

ETN OCTOBER WORKSHOP

AGENDA

1-2 October 2019
 Florence Learning Center
 Via Perfetti Ricasoli 78



TUESDAY 1 OCTOBER 2019

9:00 – 12:00	Possibility to visit BHGE facilities (pre-registration required) or meet with other ETN members
10:00 – 12:00	Registration at Florence Learning Center (ground floor)
12:00 – 12:45 Auditorium (ground floor)	<p>Welcome and introduction to the Workshop <i>Christer Björkqvist, Managing Director, ETN</i></p> <p>Welcome speech <i>Michele Stangarone, Chairman Nuovo Pignone and Vice President Europe, Russia CIS, South Saharan Africa, Turbomachinery & Process Solutions, Baker Hughes, a GE Company</i></p> <p>President's welcome message <i>Bernard Quoix, ETN President/Total</i></p> <p>Report from ETN's High-Level User Meeting <i>Cath Goy, ETN Vice President/Team Leader GT Combustion, Uniper</i></p>
12:45 – 13:45	Lunch
13:45 – 15:30 Auditorium (ground floor)	<p>Panel discussion: Developments and applications of sCO₂ power cycles for the future energy scenario <i>Chaired by Peter Jansohn, Paul Scherrer Institute, Chairperson of ETN Project Board</i></p> <ul style="list-style-type: none"> • Research and development of sCO₂ for power generation in Korea <i>Sungho Chang, Project Manager, KEPCO Research Institute</i> • sCO₂ applications for high grade heat to power conversion <i>Giuseppe Bianchi, Research Fellow, Brunel University</i> • Technology innovation in sCO₂ cycles <i>Andrea Burrato, Senior product manager, Turbomachinery & Process Solutions, Baker Hughes, a GE Company</i> • Challenges and development of sCO₂ heat exchangers <i>Renaud Le Pierres, Business Development Engineer, Heatric</i>
15:30 – 16:00	Coffee break
16:00 – 17:30 Auditorium (ground floor)	<p>The Hydrogen Roadmap Europe study <i>Jorgo Chatzimakakis, Secretary General, Hydrogen Europe</i></p> <p>Hydrogen injection into European gas network: H₂ natural gas mixtures <i>Marco Tarenzi, Manager, Snam</i></p> <p>ENGIE Research Programme for a low carbon society <i>Rob Versteirt, Lead Technology Advisor, ENGIE</i></p> <p>Low carbon initiatives for CO₂ reduction <i>Olaf Brekke, Advisor Upstream Rotating Equipment, Equinor</i></p>
17:45 –	Bus from Florence Learning Center to La Loggia restaurant
18:30 –	Dinner at La Loggia restaurant (Piazzale Michelangelo 1, Florence)

