Advancing turbomachinery innovations and strategies for net-zero pathways

12th IGTC, 14-15 October 2025, Brussels, Belgium

ETN Global

Programme

www.etn.global

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Welcome

Christer Björkqvist
Managing Director,
ETN Global

Dear IGTC 2025 Attendees,

It is my great pleasure to welcome you to the 12th International Gas Turbine Conference (IGTC 2025) "*Advancing turbomachinery innovations and strategies for net-zero pathways"* here in Brussels. Over the past two decades, this conference has grown into a unique global forum that unites the entire turbomachinery value chain: from users and OEMs to suppliers, service providers, researchers, and policymakers.

We gather at a crucial moment. The global energy landscape is undergoing profound change, shaped by the rapid rise of variable renewables, growing security-of-supply concerns, and the urgent need to progress towards net-zero. Rising energy demand, the phase-out of coal in Europe, and the growing requirement for fast-starting dispatchable generation are creating increasing pressure on electricity systems, with the risk of significant capacity gaps unless the right incentives for dispatchable generation are in place.

These challenges, but also the opportunities they bring, will be addressed in our keynote sessions, where high-level speakers will set the stage with strategic perspectives on users' priorities, market developments, and policy frameworks.

Turbomachinery, with its proven flexibility, reliability and dispatchability, is not just a transition technology but a destination technology, already today capable of delivering carbon-free solutions. This will be showcased in our parallel technical sessions, which will highlight the latest breakthroughs in key research areas: from hydrogen-ready combustion to CCS integration, digitalisation, hybrid systems, and advanced manufacturing.

IGTC 2025 is designed to provide guidance, encourage open exchange of ideas, and strengthen collaboration, all essential to successfully navigate this transition.

This collaborative spirit is at the heart of ETN Global, which was founded on a simple belief: that by listening to end-users and working across the value chain, we can accelerate the development and deployment of carbon-neutral turbomachinery solutions. This belief in networking and collaboration underpins every aspect of this conference.

I encourage you to use these days to connect, exchange, and build the collaborations that will shape the future of our industry. I also wish to thank our Conference Advisory Board for their valuable guidance and our sponsors for their generous support, which has been instrumental in making this conference possible.

I look forward to meeting you during the conference and hearing your perspectives on the opportunities and challenges ahead.

Welcome to Brussels, and to IGTC 2025!

Christer Björkqvist

Allround company in the energy transition

NEM is an allround and committed partner in the global energy industry, supporting the transition toward a decarbonized world. NEM's contribution includes developing innovative products aligned with market trends and converting existing installations to lower-emission operations.

The growing share of renewable energy sources like wind and solar requires today's power grid to become more flexible and responsive. Open cycle gas turbines (OCGTs) play a key role in meeting these demands, but their NOx emissions present challenges. NEM's Selective Catalytic Reduction system using tempered air (T-SCR) provides a reliable solution, enabling OCGTs to deliver flexible power while meeting strict emission regulations.

NEM also offers robust, flexible, and future-ready Heat Recovery Steam Generator (HRSG) designs. With hundreds of units installed and decades of experience, NEM HRSGs meet today's needs and are the first certified for 100% hydrogen use in combined cycle plants, reflecting our commitment to innovation and the energy transition.

Visit our website for more information: **www.nem-energy.com**.

"Being part of ETN Global strengthens our ability to connect with key stakeholders who are shaping the future of the energy industry. These relationships formed through ETN Global are essential — they help us align with industry needs and develop new ideas, collaborations, and partnerships. Our Heat Recovery Steam Generators (HRSGs) and exhaust systems are critical components that complement gas turbines, enhancing overall plant efficiency, reducing emissions, and supporting more flexible and reliable power generation. As part of the ETN Global community, we are proud to contribute our expertise in these areas and to help drive innovation in integrated gas turbine systems. We look forward to continuing these valuable conversations — and meeting you at IGTC 2025".

Alexander Wisse,
CEO, Nem Energy

AARDING
A CECO ENVIRONMENTAL BRAND

Quiet and clean solutions

Aarding, Peerless, and Burgess-Manning, part of the CECO Environmental group of companies, have built a global reputation as leaders in the design, engineering, and supply of gas turbine exhaust systems.

With over six decades of experience, we deliver high-performance solutions that meet the power industry's growing demand for safe, quiet, and clean energy systems.

Our portfolio covers exhaust systems for the full range of gas turbines, from standard small peaker units to the most advanced Hot SCR systems behind heavy-duty gas turbines.

Backed by strong references, our technology-driven solutions address high-temperature and cyclical operations, multiple fuel types (including hydrogen and alternative fuels), and the latest technologies in emission and noise control. Over 32,000 air pollution control systems have been delivered and commissioned, removing more than 4.4 billion pounds of pollutants annually, the equivalent of emissions from 50 million passenger cars.

We invite you to discover how we can support your current and future power projects by driving innovation for a cleaner and quieter tomorrow.

Explore our full offering on our website: **www.aarding.com**.

"We are proud to support IGTC 2025 as a Gold Sponsor this year. This event brings together the leading and brightest minds in the gas turbine industry. It's a great opportunity for our Aarding, Peerless, and Burges Manning brands to showcase our capabilities on gas turbine exhaust systems. Our contributions support energy transition goals focused on reducing emissions, enabling cleaner energy production, and enhancing the reliability and uptime of industrial equipment. We strongly believe that working with this global community helps us stay at the forefront of innovation and strengthens our mission to protect people, the environment, and industrial equipment."

Martin Pranger,
Managing Director,
Aarding

Contributing to a greener world

Founded in 1923, and with a legacy in the gas turbine market dating back to the mid-1960s, Braden delivers world-class solutions that accelerate the energy industry's transition to a decarbonised future.

Our extensively proven portfolio covers small, medium, and large gas turbines – both aero and heavy industrial variants – featuring advanced combustion air filtration and intake systems, exhaust stacks & bypass systems, and NOx and CO emissions reduction technologies designed for natural gas and hydrogen blends. We also provide complete turnkey plant upgrades, aligning ageing assets to current day codes, standards, and legislation compliance – contributing to a greener world.

With more than 5,000 systems installed across 100 countries, Braden serves the power generation, oil & gas, petrochemical, and industrial sectors. By partnering with OEMs, plant owners, and operators, we transform plant performance and help meet the toughest efficiency and environmental goals.

