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*(June 1, 2021)*

- Status of the documents
- WBS

# Document status

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(A) Proposal for the ILC Preparatory Laboratory (Pre-lab): (so called “interim proposal”)

- Includes summary of the WPs.
- Was approved by ICFA
- Will be reported at ILC Newline tomorrow (June 2).

(B) Technical Preparation and Work Packages (WPs) during ILC Pre-Lab: (so called “TPD”)

- Is the supporting document of (A)
- Will be open via Digital Object Identifier (DOI) link. (June 2)

(C) “Key issues related to the ILC project” in Japanese

- Is recently summarized by KEK/JAHEP
- Responds to ILC advisory panel (MEXT)\* and Science council of Japan (SCJ)\*\*
- Includes “physics”, “accelerator technical issues”, “civil” etc.
- Will be submitted to MEXT tomorrow (June 2)

These three documents will be submitted to MEXT this week.

\*[https://www.mext.go.jp/component/b\\_menu/shingi/toushin/icsFiles/afieldfile/2018/09/20/1409220\\_2\\_1.pdf](https://www.mext.go.jp/component/b_menu/shingi/toushin/icsFiles/afieldfile/2018/09/20/1409220_2_1.pdf)

\*\*Executive summary in English: <http://www.scj.go.jp/ja/info/kohyo/pdf/kohyo-24-k273-en.pdf>

Full report in Japanese: <http://www.scj.go.jp/ja/info/kohyo/pdf/kohyo-24-k273.pdf>

# Accelerator activities at ILC Pre-lab phase



## Technical preparations & SRF R&D for cost reduction *[shared across regions]*

- SRF performance R&D, quality testing of a large number of cavities (~100), fabrication and shipping of cryomodules from North America and Europe (for validating shipping)
- Positron source final design and verification
- Nanobeams (ATF3 and related): Interaction region: beam focus, control; and Damping ring: fast kicker, feedback
- Beam dump: system design, beam window, cooling water circulation
- Other technical developments considered performance critical

~360 FTE-yr (mainly 1<sup>st</sup> – 3<sup>rd</sup> year) + infra. for WPs (~130)

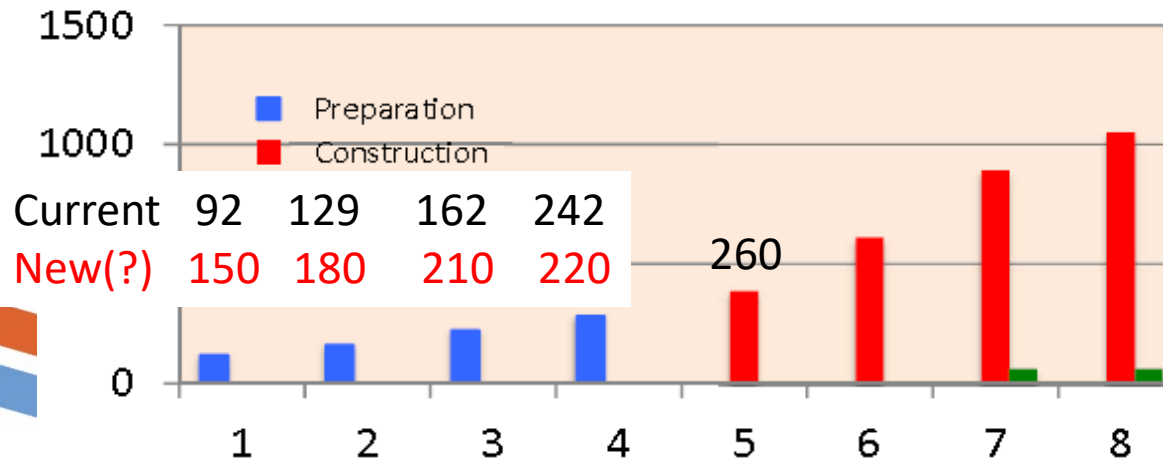
## Final technical design and documentation *[central office in Japan with a support from other labs]*

- Engineering design and documentation, WBS
- Cost confirmation/estimates, tender and purchase preparation, transport planning, mass-production planning and QA plans, schedule follow up and construction schedule preparation
- Site planning including environmental studies, CE, safety and infrastructure (see below for details)
- Review office
- Resource follow up and planning (including human resources)

Engineering design and documentation 100+100+50(Common)~250

## Preparation and planning of deliverables *[distributed across regions coordinated by the central office]*

- Prototyping and qualification in local industries and laboratories, from SRF production lines to individual WBS items
- Local infrastructure development including preparation for the construction phase (including Hub.Lab)
- Financial follow up, planning and strategies for these activities



# WBS

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- The WBS needs to cover all the pre-lab accelerator works
  - Our WG2 will not decide on the international sharing (technical WPs, engineering design) . (WG1 will coordinate and each laboratory will decide on the sharing.)
  - In other words, the WBS itself will be re-built after the sharing discussion.
  - The laboratory in charge of each “column” of the matrix may change.
  - Or the sharing of the area system and the technical system will not be consistent at that time.
  - So my proposal is to address the WBS based on area systems.
- (And depending on the actual sharing, we can re-organize the pre-lab WBS.)

# FTEs for WBS and WP structure



| WBS |         | T0               | T1                 | T2         | T3a            | T3b            | T4   | T5     | T6a         | T6b         | T7   | T8         | T9          | T10        | T11          | T12           | T13                              | T14                       |  |
|-----|---------|------------------|--------------------|------------|----------------|----------------|------|--------|-------------|-------------|------|------------|-------------|------------|--------------|---------------|----------------------------------|---------------------------|--|
|     |         | Sys. Des. Simul. | Acc. Area specific | Hub/Infra. | Acc-Str. (SRF) | Acc-Str. (NRF) | HLRF | Cryog. | Mag/PS (SC) | Mag/PS (NC) | Vac. | Coll./Dump | Beam Instr. | LLRF/Cont. | Installation | Survey-Align. | Common(1) Safety, Protection, IT | Common(2) Acc. Management |  |
| A0  | ADI     |                  |                    |            |                |                |      |        |             |             |      |            |             |            |              |               |                                  |                           |  |
| A1  | Sources |                  | WP4-11             |            |                |                |      |        |             |             |      |            |             |            |              |               |                                  |                           |  |
| A2  | DR      | WP12-14          |                    |            |                |                |      |        |             |             |      |            |             |            |              |               |                                  |                           |  |
| A3  | RTML    |                  |                    |            |                |                |      |        |             |             |      |            |             |            |              |               |                                  |                           |  |
| A4  | ML      |                  |                    |            | WP1,2          |                |      |        |             |             |      |            |             |            |              |               |                                  |                           |  |
| A5  | BDS     | WP15, 16         |                    |            | WP3            |                |      |        |             |             |      |            |             |            |              |               |                                  |                           |  |