European Workshop on New Aero Engine Concepts

Towards a sustainable and environment friendly future for air-traffic

The NEWAC programme would like to invite you to the NEWAC Workshop in Munich on 30 June – 1 July 2010.

NEWAC is a European R&T programme launched in 2006. It aims to develop and validate new technologies for core engine components to reduce fuel burn and emissions and contribute to a considerable reduction of greenhouse gas emissions of future aircraft.

The NEWAC workshop summarizes the 4 years of international collaborative research between 40 partners composed of a large number of stakeholders in the European industry including all major aero-engine manufacturers, innovative small businesses, universities and research centres. The workshop includes an exhibition with poster sessions and over 40 technical presentations covering research into innovative aero engine technologies and design solutions for:

- Four new aero engine core configurations
- Intercooler and recuperator integration
- Novel lean combustion concepts for very low NOx emissions
- Further innovative core concepts
- Design and manufacture of efficient and lightweight compressors
- Compressor stability enhancement.

This workshop offers insight into innovative core engine technologies, and will present solutions developed by NEWAC programme. It also provides an outlook on further research efforts needed to fully realize or surpass ACARE 2020 objectives.

Project co-funded by the European Commission within the Sixth Framework Programme (2002 - 2006)

Programme

European Workshop on New Aero Engine Concepts 30th June 2010				
Time	Room 1		Room 2	
08:00	Registration			
08:30	Welcome	Stephan Servaty		
08:40	EC Welcome	Daniel Chiron		
09:10	On the Way to ACARE 2020	Dieter Schmitt		
09:40	VITAL Overview	Helene Antoine		
10:00	DREAM Overview	Dave Bone		
10:20	Coffee Break / Exhibition			
10:50	NEWAC Overview	Joerg Sieber		
11:10	**Concept Overview**			
11:10	Intercooled Recuperated Core	Stefan Donnerhack		
11:30	Intercooled Engine and Integration	Nick Baker		
11:50	Active Core	Wolfgang Sturm		
12:10	Flow Controlled Core	Hanna Reiss		
12:30	Lunch			
13:30	**Compressor**		**Combustor**	
13:30	SP3 Design and Test of an Advanced HP Compressor	Mark Walker	Low-Emission LDI Development for Future Aero-Engine Concepts	Sebastian Bake
14:00	SP5 High Pressure Compressor Des	Hanna Reiss	Optical Investigations of Low-Emission LDI Combustion at Medium Pressures	Ulrich Meier
14:30	Innovative Centrifugal Compressor	Laurent Tarnowski	PERM Injection System Development and Experimental Investigation	Antonio Peschiulli
15:00	Proof of Concept of a Mechnical Active Clearance Control System	Michael Kern	Design and Experimental Validation of PERM Combustor Effusion Cooling	Antonio Andreini
15:30	Coffee Break / Exhibition			
16:00	**Compressor**		**Combustor**	
16:00	Passive Tip Clearance Control	Nick Atkins	PERM Combustor High Pressure Tests in K11 Facility	Vincent Plana
16:30	Active Surge Control by Tip Injection	Sven-Jürgen Hiller	Lean Premix Prevaporised Combustor Technology Development for Low OPR Engines	Hubert Verdier
17:00	Tip Blowing for Stability Enhancement	Henner Schrapp	Optical Diagnostics for Combution Process Development of Kerosene/Air LPP Injection Systems	Mikaël Orain
17:30	Multistage Casing Treatment at High Pressure Compressor Rear Stages	Tobias Kroeckel	Pulse Detonation Core Engine	Fabrice Giuliani
18:00	Design of Alternative Stability Enhancement System	Stephanie Weichert	**Heat Exchanger and Integration**	
			Hot Nozzle Optimization and Heat Exchanger Loss Modeling	Dimitris Misirlis
17:00 - 18:00	Press conference with participation of S. Servaty (Host, NEWAC), D. Chiron (EC), S. Remy (Airbus, TBC), H. Antoine (VITAL), D. Bone (DREAM) and P. Taferner (Clean Sky)			
18:30	Free Time			
20:00	Evening Event			

