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# GENERAL PROGRAM OF THE **ICIEOM-CIO-IIIE** INTERNATIONAL CONFERENCE **2015**

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Universidade de Aveiro, Portugal  
JULY 6<sup>th</sup> - 8<sup>th</sup>, 2015

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## **ENGINEERING SYSTEMS AND NETWORKS:**

The way ahead for industrial engineering  
and operations management



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XXI International Conference on Industrial Engineering and Operations Management  
9th International Conference on Industrial Engineering and Industrial Management  
(XIX Congreso de Ingeniería de Organización)  
International IIE Conference 2015

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Conference Program of ICIEOM-CIO-IIIIE 2015 - Aveiro, Portugal | July 6-8, 2015

**DEPT. OF ECONOMICS MANAGEMENT AND INDUSTRIAL ENGINEERING (DEGEI)**

Room Nº 10.2.5      Room Nº 10.2.6      Room Nº 10.2.7      Room Nº 10.2.8

**MONDAY - 6 JULY 2015**

Chair: Margarete Menegotto      Chair: Luís Ferreira      Chair: Jesus García-Arca      Chair: Leonor Teixeira

14:30 – 16:30	MA1	MA2	MA3	MA4
	403	7	18	217
	418	19	224	248
<b>KPM</b>	75	<b>LPIS</b>	<b>LPIS</b>	<b>LPIS</b>
	236	27	241	322
	272	36	263	383
	334	43	285	393
		119	374	396

**DEPT. OF ENVIRONMENT AND PLANNING (DAO)**

Room Nº 218      Room Nº 318      Room Nº 223      Room Nº 224

Chair: Maria J. Rosa      Chair: Ana L. Ramos      Chair: Helena Alvelos      Chair: José V. Ferreira

MA5	MA6	MA7	MA8
5	95	42	96
23	129	172	102
<b>SE</b>	<b>ORMS</b>	<b>QPM</b>	<b>PHD</b>
51	177	182	152
190	179	203	156
290	265	318	176
380	284	370	394

**TUESDAY - 7 JULY 2015**

Chair: Luiz F. Ayres      Chair: Cristóvão Silva      Chair: Eduardo Mothé      Chair: Carlos Ferreira

8:30 – 10:00	TA1	TA2	TA3	TA4
	39	123	62	17
	141	132	68	34
<b>KPM</b>	259	<b>LPIS</b>	<b>LPIS</b>	<b>LPIS</b>
	298	135	168	41
	366	148	186	58
		173	216	105

Chair: Ana M. Mejías      Chair: Jesus Muñuzuri      Chair: Carlos Monroy

TA5	TA6	TA7
11	20	35
25	261	280
<b>SE</b>	<b>ORMS</b>	<b>SS</b>
88	258	303
137	282	325
213	385	339

Chair: Sofia E. Miguel      Chair: Raimundo Sampaio      Chair: Ana Moura      Chair: Ana R. Xambre

10:30 – 12:30	TB1	TB2	TB3	TB4
	22	212	16	97
	67	229	50	288
<b>EDU</b>	<b>LPIS</b>	<b>LPIS</b>	<b>LPIS</b>	<b>LPIS</b>
	79	254	66	324
	107	271	121	337
	125	281	250	33
	158	286		120

Chair: Llanos Cuenca      Chair: Raul Polido      Chair: Rui B. Lopes

TB5	TB6	TB7
93	49	44
127	140	131
<b>SE</b>	<b>ORMS</b>	<b>SS</b>
238	157	143
340	159	221
329	166	327
415	184	411

Chair: Milton V. Junior      Chair: Carina Pimentel      Chair: Jayant Rajgopal      Chair: Alfonso D. Heras

16:00 – 17:30	TC1	TC2	TC3	TC4
	163	331	233	110
	270	344	239	115
<b>EDU</b>	<b>LPIS</b>	<b>LPIS</b>	<b>LPIS</b>	<b>LPIS</b>
	308	345	358	169
	346	353	369	264
	373		332	267

Chair: Paulo C. Miguel      Chair: Maria J. Rosa      Chair: Ruth Carrasco

TC5	TC6	TC7
37	167	381
291	171	391
<b>SE</b>	<b>ORMS</b>	<b>SS</b>
292	198	130
307	200	246
352	289	