At Braden, everything we do is guided by our commitment to safety. Our Start with Safety initiative reflects this responsibility – protecting our most important asset, our people. This program empowers every team member to place safety at the forefront of every decision, fostering a culture of awareness and accountability.

As a proud sponsor of the ETN Global User Group, we honoured to stand alongside industry leaders who share our dedication to shaping a cleaner, smarter, safer, and more reliable energy future – together.

For more information on Braden, visit **www.braden.com**.

"At Braden, we are proud to sponsor IGTC 2025, because it represents what drives our industry forward – collaboration, innovation, and a shared commitment to progress.

We believe the future is engineered by people – driven by curiosity, empowered by technology, and united by purpose.

Our vision is to accelerate the global shift to cleaner, smarter, and more dependable energy solutions. Events like these bring this vision to life, creating the platform where ideas are shared, partnerships are built, and the energy transition is accelerated."

Thomas Breuer,
CEO, Braden

SIEMENS energy

Shaping the energy of tomorrow!

Siemens Energy is one of the world's leading energy technology companies. The company works with its customers and partners on energy systems for the future, thus supporting the transition to a more sustainable world. With its portfolio of products, solutions and services, Siemens Energy covers almost the entire energy value chain – from power and heat generation and transmission to storage. The portfolio includes conventional and renewable energy technology, such as gas and steam turbines, hybrid power plants operated with hydrogen, and power generators and transformers.

Its wind power subsidiary Siemens Gamesa makes Siemens Energy a global market leader for renewable energies. An estimated one-sixth of the electricity generated worldwide is based on technologies from Siemens Energy. Siemens Energy employs around 102,000 people worldwide in more than 90 countries.

Siemens Energy offers a wide bandwidth of heavy-duty, industrial, and aeroderivative gas turbines, each tailored to address specific market needs. As a leading gas turbine manufacturer, Siemens Energy prioritizes innovation and excellence to guide customers through the energy transition.

Visit our website for more information at **www.siemens-energy.com**.

"Siemens Energy is honored to be a Gold Sponsor of IGTC 2025. As a proud member of ETN Global, we are committed to driving innovation and excellence in the gas turbine industry. Our comprehensive portfolio of products and solutions supports the transition to a sustainable energy future, addressing the challenges of decarbonisation and efficiency.

We look forward to connecting with industry leaders and sharing our expertise to shape the future of energy technology.

Join us at IGTC 2025 to explore the possibilities and collaborate on advancing gas turbine technology."

Tobias Wintz,
Vice President Global Service Operations,
Siemens Energy

WOODWARD

Working together to power the future – let's connect

At Woodward, we know that meaningful progress starts with collaboration. That's why we are placing a renewed focus on engaging directly with the customers who use our solutions, so we can better understand your challenges and support you more effectively.

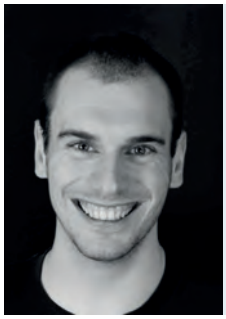
With over 150 years of experience in power generation, Woodward has supported asset owners and OEMs in delivering reliable and cleaner energy. In today's rapidly evolving energy landscape that is shaped by decarbonisation, alternative fuels, and the integration of renewables, we remain a trusted partner, helping customers extend the life of their assets while preparing for the future.

From upgrades and repairs to control systems designed for alternative fuel compatibility, our goal is to keep your systems running efficiently and reliably, today and tomorrow. We are here to listen, support, and respond, whether it's technical insight, operational feedback, or ideas for improvement.

Whether it's a question, a challenge, or a suggestion, we want to hear from you. We aim to build stronger relationships and trusted partnerships for the long term.

We are excited to be part of IGTC 2025 in Brussels and look forward to connecting with you in person. Visit us at our booth for a conversation, we are keen to hear your insights, understand your needs, and explore how we can support your objectives.

Visit our website for more information at **www.woodward.com**.



"At IGTC 2025, we are proud to bring our experience and expertise to the ETN Global community. As a long-standing partner in advancing reliable and sustainable control system solutions, we see this event as an important opportunity to share insights, exchange ideas, and connect with partners across the industry. We are looking forward to welcoming you at our table, learning from your perspectives, and continuing the valuable conversations that drive innovation and shape the future of our sector."

Matthijs Koreman,
Manager –
Aftermarket Europe,
Woodward

About the International Gas Turbine Conference

The International Gas Turbine Conference (IGTC) is ETN Global's flagship biennial event, bringing together the turbomachinery and energy community.

12th IGTC "Advancing turbomachinery innovations and strategies for net-zero pathways" will take place on 14-15 October at Tangla Hotel Brussels, Belgium.

The objective

IGTC offers a powerful platform to position your company at the forefront of the energy transition. It brings together global energy stakeholders to showcase the latest innovations, highlight user priorities, explore global market opportunities and build new partnerships.

The conference also provides a forum to engage with policymakers on the frameworks and conditions needed to enable the required investments. From net-zero strategies to cutting-edge R&D, IGTC highlights suitable applications and global opportunities for carbon-neutral fuels, CCUS, hybrid systems, and sustainable heat solutions.

For manufacturers, suppliers, and service providers it is an unmatched opportunity to connect with the global user community and policymakers, gain visibility, and demonstrate leadership in delivering tomorrow's energy solutions.

Parallel technical sessions

Designed around the needs of the gas turbine user community, these sessions address key R&D priorities essential for advancing turbomachinery. Showcasing the latest technology developments and innovations, they offer a balanced overview of operational, environmental, and cost-related challenges.

Keynote and panel sessions

Focused on net-zero strategies and technical pathways, these high-level discussions will address capacity gaps, flexibility needs, low-carbon solutions, energy efficiency opportunities, and product sustainability. Distinguished experts and high-level policymakers will explore how energy policy frameworks can better align with market needs.

