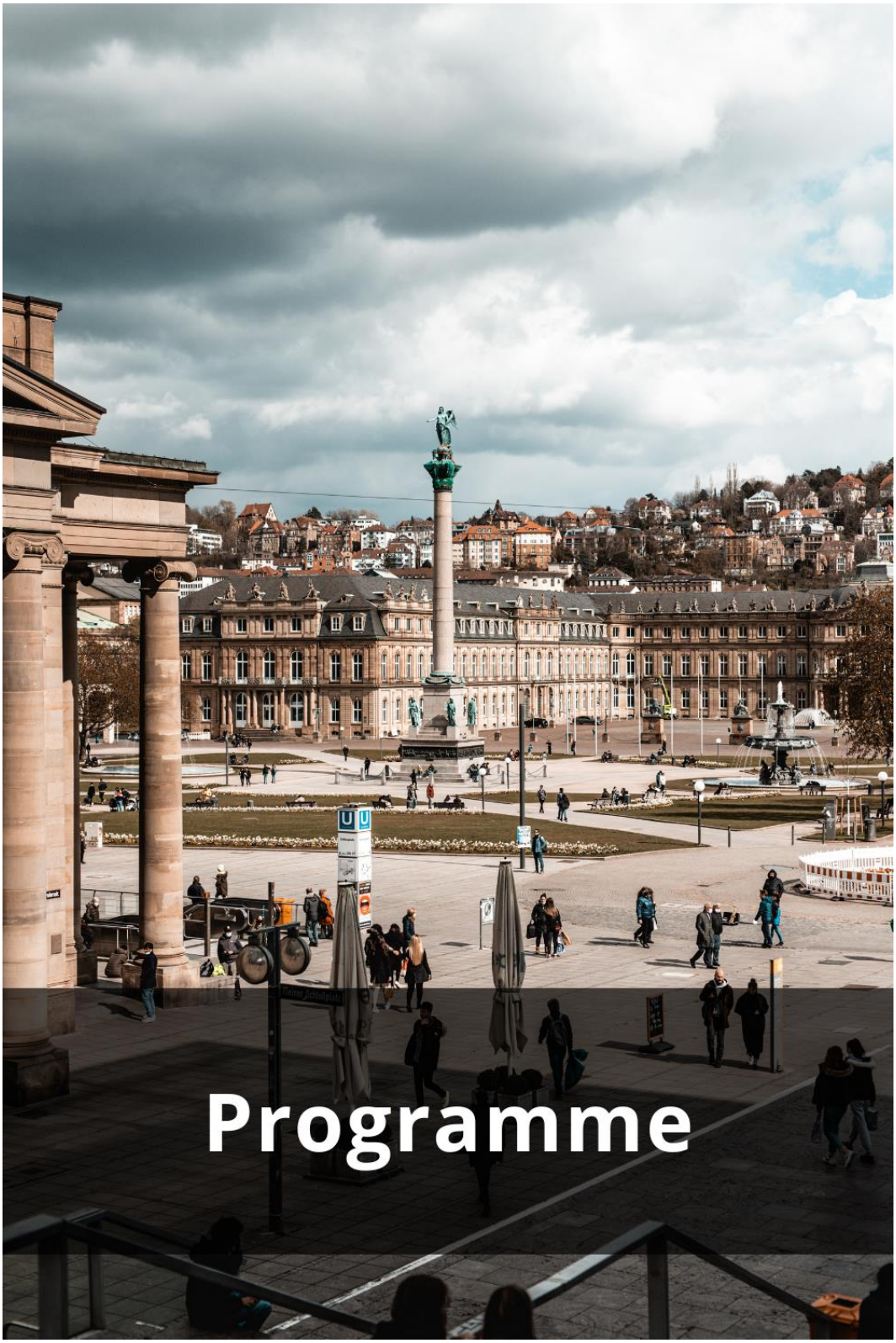
October Workshop 2024
“Driving sustainable pathways forward”
8-10 October 2024, Stuttgart, Germany



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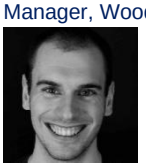
Agenda

