









## European ILC community meeting

 Wednesday 17 Nov 2021, 10:00 → 12:00 Europe/Zurich

 Steinar Stapnes (CERN) , Thomas Schoerner-Sadenius (Deutsches Elektronen-Synchrotron (DE))

**Description** Join Zoom Meeting  
ZOOM connection

Meeting ID: 993 4171 8959  
Passcode: 190525  
Find your local number: <https://desy.zoom.us/j/99341718959>

<b>10:00</b>	→ 10:05	<b>Welcome</b>	🕒 5m 
		<b>Speaker:</b> Steinar Stapnes (CERN)	
<b>10:05</b>	→ 10:25	<b>IDT news</b>	🕒 20m 
		<b>Speaker:</b> Tatsuya Nakada (EPFL - Ecole Polytechnique Federale Lausanne (CH))	
<b>10:35</b>	→ 10:55	<b>ILCX and follow up</b>	🕒 20m 
		<b>Speakers:</b> Benno List (DESY) , Jenny List (Deutsches Elektronen-Synchrotron (DE)) , Steinar Stapnes (CERN)	
<b>11:10</b>	→ 11:22	<b>A brief update about EU project(s) and a European Prelab plan</b>	🕒 12m 
		<b>Speakers:</b> Steinar Stapnes (CERN) , Thomas Schoerner-Sadenius (Deutsches Elektronen-Synchrotron (DE))	
<b>11:25</b>	→ 11:35	<b>Other news (ECFA and LDG roadmaps, Snowmass)</b>	🕒 10m 
<b>11:45</b>	→ 11:50	<b>AOB</b>	🕒 5m 



# ILCX – some points




Interesting Industry Session

Recent WG2 summary (yesterday) of two key topics discussed during ILCX, crab-cavities and CM sessions

A couple of slides on “Green ILC”

Introduction	Maksym Tit
	17:00 -
Overview of the AAA Activities	Tohru Takahashi
	17:10 -
Development of positron source components using HIP technologies through industry-government-academia cooperation Mr Yutaka Nagasawa	
The possible collaborations on ILC Pre-lab in accelerator technologies from China from Academic and industries Jie Gao	
Acceleration technology: A Sustainable Approach to Cleaner Indian Rivers	Raghava Varma
	18:15 -
Coffee Break	
	18:35 -
ILC industry capabilities in Europe, some examples from recent SFR projects	Benno List et al.
	18:50 -
Document on industrial interests on ILC in Spain	Erik Fernández
	19:10 -
CERN Industrial Experience	Christina Lara Arnaiz
	19:30 -
Review of Accelerator Technologies in the US	Eric Courtenay
	20:00 -


