

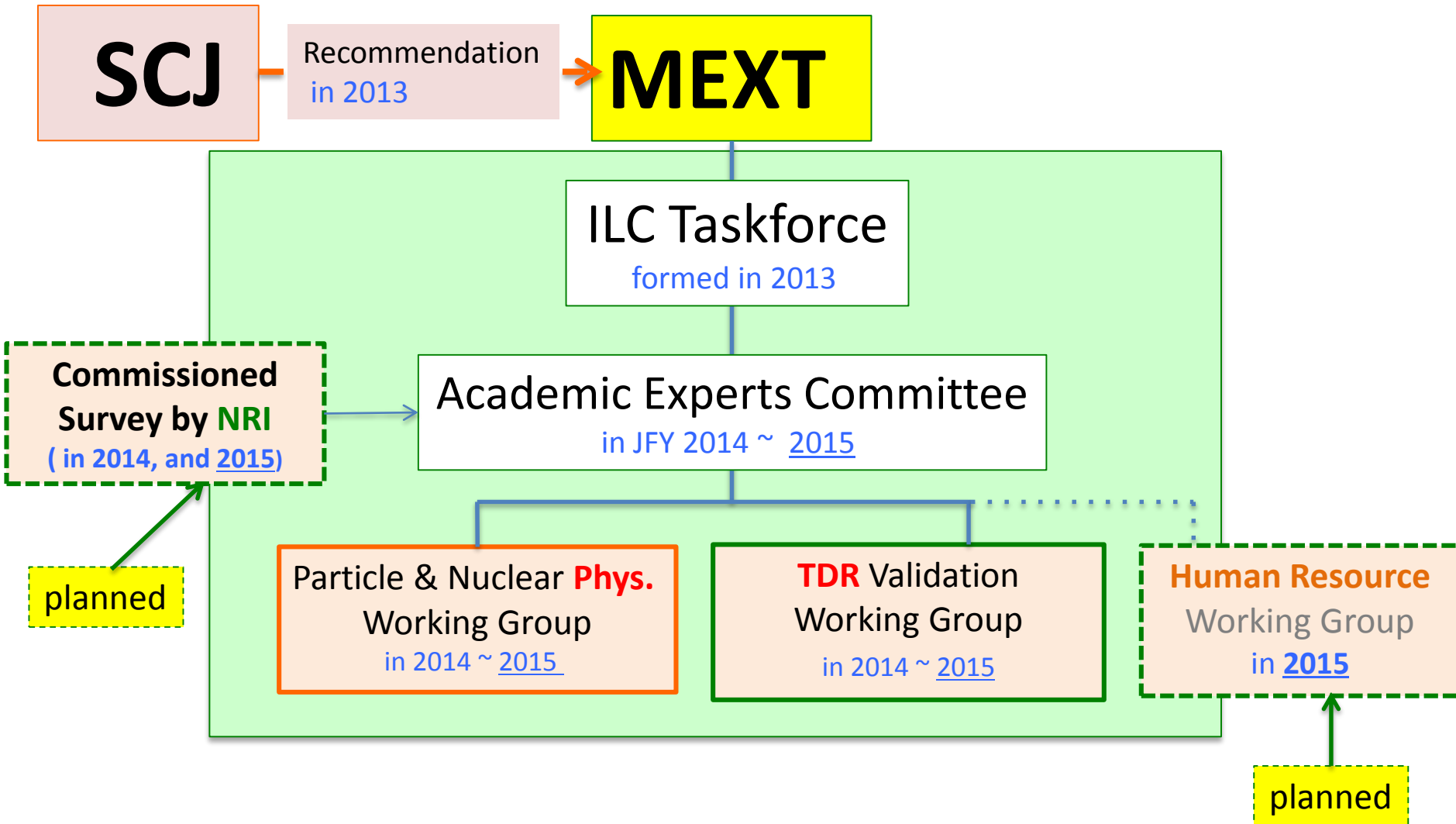
ILC Status in Japan

Progress in JFY2015

Akira Yamamoto

A report on 16 June, 2015

ILC being studied in Japan



Human Resource WG in preparation at MEXT

- **Objectives** to: verify prospects of human resource and training to be sufficiently provided for construction of the ILC
- **Period**: July ~ December, 2015,
- **Meeting times**: 4~5 times
- **Subject** to be studied,
 - Prospects for necessary human resource in each country to be realized for construction, operation, and management
 - Issues for training of senior members for their leadership,
 - Issues for senior members for management of the international organization,
- **General plan** (for hearing)
 - Report of the human resource plan (which was reported to TDR-WG,
 - Hearing from some representing major projects related to ILC (such as LHC)
 - Hearing from industrial partners for preparing the ILC scale manufacturing
 - Discussions on the report to be submitted to “Academic Experts Committee”
- **Note**: MEXT is now asking us to assist the MEXT’s actions, specially to receive industrial partner’s input and contribution to the discussion.