Attendees

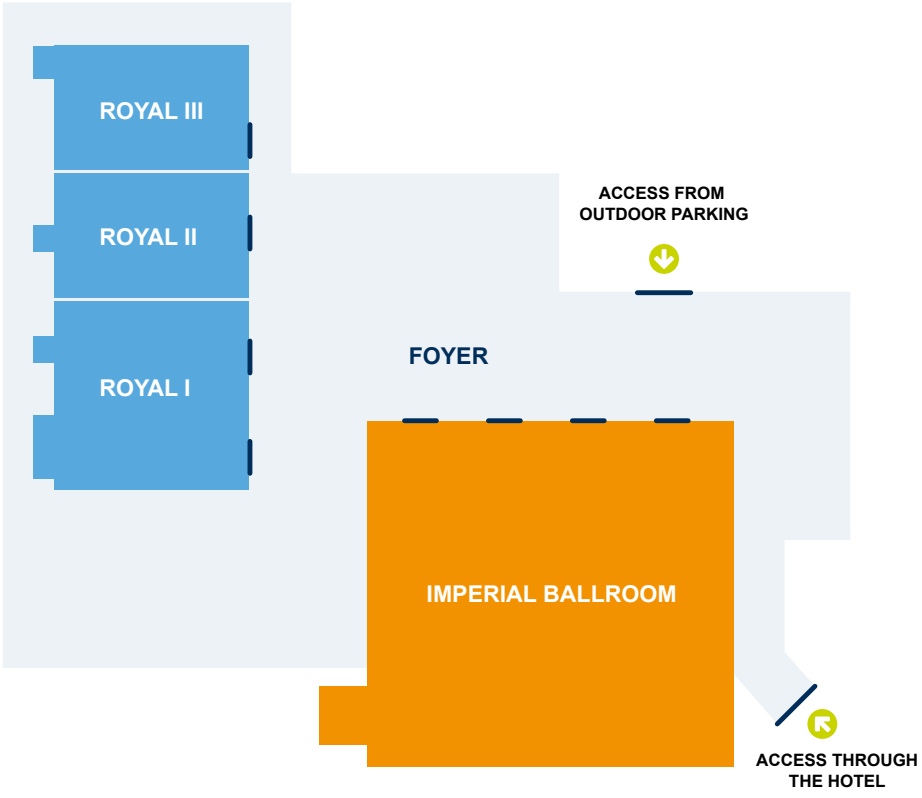
The turbomachinery and energy community: utilities, industrial operators, energy companies (including oil & gas, pipelinee operators, and LNG companies), gas turbine manufacturers, suppliers and service providers, consultancies, research centres, universities, international analysis & forecasting organisations, and policymakers.

Conference venue

Tangla Hotel Brussels (address: Avenue Emmanuel Mounier 5, 1200 Woluwé-Saint-Lambert, Brussels, Belgium) is conveniently located close to the Brussels Airport (BRU) (15 minutes by taxi or 35 minutes by bus R59).

The entire event area will be dedicated solely to attendees of ETN Global's 12th IGTC:

- **Royal Room I** is r**eserved for lunch and coffee breaks.**
- **Royal Rooms II-III** and the **Imperial Ballroom** will host keynote panels and technical presentations.
- **The Foyer** is reserved for sponsors' booths.



12th IGTC Conference Advisory Board

The IGTC Conference Advisory Board (CAB) brings together recognised experts from industry, academia, and research organisations. This group has shaped this year's technical programme by defining themes, reviewing abstracts, and ensuring the quality and relevance of every technical session:

Andreas Huber
Director - Institute of Combustion Technology, German Aerospace Center (DLR)

Tala El Samad
Senior Lecturer in Energy Systems
City St George's University of London

Jan Slagter
Technical Director
VBR Turbine Partners

Alberto Traverso
Full Professor
University of Genoa

Paolo del Turco
Technology Leader
Baker Hughes

Martina Hohloch
Research Associate
DLR

Francesco Crespi
Lecturer
University of Seville

Salvatore Carusotto
PhD candidate/Research Assistant
Politecnico di Torino

Gayathri Medha Hariharan
Technology Professional
NEM Energy

Franco Rosatelli
Emeritus Member
ETN Global

Keynote speakers and chairs

Christer Björkqvist

Managing Director, ETN Global

Christer Björkqvist is the Founder and Managing Director of the Energy & Turbomachinery Network – ETN Global, a user-driven association bringing together the full value chain of the turbomachinery technology to accelerate the deployment of safe, secure, affordable, and dispatchable carbon-neutral energy solutions.

With over 26 years in the industry, he has led international R&D initiatives, contributed to new ISO standards, serves on the American Society of Mechanical Engineers (ASME) Electric Power Committee and the Gas Turbine Energy Network (GTEN) Committee in Canada. He is a strong advocate for dispatchable carbon-neutral turbomachinery as a cornerstone of a secure and sustainable energy system.

Dennis Hesseling

Head of Gas, Coal & Power Markets Division, International Energy Agency

Taking up duties in July 2023, Dennis Hesseling currently serves as the Head of the Gas, Coal, and Power Markets Division in the Directorate of Energy Markets and Security of the International Energy Agency (IEA).

In this capacity, he leads the division with a focus on market analysis, security of supply and policy advice.

Tudor Constantinescu Principal Adviser to the Director-General, Directorate-General for Energy, European Commission

Tudor Constantinescu is Principal Adviser to the Director-General for Energy in the European Commission. He works on energy priorities and initiatives related to hydrogen and to the financing of the energy transition, notably through cohesion policy. Previously, he held different positions including founding Executive Director at BPI Europe and president of the Romanian Agency for Energy Conservation. He has degrees in economics and engineering as well as a PhD on regulatory economics in the energy sector.

Junior Isles

Editor-in-Chief, The Energy Industry Times & Energy Media Consultant

Junior Isles is the founder and Editor-in-Chief of The Energy Industry Times – a specialist international monthly newspaper.

He has been a journalist in the power sector since 1989, having previously been editor of Modern Power Systems and Power Engineering International, and is a well-known commentator on the power industry.

Junior also often appears at both public and private conferences as an accomplished moderator, and over the years has become a trusted colleague of key players in the industry.

Robert Schrecengost

Director of Advanced Energy Systems Division, US Department of Energy

Bob Schrecengost has over 40 years of fossil power industry experience in leading technology development programs, leading emissions reduction projects, and solving combustion and operational issues.

Prior to joining DOE in January 2020, Bob spent 12 years as the boiler R&D programme manager for Alstom Power and GE Steam Power, managing an R&D portfolio that included both internally- and externally-funded projects.

Toshinori Watanabe

Professor Emeritus, Senior Researcher, Department of Aeronautics and Astronautics, University of Tokyo

Toshinori Watanabe received his PhD in Aeronautics from the University of Tokyo in 1987. He studied at Aachen Technical University in Germany from 1991 to 1992 as a Humboldt researcher. From 1993 to March 2023, he worked at the Department of Aeronautics and Astronautics in the University of Tokyo as Associate and Full Professor.

