

# European Strategy Update for ILC

INTERNATIONAL  
WORKSHOP  
ON FUTURE LINEAR COLLIDERS  
**OCTOBER 22-26**  
UNIVERSITY OF TEXAS ARLINGTON



Juan A. Fuster Verdú - IFIC, València  
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Arlington Texas, USA, 22-26 October 2018

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$K^0$



$\pi^-$



- European Strategy Update: timeline and general prescriptions
- Status on the preparation of the ILC input documents:
  - Drafting/editing teams composition/tasks
  - Document 1: “The ILC project general description”
  - Document 2: “The European effort/participation”
- Document 3: “The ILD detector”
- Immediate schedule & plans
- \*\* Please see other talks at LCWS discussing ESU plans:
  - Update on LC activities in Europe (K. Buesser)
  - ILD detector status and plans (J. List)
  - Prospects and Timeline for ILC (J. Mnich)
  - ILD status (T. Behnke)
  - European Strategy Update for CLIC (A. Robson)
  - LCB report (T. Nakada)



The European Strategy for Particle Physics is the cornerstone of Europe's decision-making process for the long-term future of the field.

<https://europeanstrategy.cern/>

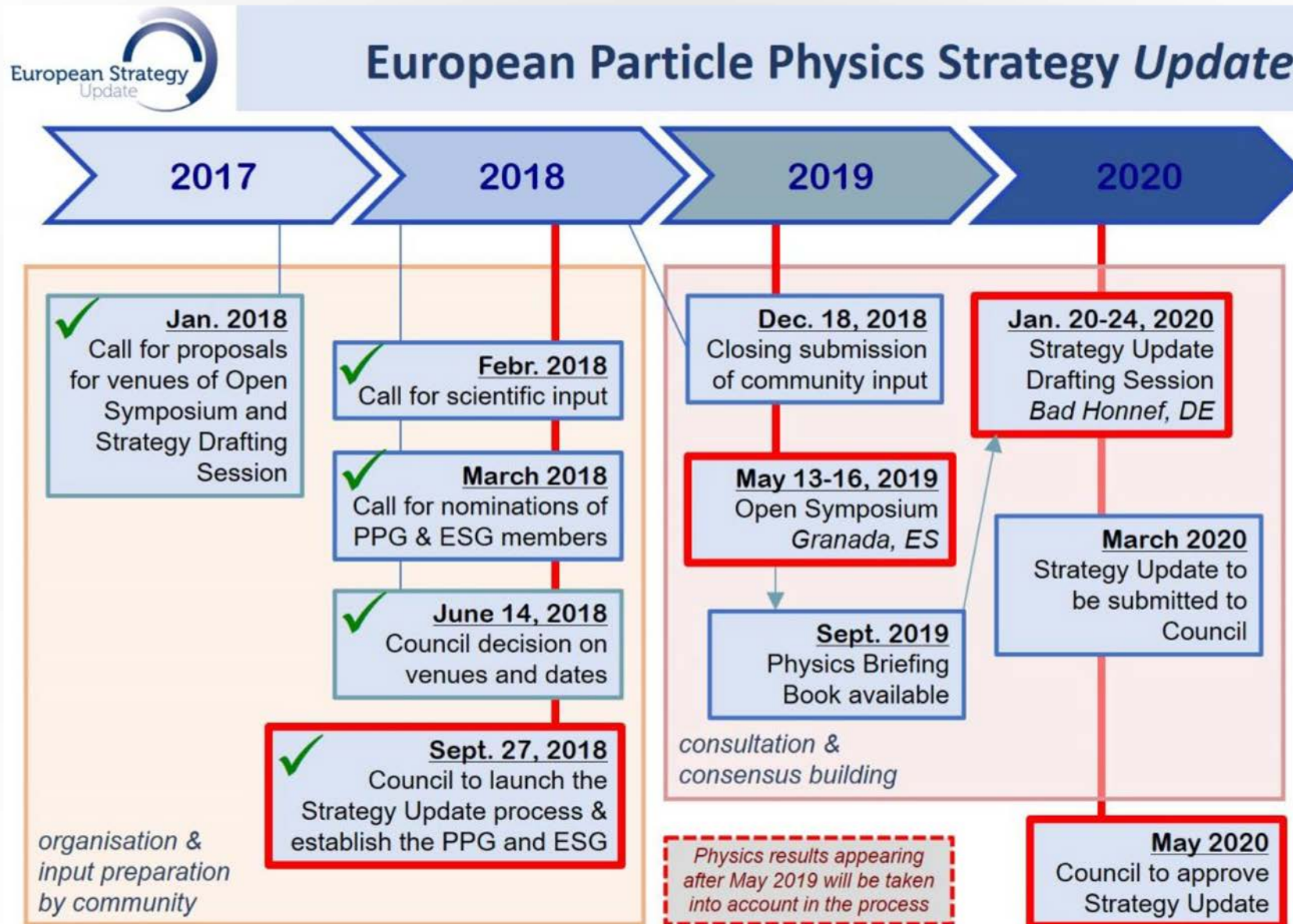
Mandated by the CERN Council:

