



**ETN**  
Global

# THE FUTURE OF GAS TURBINE TECHNOLOGY

## 9<sup>TH</sup> INTERNATIONAL GAS TURBINE CONFERENCE

10-11 October 2018, Le Plaza Hotel, Brussels, Belgium

### PRELIMINARY PROGRAMME

The International Gas Turbine Conference is a well-established and renowned biennial conference, organised by ETN, representing the whole gas turbine community. Its objective is to raise the awareness of gas turbine (GT) and turbomachinery technology development needs – from oil & gas, power generation and industrial operators' perspectives – and to explore and exchange ideas with GT experts from the whole value chain attending from all continents. It also provides the opportunity to meet and discuss with policy makers the role of gas turbines in future energy scenarios. The conference will highlight the energy market outlook in Europe and in key markets globally, as well as to present and disseminate current R&D activities and latest achievements for flexible, efficient, reliable and environmentally sound gas turbine technology.

The 9<sup>th</sup> International Gas Turbine Conference (IGTC-18) will focus on the required future GT technology developments from a user's and legislative point of view, with special focus on:

- The role played by gas turbines in the future international energy policy mix, where intermittent sources of renewable energy will significantly increase and nuclear and coal capacity will decrease, while the emerging economies' demand for cheap and secure energy will rapidly rise to assist their economic growth in the coming decades;
- Current and future technology trends and the different stakeholders' views on required technology developments to ensure **flexible, efficient, reliable and environmentally sound gas turbine operation**.

The **keynote sessions and panel discussions** will address critical issues related to climate change mitigation in the energy transition to a low carbon and carbon neutral society. Special attention will be given to increased operational flexibility, fuel flexibility, retaining reliability and lower emissions for both single cycle and combined cycle operation. Energy policies that set boundary conditions and initiatives for GT technology development in Europe and globally will be presented, followed by panel discussions with distinguished experts and high level policy makers.

In parallel **technical sessions**, critical research and development activities necessary for the advancement of GT technology, from operational, environmental and cost perspectives will be addressed. Recent GT technology and new, innovative solutions will be presented. The technical sessions will combine research initiatives, case studies and reports of real case applications, with the aim to give a balanced view of current developments and future needs for research in GT applications.

#### Organiser

ETN

Tel: +32 (0)2 646 1577

For conference updates and further details,  
please visit ETN's website:  
[www.etn.global/events/igtc-18/](http://www.etn.global/events/igtc-18/)

#### Conference Management

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***We very much look forward to  
welcoming you at the IGTC-18!***





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### DAY 1 – 10 October 2018

07:15	Registration will take place in the lobby of Le Plaza Hotel
08:15	Welcome note: Key points from the 2016 Conference and Introduction to IGTC-18 <ul style="list-style-type: none"><li>• Christer Björkqvist, Managing Director, ETN</li><li>• Bernard Quoix, ETN President/Senior Fellow and Head of Rotating Machinery Department, Total</li></ul>
08:30	<b>Keynote session 1: “Energy transition to a global low carbon society”</b> <b>Chair:</b> Christer Björkqvist, Managing Director, ETN <b>Speakers:</b> <ul style="list-style-type: none"><li>• Mechthild Wörnsdörfer, Director for Renewables, Research and Innovation, Energy Efficiency, DG Energy, European Commission</li><li>• Nils A. Røkke, Executive Vice President Sustainability, SINTEF</li><li>• Laszlo Varro, Chief Economist, International Energy Agency (invited)</li></ul> <b>Panel discussion</b> with the above speakers will take place after the presentations. <b>Moderator:</b> Junior Isles, Chief Editor, The Energy Industry Times
10:20	Coffee break
10:50	<b>Keynote session 2: “Operational needs in current and future scenarios”</b> <b>Chair:</b> Robert C. Steele, Program Manager, EPRI <b>Speakers:</b> <ul style="list-style-type: none"><li>• Nicola Rossi, Head of Innovation Global Thermal Generation, Enel</li><li>• Shell (speaker to be confirmed)</li><li>• Shaun West, Lecturer Service and Product Innovation, Lucerne School of Engineering and Architecture</li></ul> <b>Panel discussion</b> with the above speakers will take place after the presentations. <b>Moderator:</b> Andy Williams, Senior Fellow, Chromalloy
12:45	Lunch