ILC 加速器建設にむけた研究所人材構想

[人・年(FTE) 国際協力分担の仮定を含む]

[A HR proposal for the ILC preparation, linked to the construction (FTE)]

Stage	Preparation				Construction									Sum
	1	2	3	4	1	2	3	4	5	6	7	8	9	
Prep.	77	96	116	134										423
CFS-jp	4+4	5+5	6+6	7+7										22+22
CS-ww	1	1	2	2										6
Acc -jp	30+20	35+25	40+30	45+35										150+110
Acc-ww	10	15	20	25										70
Admin.	8	10	12	13										
	New estimate								Given in TDR				Average/yr: ~ 1,100	
Const.					410	922	1208	1350	1569	1480	1374	1106	679	10,118
Install.							80	80	80	768	1140	683	522	3,353
Sum					410	922	1288	1430	1669	2248	2514	1789	1201	13,471

Notes: HR required for the ILC preparation (CFS, Acc., and administration):

- HR in the 1st preparation year to be filled from the existing staff in fraction of ~80%),
- HR needs to be gradually increased to reach a factor 1/5 ~ 2, during the prep. phase,
- The guideline is to provide 10 %level in fraction to the staff required for the ILC laboratory,
- The global collaborators anticipated from a fraction of 5 % to 20% of existing ones,
- The Japanese HR needs to be boosted/complemented by using “sub-contract,
- Worldwide fraction in japan,
- CFS: ~ 90 % , Acc. 60~70%, and (1/3 ~ 1/2 to be subcontracted)

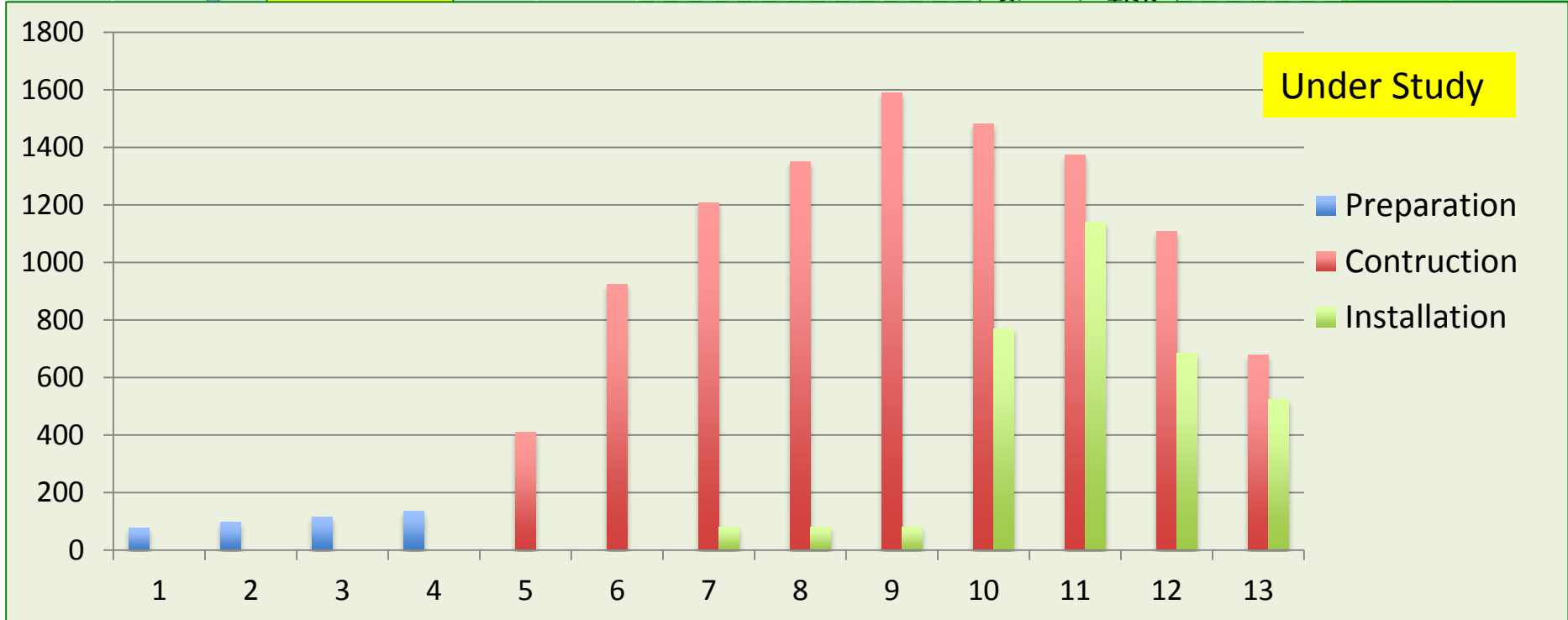
Under Study

ILC 加速器建設・研究所人材構想 (管理事務人材数含む)

[A HR proposal for the ILC preparation, linked to the construction (FTE)]

Stage	Preparation				Construction									Sum		
	1	2	3	4	1	2	3	4	5	6	7	8	9			
Prep.																
CFS	4+4+1=9	11	14	16												
Acc	30+20+10=60	75	90	105												
Adm	8	10	12	13												
	77	96	116	134												
																423

Annotations:
 - A dashed red box highlights the 'Prep.' row for stages 1-4.
 - A blue arrow points from the 'Prep.' row to a green box: "i/3 of HR prepared in the end of Preparation Phase to start the ILC construction".
 - A yellow box labeled "New estimate" is under stage 1.
 - A green box labeled "Construction FTE" is under stage 10.



