

10th WCEAM, Tampere, Finland

The 10th World Congress on Engineering Asset Management, WCEAM 2015 was held in Tampere Hall, Tampere, Finland from 28 – 30 September 2015. It was organised by the Technical University of Tampere (TUT) and VTT Technical Research Centre of Finland. A total of just over 130 delegates participated in this year's congress comprising academics, practitioners and scientists from 22 countries contributed over 90 papers and workshop sessions. The event comprised a pre-congress welcome reception followed by the full congress programme which included six keynote addresses, breakout sessions and panel discussions, the gala dinner and a closing session on the final day.

The objective of WCEAM is to bring together leading academics, industry practitioners and research scientists from around the world to:

- Advance the body of knowledge in engineering asset management,
- Strengthen the link between industry, academia and research,
- Promote the development and application of research, and
- Reinforce the critical need for our assets to deliver more sustainable outcomes.

The WCEAM2015 congress slogan was “**Keep and Grow value**”. “Value” is one of the key concepts in asset management. The recent international standard ISO55000 states that Asset management supports the realisation of value while balancing financial, environmental and social costs, risks, quality of service and performance related to assets. Thus value can take different forms – in addition to monetary value, the motivations for better management of assets may arise from environmental or social factors, from skills and competence development, from mitigation or adaptation to climate change or from sustainability targets. The various dimensions of value were addressed in panel discussions and in workshops, and in several conference papers.

For asset intensive businesses, Infrastructure and Asset Management is a high cost function whose optimisation is necessary to maximise the performance of assets to deliver profitability and long term sustainability. There is a realisation that superior performance can be delivered through enhanced strategic and operating decisions made by the board, the executive, and engineering personnel given their access to high quality information. Recent surveys indicate that 60% of asset managers are not confident that the information that is available to them fulfils this criterion. So decisions made based on this information are also questionable. It is clear that by improving information availability and quality decision makers (operational and strategic) are far better equipped to arrive at informed decisions and therefore better placed to manage profitability and long term business continuity.

The management of assets is a complex sequence of tasks now being pivoted on information systems. We live in the age of the information revolution which continues through the “Internet of Things”, Industrial Internet, “Internet of Services”, “Industry 4.0” and “Big Data”, where systems integration and connectivity and products providing asset intelligence are being contemplated for adoption by owner operators of asset intensive organisations.

Most organisations aspire to predict asset performance and gear their strategies and operations in accordance with the plant's (predictability) profile. Few organisations have reached this stage of maturity, nevertheless it remains a nirvana for leading visionaries and a key to long term competitive success. The information required to manage asset predictability is complex and deep. Industrial Internet could provide a novel, promising platform in managing assets at this level and its early establishment would be critical in the journey to a predictable asset performance state. A number of this year's congress presentations largely reflect this theme. We acknowledge the generous contributions of the following keynotes and closing speaker at this year's event:

- Dr Kari Komonen, Finnish Maintenance Society (Promaint), “Some fundamental issues within

strategic physical asset management”

- Professor Jayantha P Liyanage, University of Stavanger, Norway, “Assets under uncertain conditions: trends and scenarios”
- Dr Jari Hämäläinen, Cargotec, Finland, “Future of Engineering Asset Management”
- Professor Ming Jian Zuo, University of Electronic Science and Technology, China, “Dynamic modelling of mechanical systems for fault diagnosis and health management”
- Dr Johannes Gutleber, CERN, Switzerland, “Particle accelerators – pushing the frontiers of science and technology”
- Ype Wijnia, Asset Resolutions BV, Netherlands, “The asset management process reference model for infrastructures”
- Darren Covington, Mainpac, Australia, “Delivering Operational Effectiveness in Asset Intensive Industries through Asset Intelligence”

This year’s congress hosted two panel sessions both of which were convened by Professors Kerry Brown, Curtin University and Robyn Keast, Southern Cross University, Australia. They were:

- ISO 55000 Asset Management, “Provocation or Promise”
- Serious Gaming.

Panellists for the ISO 55000 Panel comprised Dr Kari Komonen, Finnish Maintenance Society; Dr Christoph Heinz, University of Applied Sciences, Switzerland; Dr Erik Helms Nielsen, CEO of Reliaset Denmark; Mr Alistair Crombie, GexCon Norway; Ing. Irene Roda PhD student, Politecnico di Milano, Department of Management, Economics and Industrial Engineering, Italy and Professor Joe Amadi-Echendu, Engineering and Technology Management University of Pretoria.

