

# Flying to a sustainable future

## European Conference on Heat Treatment and Surface Engineering

**ECHT 2024 and  
A3TS 50<sup>th</sup> Congress**

**June 5-7, 2024  
TOULOUSE, FRANCE**



In coopération with:



**Call for paper**

<https://echt2024.a3ts.org>

# The ECHT 2024 Conference (European Conference on Heat Treatment and Surface Engineering) will merge with the 50<sup>th</sup> Annual A3TS Congress in Toulouse (France) on June 5-7, 2024.

ECHT 2024 & 50th A3TS Congress will include:

A program of more than 80 scientific and industrial conferences, who will cover all aspects of heat treatment and surface treatment. The focus will be on processes and technologies **for a sustainable future in transport and industry.**

- **Posters session**
- **Exhibition of suppliers of equipment, products and services for heat treatment and surface treatment: the A3TS trade show will feature up to 100 exhibitors.**
- **Panel discussions, an innovation award, a technical forum, industrial visits, a gala evening, etc.**

## International Scientific Committee

Aurélien ACHILLE - FORVIA (France)	Julien ESCOBAR - IRT St EXUPERY (France)	(Italy)
Fabrice ANTOINE - ATOTECH (France)	Wolfgang HANSAL - RENA TECHNOLOGIES (Austria)	Eva PELLICER - Univ. Autònoma de BARCELONA (Spain)
Garikoitz ARTOLA BEOBIDE - AZTERLAN (Spain)	Jean-Yves HIHN - Univ. FRANCHE COMTE (France)	Luca PEZZATO - Univ. PADOVA (Italy)
Oksana BANAKH - Haute Ecole ARC (Switzerland)	Bernard KUNTZMANN - LISTEMANN (Switzerland)	Cédric POUPON - AIRBUS (France)
Klaus BUCHNER - AICHELIN (Austria)	Pascal LAMESLE - IRT M2P (France)	Sudipta ROY - Univ. STRATHCLYDE (UK)
Andreas BUND - Univ Ilmenau (Germany)	Cécile LANGLADE - Univ.Tech. BELFORT MONTBELIARD (France)	Reinhold SCHNEIDER - Univ. UPPER AUSTRIA (Austria)
Pierre BURDET - HEIG-VD (Switzerland)	Thomas LUBBEN - IWT (Germany)	Marcel SOMERS - Tech. Univ. of DENMARK (Denmark)
Marjorie CAVARROC - SAFRAN (France)	Jan MACAK - Univ. PARDUBICE (Czech Republic)	Matthias STEINBACHER - IWT (Germany)
Gilles CHOLVY (France)	Luca MAGAGNIN - Univ. MILANO (Italy)	Christophe STOCKY - ABS (France)
Andrew COBLEY - Univ. COVENTRY (UK)	Virginie MOUTARLIER - Univ. FRANCHE COMTE (France)	Joffrey TARDELLI - IRT M2P (France)
Sophie COSTIL - Univ.Tech. BELFORT MONTBELIARD (France)	Cecile MOYET - SAFRAN (France)	Damien THIRY - Univ. de MONS (Belgium)
Marc COURTEAUX - STELLANTIS (France)	Marjorie OLIVIER - Univ.de MONS (Belgium)	Bernard VANDEWIELE - BVDW (Belgium)
Fernand DA COSTA - RENAULT (France)	Guillaume PASCHE - HEIA-FR (Switzerland)	Véronique VITRY - Univ. de MONS (Belgium)
Fabienne DELAUNOIS - Univ. MONS (Belgium)	Massimo PELLIZZARI - Univ. of TRENTO	Mikhail ZHELUDKEVICH - HELMHOLTZ-ZENTRUM HEREON (Germany)
Olivier DELCOURT - SAFRAN (France)		
Sabine DENIS - Univ. LORRAINE (France)		

## National Organisation Committee

Sylvain BATBEDAT (BODYCOTE)	- Président CST A3TS)	Jérôme ROCCHI (LIEBHERR AEROSPACE)
Solène BRIZAY-BRUCHET (A3TS)	Dominique KAUFFMANN (A3TS)	Séverine ROGER (A3TS)
Olivier BRUCELLE (COLLINS AEROSPACE)	Jonathan KROENER (ROHMANN GmbH)	Claude ROSSIGNOL (A3TS)
Pierre BRUCHET (A3TS)	Cécile MOYET (SAFRAN)	Véronique VITRY (UNIV. MONS - Présidente A3TS)
Julien ESCOBAR (IRT SAINT Exupéry)	Cédric POUPON (AIRBUS)	
Jean-Yves HIHN (UNIV. FRANCHE COMTE)	Frédéric RAULIN (A3TS)	

## Important dates

<del>January 22, 2024</del>	Abstract Submission Deadline	<b>EXTENDED DATE : FEBRUARY 16, 2024</b>
<b>February 25, 2024</b>	Notification of acceptance	
<b>March 8, 2024</b>	Preliminary program	
<b>May 20, 2024</b>	Full Paper Submission Deadline	

Please submit your abstracts via the submission platform: <https://echt2024a3ts.sciencesconf.org>