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1st July 2010				
Time	Room 1		Room 2	
08:30	CLEAN Sky Engine ITD	Peter Taferner		
08:50	**Compressor**		**Heat Exchanger and Integration**	
08:50	Investigation on Axial Compressor Cascades with Aspiration on Blades and Hub	Elia Colombo	Cross-corrugated Intercooler and Installation	David Gillespie
09:20	Non Axissymmetric Hub Design Optimization for a High Pressure Compressor Rotor Blade	Ingrid Lepot	Intercooler High pressure Ducting System	Duncan Walker
09:50	Comparative Studies of Alternative HPC Configurations for the NEWAC IRA Engine	Chris Robinson	Intercooler Low pressure Ducting System	Jon Carrote
10:20	Coffee Break / Exhibition			
10:50	**Compressor**		**Heat Exchanger and Integration**	
10:50	Design Optimization and Test of Advanced Small Scale Compressor	Martin Babák	Design of an Intercase for an Intercooled Engine	Dennis Jacobsson
11:20	**Whole Engine**		**Mechanical Design and Manufacturing**	
11:20	Future Innovative Core Configurations	Anders Lundbladh	Weight Offset with Titanium Aluminides	Waldemar Daz
11:50	Assessment for Variable Core Cycle Technologies	Xu Lei	Design and Manufacturing Trials for a Combustor Case with Cooling Air Cooling	Gunnar Marke
12:20	Concept Study on an Advanced Active Cooling Air Cooling System	Ernst Ebert	Blade-Casing Rub Management – Numerical Simulation	Olivier De Vriendt
12:50	Lunch			
13:40	Aircraft Requirements for Future Aero Engines	Sebastian Remy		
14:10	**Whole Engine**		**Mechanical Design and Manufacturing**	
14:10	Fast Pressure Sensor and Tip Clearance Sensors for Smart HPC Technologies	René Schneider, Tom Holst, David Wagner, Pavol Rybarik	Abradable Coating Development & Testing	Scott Wilson
14:40	TERA 2020 – Rationale, Objectives and Design Algorithm	Konstantinos Kyprianidis	Predicting the Thermal Conductivity of AlSi-Polyester Abradable Coatings	Rodolphe Bolot
15:10	TERA 2020 – Optimisation of NEWAC Configurations	Bernhard Lehmayr	Development of a High-speed Beam Deflection System for Quality Improvement of Elctron Beam Welds	Michael Muecke
15:40	Coffee Break / Exhibition			
16:10	NEWAC Overall Specification, Assessment and Concept Optimization	Andrew Rolt		
16:40	Panel Diskussion NEWAC Results and Outlook	Senior Management Airbus, RR, SN, MTU		
18:00	Workshop Conclusion	Stephan Servaty		
18:15	End of Workshop			

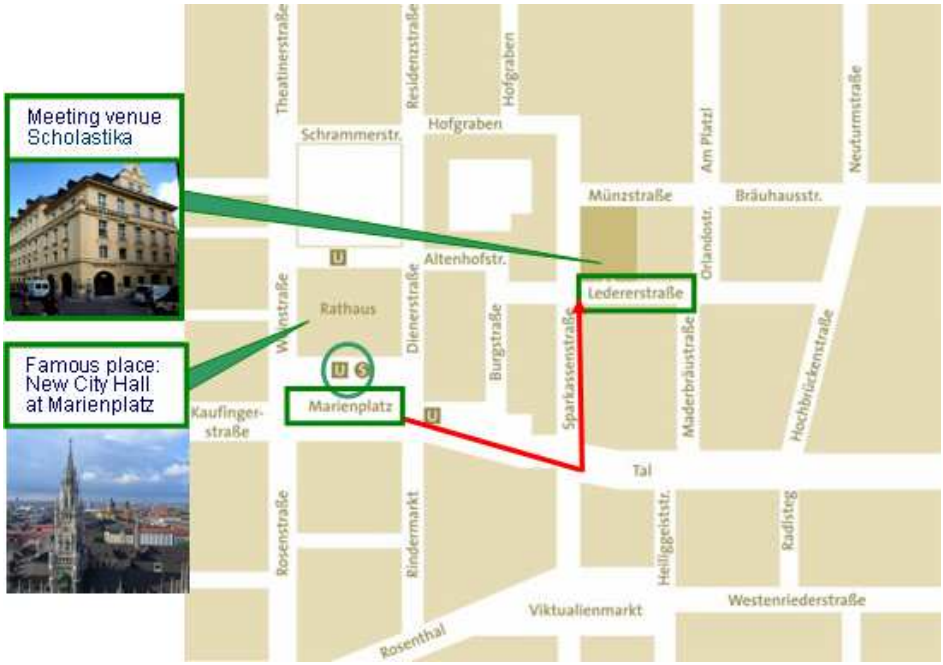
Welcome to Munich, Germany!

Munich is located in the south of Germany, and as the capital of Bavaria it is famous for its high-tech industry. The Munich Tourist Information provides you an overview about the city and its sights.
The Workshop venue is located in Munich city centre, close to the famous Marienplatz and has good public transport connections to the main railway station and the airport.

Workshop address:
Scholastika
Ledererstraße 5
80331 München, Germany

How to access:
From Marienplatz

- Take the direction to “Tal” and turn left to Sparkassenstraße. At the first cross on the right you will be at Ledererstraße.
- The building Scholastika of the meeting venue is at the corner.



Travelling

We recommend using public transportation.
Map of public transport system

- From **Munich airport** the journey takes approx. 50 minutes by suburban train [S-Bahn]):
  - From Munich Airport take S1 or S8.
  - Get off at Marienplatz
  - The meeting venue is within walking distance.
- From **Munich central railway station** the City Centre is only 5 minutes away by suburban train.
  - Take any suburban line to direction Marienplatz and get off after two stops.
- By taxi it takes appox. 45 minutes.
  - Price: ca. EUR 60 (36 km)

- From **Marienplatz**
  - Take the direction to “Tal” and turn left to Sparkassenstraße. At the first cross on the right you will be at Ledererstraße.
  - The building Scholastika of the meeting venue is at the corner.