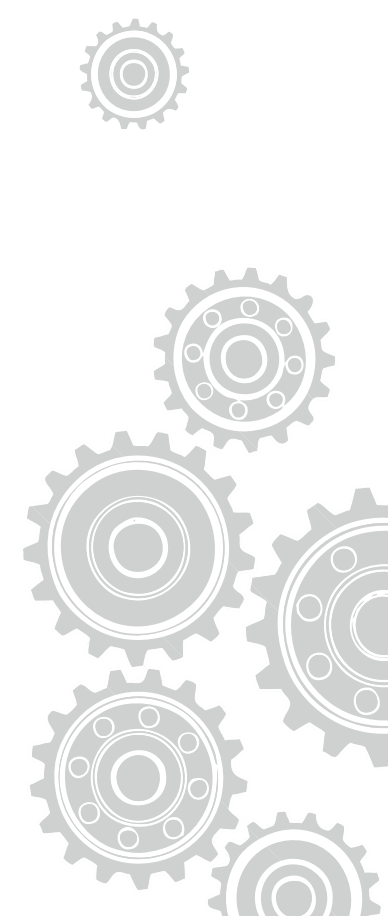
**WEDNESDAY - 8 JULY 2015**

Chair: Kenneth Currie      Chair: Angel Ortiz      Chair: João C. Furtado      Chair: Marlene Amorim

8:30 – 10:30	WA1	WA2	WA3	WA4
	12	382	40	153
	46	386	74	283
<b>KPM</b>	<b>LPIS</b>	<b>LPIS</b>	<b>LPIS</b>	<b>LPIS</b>
	150	401	155	311
	234	170	228	361
	253	183	260	414
	278	199	350	417

Chair: Gil E. Guimarães      Chair: Samuel Moniz      Chair: David Resende

WA5	WA6	WA7
47	60	31
77	65	54
<b>SE</b>	<b>ORMS</b>	<b>QPM</b>
109	202	90
314	204	180
387	367	262
400	405	399



## Title of Communications

### SE STRATEGY AND ENTREPRENEURSHIP

- 005 BPMN for a Costing Model Conception  
011 Relationship between Organizational Social Responsibility and Occupational Health and Safety: a review study  
023 The Importance of the Cost Management in a Manufacturing Company of Hydroelectric Plants - a case study  
025 Integrated Management of Operations, Human Resources and Innovation: a Strategic Approach for Developing Sustainable and Competitive Business  
037 Environmental management in companies in the food sector: the state of the art  
047 Integrating Strategic Considerations and Value Co-Creation in Project Management  
051 Systematic analysis of economic viability with stochastic approach: a proposal for investment  
077 Developing a Strategic Expansion Plan for the Manufacturing Industrial Sector in Kuwait  
088 Social Responsibility: Reflections about the Mato Grosso State's Certificate  
093 Social Behavior of Brazilian Organizations: An analysis of isomorphism mechanism  
109 Strategic decisions: an approach to the implementation of the Production Strategy in farms producing soybean  
127 Communication Adaptation Decisions Considering Cultural Differences between Brazilians and Americans  
137 Sustainability as a success factor in global operations: a survey of car manufacturing  
190 An approach to Islamic Finance in Spain  
213 Integrated Framework for Sustainability Management in Project Environment  
238 Entrepreneurship And Innovation: a study between Brazil and Finland  
290 Using cost-volume-profit to analyse the viability of implementing a new Distribution Center  
291 Analysis and comparison of two bike-sharing systems: characteristics, similarities and sustainable potential of the solutions  
292 Social Innovation Research Centers: Focus, Objectives and Trends  
307 The SWOT Analysis as a Method to Study the City  
314 Alliance taxonomies: a literature review  
329 Preliminary definition of an enterprise cooperation maturity model (ECOMM)  
340 Rubric to assess the competence of innovation, creativity and entrepreneurship in bachelor degree  
352 Why Brazilian Women Are not on Top: The Work-Life Reconciliation Hypothesis  
380 Tax Planning Applied to Small Brazilian Companies of Building Sector  
387 Competitive strategies adopted by the Brazilian sugar and alcohol sector after the 1990s  
400 Key Parameters for the Analysis Stage of Internationalisation of Operations  
415 A Questionnaire for the Analysis Stage of Internationalisation of Operations