He served as the President of the Gas Turbine Society of Japan in 2019 and the President of the Japan Society for Aeronautical and Space Sciences in 2017. In 2025, he was elected a Fellow of ASME.

Keynote speakers and chairs

Andy Williams

Senior Fellow, Chromalloy

Andy Williams has worked in the field of Gas Turbine Component Repair for over 43 years. His career has been split mainly between Chromalloy Gas Turbine Corporation and Wood Group/Ethos Energy where he has held a number of senior posts, acting now as Senior Engineering Fellow for Chromalloy.

Andy has also served as a main Board Member for ETN Global for 19 years also holding the officers post as Treasurer and has been involved in the association since its inception in 2005.

Jappe Hoeben

Senior Rotating Engineer, RWE

Jappe Hoeben has 20+ years' experience in the Steel, Oil&Gas and Power generation industry.

Having worked at OEMs, EPC's, non-OEM service providers, and now part of the operator, he developed a holistic insight in the rotating equipment world from every side of the table. He takes an interest in decarbonising flexible power generation via the low carbon fuel route.

Before joining RWE Technology International as an owner's engineer, he developed and executed onshore and offshore Oil & Gas projects but also reconditioned GT capital parts and upgraded gas turbines to operate on Hydrogen blends.

Rene Vijgen

Senior Technical Manager, ETN Global

Rene Vijgen is a Senior Technical Manager at ETN Global, responsible for the management and coordination of ongoing and future ETN projects. Previously he worked as a Head of Sulzer's Gas Turbine Services EMEA and was involved in the business growth in China and Russia.

He started his career as an R&D engineer in gas turbine component repair, and gradually took over different management positions in the turbomachinery service business. Through technical innovations and product development, he was able to grow the business significantly. Rene studied Mechanical Engineering and received a PhD degree at Eindhoven, University of Technology.

Mick Conway

Business Development Manager, RWG (Repair & Overhauls)

Mick Conway's responsibilities include new business acquisition, sales management and marketing of RWG's products and services to a global customer base.

Mick has over forty years of experience in the gas turbine industry and was an ETN Global Board Member representing service providers between 2018 and 2024. Mick continues his involvement with the ETN Global community, supporting ETN Global's SGT-A35 User Group.

Jens Walter

Senior Expert for Gas Turbine Technology, BASF

Jens Walter is a Senior Expert for Gas Turbine Technology at BASF and is based in Ludwigshafen Germany. He brings experience from previous roles at ABB Kraftwerke AG which later became Alstom power.

Jens is a Mechanical Engineer by training and holds a 2000 - 2003 Diplom-Ingenieur (Dipl.Ing.) in Mechanical Engineering from Duale Hochschule Baden-Württemberg.

He currently serves as the Chair of ETN Global's CCUS Working Group.

Tobias Wintz

Vice President Global Service Operations, Siemens Energy

Tobias Wintz leads the Global Service Business for Gas Services Distributed at Siemens Energy delivering together with the regional Service teams a comprehensive range of gas turbine services to customers in Power Generation and Oil & Gas worldwide.

Since joining the company in 2007, Tobias held a wide variety of roles both in Service and New Equipment Gas Turbine Business. These include Service Operations, Sales, Business Development and Strategy. Tobias is based in Erlangen, Germany.

Keynote speakers and chairs

Federico Bonzani

Chief Technology Officer,
Ansaldo Energia

Federico Bonzani brings 25 years of experience in power generation and joined Ansaldo Energia in 1995, initially focusing on Combustion Technology.

After holding various engineering leadership roles in the company, since 2020 he has served as Director of the Product and Technology Unit in Switzerland and Italy, currently reporting to CEO. His current scope oversees gas turbine, steam turbine and generator development, and R&D budget management across Ansaldo Energia portfolio.

Aad den Elzen

Vice President Power Generation & Strategic Growth, Solar Turbines

Aad den Elzen joined Solar Turbines in 1994 as part of Solar's European entity in Switzerland. Throughout his tenure, he has held positions in sales, customer service, marketing, and business development.

Aad has spent much of his career in business development with increasing responsibilities for the sales and marketing operations in Europe and global sales for customer services. In 2016 Aad became Director of Business Development in Power Generation. He has held the position of VP since 2020. He is currently based in San Diego, California, US.

Chris Pin Harry

Vice President of Technology for Industrial & Energy Technology, Baker Hughes

Prior to joining Baker Hughes, Chris Pin Harry spent 21 years in Engineering and Technology across various sectors; namely Energy and Aerospace, for Rolls-Royce and Railways, for Alstom.

Chris' current responsibilities span across 4 businesses (Energy Equipment, Gas Technology Services, Industrial Solutions & Industrial Products), leading the technology portfolio throughout the lifecycle of Baker Hughes' products and solutions.

Dino Pezzella

EU Sales Director, Mitsubishi Power

Dino Pezzella is responsible for sales of new gas turbines and combined cycle power plants across Europe and Israel.

Dino graduated in nuclear engineering in 1990, and has worked for some of the biggest conventional power plant OEMs including Ansaldo, ABB, Alstom, General Electric and now Mitsubishi Power.

Recently, his work has also involved low carbon power generation, dealing specifically with hydrogen and ammonia gas turbines, as well as carbon capture for existing and new power plants.

Keynote sessions – description

Keynote session 1:

Realigning policy and markets to tackle the energy trilemma in a changing world

The global energy landscape is being reshaped by geopolitical tensions, shifting trade policies, and growing concerns over energy security. In response, governments and industry are adapting their climate strategies and R&D agendas to reflect a more pragmatic and regionally grounded approach to decarbonisation.

This keynote will provide an outlook on global energy markets and examine how shifting political priorities, rising tariffs, and supply chain disruptions are reshaping dynamics and prompting a recalibration of policy frameworks across key regions. It will ask whether the world is on track for the energy transition when viewed through a balanced energy trilemma lens – security, affordability, and sustainability. The session will also explore what adjustments are needed in national and international R&D programmes and investment frameworks to translate political ambitions into deployable, investable actions that can deliver a secure and successful energy transition.

Keynote panel 2:

User priorities for a secure and net-zero energy future

This session will spotlight perspectives from key user sectors: utilities, oil & gas, and industrial energy users, who are shaping the future of dispatchable energy. Based on insights from ETN Global's High-Level User Meetings in 2024–2025, speakers will outline their preferred net-zero pathways and the critical challenges that must be addressed to ensure a secure and commercially viable energy transition.