Accomodation

Participants will need to pay their own accommodation costs.
We recommend you the following hotels close to the meeting venue in three categories:

4 star Hotel recommendations*

Hotel	Hotel Platzl	Hotel Tulip Inn Concorde	Hotel Torbräu
Address	Sparkassenstraße 10 80331 München http://www.platzl.de	Herrnstraße 38 80539 München http://www.tulipinnmunchenconcorde.de	Tal 41 80331 München http://www.torbraeu.de
Room price	€120-168	€125-150	€154 - 228
Remark			Incl. breakfast

3 star Hotel recommendations*

Hotel	Hotel am Markt	Hotel Schlicker
Address	Heiliggeiststrasse 6 80331 München www.hotel-am-markt.eu	Tal 8 80331 München http://www.hotel-schlicker.de
Room price	from €49	€93-130
Remark	Wireless-LAN	Free internet access

2 star Hotel recommendations*

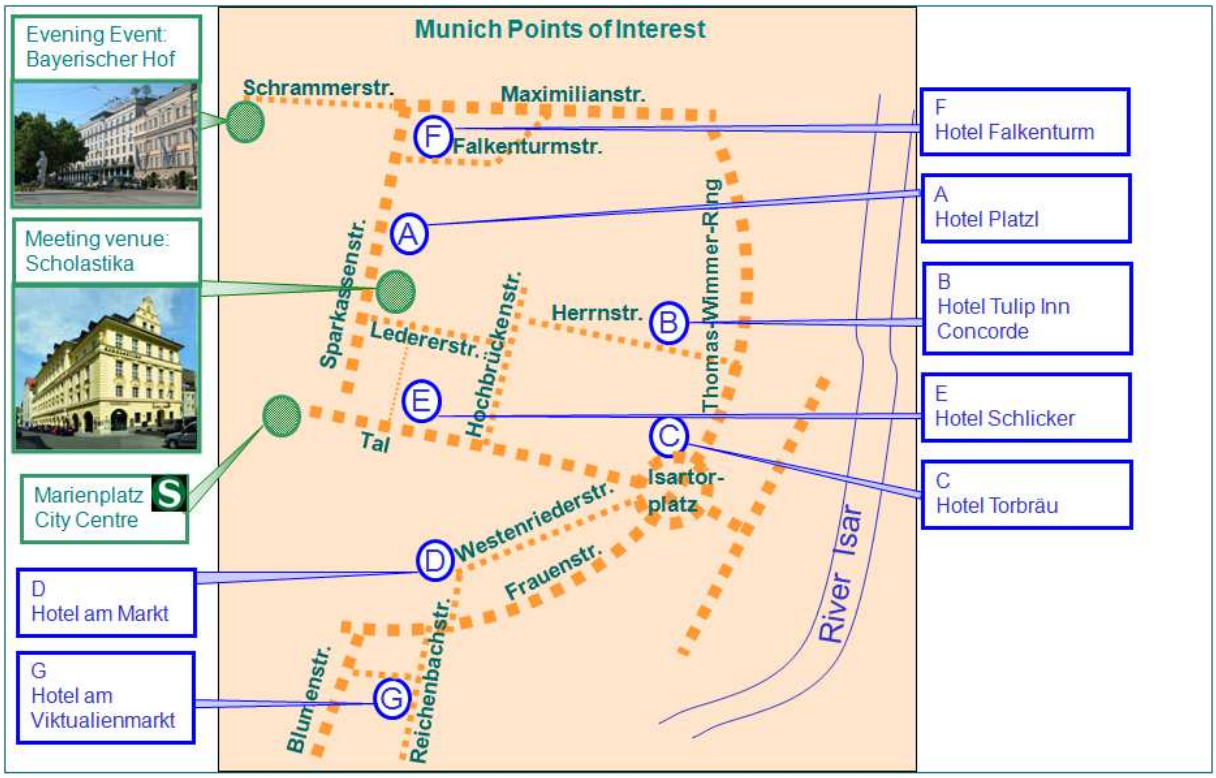
Hotel	Hotel Falkenturm	Hotel am Viktualienmarkt
Address	Falkenturmstrasse 3 80331 München http://www.hotel-falkenturm.de	Utzschneiderstraße 14 80469 München www.hotel-am-viktualienmarkt.de
Room price	from €75	Bed & breakfast from €75
Remark	Incl. breakfast, wireless-LAN	Incl. breakfast

* Information extracted from the respective websites. All price indications are of December 2009

Further hotel recommendations within 2km from the meeting venue:

Novotel München City****
Hochstrasse 11
81669 München
Phone: +49 89/661070
Email: h3280@accor.com
http://www.accorhotels.com
Room prices from € 90

Derag Hotel Max Emanuel***
Rablstraße 10
81669 München
Phone: +49 (0)89-4 58 30-0
Email: maxemanuel@deraghotels.de
http://www.deraghotels.de/en/
Room prices from € 110



Evening Event

The evening event takes place at Bayerischer Hof.

Address:
Bayerischer Hof
Promenadeplatz 2-6
80333 München

For location see Points of interest under section Accomodation.

Contact

For any further questions please contact:

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