### ORMS OR, MODELLING AND SIMULATION

- 020 Towards increasing sustainability in large urban mobility attractors  
049 Managing Continuing Projects: Optimizing the Version-Release Policy  
060 Forecasting Cloud Computing: Producing a Technological Profile  
065 Smart Cities development fostered by ESCO organizations growth: opportunities and barriers in major European Union countries  
095 Approaches for Collaborative Networks Simulation: A review  
096 Modelling the Strategies Alignment process in the Collaborative Network context  
129 Performance Evaluation of Order Acceptance Decision under Static and Dynamic Settings  
140 Modeling for Measuring the Performance of Management Innovation in National Retail  
157 The role of complexity and flexibility of the instance in the joint solution approach  
159 Simulated Annealing applied to the problem of task assignment in a laboratory  
166 A procedure based on branch-and-bound for the Cyclic Hoist Scheduling Problem with n types of product  
167 Analysis of Relevant Factors in Competitive Intelligence System Implementation  
171 Stock Market Firm Value Effects of Research & Development Expenditures in the Oil & Gas Industry  
177 A simulation-optimization approach for production planning and scheduling  
179 Utilization of Fuzzy constraints to build applications to support a Concurrent Engineering Environment in the process of Design and Manufacturing  
184 Proposal for an aggregate planning model of production in a sugar and alcohol plant linked to the fluctuation of prices in cash markets and the future markets  
198 Comparative Study between Financial Performance of Companies that Compose Corporate Sustainability Index and BOVESPA Index  
200 Leverage organizational performance in a food industry: a case study of the improvement of product quality attributes with the use of multiple regression analysis  
202 A quick and simple way to feed data for using in the implementation of software route planning: methodology, error analysis and case study

- 204 An update of Wiggle factor for Spanish road transport  
258 The Influence of the Crossover Operator on Genetic Algorithms Applied to the Job Shop Scheduling Problems  
261 Controlling Production in Hybrid Make-to-Stock/Make-to-Order Manufacturing  
265 A Simulation-based Analysis of a Cork Transformation System  
282 Comparison of different production strategies for the economic lot scheduling problem under different environments. A simulation study  
284 Development of a simulation study for a production line in an automotive company  
289 Evaluating Perceptions on Executive Support in Project Management  
367 Discovering Bayesian Networks using Process Mining: an Application in Manufacturing  
385 A Mixed-Integer Linear Programming Model for Slots Allocation in Congested Airports  
405 Application of Data Mining Techniques and Competitive Intelligence for efficiency gains in Public Service Selection Exam Agencies

