

# MISSION INNOVATION SMART GRIDS WORKSHOP

New Delhi, India

## November 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		



सत्यमेव जयते

**Department of Science and Technology**  
**Ministry of Science and Technology**  
**Government of India**



## **MISSION INNOVATION SMART GRIDS WORKSHOP**



**MI Smart Grids**

### **Technical Meeting**

**16<sup>th</sup> – 17<sup>th</sup> November, 2017**

**Venue:  
Senate Room, IIT Delhi**

### **Public Event**

**18<sup>th</sup> November, 2017**

**Venue:  
Seminar Hall, IIT Delhi**

### **Industrial Visit & Agra Tour**

**19<sup>th</sup> November, 2017**

### **Organized by:**

**IITR, Indian Institute of Technology Roorkee, India**

**IITD, Indian Institute of Technology Delhi, India**

**IEE CAS, Institute of Electrical Engineering Chinese Academy of Science, China**

**RSE, Ricerca sul Sistema Energetico, Italy**



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## Introduction

The smart grids captured global attention in recent years and stands as a viable solution towards global climate change and energy crisis. A strong impulse in research and development of technology solutions in smart grids on a global scale is required to address the challenges related to the global energy deficit and increasing net carbon emission. This will lay a solid path towards transition from fossil fuel based energy grids to 100% renewable integrated power grids. In this regard, international collaboration towards accelerating clean energy innovation through research, development and demonstration is necessitated for deployment and commercialization of renewable energy based smart grids solutions at global scale.

Mission Innovation IC#1 Smart Grids challenge is the revolutionary initiative towards clean energy innovation on a global scale to an urgent and lasting global response to climate change.

The Innovation Challenge on Smart Grids IC#1 targets research, development, innovation and demonstration of reliable, efficient and affordable smart grids technologies at regional, distribution and micro-grids levels in various geographical areas to achieve the ability to accommodate 100% renewable based energy sources in power grids. In addition, IC#1 takes into account the aspects related to cross innovation, which focus on smart grids related fields such as power electronics, electric materials, simulations and ICT.

In this perspective, MI member countries forged an international collaboration in terms of knowledge sharing and encouragement of mutual beneficial engagement with a vision of a clean energy driven future.

The IC#1 on smart grids is co-led by China, India and Italy. Participant countries include Australia, Brazil, Canada, China, Denmark, Finland, France, Germany, India, Indonesia, Italy, Mexico, Norway, Saudi Arabia, South Korea, Sweden, The Netherlands, United Kingdom, United States of America and the European Commission.

The first MI deep-dive workshop on Smart Grids, held in Beijing on June 2017 as a side-event of CEM8 and MI-2, gave the opportunity to officially launch the IC#1 activity.

To accelerate the momentum of the progress in IC#1, a second deep-dive workshop on Smart Grids Innovation Challenge will be held from 16<sup>th</sup> to 18<sup>th</sup> Nov. 2017 in New Delhi, India.

The workshop aims to bring together international experts in the field of smart grids to address key researches, development and demonstration issues leading towards accelerated innovations through scaled up government funding and enhanced participation of private sector for faster deployment of smart grids. The workshop comprises a 2-day technical brainstorming for the discussion of the ongoing IC#1 activities. A public event is organized to disseminate the contributions of Mission Innovation and Innovation Challenge on Smart Grids in specific and potential opportunities on 18<sup>th</sup> November, 2017. An expo showcasing national & bilateral research development & demonstration programmes of Government of India and leveraging efforts of industry is also organized on 18<sup>th</sup> November 2017.



## Organizers:

- Indian Institute of Technology Roorkee, IITR - India
- Indian Institute of Technology Delhi, IITD - India
- Institute of Electrical Engineering, Chinese Academy of Science, IEE CAS - China
- Ricerca sul Sistema Energetico, RSE - Italy

## Participants:

- Representatives of Mission Innovation, Innovation Challenge#1 Smart Grids.
- Representatives of IEA ISGAN and IRENA.
- Smart Grids stakeholders, such as policy makers, senior advisors, technical experts, industry representatives and investors.
- Broader public and IC#1 stakeholders.