WEDNESDAY 2 OCTOBER 2019

	Room: Shakespeare (1 st floor)	Room: Auditorium (ground floor)	Room: Giotto (1 st floor)	Room: Michelangelo (1 st floor)
	<p>Technical Committee 1: Next generation power cycles: supercritical CO₂ for energy intensive industry and power generation <i>Chaired by Marco Ruggiero, External Funding & Technology Development, Baker Hughes, a GE Company</i></p>	<p>Technical Committee 2: Gas turbines operational and fuel flexibility <i>Chaired by Peter Kutne, Head of Department Gas Turbine, DLR</i></p>	<p>Technical Committee 3: Additive manufacturing & new materials <i>Chaired by John Oakey, Professor of Energy Technology, Cranfield University</i></p>	<p>Technical Committee 4: Gas turbine component life assessment <i>Chaired by Chris Dagnall, General Manager, DNV-GL Energy</i></p>
8:30 – 10:30 Parallel TC* sessions	<p>Research and development for sCO₂ cycles in EDF <i>Albannie Cagnac, Project Manager, EDF</i></p> <p>sCO₂ Activities in the U.S.: Status of the 10 MW STEP Demo Pilot Plant Project <i>Markus Lesemann, Director, Business Development, Gas Technology Institute</i></p>	<p>ETN Hydrogen Technology Summary <i>Peter Kutne, Head of Department Gas Turbine, DLR</i></p> <p>Research needs for the deployment of the hydrogen turbine <i>Egidio Pucci, TPS Combustion Technology Leader, Baker Hughes, a GE Company</i></p>	<p>Horizon 2020 calls on new materials <i>John Oakey, Professor of Energy Technology, Cranfield University</i></p> <p>Research and development of new materials in the gas turbine supply chain <i>Giuseppe Barbieri, Head of Laboratory Chemical and physical technologies, ENEA</i></p>	<p>Optimising gas turbine operation with anti-fouling coatings <i>Peter Asplund, CEO, United Services Sweden</i></p> <p>Techniques to evaluate the single crystal blades lifetime <i>Jonathan Douglas, Group Leader Materials Performance, Frazer-Nash Consultancy</i></p>
10:30 – 11:00 Coffee break				
11:00 – 12:30 Parallel TC* sessions	<p>Development of indigenous directly-heated sCO₂ power cycle and its potential applications <i>SangMin Lee, Senior Researcher, KEPCO Research Institute</i></p> <p>Research activities and potential collaboration on sCO₂ power cycles <i>Dae Keun Lee, Chief of Advanced Combustion Laboratory, Korea Institute of Energy Research</i></p>	<p>Partnership for gas turbine retrofit demonstration of 0 – 100% hydrogen flexibility <i>Peter Stuttaford, CEO, Ansaldo Thomassen</i></p> <p>Retrofitting gas turbine fleet to burn hydrogen: timescale and plans <i>Marc Cardoen, Fleet Manager, ENGIE</i></p>	<p>Multilaser technology at SLM Solutions <i>Giulio Canegallo, Director Business Development Energy, SLM Solutions</i></p> <p>Benchmark initiative on AM gas turbine components <i>Steve Nardone, Project Manager Metal Additive Manufacturing, ENGIE</i></p>	<p>Gas turbine component life assessment <i>Antonino Graziano, Condition based maintenance technical leader, Baker Hughes, a GE Company</i></p> <p>Environmental life cycle assessment of GT components <i>Francesco Fantozzi, Professor, University of Perugia</i></p>
12:30 – 13:30 Lunch break				
13:30 – 15:00 Parallel TC* sessions	<p>ENEA's activities on sCO₂ GT cycles – learned lessons and future plans <i>Eugenio Giacomazzi, Aeronautical engineer, ENEA & Giuseppe Messina, Project Process Engineer, ENEA</i></p>	<p>Biomass-fired gas turbines, a solution for the future energy system? <i>Michael Bartlett, CTO, Phoenix BioPower</i></p> <p>Hydrogen Europe initiatives for the Clean Hydrogen Partnership <i>Bertrand Amelot, Executive Vice President – Sales & Marketing, McPhy</i></p>	<p>ETN Additive Manufacturing Equipment database <i>Ron van Gestel, Head of Business Development Engineering, Chromalloy</i></p> <p>ETN Additive Manufacturing Research & Innovation Roadmap <i>Ferenc Pankotai, Manager, Combustion Engineering and Additive Manufacturing, Solar Turbines</i></p>	
Plenary session				
15:00 – 16:00	<p>Report from the TC Chairs on actions and closing remarks <i>Technical Committee Chairpersons and Bernard Quoix, ETN President/Total</i></p>			