Keynote panel 3:

OEM roadmaps & technology development – delivering on the energy trilemma

Following the user insights shared in the previous session, this panel will bring together senior OEM representatives to respond with their strategic vision, fleet development plans, and innovation priorities. The discussion will focus on how OEMs are aligning their technology roadmaps to meet evolving user needs, support policy objectives, and deliver carbon-neutral, dispatchable solutions.

07:15 - 08:15 Registration at Tangla Brussels Hotel in front of Imperial Ballroom

08:15 - 10:15 **Keynote session 1**

Realigning policy and markets to tackle the energy trilemma in a changing world Imperial ballroom

Chair: Christer Björkqvist, Managing Director, ETN Global

Moderator: Junior Isles, Editor-in-Chief, The Energy Industry Times

Speakers:

- **Dennis Hesseling**, Head of Gas, Coal & Power Markets Division, *International Energy Agency*
- **Robert Schrecengost**, Director of Advanced Energy Systems Division, *US Department of Energy*
- **Tudor Constantinescu**, Principal Adviser to the Director-General, Directorate-General for Energy, *European Commission*
- **Toshinori Watanabe**, Professor Emeritus, Senior Researcher, Department of Aeronautics and Astronautics, *The University of Tokyo*

10:15 - 11:00 Coffee break & expo Royal room 1

11:00 - 12:30 **Parallel technical sessions 1 + 2**

Technical session 1:

Enhancing flexibility in operations – design, control and retrofit solutions

Imperial ballroom

Chair: Olaf Brekke, Advisor – Rotating Equipment, Equinor / ETN Global Project Board Member

- **HRSG design for flexibility – switch-over at full load from simple cycle to combined cycle operation for F-class gas turbines**, *NEM Energy*
  Presenter: Gayathri Hariharan, Technology professional, NEM Energy.
- **Techno-economic investigation of solutions for decarbonising the thermal management of the stand-still state of combined cycles**, *University of Genoa*
  Presenter: Alessandro Sorce, Associate Professor, University of Genoa.
- **Hydrogen blending and partial load control modeling: updated designs and simulations**, *EPRI, Modelon*
  Presenter: Jim Harper, Senior Principal Technical Lead, EPRI.

11:00 - 12:30 Technical session 2:

Hydrogen combustion – impact on performance, safety and emissions

Royal rooms 2 + 3

Chair: Peter Kutne, Head of Department – Gas Turbines, German Aerospace Centre (DLR) / ETN Global Project Board Member

- **Experimental and numerical investigation of hydrogen injection, spontaneous ignition and flashback in a lab-scale sequential combustor at high pressure**, *DLR, SINTEF, Norwegian University of Science and Technology, Ansaldo Energia*
  Presenter: Peter Griebel, Head of High-pressure Experiments HBK-S Team, DLR.
- **Retrofitting of an Industrial DLN gas turbine combustor for fuel-flexible hydrogen applications**, *PoliTo, Ethos Energy*
  Presenter: Salvatore Carusotto, Research Assistant & PhD candidate, PoliTo.
- **Experimental investigation of minimum achievable NOx from low carbon fuels**, *Georgia Institute of Technology, EPRI*
  Presenter: Benjamin Emerson, Assistant Professor, Georgia Institute of Technology

12:30 - 14:00 Lunch & expo **Royal room 1**

14:00 - 14:45 Keynote panel 2

User priorities for a secure and net-zero energy future

Imperial ballroom

Chair: Andy Williams, Senior Fellow, Chromalloy / ETN Global Board Member

Moderator: Mick Conway, Business Development Manager, RWG (Repair & Overhauls)

Speakers:

- **Jappe Hoeben**, Senior Rotating Engineer, RWE
- **Jens Walter**, Senior Expert for Gas Turbine Technology, BASF

14:45 - 15:45 Keynote panel 3

OEM roadmaps & technology development: delivering on the energy trilemma

Imperial ballroom

Chair: Christer Björkqvist, Managing Director, ETN Global

Moderator: Rene Vijgen, Senior Technical Manager, ETN Global

Speakers:

- **Federico Bonzani**, Chief Technology Officer, Ansaldo Energia
- **Chris Pin Harry**, Vice President of Technology for Industrial & Energy Technology, Baker Hughes
- **Aad den Elzen**, Vice President Power Generation & Strategic Growth, Solar Turbines
- **Dino Pezzella**, EU Sales Director, Mitsubishi Power
- **Tobias Wintz**, Vice President Global Service Operations, Siemens Energy

15:45 - 16:15 Coffee break & expo **Royal room 1**

16:15 - 17:45 **Parallel technical sessions 3 + 4**

Technical session 3:

Alternative fuels-powered turbines – solutions for decarbonisation

Imperial ballroom

Chair: Jappe Hoeben, Senior Rotating Engineer, RWE

- **Enabling rapid decarbonisation of gas turbine power generation with hydrotreated vegetable oil**, *Uniper*
  Presenter: Jon Runyon, Gas Turbine Combustion Engineer, Uniper.
- **Demonstration of methanol as a sustainable fuel for gas turbines: emission reductions and performance enhancements**, *Siemens Energy Canada, Siemens Energy, Industrial Turbine Company, Net Zero Technology Centre*
  Presenter: Jacob Rivera, SGT-A35 Product Development Manager, Siemens Energy Canada Limited.
- **Use of methanol as a potential alternative fuel in a power generation gas turbine**, *Cranfield University, Uniper Technologies*
  Presenter: Krzysztof Danielak, PhD student/researcher, Cranfield University.

Technical session 4:

Enabling next-gen turbomachinery - advanced techniques for component design

Royal rooms 2 + 3

Chair: Paul Lowden, President, Liburdi Turbine Services

- **Bulk hydrogen production and the impact on turbomachinery lifing**, *Cranfield University*
  Presenter: Stefano Mori, Lecturer in Energy and Materials, Cranfield University.
- **Gas turbines performance improvement enabled by additive manufacturing**, *Siemens Energy*
  Presenter: Vladimir Navrotsky, AM CTO, Siemens Energy.
- **AM enabled injection systems for enhanced fuel flexibility**, *University of Stuttgart*
  Presenter: Fabian Hampp, Junior research group leader, University of Stuttgart.