Questions that were directed to the panel included:-

- Do the ISO Asset Management Standards require a new way of working?
- Are the ISO Standards capable of being a blueprint for action?
- What does the future for asset management under ISO 55000 look like?”

Together with Assistant Professor Rob Schoenmaker, Delft Technical University, Professors Brown and Keast convened the session on Serious Games: Simulation & Learning for Asset Management “Learning to Fish the Common Pool”. Learning through Games, the session allowed participants to explore big issues through experiential activities such as:

- Expanding skill sets beyond technical expertise
- Integrating operational & managerial systems elements
- Identifying and operationalising changed emphasis from hard assets to service delivery through assets
- Highlighting human dimensions and behaviour, power dynamics, coalition building, diversity of stakeholder perspectives and agile responses.

The congress also hosted EFNMS (European Federation of National Maintenance Societies) workshop on Physical asset management. EFNMS has developed a workshop program which helps participants to understand the requirements of asset management system and the requirements of physical asset management at a practical level. This workshop was led by Erik Helms Nielsen from Reliaset in Denmark and Dr. Kari Komonen.



From Left, Joe Mathew, Michael Cholette, Helena Kortelainen, Lin Ma, Kari Koskinen

The Gala Dinner was held at the Tampere Hall which facilitated added networking amongst conference delegates. The best paper award was presented to Professor Lin Ma, Dr Michael Cholette and Dr Fengfeng Li, of Queensland University of Technology, Australia for their paper titled, “Reliability modelling for electricity transmission networks using maintenance records”.



Dr Komonen receiving the award from Joe Mathew, ISEAM Chair

This year’s Lifetime Achievement award for exceptional dedication and contribution to advancing the field of Engineering Asset Management was presented to Dr Kari Komonen of Finnish Maintenance Society (Promaint). ISEAM’s Lifetime Achievement Award recognizes and promotes individuals who have made a significant contribution to research, application and practice of a discipline or in engineering asset management over a continued period of time. This contribution may be a new innovation, new knowledge, or ways to improve professional practice in excess of the norm and have a lasting

impact in the field. The recipient must have exhibited leadership and inspired others on a national or international level. Dr Komonen is the third ever recipient of the award which was presented at the Gala Dinner of the 10th WCEAM.



The Professors Band

Another highlight of the evening was the performance of “The Professors’ Band” made up of six Professors of the TUT, who entertained the delegates at the congress dinner. The illustrious band was led by the Congress Chair.

Three post-conference workshops were also held at the VTT premises in Tampere to discuss the Service Solutions for Fleet management (S4 Fleet) programme “Digitization and business models for asset service

delivery”. The post-conference workshops were attended by 100 participants.

All full papers submitted for review, have been refereed by specialist members of a peer review panel for technical merit and will be published in the Congress proceedings by Springer Verlag in early 2016.

The Chairs are indebted to the Congress Organising Committee (OC) for the success of this congress. In particular, we would like to thank Jussi Aaltonen, Teuvo Uusitalo, Kari Komonen, Jouko Laitinen and Annukka Tiensuu for their splendid efforts in organising a very successful event.

WCEAM 2015 is the tenth in the annual series of peer reviewed conferences hosted under the auspices of the International Society of Engineering Asset Management (ISEAM) as its forum for exchange of information on recent advances in engineering asset management. After the inaugural WCEAM in July 2006 in the Gold Coast, Australia, through the support of various international bodies, ISEAM has hosted WCEAM 2007 in Harrogate, UK, Beijing, China in 2008, Athens, Greece in 2009, Brisbane, Australia in 2010, Cincinnati, USA in 2011, Daejeon City, Korea in 2012, Hong Kong in 2013 and Pretoria in 2014.

The next WCEAM which will be the 11th in the series, will be held in conjunction with the 2016 QR2SME from 25 – 28 July 2016 in Jiuzhaigou, Sichuan China while WCEAM 2017 will be held in Australia. Details will become available at www.wceam.com in due time.

Prof Kari T. Koskinen
Congress Chair

Helena Kortelainen
Co-Chair

Prof Seppo Virtanen
Co-Chair

Adj. Professor Joseph Mathew
Co-Chair