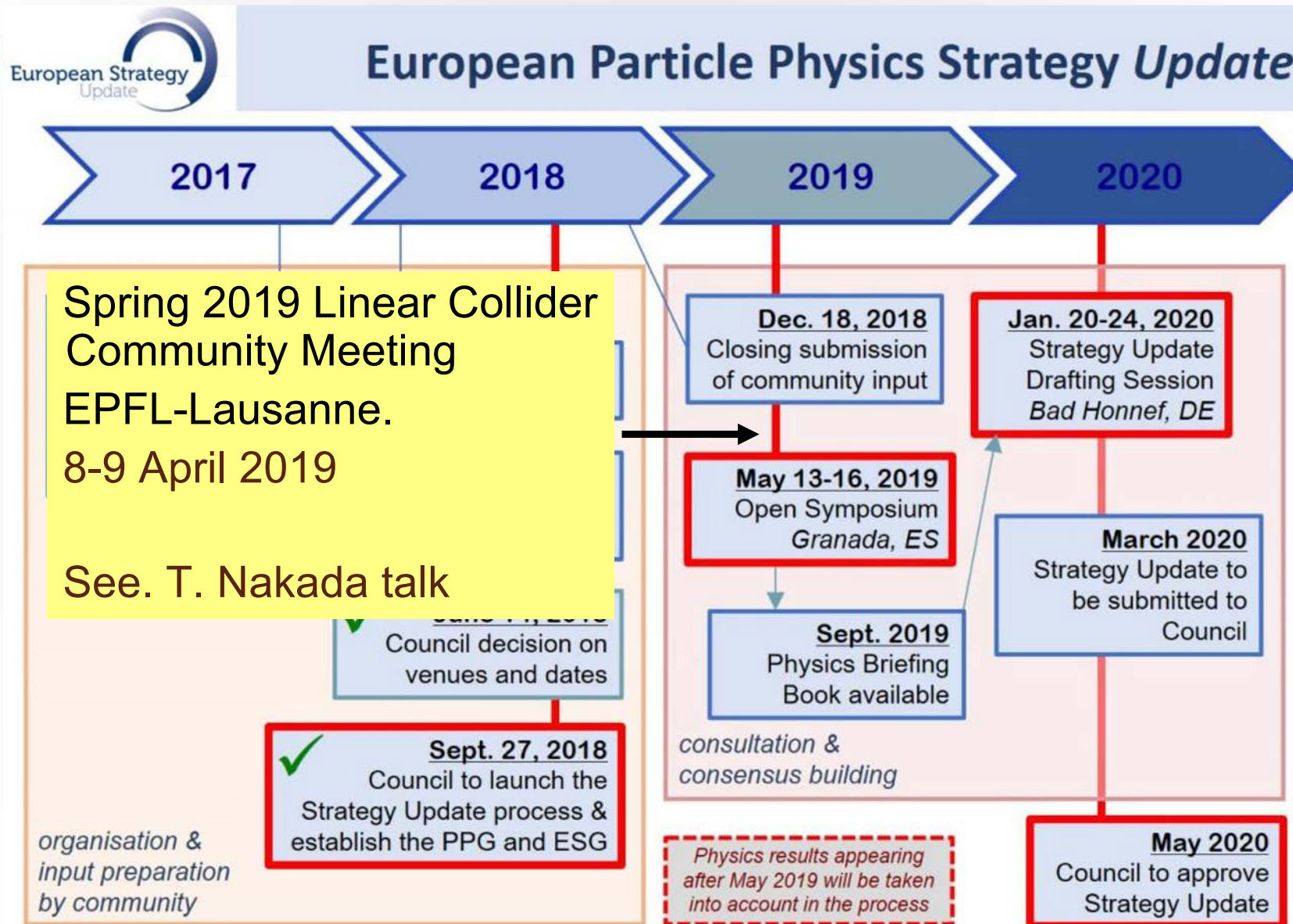
- Strategy Secretariat (H. Abramowicz, J. D'Hondt, K. Ellis, L. Rivkin)
- Physics Preparatory Group (PPG): input documents, open symposium
- European Strategy Group (ESG): writes the strategy update

Input documents:

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









## Official ILC 10-pages Document 1:

### 1) General ILC project description: status, situation and physics case (J. Brau Coordinator):

- **Drafting team:** J. Brau, K. Fujii, J. Fuster, Ch. Grojean, B. List, J. List, M. Peskin, J. Tian, Sh. Michizono, T. Behnke, A. White, M. Winter, F. Gaede, A. Miyamoto
- **Layout:**
  - Introduction
  - Physics potential
  - Accelerator design, characteristics, cost
  - Detectors: ILD+SiD
  - R&D: ILC and beyond
  - Software and computing
  - Final Discussion/Conclusion
- **Addendum:** Community definition: worldwide-map, TDR global numbers
- **Supporting material (Doc1 & Doc2):** ILC TDR documents , ILC project overview (to be written), European ILC Preparation Plan (EIPP) E-JADE document, R&D; LC Detectors R&D Liasion Report (v2018.1), others.