18:15 - 19:15	Guests are transported by busses from Tangla hotel to dinner event
19:30 - 22:30	Dinner event at Dolce la Hulpe, hotel & resort
22:30 - 23:00	Guests transported back to Tangla hotel

Keynote speakers and chairs

Christer Björkqvist,
Managing Director, ETN Global

Christer Björkqvist is the Founder and Managing Director of ETN Global.

With over 26 years in the industry, he has led international R&D initiatives, contributed to new ISO standards, serves on the ASME Electric Power Committee and the GTEN Committee in Canada.

He is a strong advocate for dispatchable carbon-neutral turbomachinery as a cornerstone of a secure and sustainable energy system.

André Bosschaart,
Head of Analytics, Montel

André Bosschaart has been active in the energy sector since 2005. He has worked 16 years on PZEM's trade floor in the Netherlands, which he managed for 5 years. In his different roles, he built up a wealth of knowledge on trading, flexibility, portfolio management, energy operations, and best-practices.

André is using his knowledge and expertise within Montel to develop forecasting models for the electricity market.

Stefan Geisse,
Global Segment Leader – Power, SCOR

Stefan Geisse is responsible for strategy and underwriting appetite across the business.

Stefan joined SCOR in 2024 and has held global positions in developing worldwide power generation portfolios from London since 2015.

Prior to joining the underwriting world, Stefan had 15 years of experience in on-site power generation engineering and R&D in gas turbines, batteries, and fuel cells in the UK.

Tom Kavanagh,
Plant Manager, Uniper

Tom Kavanagh works for Uniper as Plant Manager for Cottam Development Centre and Killingholme Gas Fired Power Plants in the UK.

Throughout his career in the energy supply industry, Tom has gained experience in electricity distribution, asset management, innovation, and decarbonisation.

Tom is also an ETN Global Project Board Member.

Peter Stuttaford,
CEO, Thomassen Energy

In 2018, Peter Stuttaford became the CEO of Thomassen Energy in Rheden, The Netherlands. With more than 25 years of experience in designing and developing gas turbines, Peter is a seasoned expert. He led the PSM Product Engineering unit and has over 55 patents in the gas turbine and energy field. Recently he was granted the 2025 ASME IGTI Industrial Gas Turbine Technology Award.

Peter's career began at Pratt & Whitney Canada, and he holds a PhD from Cranfield University in England.

Peter is also an ETN Global Board Member.

Simon Balmer,
Director Energy Asset Management, Director Flexible Energy Gas Turbines, Uniper

Simon Balmer is responsible for the future of the Fleet of 16 power plants, across 5 countries, managing the transition to a low carbon business to tackle climate change whilst maintaining security of supply today.

His 25 years of technical and practical expertise in engineering and plant management inform his vision for the Fleet and help shape Uniper's wider business strategic direction.

Simon is also the ETN Global President.

Keynote speakers and chairs

Sarah Kimpton,
Vice President-Energy Transition & Innovation Development, Energy Systems, DNV

Sarah Kimpton is Vice President at DNV.

Sarah's main focus is on the Energy Transition Outlook for the UK; the most likely forecast of how the energy system will change between now and 2050.

She is a chemist by training and based in the UK.

Jan Ochmann,
Project Manager Sales, Hydrogen and Synthesis Gas Plants / HSB, Linde

Jan Ochmann joined Linde Engineering in 2011 as project manager sales for adsorption & membrane plants where he worked mainly in the field of hydrogen purification.

In his current role he is focusing on business development and sales of hydrogen generation and carbon capture technologies.

Thereby, promoting and concepting alternative production routes (green, blue H_2) in addition to the traditional ones.

Jan is based at the Linde Engineering Headquarters in Pullach, Germany.

Klaus Brun,
Global Director R&D, Ebara Elliott Energy Company

Klaus Brun is a globally recognised energy systems expert with extensive experience in advising US government agencies, Congress, and major international companies. In his current role, he is overseeing the development of turbomachinery for the energy industry.

With a background encompassing roles at Southwest Research Institute, Solar Turbines, General Electric, and Alstom, Dr. Brun has authored over 400 papers, published seven textbooks, and holds fifteen patents.

Keynote sessions – description

Keynote session 4:

Global gas turbine markets – regional pathways, shared challenges

This session will explore regional energy needs and the evolving role of gas turbines in supporting low-carbon energy transitions across various regions. While many countries share similar decarbonisation objectives, the actual pathways and timelines differ significantly due to local resource availability, policy frameworks, and security of supply priorities.

Drawing on perspectives from Europe, Middle East and Africa, speakers will highlight how regional realities shape investment decisions, technology adaptation and market design. The session will showcasing how flexible, dispatchable, and low-emission gas turbines can be adapted and integrated into diverse energy systems, either complementing renewables, supporting industrial growth, or ensuring reliability in regions with rapidly rising demand.

Keynote panel session 5:

Delivering the transition – integration, optimisation & risk control

This keynote panel is about turning ambition into action. The session will explore the critical enablers required to accelerate the transition of gas turbines and turbomachinery systems toward a decarbonised, hydrogen-ready future. From cross-sector infrastructure and integration to the implementation of CCS and hydrogen-ready plants, the discussion will highlight how a strategic mix of technology, collaboration, and investment readiness is essential for addressing emerging energy demands. The objective is to provide guidance, best practices, and recommendations to support the integration of these new solutions in the most cost-efficient and effective way.

The big picture will be framed by exploring the transport of hydrogen and CO_2, the machinery and infrastructure required, and recommendations to overcome integration challenges across sectors. A market perspective on CCS will also be provided, drawing on an Energy Transition Outlook and CCS forecast to 2050, with insights on macro trends shaping demand in hard-to-abate sectors and implications for gas turbines. An EPC contractor perspective will contribute practical recommendations on how CCS and hydrogen solutions can best be integrated into new and existing plants, balancing cost-efficiency, reliability, and long-term sustainability.

Together, these contributions will provide the strategic, market, and implementation context for the panel discussion, including the pathways to strengthen investor and insurance confidence in demonstration and deployment projects.