### LPIS LOGISTICS, PRODUCTION AND INFORMATION SYSTEMS

- 007 A decision support framework for Production Flow Coordination using Supply Chain Management practices, Ordering Systems and Modeling techniques  
016 Using Mixed-Integer Linear Programming to solve a real distribution problem  
017 A conceptual model to manage supply sequences in automotive industry for Nissan Barcelona  
018 Reverse Logistics of Agrochemical Pesticide Packaging and the Impacts to the Environment  
019 Impacts of a tracking and tracing system for containers in a port-based supply chain  
027 Adapting transport modes to supply chains classified by the Uncertainty Supply Chain Model: a case study at Manaus Industrial Pole  
033 Stochastic Machine Maintenance under Imperfect Maintenance  
034 Application of the tools of Production Engineering for the reduction of dead time in an assembly line  
036 Ten Years of Supply Chain Management Research in Brazil  
040 Factors of Influence in Tugger Train Systems  
041 Productivity improvement, considering legal conditions and Just In Time principles in the mixed-model Sequencing problem  
043 The impact of Supply Chain Management on the innovation process  
050 Planning routes and shifts driving for a small business of road passenger transport  
058 Lean wastes in Andalusian aeronautical industry: identification and analysis of the main causes  
062 A Two Stage Heuristic to Good Feasible Solutions for the Fuel Cost Transmission Gas Pipeline Networks Problem  
066 On the on-hand stock estimation in a lost sales context and periodic review policy  
068 Evolution of Term Productivity  
074 Logistics structure and Competitiveness: evidence across countries  
097 Complexity and operations performance: a case research from Brazilian automobile industry  
105 VSM-based framework for managing the supply chain  
110 Lean Production Systems Deployment and Monitoring using Discrete-event Simulation  
115 Reduction Lead Time Production – Case study of the sound company  
119 An Empirical analysis on Supply Chain Risk Mitigation Strategies  
121 Experimentation tool to study and improve rail container terminals  
123 Supply Chain design and analysis: a case study on a low-cadence car production  
132 Explaining alliance success factors in Spanish Food & Beverage supply chain: case analysis  
135 Proposal of a framework for assessing environmental performance of supply chains  
148 The role of International Purchasing on the competitiveness of industrial companies in Portugal: an empirical study  
152 Shipping: Management of import and Export processes and transition from public to private. Case study: The Port of Barcelona  
153 A reference framework to design inventory policies using a fill rate criterion in lost sales contexts  
155 A Nonlinear Integer Programming Model for Warehousing sustainable logistics  
156 Study on Productivity in the Automotive Industry  
168 Application of Hybrid Symbiotic Organism Search on Flow Shop Scheduling with a New Learning Effect  
169 Root cause identification of existing barriers detected by people with disabilities in air transport.  
170 Applying social opinion mining to the innovative product design through the use of FITMAN / FIWARE technology  
173 Sustainable Supply Chain Management: A Case Study  
176 A Theoretical Framework Proposal for Formalization in Reverse Logistics  
183 Interoperability Frameworks in Public Administration Domain: Focus on Enterprise Assessment  
186 Genetic algorithms applied in realistic job-shop scheduling problems with alternative routes and dependent setup times  
199 Conceptual methodology for handling unexpected events in hierarchical production planning  
212 Current Trends in Recovering Used Products in Retail Fashion Industry: An Exploratory Study  
216 A Flexible Model Approach for Production Planning  
217 Using Big Data for Competitive Dimensions Improvement in a Telco Company  
224 Performance measures of Reverse Logistics: a survey in Brazilian companies

## Title of Communications

- 228 Effectiveness of Holt Winter Models as aid to Production Alignment  
229 Main factors affecting the development of interorganizational partnerships in biodiesel supply chain in Brazil  
233 The Pressures of the Brazilian Pre-Salt Production on the National Refining Sector  
239 Production Planning and Control: Case study of a small dairy industry  
241 A model that integrates direct and reverse flows in omnichannel logistics networks  
248 Conceptual Framework for applying Internet of Things in Production Systems for Sensing Enterprises  
250 Greenness indicators for the Madrid-Lyon freight transport corridor  
254 Differentiation of the Difficulty Level of Supply Chain Management Integration Actions  
260 A multidimensional framework to stock keeping units classification  
263 The Reverse Logistics on Companies' Perspective- Case Studies  
264 Reduction of Drying Process Time of Natural Cork Stoppers Process in Lean Improvement Efforts  
267 Integrating Value Stream Maps with Waste Identification Diagrams  
271 Does Sustainable Supply Chains Practices Influences Companies Performance?  
281 Transport KPIs for supply chain improvement. A literature analysis  
283 Establishing a link between lean practices and corporate sustainability  
285 Deploying "Packaging Logistics" in paper napkins  
286 Identifying Interorganizational Relationships Through Theoretical Indicators: A Study In The Milk Production Chain  
288 How to design an efficient and sustainable box?  
311 Application of Lean Accounting for production costs management in lean enterprises: a case study in an auto parts company  
322 Industrial vertical portals:  
Influence of cluster membership on participants' perceptions of future value creation, motivations and expectations  
324 Assembly lines for end-of-life products: improving their efficiency  
331 Activity-Based Cost Equations Systems: Extending the Predictive Power of TDABC  
332 Analysis and implementation of the system FIFO (first in-first out) for a production line.  
337 Improvement in the fabrication process and adjustment to the NR-12 standard of a platform of bucket's elevators  
344 Maturity models in supply chain sustainability: a literature review  
345 A tool to visually explain the zones of influence of several distribution centres in a network  
350 Spare parts inventory management using quantitative and qualitative classification  
353 Total Cost of Ownership in the Context of Supply Chain Management: an Instructional Case  
358 Modelling and simulation of inventory level control in service operations management  
361 Performance Measurement of Total Productive Maintenance in a Production Company  
369 A Greedy Primal-Dual Type Heuristic to Select an Inventory Control Policy  
374 Analysis of Logistics Flows in an Urban Functional Area. Application to Cartagena  
382 Supply Chain Risk Management in the Brazilian Auto Parts Industry  
383 Using the Internet of Things in a production planning context  
386 Re-location of EMS Facilities Using GIS  
393 Contribution of Lean Principles in the Information Systems Development: an Experience based on a Practical Case  
394 Supply Chain Risk Management: a framework for risk assessment and the application of Decision Support tools  
396 Implementation of a Manufacturing Execution System in the Cork Stoppers Industry  
401 Data-driven SKU differentiation framework for supply chain management  
414 Understanding Employee Resistance to 5S Implementation in a Portuguese SME  
417 Waste Types in People Processing Services