14:00	<p><b><u>Operations &amp; Maintenance</u></b></p> <p>To be confirmed (paper under review)</p> <p><b>5. A digitalized approach for combining diagnostic capabilities and maintenance risk-based insights to improve machine operation</b> <i>BHGE</i></p> <p><b>75. ORAP®: The Foundation for Predictive Analytics</b> Strategic Power System (SPS) International</p>	<p><b><u>Next Generation Technologies</u></b></p> <p>To be confirmed (paper under review)</p> <p><b>11. Fast Start and Cycling HRSGs: Siemens DrumPlus™ technology</b> <i>Siemens Heat Transfer Technology B.V.</i></p> <p><b>21. Towards Highly-Flexible Carbon-Clean Power Production using Gas Turbines: Exhaust Gas Recirculation and cycle Humidification</b> <i>University of Mons, University of Stavanger, Université Libre de Bruxelles and Vrije Universiteit Brussel</i></p>	<p><b><u>Next Generation Technologies</u></b></p> <p><b>45. Digitalization and its role in the Oil and Gas and Power Generation industries</b> <i>GE Power and DNV-GL</i></p> <p><b>68. An Advanced Early Fault Detection Tool for Predictive Maintenance of a Fleet of Industrial Gas Turbines</b> <i>Aramis, Politecnico di Milano and Fondation EDF, Ecole Central Supelec</i></p> <p>To be confirmed (paper under review)</p>
15:30	<b>Coffee break</b>		
16:00	<p><b><u>Operations &amp; Maintenance</u></b></p> <p><b>19. Performance Analysis of a Twin-Shaft Gas Turbine during Failure in the Variable Stator Guide Vanes System of the Axial Compressor</b> <i>University of Lincoln and Siemens Industrial Turbomachinery</i></p> <p><b>61. The challenge of burning Diesel Oil in Aero-derivative Gas Turbines Off-Shore</b> <i>TOTAL</i></p> <p><b>52. Extending the Life of F-Class Gas Turbine Rotors for Improved Operational &amp; Maintenance Life Cycle Costs</b> <i>PSM, Ansaldo Energia Group</i></p>	<p><b><u>Next Generation Technologies</u></b></p> <p><b>25. Distributed Integrated Solar Combined Cycle Power Plants: Despachable, reliable, affordable, low carbon electricity</b> <i>Siemens</i></p> <p>To be confirmed (paper under review)</p> <p><b>74. Status of the 10 MWe Supercritical Transformational Electric Power (STEP) Program</b> <i>Gas Technology Institute, US</i></p>	<p><b><u>Next Generation Technologies</u></b></p> <p><b>49. Using Data Analytics for Smarter Operation of a Gas Transmission Network</b> <i>DNV-GL and National Grid Gas</i></p> <p><b>69. Innovative fleet condition monitoring concept for a 2MW gas turbine</b> <i>B&amp;B-AGEMA and OPRA Turbines</i></p> <p>To be confirmed (paper under review)</p>
18:15	<p><b>Reception and Gala dinner:</b> Our sponsors for the Cocktail reception and the Gala dinner welcome you to a memorable evening at Centre Belge de la Bande Dessinée – Belgian Comic Strip Center in Brussels.</p> <div data-bbox="363 1473 692 1883">  </div> <div data-bbox="928 1507 1362 1637"> <p><b>Solar® Turbines</b></p> <p><b>A Caterpillar Company</b></p> </div>		

