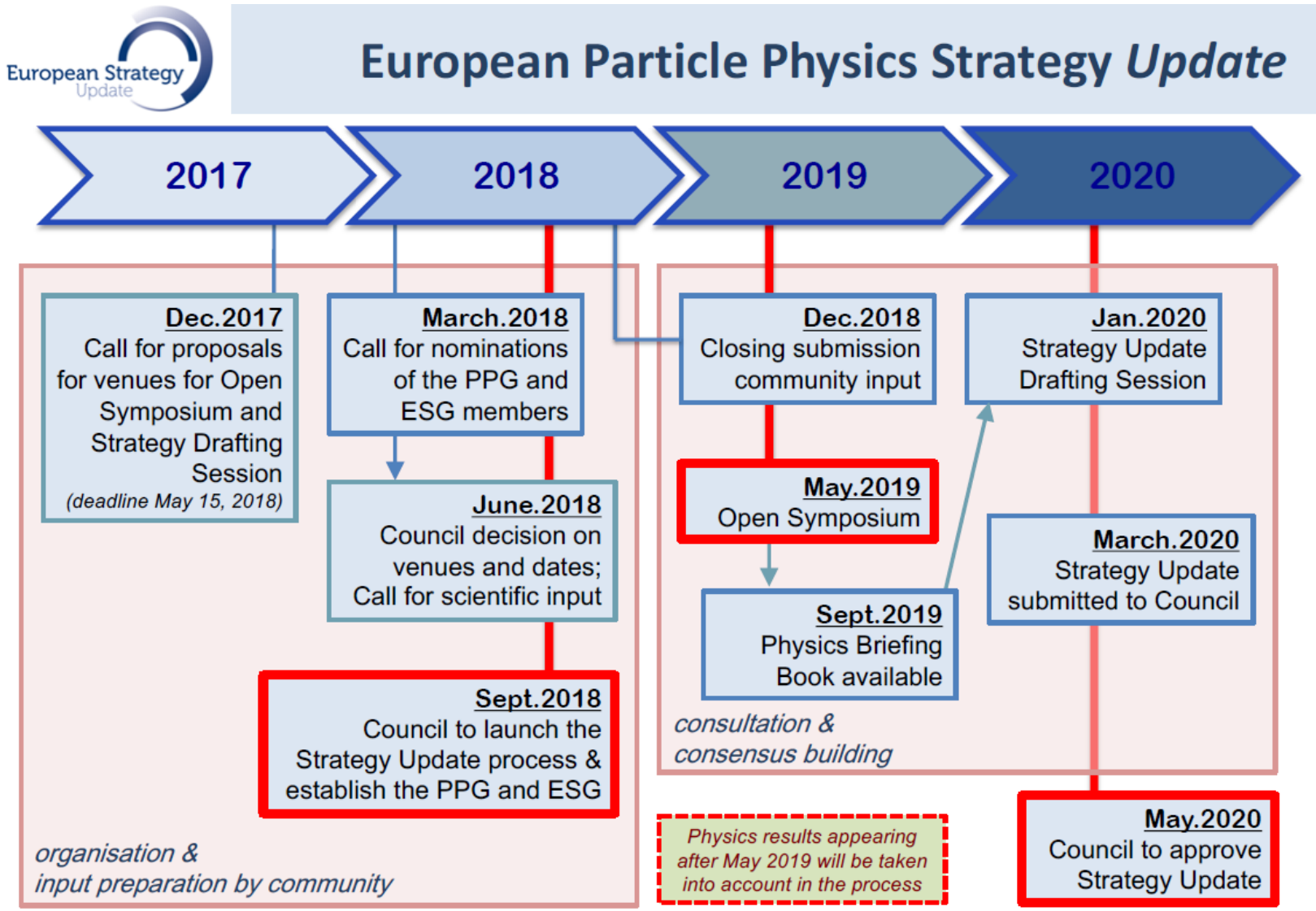
5. Summary and conclusion

Thanks to everyone for contributions!