**Basic policy of Green ILC activities at Kitakami ILC candidate site**

*Prof. Masakazu Yoshioka* 

*Room #1, Zoom Meeting ID: 869 3543 0074*

13:00 - 13:30


**A high-luminosity SC e+e- collider with energy recovery and multiple use of beams**

*Prof. Valery Telnov* 

*Room #1, Zoom Meeting ID: 869 3543 0074*

13:30 - 14:00


**Development of hydrofluoric acid-free EP treatment of Nb cavities at KEK**

*Takeyoshi Goto* 

*Room #1, Zoom Meeting ID: 869 3543 0074*

14:00 - 14:30

**Tunnel Heat Recovery - Green ILC**

*John Andrew Osborne* 

*Room #1, Zoom Meeting ID: 869 3543 0074*

15:30 - 15:50


**Sustainability issues**

*Benno List* 

*Room #1, Zoom Meeting ID: 869 3543 0074*

15:50 - 16:10


**RF power system of ILC by all solid-state amplifiers.**

*Mr Riichiro Kobana* 

*Room #1, Zoom Meeting ID: 869 3543 0074*

16:10 - 16:30

**High Efficiency Klystrons development.**

*Igor Syratchev* 

*Room #1, Zoom Meeting ID: 869 3543 0074*

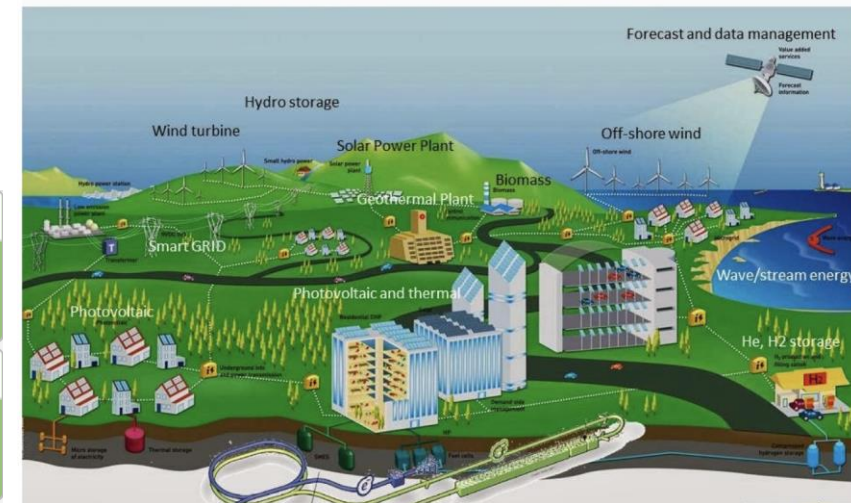
16:30 - 16:55

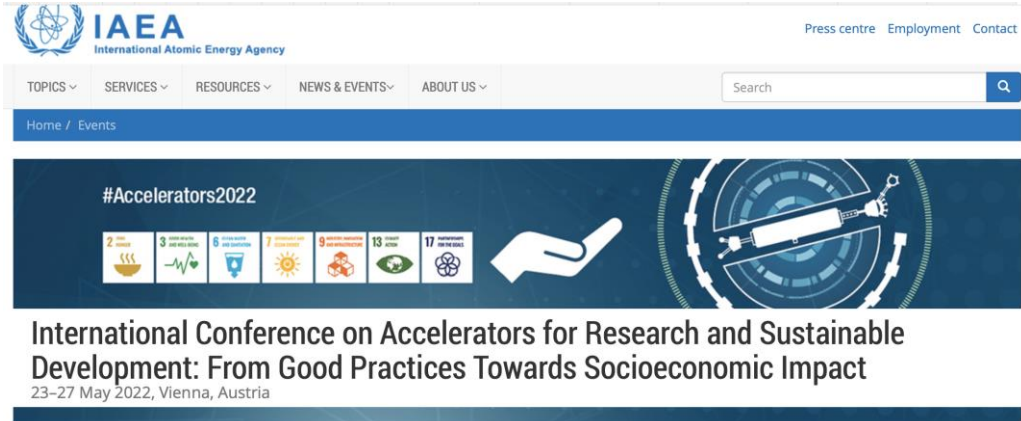
**Discussion**

*Room #1, Zoom Meeting ID: 869 3543 0074*

16:55 - 17:30

ILC center futuristic view





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#Accelerators2022

International Conference on Accelerators for Research and Sustainable Development: From Good Practices Towards Socioeconomic Impact  
23-27 May 2022, Vienna, Austria

### SUSTAINABILITY STUDIES FOR LINEAR COLLIDERS

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S. MICHIZONO  
KEK  
Tsukuba, Japan