TUESDAY 8 OCTOBER 2024 – Training sessions and site visits - DLR facilities (address: Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR) Institut für Verbrennungstechnik, Pfaffenwaldring 38-40, 70569 Stuttgart	
13:00 – 13:30	Registration of attendees, *Lecture hall (Hörsaal), building A, room 147*
13:30 – 15:30	Parallel sessions: -Visit to DLR facilities -Woodward training on the impact of a deterministic control system on Gas Turbine Operations*, *Lecture hall (Hörsaal), building A, room 147* -EPRI, RINA & University of Southampton training on Considerations and challenges with additive manufacturing of nickel-base superalloys for high temperature design in gas turbines*, *Building F, Room 301*
15:30 – 16:00	Registration of attendees, *Lecture hall (Hörsaal), building A, room 147*
15:30 – 16:00	Coffee break
16:00 – 18:00	Parallel sessions: -Visit of DLR facilities (max 60 people) -DLR training on Gas turbine combustion of alternative fuels*, *Lecture hall (Hörsaal), building A, room 147* -Cranfield University training on Gas turbine gas path diagnostics*, *Building F, Room 301*

*Training courses explained below:

Parallel courses @13:30-15:30

Trainer	Course name & objectives
 Hans Dekker, Engineering Manager, Woodward  Matthijs Koreman, Senior Sales Manager - Aftermarket Europe, Woodward	**The impact of a deterministic control system on gas turbine operations** The course aims to enhance understanding of the impact of deterministic control systems on gas turbine operations. It covers three key areas: troubleshooting gas turbines using control systems, ensuring signal accuracy and processing predictability, and supporting the energy transition. Participants will learn to identify and resolve operational issues, calculate and improve signal accuracy, and comprehend the role of control systems in future energy scenarios. The course is designed for a diverse audience, including operators, engineers, and asset owners, offering practical insights into optimizing turbine efficiency and adapting to new energy policies. Full description can be found here.
 Alex Bridges, Senior Team Leader – Materials, EPRI  Michele Meo, Professor of Smart Materials and Structures, University of Southampton	**Challenges with additive manufacturing of nickel-base superalloys for design in gas turbines** This training course aims to equip engineers in the power generation and aerospace industries with essential knowledge on the additive manufacturing (AM) of nickel-base superalloys for high-temperature applications, such as gas turbines. Participants will learn about AM methods, material optimisation, microstructural challenges, and heat treatment processes critical to producing high-performance components. Full description can be found here.

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	Trainer	Course name & objectives
Parallel courses @16h00-18h00	 Andreas Huber, Director, Institute of combustion technology – German Aerospace center (DLR)	**Gas turbine combustion of alternative fuels** The aim of the course is to provide a basic understanding of gas turbine combustion and combustion technology, with a focus on the use of alternative fuels. In detail, participants will learn about current alternative gaseous and liquid fuels. They will be able to describe the different fuel properties with regard to their use. The participants will understand the different combustion concepts and can understand their specific features. They will get to know the current state of combustion development using alternative fuels and are able to discuss the technical challenges related to each fuel. Full description can be found here.
	 Yiguang Li, Reader in Gas Turbine Performance and Diagnostics at Cranfield University	**Gas turbine gas path diagnostics** The course aims to provide essential knowledge about gas turbine gas path diagnostics, a key technology for monitoring the health of gas turbine engines. This technology helps predict engine degradation and faults using various measurements, supporting a transition from time-scheduled maintenance to condition-based maintenance. This shift can enhance engine availability and reduce maintenance costs. The tutorial covers the main aspects of gas path diagnostics, including data pre-processing, measurement selection, fault detection, isolation, and quantification using Gas Path Analysis (GPA). A case study demonstrating the practical application of these methods is also included. Full description can be found here.

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WEDNESDAY 9 OCTOBER 2024 – October Workshop 2024 – Elysee room, Le Méridien hotel	
08:00 – 09:00	Registration of attendees, *Elysee Foyer, Le Meridien hotel*
08:00 – 09:00	Exhibitors to set up their stands
09:00 – 09:10	Opening and introduction to the Workshop, Christer Björkqvist, Managing Director, ETN Global
09:10 – 09:20	Welcome speech, Andreas Huber, DLR
09:20 – 09:25	President's welcome message, Simon Balmer, Uniper/ETN President
09:25 – 09:50	Keynote speech *"EnBW's path for hydrogen power plants in Baden-Württemberg"*, Wolfram Münch, Head of Research and Development, Energie Baden-Württemberg AG
09:50 – 10:15	Keynote speech, *"Decarbonisation of the power plant portfolio in Baden-Württemberg"*, Tilo Kurtz, Head of unit Fundamental energy policy issues, Ministry of the Environment, Climate Protection and Energy Sector Baden-Württemberg
10:15 – 10:45	Coffee break & expo, *Elysee foyer*
10:45 – 11:15	ETN Global White Paper *"The critical role of dispatchable generation in achieving a sustainable and secure energy transition"*, Peter Jansohn, ETN Global Emeritus Member
11:15 – 12:00	High-Level User Meeting key messages, Introduction to interactive session
12:00 – 13:30	Lunch break & expo, *Elysee foyer*
13:30 – 15:00	Interactive session: *Verification of the High-Level User Meeting outcomes - problem-solving group work*
15:00 – 15:45	Coffee break & expo, *Elysee foyer*
15:45 – 16:15	*"Analysis of part-load operation and plant size effects on combined cycle power plants with post-combustion CO_2 capture"*, Simona Calenda, POLIMI, winner of Brian Pitt Excellence Award 2024.
16:15 – 17:45	Presentation of the outcomes of the group work on *Verification of the High-Level User Meeting outcomes,* Andy Williams, ETN Treasurer/Chrommaloy Final remarks on the results, Simon Balmer, Uniper/ETN President
17:45 – 18:00	Introduction to the parallel Working Group sessions on 10 October, Rene Vijgen, ETN Global Closing remarks, Christer Björkqvist, Managing Director, ETN Global
19:00 – 23:00	Gala dinner event at Restaurant Plenum am Schloßgarten, Konrad-Adenauer-Straße 3, 70173 Stuttgart

