CINELDI

Centre for intelligent electricity distribution
- to empower the future Smart Grid

Smart grid laboratory developments
Workshop on co-simulation and hardware-in-the-loop

October 28-29, 2019 in Trondheim, Norway
Organized by: ERIGrid and CINELDI
Register on: www.sintef.no/projectweb/registrering/ (by September 30)

There is a limited number of places, so participation is not guaranteed before you receive a confirmation. The participation for presenters, and EriGrid/Cineldi partners is free of charge. Travel and accommodation must be arranged by the participants and will not be covered be the organizers.

Hotel suggestions are: Thon Hotel Prinsen and Scandic Bakklandet

Dinner on Monday October 28 at 19:00 will take place at Frati Restaurant in the city center.

Purpose of workshop:
- Disseminate results from ERIGrid Joint Research Activities
- Share knowledge and experience on smart grid laboratory activities, with special focus on co-simulation and hardware-in-the-loop simulation

The event is a joint undertaking by ERIGrid and CINELDI.

ERIGrid
Connecting European
Smart Grid Infrastructures

Programme

Monday 28 October

	Programme in Auditorium NTNU Rådsrommet	
9:00	About CINELDI and purpose of the workshop	Henning Taxt
9:10	About the ERIGrid project	Thomas Strasser
9:20	Introducing co-simulation concept and platforms (Mosaik and OPSim)	Arjen van der Meer (TUDelft)
10:00	Coffee break	
10:20	Presenting selected ERIGrid co-simulation experiment details and results, co-ordinated voltage control	Juan Montoya (Fraunhofer-IEE)
11:00	Approaches for assessment of integrated communication and power grid systems	Poul Heegaard (NTNU)
11:30	Panel with the speakers / Discussion	
12:00	Lunch	
	Programme in the Smart Grid laboratory	
13:00	Introducing capabilities of NSGL	Merkebu Degefa (SINTEF)
13:25	ICT-Powersystem co-simulation with OPAL RT – implementation possibilities and demonstration	Ravinder Venugopal, OPAL-RT
13:50	Power-HIL requirements for high power amplifier systems	Hans Martin Baum (Egston)
14:15	Coffee break	
14:30	Demonstrations of Power-Hardware-in-the-loop	Salvatore D'Arco (SINTEF)
15:30	Simulation/ stress test of cyber-physical systems – seen from the IT security/ communication perspective	Stephen Wolthusen
16:00	Panel with the speakers / discussion	
16:30	End of programme	
19:00	Dinner	

Tuesday 29 October

8:30	Bus to venue day 2: SINTEF Energy Lab	
9:00	Powersystem-ICT co-simulation experiments and activities	Michele Garau and Charles Adrah (NTNU)
9:30	Hardware-in-the-loop examples and assessment of accuracy	Andrea Benigni
10:00	Presenting possibilities of ICT-Powersystem cosimulation with HIL setup. Time delay impacts on grid operation and cyber attack impacts	Carsten Kreuger (OFFIS)
11:00	Panel and discussion	
12:00	Lunch	
12:45	Tour of SINTEF Energy Lab	
13:15	Bus leaves from SINTEF Energy lab	
13:30	The bus is back in at SINTEF Energy/NTNU	