

The Manufacturing Engineering Society International Conference, MESIC 2015

Preface



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Manufacturing Engineering is a key-driver for the enhancement of economical sustainable development and for the increase on the quality of living of the citizens. Indeed, in a globalized world, Manufacturing Engineering faces continually new challenges and has to respond to them with technological improvements as well as with organizational approaches out of the traditional ones. Moreover, megatrends as the Digitization of the Society, the emergence of new urban manufacturing linked to the metropolitan concentration of the population, or the democratization of many manufacturing systems require specific response to adjust the supply chains, the training of the users, the data management and the quality assurance of the production.

The Manufacturing Engineering Society International Conference (MESIC) is conducted every two years fulfilling one of the most important objectives of the Spanish Manufacturing Engineering Society (SIF): creating forums for exchanging experiences in the related fields of knowledge.

The 6th edition of the Conference took place at the *Escola Tècnica Superior d'Enginyeria Industrial de Barcelona* of the *Universitat Politècnica de Catalunya* (UPC-BarcelonaTECH), in Barcelona, Spain, from 22nd to 24th July 2015. Following the objectives of the previous editions, the 2015 conference offered a unique meeting point for professionals, researchers and educators from industry, research centers and academia to present and discuss recent advances in the field of Manufacturing Engineering. The academic and scientific conference incorporated Special Sessions on Pan-European Collaborative Research Projects as well as Industrial Panels for Technological Success Cases dissemination and a dedicated exhibition area for companies, associations and research entities, to demonstrate live the latest technological advances.

From the awareness and attraction of scientific content, specific work was conducted to attract top-class results from worldwide as well as to grant doctoral students travel and accommodation to be present in the conference. Concerning the specific technological domains, a notable stress was undertaken to foster the participation and so to leverage the technological presentation of results under the Digital Manufacturing and Additive Manufacturing Technologies.

Papers relevant to the scope of MESIC include the following areas:

1. Moulding processes
2. Forming processes
3. Machining processes
4. Non-traditional manufacturing processes
5. Welding and joining technologies
6. Industrial metrology
7. Manufacturing systems
8. Automation of production
9. Digital Manufacturing and PLM Technologies
 - 9.1. CAD/CAM/CAE
 - 9.2. Modeling and simulation in manufacturing engineering
 - 9.3. Integrated development of products and processes
10. Production planning
11. Rapid prototyping and additive manufacturing
12. Integrated development of products and processes
13. Industrial quality and quality management
14. Teaching and learning in manufacturing engineering

Contributions were received from 19 different countries, adding up to 174 communications, of which 59 were presented orally and 115 were displayed via poster. The total number of attendees was 269, of which 50 were accredited as students. Also, the Industrial and Technological Special Sessions featured up to 19 industrial technology-driven project case presentations. The exhibition area incorporated 12 stands from companies, associations and research centers' demonstrators.

The internationalization of the conference was inherent and the attraction of delegates was also reinforced by the four Key-note Speeches delivered by the following renowned international speakers:

- Opening lecture “Hot stamping of Sheet Steels” by Professor Jose Manuel Prado from the *Universitat Politècnica de Catalunya* in Barcelona, Spain.
- Invited lecture: “PLM integration and Knowledge for decision support systems” by Professor Alain Bernard is from *École Centrale de Nantes* in Nantes, France.
- Invited lecture: “Airbus and the Factory of the Future” by George-Eric Moufle of the *Airbus Group Worldwide*.
- Closing lecture: “Advanced Manufacturing Systems and Industrial Technologies” by Professor Marco Taisch from the *Politecnico di Milano* in Milano, Italy.

The conference single language was English and the Oral presentations were organized in 14 sessions along the 3 conference days. Oral presentations were allocated ten minutes for presentation and five additional minutes to respond to questions from the audience, enabling further discussion. The contributions in poster format participated to the best poster competition and three awards were given to the winners during the gala dinner of the conference, based on the vote of all conference attendees.

Joan Vivancos i Calvet. Chairman of the MESIC 2015
Irene Buj i Corral and Joaquim Minguella i Canela. Editors

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