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THURSDAY 10 OCTOBER 2024 – October Workshop 2024 – Le Méridien hotel			
08:00 – 08:30	Registration of attendees, *Elysee foyer*		
	Parallel Working Group sessions		
08:30 – 10:00 Parallel sessions	**Decentralised Energy Systems WG meeting, *Elysee room*** *Chair: Peter Breuhaus, NORCE; Co-chair: Ward de Paepe, UMONS* - *Results of 2024 & learnings from Day 1* - *Activities for 2025 (what, how, why)* - *"Shifting the Technology mix to decarbonise District Heating", Geert Laagland, Vattenfall* - *Q&A*	**Component life assessment & extension WG meeting, *Versailles 1 & 2 room*** *Chair: Siavash Pahlavanyali, RINA; Co-chair: Luc Gooren, Engie* - *Results of 2024 & learnings from Day 1* - *Activities for 2025 (what, how, why)* - *"Ansaldo Energia's gas turbine rotor lifetime assessment and methodologies", Diego Ugel, Ansaldo Energia* - *Q&A*	**CCS Taskforce meeting, *Versailles 3 room*** *Chair: James Bain, RWE; Co-chair: Renaud Le Pierres, Heatric* - *Results of 2024 & learnings from Day 1* - *Activities for 2025 (what, how, why)* - *"UK Dispatchable Power Agreement: Enabling CCS for Power Applications", James Bain, RWE* - *Q&A*
10:00 – 10:30	Coffee break & expo, *Elysee foyer*		
	Parallel Working Group sessions		
10:30 – 12:00 Parallel sessions	**Supercritical CO_2 WG meeting, *Elysee room*** *Chair: Marco Ruggiero, Baker Hughes; Co-chair: David Sanchez, University of Seville* - *Results of 2024 & learnings from Day 1* - *Activities for 2025 (what, how, why)* - *"iSOP project", David Sanchez, University of Seville* - *Q&A*	**Digital solutions & diagnostics WG meeting, *Versailles 1 & 2 room*** *Chair: Ian Macafee, WIKA; Co-chair: Yiguang Li, University of Cranfield* - *Results of 2024 & learnings from Day 1* - *Activities for 2025 (what, how, why)* - *"The application of artificial intelligence to data-driven maintenance" Tomas Alvarez, Endesa* - *Q&A*	
12:00 – 13:30	Lunch break & expo, *Elysee foyer*		
	Parallel Working Group sessions		
13:30 – 15:00	**Hydrogen & other alternative fuels WG meeting, *Elysee room*** *Chair: Peter Kutne, DLR; Co-chair: Geert Laagland, Vattenfall* - *Results of 2024 & learnings from Day 1* - *Activities for 2025 (what, how, why)* - *"Low-carbon alternative fuels for sustainable and secure gas turbine power generation", ETN Global YEC* - *"Micro Gas Turbine retrofit for 100% hydrogen", Martin Unverricht, Power Service Consulting* - *Q&A*	**Additive Manufacturing WG meeting, *Versailles 1 & 2 room*** *Chair: Ulli Klenk, Siemens Energy; Co-chair: Ludo Bautmans (Oerlikon)* - *Results of 2024 & learnings from Day 1* - *Activities for 2025 (what, how, why)* - *"End-to-end process control with standardized off-the-shelf components", Dr. Daniel Reitemeyer, SCANLAB* - *Q&A*	

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THURSDAY 10 OCTOBER 2024 – October Workshop 2024 – Le Méridien hotel	
15:00 – 15:30	Coffee break & expo, *Elysee foyer*
15:30 – 16:00	**Report from the Chairs on takeaways/actions & closing remarks, Elysee room**
17:00 – 19:00	Visit of DLR facilities