## QPM QUALITY AND PRODUCT MANAGEMENT

- 031 A Case Study of Photovoltaic Solar Energy in Brazil  
042 Information quality in companies committed to TQM  
054 Environmental tools in the Spanish food industry  
090 Ramp-up curves: A literature review  
172 New product development typologies: An analysis of publications and citations between 1992 and 2012  
180 Preliminary study of the processes at the laboratory of the Instituto dos Vinhos do Douro e do Porto  
182 Performance Measurement Systems for designing and managing Interoperability Performance Measures: A literature analysis  
203 Is the TQM Outdated? - Four case studies  
262 Sales performance management: a strategic initiative to the growth of micro and small enterprises.  
318 Metrics for quality assessment systems.  
370 Integrated management systems: An exploratory survey  
399 Designing new products and engineering supply chain systems with SoSE

## KPM KNOWLEDGE AND PROJECT MANAGEMENT

- 012 Contribution of Design Thinking to Jet Engines Manufacturing.  
039 An application of the Innovation Radar in a micro and small companies in the Campinas Metropolitan Region  
046 Multicriteria Model for the Management and Maintenance of Critical Assets  
075 Characterising knowledge workers' job positions  
120 Innovation Management in a Public Service Company  
141 Innovation management in Brazilian retailer  
150 Multi-Objective Optimization for Mixed Model Automotive Production Lines  
234 Proposal of a management system for preventing intentional food contamination and the improvement of the supply chain security in the food sector of guanajuato, Mexico  
236 Incursion of Knowledge Management in Management Excellence Awards: An analysis in the Latin-American context  
253 PMO standardization through Hoshin Kanri: Improving the Management of Projects by Process Management  
259 Measuring Open Innovation Projects  
272 A Proposal of a Model for Decision Making and Process Improvement: An Knowledge Based Analysis  
278 Roadmap for the Implementation of a Project Management Model in a SME of Engineering and Turn-key Supply of Industrial Equipment  
298 Scientific and Technological Mapping of Magnesium Batteries  
334 Business Process Management as an Alternative for Promotion of Knowledge Management  
366 The overcoming challenges of technology for ceramic industry with a partnership university-company: a brazilian experience in innovation search  
403 Public Policy Focus on R + D + i for the Demand and Opportunities of Industrial Innovation  
418 University Technology Enterprise Network in Portugal:  
A bottom-up approach to Improve Regional Innovation Ecosystems (working paper)

## SS SERVICE SYSTEMS

- 035 The Cycle of Competitive Intelligence as a tool to strengthen the Cooperation in the Spanish Pharmaceutical Industry  
044 Delimiting the linear area on the problems of assembly line balancing with minimal ergonomic risk  
102 Kalman Filter application in the correction of forecasts by floods HYMOD model.  
130 Grocery Supermarket Business Model: finding out Operations Management advantages  
131 Proposal for a low-cost technique for remote monitoring of body temperature: An application for work safety  
143 Thermal Comfort Field Study Based on Adaptive Comfort Theory in Non-Residential Buildings  
221 Gestalt and its influence on graphical touchscreen interface for elderly people  
246 Towards a Cost Management Methodology for Industrial Product-Service System Environment  
280 Creating a continuous improvement structure to implement lean healthcare  
303 Technological and Industrial Mapping of Pharmaceutical Sector: a Comparison with Emerging Countries  
325 The experience of public-private partnerships hospitals in UK: what can we learn in Spain?  
327 Understanding the human role in Cyber-Physical Systems  
339 Exploring recent literature on Lean Healthcare  
381 Research Methodologies in Studies on Concentration of American Hospitals  
391 The current state and use of Public Private Partnerships for health infrastructure investment in France  
411 Predicted Thermal Sensation Patterns in Industrial Spaces:  
a practical study based on ergonomic approaches