07:15 - 08:15 Registration at Tangla Brussels Hotel in front of Imperial Ballroom

08:15 - 10:15 **Parallel technical sessions 5 + 6**

Technical session 5:

Progressing hydrogen-readiness – field experience

Imperial ballroom

Chair: Geert Laagland, Director of Engineering, Vattenfall / ETN Global Vice-Chair of H_2 and other alternative fuels Working Group

- **HYFLEXPOWER project: power-to-H_2-to-power demonstration with 100% green H_2 in an SGT-400 gas turbine**, *Siemens Energy, ENGIE, Centrax, National Technical University of Athens*
  Presenter: Ertan Yilmaz, Portfolio Manager Hydrogen & Green Fuels, Siemens Energy.
- **Cofiring 45% H_2 in F-class gas turbine: looking beyond the GT**, *ENGIE*
  Presenter: Wouter Boelens, Green Fuels Engineer, ENGIE.
- **Hydrogen gas turbine (H_2GT) demonstration in South Korea at a purpose-built power plant validation facility**, *PSM, Thomassen Energy, Hanwha Impact*
  Presenter: Nicolas Demougeot, Global Chief Engineer, PSM.
- **RWE Lighthouse Project case study: Moerdijk High Hydrogen Conversion**, *RWE, GE Vernova*
  Presenter: Jappe Hoeben, Senior rotating engineer, RWE.

Technical session 6:

Advancing CO_2 technologies – capture and storage technologies, and power cycles

Royal rooms 2+3

Chair: Bobby Noble, Senior Programme manager – Gas Turbine R&D, EPRI

- **Experimental impact of exhaust gas recirculation and hydrogen injection on the emissions and performances of a micro gas turbine**, *UMONS, ENGIE Laborelec, DLR*
  Presenter: Ward de Paepe, Associate Professor, UMONS
- **Optimisation of CO_2 capture from natural gas combined cycle with hydrogen-assisted exhaust gas recirculation**, *SINTEF, University of Florence, Baker Hughes*
  Presenter: Mario Ditaranto, Chief Scientist, SINTEF Energy Research
- **Commissioning and testing of the STEP 10 MWe sCO_2 power plant in simple recuperated cycle configuration and model comparisons**, *GTI Energy, SWRI, GE Vernova*
  Presenter: Daniel Dodd, Programme Director of Advanced Power Cycles, GTI Energy
- **Uncovering the economic tipping point between H_2-based gas turbines and CCS-enhanced gas turbines**, *University of Mons*
  Presenter: Vincent Thielens, Research Fellow, UMONS

10:15 - 11:00 Coffee break & expo **Royal room 1**

11:00 - 12:30 Keynote session 4

Global gas turbine markets – regional pathways, shared challenges

Imperial ballroom

Chair: Christer Björkqvist, Managing Director, ETN Global

Moderator: Tom Kavanagh, Plant Manager, Uniper / ETN Global Project Board Member

Speakers:

- **André Bosschaart**, Head of Analytics, Montel
- **Peter Stuttaford**, CEO, Thomassen Energy / ETN Global Board Member

12:30 - 14:00 Coffee break & expo Royal room 1

14:00 - 15:30 Keynote panel session 5

Delivering the transition – integration, optimisation & risk control

Imperial ballroom

Chair: Stefan Geisse, Scor

Moderator: Simon Balmer, Uniper / ETN Global President

Speakers:

- **Sarah Kimpton**, Vice-President, DNV
- **Klaus Brun**, Global Director, Research & Development, Ebara Elliott Energy Company
- **Jan Ochmann**, Project Manager Sales, Hydrogen and Synthesis Gas Plants / HSB, Linde

15:30 - 16:00 Closing ceremony

16:00 - 16:30 Coffee break Royal room 1

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ASTERIx-CAESar: Air-based Solar Thermal Electricity for Efficient Renewable Energy Integration & Compressed Air Energy Storage

ASTERIx-CAESar project focuses on the development of a novel high-efficiency solar thermal power plant concept with an integrated electricity storage solution. The project combines air-based central receiver Concentrated Solar Power (CSP) and Compressed Air Energy Storage (CAES) to maximize conversion efficiency and power grid energy management, enabling a new operation strategy and business model.

The hybrid concept initiates a futuristic era with adaptive renewable power plants, producing both electrical and thermal energy, including process heat supply and reverse osmosis desalination. As cheap off-peak electricity is used to provide the air compression work of the topping Brayton cycle, the overall peak solar-to-electric energy conversion efficiency of the proposed power plant may reach up to 40% efficiency, which doubles the peak efficiency with respect to state-of-the-art CSP technology.

The main development will cover: (i) an advanced high-efficiency solar receiver, (ii) optical sensors and AI-based solar flux control, (iii) optimized CAES with heat exchangers and compressor/expander detailed designs and (iv) innovative integration of desalination. The proposed technology is set forth by an interdisciplinary partnership spanning the entire CSP value chain. Targeting a TRL of 6-7, the ASTERIx-CAESar concept will be validated with a demonstration scale prototype of 480 kWth.

ASTERIx-CAESar project consortium members are:

ETN Global is a communication and dissemination partner in this project.

If you are interested to learn more, please visit our webpage and follow us on in , 𝕏 and ▶

Funded by the European Union

UK participant in Horizon Europe Project ASTERIX-CAESAR is supported by UKRI grant number 10097908 (Bluebox Energy).

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101122231.

HyPowerGT

The **HyPowerGT** project is a 48-months project with an overall budget of approximately EUR 13.5 mil. and will run between January 2024 and December 2027.

The project aims at enabling gas turbines to operate on hydrogen, guaranteeing low NOx emission using neither catalysts, nor diluents or thermodynamic efficiency reduction. The core technology is a novel dry-low emission combustion technology (H2 DLE) able of handling any blend of natural gas and hydrogen up to pure hydrogen. Besides ensuring low emissions, the H2 DLE combustion technology offers fuel flexibility and response ability on par with modern gas turbine engines fired with natural gas.

HyPowerGT consortium members are:

SINTEF · Baker Hughes · LUCART · CERFACS · zhaw School of Engineering · TotalEnergies · snam · ETN Global · equinor

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Clean Hydrogen Partnership · Co-funded by the European Union · Project funded by Swiss Confederation

This project is supported by the Clean Hydrogen Partnership and its members (GA 101136656) and the Swiss Federal Department of Economic Affairs, Education and Research, State Secretariat for Education, Research and Innovation (SERI).

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FLEX4H$_2$: Flexibility for Hydrogen.

FLEX4H$_2$ project aims to develop a fuel-flexible combustion system and will contribute to the EU Green Deal towards decarbonisation of the electric power sector.

