

TARGET NEWSLETTER

Issue No 8 March/April 2018

Welcome to our
8th Newsletter!

Throughout the Target project, we aim to publish this newsletter at quarterly intervals to keep partners, colleagues, clients and stakeholders up to date on relevant information relating to our project.

If you have any updates to contribute to these publications, please forward your news to our Communications Lead:
vincentreynolds@cavanitc.ie



TARGET Close Event, 16 April 2018, Cavan, Ireland.



L-R: Åsa Erikson (Luleå), Beibei Shu (UiT), Edel McCusker (SWC), Martin Lundgren (Luleå), Bjørn Solvang (UiT), Marcella Rudden (LEO Cavan), Jouni Vähäsöyrinki (Centria), John Moore (SWC), Vincent Reynolds (CITC), Sakari Pieskä (Centria), Heather Humphreys T.D., Minister for Business, Enterprise and Innovation, Government of Ireland; Tero Köyhäjäki (Centria), Heidi Kaartinen (Centria), Wei Deng Solvang (UiT), Johan Lugnet (Luleå), Lene Jørgensen (Studiesenteret Finnsnes), Vidar Gunnberg (Studiesenteret Finnsnes), Hao Yu (UiT), Gabor Sziebig (UiT), Padraig McNamee (SWC).

Cavan, Ireland was the venue for the TARGET project close event hosted at the Farnham Estate Spa & Golf Resort, on 16 April 2018. All partners contributed to the proceedings led by Padraig McNamee, South West College. Partners outlined their positive experience of working in a collaborative and mutually supportive transnational engagement over the past three years. Gratitude was expressed to the Joint Secretariat and





TARGET Close Event cont'd

Managing Authority of the Northern Periphery and Arctic Programme (NPA) for the generous support provided to and throughout the project.

One of the key drivers of the TARGET project was a Benchmarking Report established to highlight the barriers facing manufacturing SMEs in the NPA region. Common themes and similar barriers across the region included skills gaps, lack of competitiveness and currency fluctuations.

The aim of the NPA TARGET Project was to develop interventions to enhance the capacity of manufacturing companies in the NPA region and encourage them to adopt and embrace new technologies and innovation. The Toolbox developed consists of subsets such as;

- Digital manufacturing (robotics and simulation);
- New ideas and thinking (human centred and environmental thinking, competitiveness);
- Business models;
- Product innovation.

Thirty manufacturing SMEs across the NPA region supported the TARGET team by pilot testing the sixteen tools developed during the project and listed hereunder:-

1. Virtual Reality
2. Process Simulations/Layout Planning
3. Remote Monitoring/RFID
4. Digital Scanning and Measuring
5. Robotics
6. Open Innovation
7. Early Design Processes
8. Creative Concept Development
9. Innovation Methods
10. Lean Manufacturing
11. Business Models
12. Environmental Management
13. Diagnostic Tool
14. Industrial Automation
15. Additive Manufacturing
16. Supply Chain Management

Access to the TARGET Toolbox will be open source and freely available via the project website <http://www.targetproject.eu/target-tools/>.





Second International Symposium on Small-scale Intelligent Manufacturing Systems (SIMS 2018) 16 - 18 April 2018 at Farnham Estate Spa & Golf Resort in Cavan, Ireland.



Pictured L-R; Vincent Reynolds, Cavan Innovation and Technology Centre (Conference Secretariat); Professor Dr Denis Dowling, University College Dublin; Prof. Dr. Wei Deng Solvang, UiT - The Arctic University of Norway; Prof. Dr. Bjørn Solvang, UiT - The Arctic University of Norway; Heather Humphreys T.D., Minister for Business, Enterprise and Innovation, Government of Ireland; Dr John Moore, South West College; Marcella Rudden, Local Enterprise Cavan; Prof. Dr. Géza Husi, University of Debrecen, Hungary; Dr. Gabor Sziebig, UiT - The Arctic University of Norway; Padraig McNamee, South West College.

Cavan was the venue for the Second International Symposium on Small-scale Intelligent Manufacturing Systems (SIMS 2018) hosted at the Farnham Estate Spa & Golf Resort, Cavan from 16-18 April 2018. SIMS is the leading international forum for academic and industrial experts to disseminate information on the most recent theories, practices and research results in the field of Small-scale Intelligent Manufacturing Systems.

Small-scale Intelligent Manufacturing Systems (SIMS) is an emerging concept and is of paramount importance for improving and enhancing the competitiveness and sustainability of manufacturers, especially small and medium-sized enterprises, in order to survive in today's rapidly changing market. SIMS aims at incorporating state-of-the-art technologies with leading edge management methods for achieving continuous improvement in flexibility, reliability, productivity and sustainability of manufacturing systems, in order to provide customers with highly customized products at reasonable price and rapid delivery.

Welcoming the symposium delegates, Minister Heather Humphreys T.D., Minister for Business, Enterprise and Innovation, said that the theme of the conference was



SIMS 2018 cont'd

perfectly in line with Irish government policy on enterprise innovation. Minister Humphreys acknowledged the work being done within SIMS and paid tribute to Cavan Innovation and Technology Centre, Local Enterprise Office Cavan and South West College for their proactive role in bringing the symposium to Cavan.



Prof. Dr. Wei Deng Solvang, UiT - The Arctic University of Norway, General Co-chair SIMS 2018.