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Registration

Registration will take place at:

- **8 October 13:00-13:30 & 15:30-16:00: DLR facilities**
- **9 October 08:00-09:00: Le Méridien hotel**
- **10 October 08:00-08:30: Le Méridien hotel**

Event venue

08 October 2024 Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR) Institut für Verbrennungstechnik, Pfaffenwaldring 38-40, 70569 Stuttgart	**09-10 October 2024** Le Méridien hotel, Willy-Brandt-Str. 30, 70173 Stuttgart

Dinner venue – 09 October

Restaurant Plenum am Schloßgarten
Konrad-Adenauer-Straße 3
70173 Stuttgart

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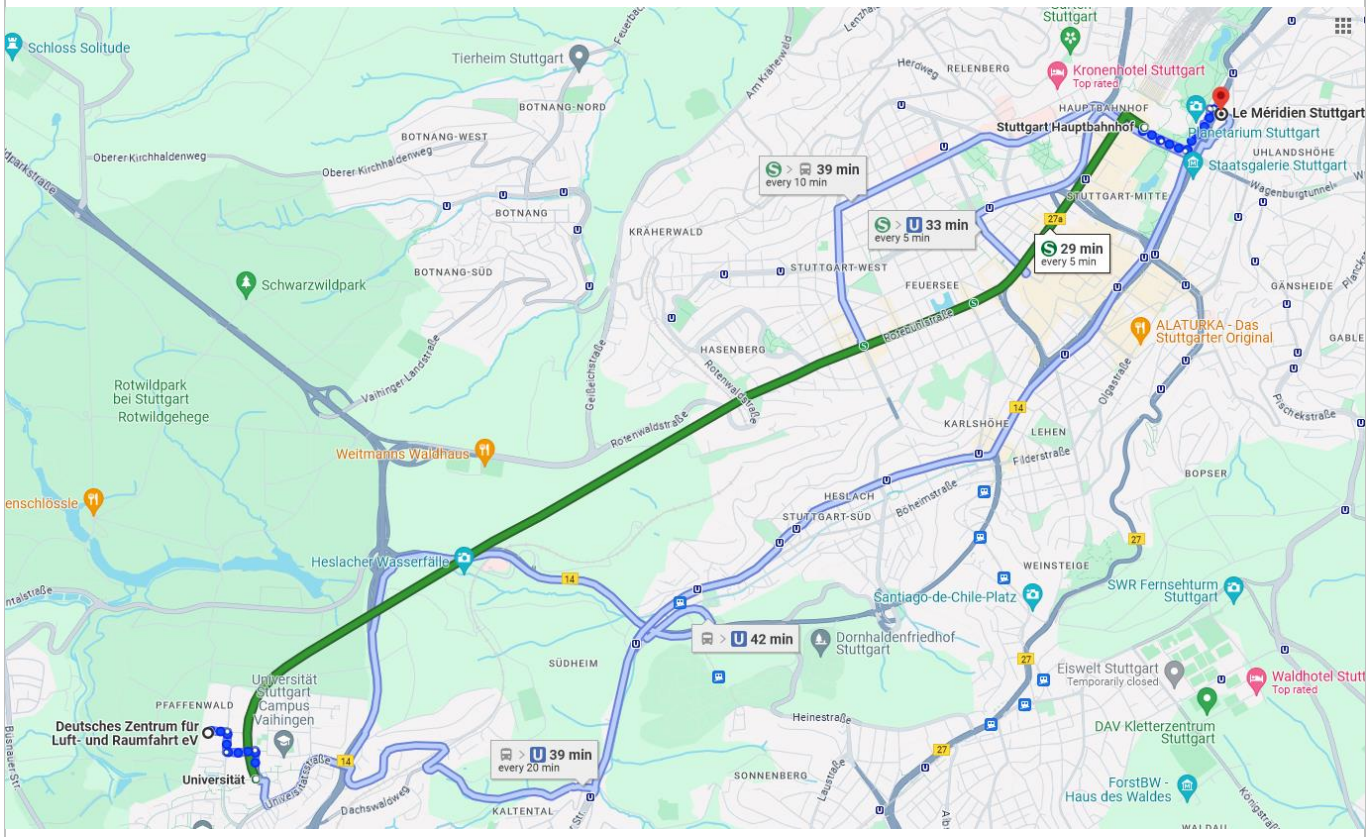
Transportation

- **DLR - Le Méridien hotel: 30mins by train, lines S1, S2 and S3**



- **Le Méridien hotel - Restaurant Plenum am Schloßgarten: 12 mins walk or 10mins metro ride, lines U4, U2 and U14**