## DAY 2 – 13 October 2016

08:00	Networking coffee		
08:30	Opening and introduction		
08:40	<p><b>Keynote session 3: “National and regional gas turbine markets: opportunities and challenges”</b>  <b>Chair:</b> John Oakey, Professor of Energy Technology, Cranfield University</p> <p><b>Speakers:</b></p> <ul style="list-style-type: none"> <li><b>The US gas turbine market and current R&amp;D program and projects,</b> Richard A. Dennis, Technology Manager, US Department of Energy</li> <li><b>Chinese energy policy and market forecast</b> Ronnie Tian, Founder, NexTurbine</li> </ul>		
09:40	<p><b>Keynote session 4: “Ways to optimise and reduce cost of operations”</b>  <b>Chair:</b> Bernard Quoix, ETN President/Senior Fellow and Head of Rotating Machinery Department, Total</p> <p><b>Speakers:</b></p> <ul style="list-style-type: none"> <li>Thorbjörn Fors, CEO Distributed Generation and O&amp;G Services, Siemens</li> <li>Maria Sferruzza, President LNG &amp; Global Services - Turbomachinery &amp; Process Solutions, BHGE</li> <li>Mark Keith, Vice President TBI, Solar Turbines (invited)</li> <li>Sven-Hendrik Wiers, Vice President Gas Turbines, MAN Diesel &amp; Turbo</li> </ul> <p><b>Panel discussion</b> with the above speakers will take place after the presentations.  <b>Moderator:</b> To be confirmed</p>		
10:45	Coffee break		
11:15	<p><b><u>Manufacturing &amp; Repair</u></b></p> <p><b>3. Development of life predictive methods on NovaLTTM16 combustor with simplified physics based models</b> BHGE</p> <p><b>22. Hot Section Life Management Through Improved Material Property Recovery</b> Electric Power Research Institute and TEServices</p> <p><b>47. Industrialization and current field experience of 3D printed gas turbine components</b> Siemens</p> <p><b>60. Internally Cooled &amp; Lightweight Radial Turbine Wheels for Gas Turbines</b> HiETA Technologies</p>	<p><b><u>New Component Developments</u></b></p> <p><b>42. Ammonia Gas Turbines (AGT): Review</b> Cardiff University</p> <p>To be confirmed (paper under review)</p> <p>To be confirmed (paper under review)</p> <p>To be confirmed (paper under review)</p>	<p><b><u>Next Generation Technologies</u></b></p> <p><b>57. Towards Flexible Co-Generation: Techno-economic Optimization of Advanced Combined Cycle Combined Heat and Power Plants Integrated with Heat Pumps and Thermal Energy Storage</b> KTH Royal Institute of Technology and EPS Europe Power Solutions</p> <p><b>54. Integration of Heat Pump and Gas Turbine Combined Cycle: Layout and market opportunity</b> University of Genoa and IREN</p> <p><b>56. High Temperature Heat Pump – A novel Approach to increase Flexibility and Efficiency of CCGT and CHP Power Plants</b> Mitsubishi Hitachi Power Systems Europe</p> <p><b>59. Intelligent predictive control of a PUMP-HEAT Combined Cycle: introduction and first results</b> Siemens PLM and University of Genoa</p>
13:15	Lunch		

14:20	<b>Keynote session 5: “Technology developments for a low carbon society”</b>  <b>Panellists:</b> <ul style="list-style-type: none"> <li>• Junichiro Masada, Deputy Head of Turbomachinery HQ, MHPS</li> <li>• Peter Flohr, GT Engineering Executive, GE Power</li> <li>• Barbara Stanley, VP, Power Generation &amp; Strategic Growth, Solar Turbines (invited)</li> <li>• Sven-Hendrik Wiers, Vice President Gas Turbines, MAN Diesel &amp; Turbo</li> <li>• Mauro Moretto, Head of Technology Development, Ansaldo Energia</li> <li>• Siemens (speaker to be confirmed)</li> </ul> <b>Panel discussion and Q&amp;A:</b> with the above speakers. <b>Moderator:</b> Gary Lock, Senior Business Manager, Frazer-Nash Consultancy
16:15	Closing remarks Bernard Quoix, ETN President/Senior Fellow and Head of Rotating Machinery Department, Total
16:30	<b>End of Conference</b> <b>Networking Coffee and Drinks</b>
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