Keynote presentations were delivered by leading academics from universities such as UiT The Arctic University of Norway; Queens University Belfast, Northern Ireland; University College Dublin, Ireland; and South West College, Northern Ireland.



Prof. Dr. Seán McLoone, Queen's University Belfast (QUB). Keynote presentation on Greedy search meets spatial dynamic sampling - a manufacturing informatics story.





SIMS 2018 cont'd

The SIMS symposium provided a common platform for academics, researchers and practitioners to interact and discuss trends and advances in a broad extend of SIMS.

This high level academic symposium, organised under the auspices of Institute of Electrical and Electronics Engineering (IEEE), and the Institute of Education Sciences (IES), brought together senior academics from universities in Norway, Sweden, Finland, Greece, Hungary, Germany, Ireland and Northern Ireland.



Prof. Dr. Bjørn Solvang, UiT - The Arctic University of Norway (Honorary Chair SIMS 2018). Keynote presentation on Digitalization....our journey: Perspective from education and research.



Professor Dr Denis Dowling, University College (UCD). Keynote presentation on Achieving enhanced manufacturing competitiveness through the wider adoption of Industry 4.0.

A large number of high quality academic papers were presented over the two days on a wide variety of themes, including Robotics and Automation; Innovative Product Design and Optimisation; Additive Manufacturing; Intelligent Manufacturing; Environmental Management and Safety, Utilization of 3D printing; The Internet of things; Information Security.

SIMS 2018 cont'd



Dr John Moore, South West College (Member of SIMS 2018 organising committee). Keynote presentation on The NPA TARGET Project and engagement with manufacturing industry; a College perspective.

Prof. Dr. Géza Husi, University of Debrecen, Hungary (General Co-chair SIMS 2018). Presenting on Computer-aided opportunities in modernization of residential buildings.

Papers on the following topics were presented at the symposium:

1. Online task distribution simulation in smart factories
2. Innovations & Industrial Internet: research for regional growth and competitiveness.
3. Towards the Self-Powered Internet of Things (IoT) by Energy Harvesting: Trends and Technologies for Green IoT
4. Recent Trends in Robotic Systems for Upper-Limb Stroke Recovery: A Low-Cost Hand and Wrist Rehabilitation Device
5. Computer-aided opportunities in modernization of residential buildings
6. Machine Learning Algorithms for estimating Powder Blend Composition using Near Infrared Spectroscopy
7. Application of Additive Manufacturing in Design & Manufacturing Engineering Education
8. Location-based Analysis and Optimization of Service Network Performance: A Case Study
9. Making Information Security Research Great Again: Assumptions and Practical Aspects of Case-Study Research in Information Security
10. Manufacturing SME's A Sustainable Approach - A Sustainable Leader
11. Automation of a paper-based waste tracking system

SIMS 2018 cont'd

12. Utilizing 3D Printing in Manufacturing Companies - Comparative Demonstration in a Company Case
13. Online innovation supports
14. Simulation and Programming Experiences of Collaborative Robots for Small-scale Manufacturing
15. Evaluation of Energy Measurements for Error Detection in Press-Fitting Processes
16. Environmental Management Toolkit for SMEs in the NPA – A Model of Engagemen
17. Case Study: Impact of Auxiliary Energy in Manufacturing Operations
18. The Devil is in the Detail: The Link Between Building Regulatory Processes, On-Site Inspection, Verification and Technology

The papers can be viewed on <https://ieeexplore.ieee.org/Xplore/home>.

Best paper winner



Christian Sand, Institute for Factory Automation and Production Systems, Friedrich-Alexander-University Erlangen, Germany, won best paper award for Evaluation of Energy Measurements for Error Detection in Press-Fitting Processes.



Gabor Sziebig, UiT - The Arctic University of Norway, Norway, Programme Committee Chair SIMS 2018 and Vincent Reynolds, CITC – Cavan Innovation and Technology Centre, Conference Secretariat.





TARGET Partners

The Lead Partner in the TARGET Project is South West College, Northern Ireland. At present, there are five other partners across Norway, Finland, Sweden and Ireland. Contact details for each of the partners are provided below.

South West College, 2 Mountjoy Road, Omagh, Co Tyrone, N. Ireland; BT79 7AH; Tel: 00448456031881; Email: edel.mccusker@swc.ac.uk; www.swc.ac.uk.

UiT - The Arctic University of Norway (formerly Narvik University College), Lodve Langes gate 2, 8505 Narvik, Norway; Tel: 0047 76966351; Email: hao.yu@uit.no; www.nuc.hin.no.

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Luleå University of Technology, Universitetsområdet Porson, 97187, Luleå, Sweden; Tel: 0046 920492061; Email: asaeri@ltu.se; www.ilt.se

Cavan Innovation & Technology Centre & Local Enterprise Office Cavan, Dublin Road, Cavan, Ireland; Tel: 00353494377277; Email vincentreynolds@cavanitc.ie marcellarudden@leo.cavancoco.ie www.cavanitc.ie www.localenterprise.ie/cavan

Local Enterprise Office Sligo City Hall, Quay Street, Sligo, Ireland; Tel: 0035371 9144779; Email: liamkiely@sligoenterprise.ie; www.localenterprise.ie/sligo

Each of the partner organisations have specialist skill sets focused on ensuring that the local and regional manufacturing base will be globally competitive and innovative through the utilisation of the advanced technology and digital manufacturing techniques available through the partnership.

For further information or queries regarding TARGET contact your regional project partner or our Lead Partner:

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