This is a vital process for making the case for CLIC

Additional material

ESU process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European Particle Physics Strategy Update
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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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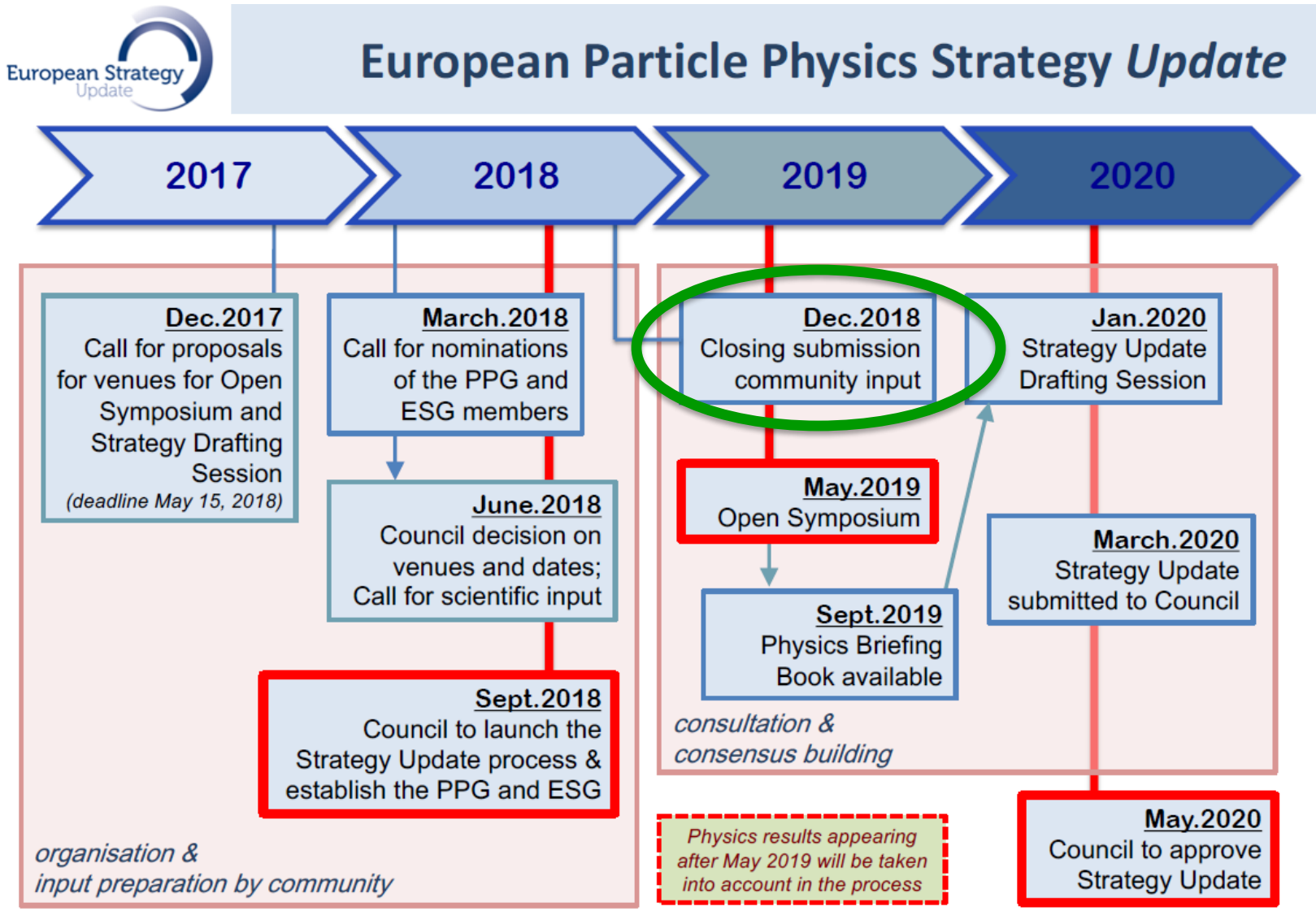
March.2020
Strategy Update submitted to Council
May.2020
Council to approve Strategy Update