A1: Acc+Adm (加速器+ 運営準備) Prep. Plan (Oku-JY)

Category	Subject	--	--	1	2	3	4	(FTE) Oku-JY
[Value] Acc. Technology Validation Industrialization [物件費] 加速器技術実証 量産化技術実証	SRF (KEK-STF: hub-funct., Indust.)*			10.00	13.00	16.00	16.00	55.00
	SRF (Others: AS, EU, Ams)			7.00	10.00	13.00	15.00	45.00
	Nano-beam (KEK-ATF and others)*			3.00	3.00	3.00	3.00	12.00
	Sources. Beam lines, and others*			2.00	3.00	3.00	3.00	11.00
	<i>Sub-total (world-wide)</i>			<u>22.00</u>	<u>29.00</u>	<u>35.00</u>	<u>37.00</u>	123.00
[Human Resources] Accelerator engineering design、technology verification [労務] 加速器技術設計、 技術実証、 量産化技術習熟	Accelerator design & integration*			(8) 0.95	(10) 1.19	(12) 1.43	(14) 1.79	(44) 5.23
	SRF: Component development/engineering, industrialization*			(20) 2.38	(24) 2.86	(28) 3.33	(32) 2.14	(104) 12.38
	SRF: Hub-lab functioning*			(10) 1.19	(12) 1.43	(14) 1.67	(16) 2.14	(52) 6.19
	Nano-beam, control, source*			(12) 1.43	(15) 1.79	(18) 2.14	(21) 1.43	(66) 7.85
	Others			(10) 1.19	(14) 1.67	(18) 2.14	(22) 2.62	(64) 7.62
	<i>Sub-total (world-wide)</i>			<u>(60)</u> 7.14	<u>(75)</u> 8.95	<u>(90)</u> 10.71	<u>(105)</u> 12.50	(330) 39.27
[HR] Adm. [労務]管理運営	Preparation for ILC Lab.			(8) 0.96	(10) 1.19	(12) 1.43	(13) 1.55	(43) 5.12
Total (総計)								167.39

Under Study

JFY2014, Commissioned Survey

- deliverable given in a public report -

- **Technical/economical benefits from ILC**
 - ILC, General plan and technical features
 - Current, technical status and subjects for further development
 - Prospects for industrial applications and benefits
 - Analysis for economical impacts, base on direct and indirect effects to be expanded (estimated, $\sim > 2$)
- **Scientific prospects and future plans**
 - for particle and nuclear physics, in Europe, north America, and in China
 - Observation and suggestions for ILC, obtained through worldwide visiting and Interviews

JFY2015, Commissioned Survey by MEXT

contracted with Nomura Research Institute (NRI)

- Subjects for survey and analysis:
 - **Technical feasibility** to realize the ILC
 - Regarding components, system design, management, and infrastructure
 - **Technical issues** to prepare for the ILC construction
 - Regarding industrial technology, and necessary time-scale, and prototype works.
 - Cost increase risk
 - **Cost reduction** possibility
 - with technical approaches not described in TDR

Notes, continued

We may advise NRI, this time

- Laboratories:
 - DESY, CEA-Saclay/LAL-Orsay, STFC-Daresbury, INFN-Frascati, INFN-LASA (at Zanon) - during 28 Sept. ~ 9 Oct.
 - Fermilab/ANL, Jlab, SLAC – during 12 – 16 Oct.
 - KEK, RIKEN?
- Companies:
 - RI, Zanon, BN, Thales, Alyom (at CEA-Saclay)
 - AES or NW or Pavac, CPI, ATI-WC?
 - MHI, Toshiba (Electron Tube Devices),
- Comment:
 - We may carefully advise NRI to agree with some experts from laboratories to join their visiting industry

LCC-ILC Progress Report in preparation

to be useful for further surveys and studies

- It contains the LCC-ILC technical **progress after TDR**, respecting:
 - *Civil engineering studies*
 - *Accelerator hardware design/development updates*
 - *Accelerator system layout updates*
 - *Integration/test facilities to be prepared for “hub-laboratory functioning*
 - *Project Implementation Plan*
 - *Further preparatory work*
- It may be **useful as a reference** document for any survey and/or evaluation on the ILC activities, **updated**.
- The progress report is to be presented at the first NRI’s Study Group meeting on 23 July, prior to their visiting lab/industry.