## EDU EDUCATION

- 022 Brand Identity Applied Research: the case of Brazil's Educational Public Organization (EPO)  
067 The Skateboard Manufacturing Company: a teaching case on production planning and control  
079 Agents playing the Beer Distribution Game:  
Solving the Production Dilemma through the Drum-Buffer-Rope Methodology  
107 Problem-Based Learning Method use in the civil construction organizational environment  
125 Preparing Engineers with Strong Management and Communication Skills  
158 Using LEGO Serious Play in Marketing Classes  
163 Organizational Engineering: the emerging stage of Industrial Engineering  
270 Development of DL for the training of the Business Game Bom Burguer's tutors  
308 Entrepreneurship in engineering students – developing a scale  
346 Creation of a Mentoring Program for improving the Education of Industrial Engineers  
373 Perception of the evolution of the Industrial Engineering areas based on the Brazilian ENADE-INEP assessment system

## Program

### Monday, 6th July

11:00 | 14:00 REGISTRATION | DAO\*

14:00 | 14:30 Opening and Welcome | DAO\*

**Carlos de Pascoal Neto**

Vice-Rector (*University of Aveiro*)

**Carlos Costa**

Director of the Department of Economics,  
Management and Industrial Engineering  
(*University of Aveiro*)

**Carlos Ferreira**

President of the Scientific Committee  
(*University of Aveiro*)

**Marlene Amorim**

Conference Chair (*University of Aveiro*)

14:30 | 16:30 PARALLEL SESSIONS & PHD SEMINAR

16:30 | 17:00 COFFEE BREAK

17:00 | 18:30 PLENARY SESSION I | DAO\*

#### Keynote Speakers

**Jan Godsell** (*University of Warwick*),

*"Can OM Scholars Have It All?:  
The way ahead for scholarship in OM"*

**Rui Sousa** (*Catholic University of Portugal*),

*"Operations Management in the Digital Economy"*

#### Discussants

**Marlene Amorim** (*University of Aveiro*)

**Milton Vieira Júnior** (*ABEPRO*)

19:00 | 20:00 WELCOME COCKTAIL

*(taking place in the city centre  
at the iconic building  
of the Capitania do Porto de Aveiro)*

[http://www.visitcentrodeportugal.com.pt/  
capitania-do-porto-de-aveiro/](http://www.visitcentrodeportugal.com.pt/capitania-do-porto-de-aveiro/)

\* DAO: Dep. De Ambiente e Ordenamento  
Dept. of Environment and Planning

### Tuesday, 7th July

8:30 | 10:00 PARALLEL SESSIONS

10:00 | 10:30 COFFEE BREAK

10:30 | 12:30 PARALLEL SESSIONS

12:30 | 14:00 LUNCH | Rectorate Building

14:00 | 15:30 PLENARY SESSION II - MEET THE EDITORS

Rectorate Building

#### Keynote Speakers

**Ron Askin** (*IIE Transactions*)

**Alexandre Dolgui**

(*International Journal of Production Research*)

#### Discussants

**Carlos Ferreira** (*University of Aveiro*)

**José V. Ferreira** (*University of Aveiro*)

15:30 | 16:00 COFFEE BREAK

16:00 | 17:30 PARALLEL SESSIONS

18:30 | 20:00 TRANSPORT TO CONFERENCE DINNER

20:00 | 23:00 CONFERENCE DINNER

### Wednesday, 8th July

8:30 | 10:30 PARALLEL SESSIONS

10:30 | 11:00 COFFEE BREAK

11:00 | 12:30 PLENARY SESSION III | DAO\*

#### Keynote Speakers

**João Gunter Amaral** (*Sonae MC*)

**Sandra Augusto** (*Volkswagen Autoeuropa*)

#### Discussants

**Luís Ferreira** (*University of Aveiro*)

**Paul Cohen** (*North Carolina State University*)

**Carlos Prado** (*ADINGOR*)

12:30 | 13:00 CONFERENCE CLOSING NOTE | DAO\*



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de la Ingeniería de Producción