## Supporting Material for Document 1:

### ILC project overview (M. Peskin & J. Brau coordinators) (~90 pages)

- **Drafting team:** J. Brau, M. Peskin, B. List, Sh. Michizono, J. List, T. Behnke, A. White, F. Gaede, A. Miyamoto, J. Tian, M. Berggren, K. Fujii, M. Vos.
- **Layout:**
  - Introduction - 5 pages
  - ILC Machine Design - 15 pages
  - ILC running scenario (with polarization) - 5 pages
  - Physics Case (250 GeV) - 10 pages
  - Detectors - 10 pages
  - Software and Simulation Tools - 10 pages
  - Physics Simulations: Higgs - 20 pages
  - Physics Simulations: Searches - 5 pages
  - Program of the ILC beyond 250 GeV - 10 pages)
  - Conclusion
- To be published/available as ArXiv in time Dec. 18th



## Official ILC 10-pages Document 2:

### 1) European contribution/effort (S. Stapnes, J. Fuster coordinators)

*Represents a real challenge finding a good balance between giving enough information and not being too speculative. Complement Document 1.*

- **Drafting team:** J. Brau, S. Stapnes, P. Burrows, J. Fuster, M. Stanizki, T. Behnke, A. White, M. Winter
- **Extended editing team:** A. Faus-Golfe, A. Levy, A. Robson, A. Yamamoto, A. Jeremie, B. Foster, , Ph. Bambade, C. Pagani, D. Denisov, F. Gaede, G. Eigen, H. Weise, M. Idzik, K. Kawagoe, O. Napoly, M. Caccia, M. Titov, N. Walker, P. Colas, R. Poeschl, T. Lesiak, Th. Schoerner, H. Yamamoto
- **Layout:**
  - Introduction
  - Accelerator (European accelerator competence, preparation phases and capabilities)
  - Detector (European detector competence, preparation phases and capabilities, R&D infrastructures)
  - Discussion: Political situation, synergies Europe-Japan, European industry interest/capabilities, accelerator/detector/computing/physics participation





**Official ILD 10-pages:**

1) **ILD detector (T. Behnke coordinator)**. See T. Behnke talk at LCWS2108: “ILD status”

# European Strategy Document

## CONTENTS

- I. Introduction
- II. History of the ILD detector concept
- III. The ILD detector design: requirements
- IV. Implementation of the ILD detector
  - A. Vertexing system
  - B. Tracking System
  - C. Calorimeter System
  - D. The Forward System
  - E. The muon system
  - F. Detector Integration
- V. Science with ILD
- VI. Integration of ILD into the ILC accelerator
- VII. The ILD Collaboration
- VIII. Conclusion and Outlook

### Current structure for the document

- Will refer to the other two ILC documents, to minimise repetition
- Concise, little details

### Schedule:

- First complete text November 9
- Iteration with ET and (2. step) ILD
- Submission Dec 18 to ESU



## Timeline:

- **Doc1:**
  - Nov. 5<sup>th</sup>: complete 1<sup>st</sup> version of the document to be released. Collect comments from the LC community;
  - Nov. 25<sup>th</sup>: deadline for comments;
  - Dec. 2<sup>nd</sup>: new version with comments implemented;
  - Dec 9<sup>th</sup>: revised version by drafting team;
  - Dec 15<sup>th</sup>: agreed/complete document to be presented document.
- **Doc2:**
  - Nov. 12<sup>th</sup>:complete 1<sup>st</sup> version of the document to be released. Collect comments from the LC community;
  - Nov. 25<sup>th</sup>: deadline for comments;
  - Dec. 2<sup>nd</sup>: new version with comments implemented;
  - Dec 9<sup>th</sup>: revised version by drafting team;
  - Dec 15<sup>th</sup>: agreed/complete document to be presented document.



## ILC documents presented to the European Strategy Process:

- Document 1: “The ILC project general description”
- Document 2: “The European effort/participation”
- Document 3: “The ILD detector”

## Main supporting documents:

- *ILC TDR documents*
- *ILC project overview*, being specifically produced for ESU
- *European ILC Preparation Plan (EIPP)*, produced under E-JADE project
- *LC Detectors R&D Liasion Report*

**Timeline and schedule:** tight but possible < Dec. 18<sup>th</sup>

## Antonio Machado (Spanish poet):

“Yesterday I dreamt that I could see God; He spoke to me; and I also dreamt that God was listening to me; later I dreamt that I was dreaming”