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**Thursday, 16<sup>th</sup> November, 2017**

**Venue : Senate Room, Indian Institute of Technology Delhi, Hauz Khas, New Delhi-110016, India.**

**09:00 Registration**

**09:30 Inaugural function**

**Welcome by Co-leads**

India	Sanjay Bajpai
Italy	Luciano Martini
China	Yibo Wang

**Inaugural Speech**

Director, IIT Delhi	V. Ramgopal Rao
Director, IIT Roorkee	Ajit Kumar Chaturvedi
Secretary, SERB	Rajiv Sharma
Sr. Adviser, DBT	Renu Swarup
Joint Secretary, Ministry of Power	Arun Kumar Verma
Secretary, DST	Ashutosh Sharma

**10:50 Coffee**

**11:20 Innovation Challenge #1**

**Albin Carlén and  
Luciano Martini**

Participants Introduction	All Representatives
Adoption of Agenda	NP Padhy
Review of MI IC#1 Progress	Co-Leads
Approval of Minutes of the Past Meeting	Co-Leads
Other Organizational/Management Issues	Co-Leads
Comments from MI Representatives	All Representatives

**12:00 MI Member countries status on Smart Grids**

**Kari Mäki  
Michael Pesin**

Contribution from Australia	Brian Spak
Contribution from China	Yibo Wang
Smart Grid Innovation in Canada	Lisa Dignard
Contribution from Denmark	Jacob Østergaard
Smart Grids challenges in Europe	Irene Bonvissuto

**13:00 Lunch**





<b>14:00</b>	<b>MI Member countries status on Smart Grids</b>	<b>Abdullah Alsubaie, Irene Bonvissuto</b>
	Contribution from Finland	Kari Mäki
	Contribution from India	S.C. Srivastava
	Contribution from Italy	Ornella Celi
	Contribution from Saudi Arabia	Abdullah Alsubaie
	Contribution from Sweden	Albin Carlén
	Overview of UK Smart Grid Innovation Activity	Sally Fenton
	US DOE Smart Grid Research	Michael Pesin
<b>15:45</b>	<b>Coffee</b>	
<b>16:15</b>	<b>Round Table on Smart Grids Sub-challenges - Regional Grid</b>	<b>Yibo Wang, S.K. Soonee</b>
	All the Participants from MI Member Countries	
<b>17:00</b>	<b>End of 1<sup>st</sup> day Meeting</b>	
<b>17:30</b>	<b>Cultural Event</b>	
<b>19:30</b>	<b>Hosted Joint Dinner at India International Centre</b>	

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On behalf of MI IC#1 co-leads:

Wang Yibo, Sanjay Bajpai, and Luciano Martini



**Friday, 17<sup>th</sup> November, 2017**

**Venue : *Senate Room, Indian Institute of Technology Delhi, Hauz Khas, New Delhi-110016.***

<b>09:45</b>	<b>Welcome</b>	
<b>09:50</b>	<b>Brainstorming</b>	<b>Anju Bhalla Sally Fenton</b>
	First Tasks to be Launched	Co-Leads
	Key Performance Indicators to Monitor IC#1	Roberto Zuelli
	Indian Funding Opportunity (FoA)	JBV Reddy
	Business and Investor Engagement (BIE)	Ornella Celi
	IC#1 Service Platform	Yibo Wang
	MI Prize	Yibo Wang
<b>10:30</b>	<b>R&amp;D Landscape: Outcomes of Questionnaire #2</b>	<b>Sukumar Mishra, Lei Mingyu</b>
<b>10:40</b>	<b>New Delhi Declaration</b>	<b>N P Padhy</b>
<b>11:00</b>	<b>Coffee</b>	
<b>11:15</b>	<b>Round Table on IC#1 Sub-challenge: Distribution Grid</b>	<b>Yang Zilong, SC Srivastava</b>
	All the Participants from MI Member Countries	
<b>12:00</b>	<b>Round Table on IC#1 Sub-challenge: Microgrid</b>	<b>Luciano Martini, Brian Spak</b>
	All the Participants from MI Member Countries	
<b>12:45</b>	<b>Lunch</b>	
<b>13:45</b>	<b>Round Table on IC#1 Sub-challenge: Cross Innovation</b>	<b>Noel N. Schulz, Jacob Østergaard</b>
	All the Participants from MI Member Countries	
<b>14:30</b>	<b>Closing Remarks</b>	
<b>14:45</b>	<b>Technical and Site Visit</b>	
<b>19:00</b>	<b>Hosted Joint Dinner</b>	