ESU process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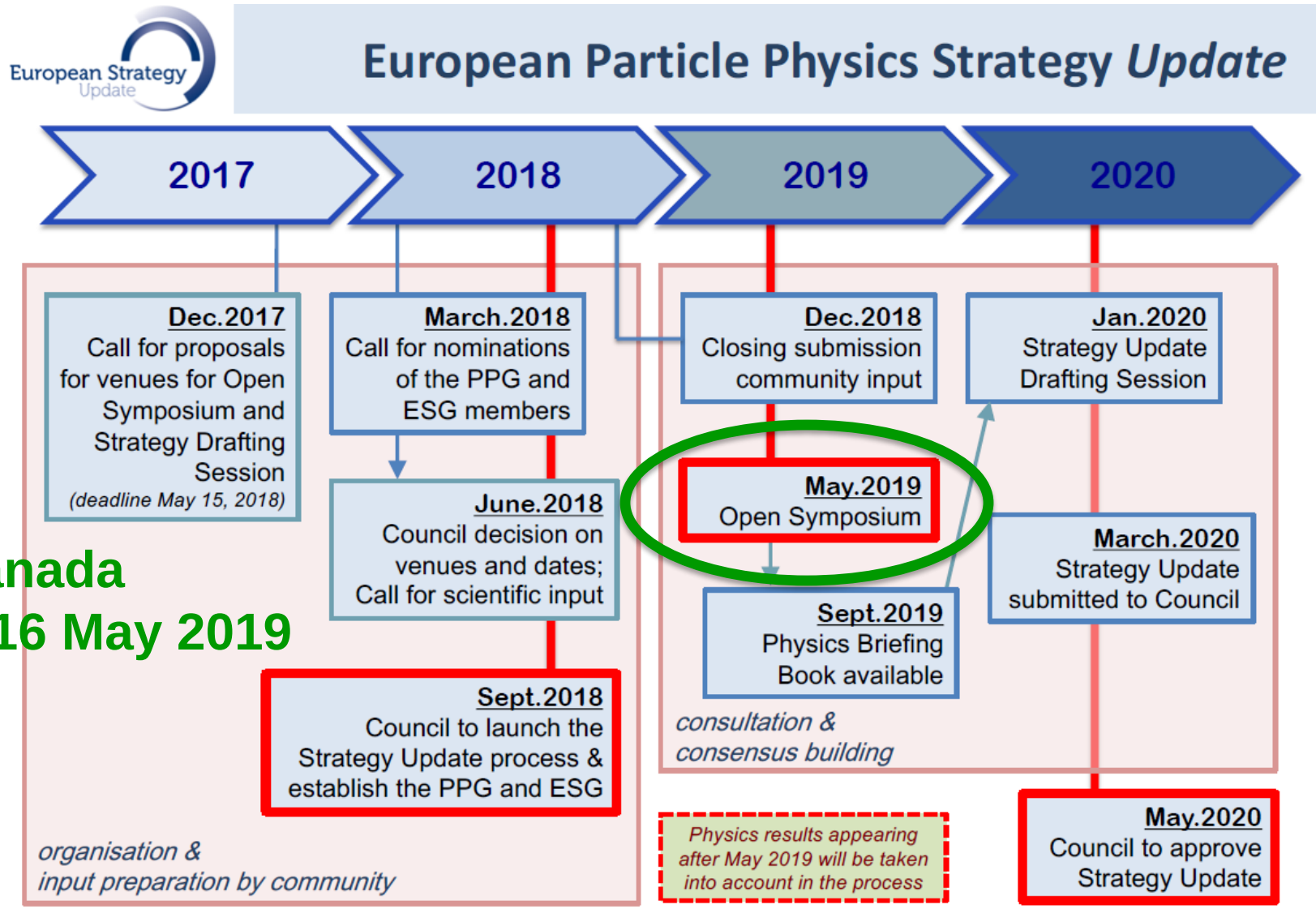

Granada
13-16 May 2019

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.

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