- The designs of ILC and CLIC, including key performance parameters as accelerating gradients, pulse lengths, bunch-charges and luminosities, have been optimised for cost but also increasingly focussing on reducing power consumption.
- Technical developments targeting reduced power consumptions at system level, primary examples are developments of high Q and high gradient SC cavities (3), high efficiency klystrons (4), and super conducting and permanent magnets for damping rings and linacs. In many cases these studies are equally applicable and relevant for other accelerator facilities, and cover a wide range of possible installations.
- Local impact studies of establishing ILC as a new laboratory in the Tohoku region in Japan (5). These studies focus on establishing a “thermal eco-community”, utilizing excess heat for agriculture and fishery. Other elements are use and production of local materials for construction, also utilizing waste heat, reducing the ecological footprint, use and development of local infrastructure benefitting the entire community, availability of “green” energy and other key resources for establishing a new large laboratory, etc. Implementing CLIC in a tunnel below the existing LHC ring at CERN have similar challenges but can also benefit from the fact that the LHC accelerator was already constructed in this area.
- The possibility of making use of the fact that the linear colliders are single pass, i.e. the beams and hence power are needed “shot by shot”, possibly allowing to operate in daily or weekly time-windows when power is available in abundance from suppliers and costs are reduced (2). Seasonal operation is already being used for energy cost reasons.
- Estimating the renewable power that can be made available for running the colliders by investing for example 10% of the overall construction costs in solar and wind energy capabilities, again profiting from the fact that single pass colliders can quickly adapt to changes in energy output from such sources (2).
- Technical solutions for recovering energy losses in all parts of the accelerator, to be reused for acceleration and/or for use in the local area (homes, industry) near the facility.

In many cases the studies mentioned are still on-going and the programme for further work will also be presented. The studies above provide some possible answers that can help to construct sustainable future accelerator facilities, but a full analysis of the start to end environmental impact including carbon footprints will still need to be done for ILC and CLIC.





## European Action plan 2018: [ILC-EIPP.E-JADE.v2.12.20180703.pdf](#)

### Move towards a European Prelab Plan:

November 16, 2021

#### The ILC Prelab

Potential European Contributions

**Authors:** to be defined  
Thomas Schörner (DESY)  
Steinar Stapnes (CERN)

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## The E-JADE II Project

Proposal Parts B1 and B2

**Authors:** Philip Bambade (IJCLab)  
Philip Burrows (Oxford)  
Karsten Büßer (DESY)  
Enrico Cenni (CEA/IRFU)  
Angeles Faus-Golfe (IJCLab)  
Juan Fuster (IFIC Valencia)  
Luis Garcia-Tabarez (CIEMAT)  
Thomas Schörner (DESY)  
Steinar Stapnes (CERN)

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Concentrate on topics related to Higgs factories  
Training, exchange  
In facilities – need to identify and contact  
Japan and US (and Canada)

Snowmass accelerator white papers need to be written up by mid March  
 AF3 (Higgs factory) and AF4 (multi-TeV)  
 AF4 prep meeting 11.11

Plenary ECFA tomorrow and Friday:

<https://indico.cern.ch/event/1085137/>

Detector roadmap, LDG acc. roadmap  
 (includes ILC (and CLIC) project write-ups)  
 ECFA Higgs factory studies

15:05	<b>CLIC Status</b> Speaker: Steinar Stapnes (CERN)
15:30	<b>ILC Status</b> Speaker: Shoji Asai (University of Tokyo (JP))
15:55	<b>FCC-ee Status</b> Speaker: Patrick Janot (CERN)
16:20	<b>CEPC Status</b> Speaker: Jianchun Wang (Chinese Academy of Sciences (CN))

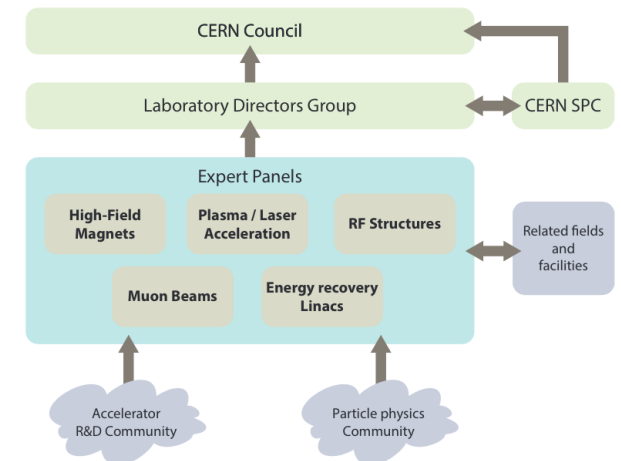


Fig. 1.1: Roadmap panel structure.