This goal translates into the project's main objective – to design, develop and validate a safe, efficient and highly fuel-flexible combustion system capable of operating with any concentration of hydrogen blend up to 100% H_2. Crucially, this objective will be pursued at the most challenging hydrogen combustion conditions, i.e., at H-Class operating temperatures, required for highest cycle efficiency, while still meeting emission targets without any use of diluents. The design of the combustor will be based on Ansaldo Energia's Constant Pressure Sequential Combustion technology (CPSC) and will be demonstrated in a stepwise approach, at full gas turbine operating conditions (TRL6).

This ambitious design goal addresses the typical technical challenges when considering the switch from natural gas to hydrogen fuel, including (i) avoiding flashback; (ii) controlling NOx emissions; (iii) maintaining flame stability; and (iv) broadening fuel flexibility. The intent is for the improved CPSC combustor design approach to be retrofittable to existing gas turbines, providing significant opportunities for upgrading existing generation assets.

FLEX4H$_2$ consortium members are:

ETN Global is a communication and dissemination partner in this project.

If you are interested to learn more, please visit our webpage and follow us on in , 𝕏 and ▶

This project is supported by the Clean Hydrogen Partnership and its members Hydrogen Europe and Hydrogen Europe Research (GA 101101427), and the Swiss Federal Department of Economic Affairs, Education and Research, State Secretariat for Education, Research and Innovation (SERI)

InsigH$_2$t

The **InsigH$_2$t** project is a 48-months project and will run between January 2025 and December 2028.

The project aims to advance the current scientific understanding regarding the effect of pressure on the turbulent burning rate, thermoacoustic response, and emissions performance of premixed hydrogen flames under relevant gas-turbines operating conditions. Hydrogen, with its high diffusivity and reactivity, poses significant challenges to its clean and efficient utilisation as a fuel in gas-turbines, due to the lack of understanding of its pressure-dependent turbulent burning rate, crucial for combustion stability in gas-turbines operation.

InsigH$_2$t consortium members are:

NTNU · SINTEF · ARTTIC · Università degli Studi Firenze – Da un secolo, oltre · Baker Hughes · CERFACS · ansaldo energia · Technische Universität Berlin · zhaw · RWTH Aachen University · ETN Global

ETN Global is a communication and dissemination partner in this project.

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Clean Hydrogen Partnership · Co-funded by the European Union · Project funded by

This project is supported by the Clean Hydrogen Partnership and its members (GA 101192349) and the Swiss Federal Department of Economic Affairs, Education and Research, State Secretariat for Education, Research and Innovation (SERI).

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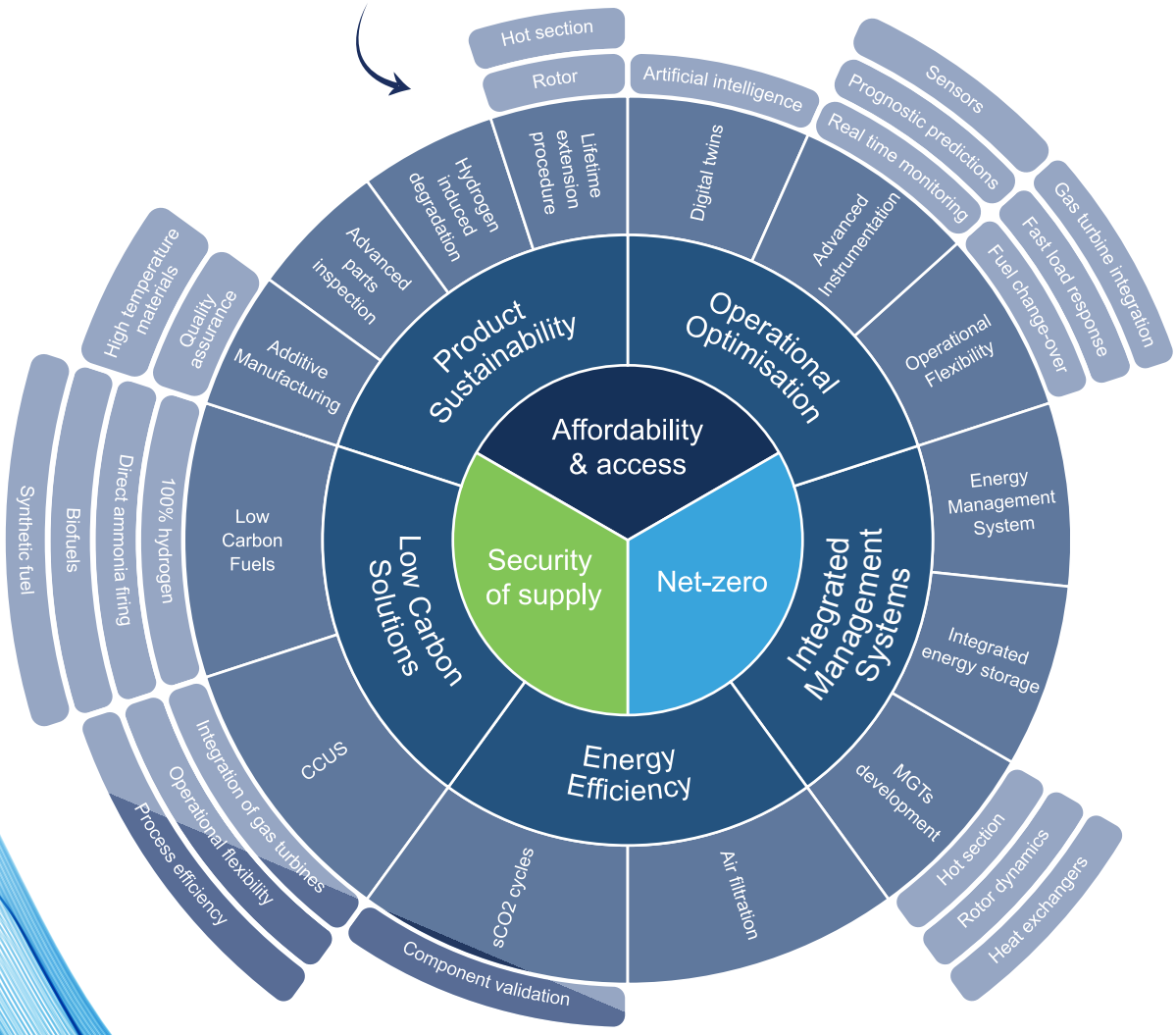

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ETN Global a.i.s.b.l.
Chaussée de Charleroi 146-148/20
1060 Brussels, Belgium
Tel: +32 (0)2 646 15 77
info@etn.global
www.etn.global