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**Saturday, 18<sup>th</sup> November, 2017**

**Venue : Seminar Hall, Indian Institute of Technology Delhi, Hauz Khas, New Delhi-110016**

**09:00 Registration**

**09:30 Outcomes of Brainstorming Sessions**

Smart Grid Sub-challenge - **Regional grid** Yibo Wang

Smart Grid Sub-challenge - **Distribution grid** NP Padhy

Smart Grid Sub-challenge - **Microgrid** Luciano Martini

Smart Grid Sub-challenge - **Cross Innovation** Jacob Østergaard

**10:30 Coffee**

**Inaugural Function**

**11:00 Inauguration of Exhibition**

Hon'ble Minister of State for Science & Technology and Earth Sciences, India

Hon'ble Minister of State (IC) for Power and New & Renewable Energy, India

**11:30 Inauguration of Workshop**

DST Rajiv Sharma

DBT Renu Swarup

IIT Delhi V Ramgopal Rao

IIT Roorkee Ajit Kumar Chaturvedi

IIT Kanpur Manindra Agarwal

Scientific Attaché of Italy Massimo Spadoni

Counsellor of People's Republic of China Zun Wen

Hon'ble Minister of State (IC) for Power and New & Renewable Energy, India RK Singh

Hon'ble Minister of State for Science & Technology and Earth Sciences, India YS Chowdary

**Release of "Report on MI Smart Grids Activities, Strategies & Vision"  
(Brief by Wang Yibo)**

**Launching of India-US Collaborative Programme: UI-Assist  
(Brief by Michael Pesin)**

**Launching of India-UK Joint Programme on Virtual Clean Energy Centre  
(Brief by Daniel Shah)**

**Release of New Delhi Declaration  
(Brief by NP Padhy)**

**Collaboration Agreement between RSE, Italy and IIT Roorkee, India  
(Brief by Luciano Martini)**







<b>13:00</b>	<b>Lunch</b>	
<b>14:00</b>	<b>Panel Discussion with Industrial Experts</b>	<b>Li Jianfei, Albin Carlén</b>
	Experts from Industries	
<b>15:00</b>	<b>Panel Discussion with Experts from Utility Sector</b>	<b>KVS Baba, Michael Pesin</b>
	Experts from Utility sector	
<b>16:00</b>	<b>Closing Remarks</b>	
	Workshop Main Outcomes Summary	Co-Leads
	Wrap up of Main Agreed Decisions/Actions	Co-Leads
	Announcement of the 3 <sup>rd</sup> Deep-dive Workshop	Country Representative
	Closing Address	Sanjay Bajpai
<b>16:25</b>	<b>End of Workshop</b>	
<b>16:30</b>	<b>Exhibition tour</b>	

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**Sunday, 19<sup>th</sup> November, 2017**

<b>06:30</b>	<b>Pickup for Industrial Tour</b>
<b>10:00</b>	<b>Agra visit</b>
<b>12:00</b>	<b>Lunch</b>
<b>13:00</b>	<b>Industrial Visit - Power grid</b>
<b>16:00</b>	<b>Return to New Delhi</b>
<b>19:00</b>	<b>Reach New Delhi</b>

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