# The focus will be on processes and technologies for a **sustainable future in transport and industry.**

The conference will deal with all fields of **Heat Treatment and Surface Engineering:**

- **Heat treatment of metals (iron & steel, non-ferrous alloys)**
- **Thermochemical treatment of metals**
- **Coatings and surface treatments:**  
wet processing operations (electrochemistry, etc.)
- **Coatings and surface treatments:**  
dry treatment operations (PVD, CVD, plasma, thermal spraying, etc.)
- **Surface preparation and conversion**

Industrials, academics and research/technical centers are invited to submit their proposals for conferences or posters dealing with scientific or technological advances and industrial feedback:

<https://echt2024a3ts.sciencesconf.org>

---

In addition to conventional topics of ECHT conferences, ECHT2024 will focus on the following issues :

## **Contribution of Innovative Heat and Thermochemical Treatments to EU climate goals**

With EU climate goals (55% CO<sub>2</sub> emission reduction by 2030, Carbon neutral by 2050), OEM, equipment suppliers and subcontractors need to adapt, and even in some cases reengineer, their production processes and their industrial facilities. Heat and thermochemical treatments are obviously a major concern, due to intense use of fossil energy and electricity.

Examples include: (1) Replacement of conventional processes by shorter cycle or lower temperature new treatments, vacuum processes, coatings,...(2) Energy efficiency through new furnace technologies or advanced process control ; (3) Replacement of fossil fuels by low-carbon energy sources ; (4) ...

## **Digital technologies in Heat Treatment and Surface Engineering industries**

Acceleration of research and developments projects, prediction of mechanical properties, furnace design, process optimization, parts and surface test now benefit from multiple applications of digital methods and numerical technologies : shorter development time, efficient equipments, support to operators, reproducibility of achieved properties, high frequency tests, ...

Examples include: (1) Predictive models, incl. hybrid physical/numerical ; (2) Industry 4.0 ; (3) Non-Destructive Testing Technologies (NDT) ; (4) ...

## **Coatings made of Enhanced Materials for electrical and thermal conductivities**

The increasing demand for new technologies accompanying the emergence of new needs (electrical cars, integrated smart systems, power semi-conductor devices) is an interesting driving force for innovation in coatings. They may be used to improve thermal and electrical conductivities, material strength, corrosion resistance, fatigue life, or any other property that enhances their viability for next generation systems.

Examples include: (1) replacement of cadmium in connector industry ; (2) composites coatings ; (3) film elaboration for assembling (4) coating with low resistivities for connectors (battery packs, vehicles...) (5) new coatings for HT-PEMFC bipolar plates (6) conductors in microdevices (7)...



## Surface engineering to adress environmental constraints

The increasing pressure of European environmental regulations, that of OEM who follow the demands of consumers, and simply the scarcity of certain resources requires ever more ingenious innovations in surface engineering. The example of Reach for many metals whose hexavalent chromium is speaking, but the list does not stop there! The symposium will provide an interdisciplinary forum to discuss new techniques and results to find alternatives with the motto «At least not worst»

Papers are solicited in all areas of thermal spray, electrodeposition, physical deposition etc. with significant innovation and effect on the expected coatings properties.

## New needs in tribological properties: an open challenge for heat treatment and surface engineering

Friction mitigation in mechanical systems is essential to energy gains. And this is, above all, important as the need for energy efficiency is increasingly urgent, with the increase in energy costs and to address climate issues. However, despite the very significant progress made in recent years, many scientific challenges remain open, while taking into account new environmental constraints, which limit solutions. The symposium will be open to solutions from several fields, but also to various applications. Papers are requested in all areas of thermal and thermochemical treatments, coatings and surface functionalization with respect to expected performance.

Examples: (1) thermal and thermochemical curing treatments (2) physical hard coatings (3) hard coatings by wet processing (4) functionalization by self-assembled molecules (5) lubrication processes...



## General information

### DATES

June 5-7, 2024

### VENUE

Centre des Congrès Pierre Baudis  
11 Esplanade Compans Caffarelli  
31000 Toulouse, France  
Tel.: +33 (0)5 23 61 04 35

For all information regarding the event:

<https://echt2024.a3ts.org>



## Exhibition & sponsorship

The Conference will feature

- an exhibition of 80 suppliers of heat treatment and surface treatment equipment, products and services. Find out more about the registered exhibitors on the Conference website.

- Panel discussions, an Innovation Award, a technical forum, industrial visits, a gala evening.

So do not miss the opportunity to present your company!

Sponsorship offers are available online on the Conference website :

<https://echt2024.a3ts.org>

## Oral presentation

Oral presentations will last 25 minutes, including time for questions. All presentations must be in English, including slides and abstracts.

## Poster session

Poster size: 90 cm wide × 150 cm high (A0)

## Conference secretary

A3TS : Association de Traitement Thermique et de Traitement de Surface  
71 rue Lafayette, 75009 Paris

Mail : [a3ts@a3ts.org](mailto:a3ts@a3ts.org)  
tel : +33 (0)1 45 26 22 35