* TC: Technical Committee

Sponsor

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Accommodation

[AC Hotel by Marriott Firenze](#)
Via Luciano Bausi, 5, 50144 Florence

[Starhotels Tuscany](#)
Via di Novoli, 59, 50127 Florence

[NILHOTEL](#)
Via Eugenio Barsanti 27 a/b, 50127 Florence

Venue

[Florence Learning Center](#)
Via Perfetti Ricasoli, 78
50127 Florence

Dinner

[La Loggia restaurant](#)
Piazzale Michelangelo 1, Florence

Contact

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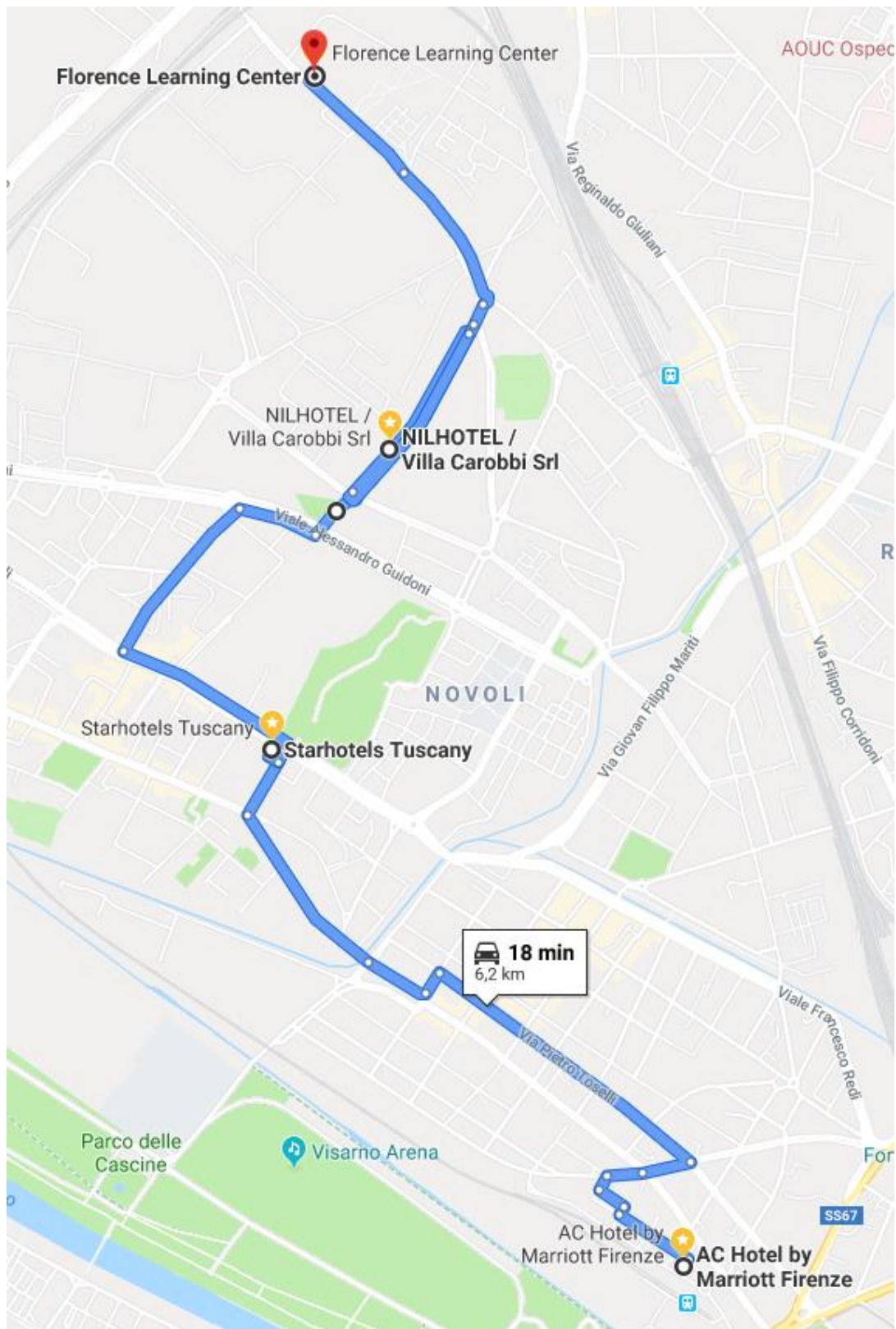
Directions

Florence Amerigo Vespucci Airport is located 4km away from the city centre and approximately 5 minutes away from Florence Learning Center by taxi. Other airports nearby are Pisa and Bologna and they can be reached from Florence by train or shuttle bus.

Firenze Santa Maria Novella is the main train station in Florence, situated in the city centre. The nearest train station to Florence Learning Center is Firenze Rifredi (15-minute walk from the Learning Center building). Trains between the two stations are running approximately every 10 minutes during peak hours, and the duration of the journey is 5 minutes.

The bus line 23 serves the Florence Learning Center. The bus stop in the city centre is located at the exit of the Santa Maria Novella train station.

Hotels



Transport

Bus service is organised between the venue and hotels for the afternoon of 1 October and the morning of 2 October:

- 1 October (afternoon): departure from Florence Learning Center at 17:45 to La Loggia restaurant
- 1 October (evening): departure from La Loggia restaurant after dinner, stops at NILHOTEL, Starhotels Tuscany and AC Hotel by Marriott Firenze
- 2 October (morning): departure from AC Hotel by Marriott Firenze at 7:40, with a quick stop at Starhotels Tuscany at 7:50 and NILHOTEL at 8:00

Florence Learning Center



Entrance: [Via Perfetti Ricasoli 78](#)