



WCEAM VETOMAC 2017 Report

The 12th World Congress on Engineering Asset Management was held jointly with the 13th Vibration Engineering and Technology of Machinery on 2-4 August 2017 at the Brisbane Convention and Exhibition Centre. It was organised by the Asset Institute, and hosted annually by the International Society of Engineering Asset Management (ISEAM).

This year's event shared two themes: "Asset Intelligence through Integration and Interoperability: From Research to Industry" and "Creative and Novel Research for Contemporary Vibration Engineering Technologies" and attracted 244 delegates from 28 countries.

The offerings were rich and diverse. The Opening Ceremony hosted the following speakers:

- Adjunct Professor Joseph Mathew, Asset Institute CEO and Congress Chair.
- Professor Joe Amadi-Echendu, ISEAM Chair, University of Pretoria, South Africa
- Professor C W Lim, City University of Hong Kong, China (VETOMAC)
- Professor John Bell on behalf of Professor Arun Sharma, Deputy Vice Chancellor, Queensland University of Technology
- The Opening Address by the Lord Mayor Graham Quirk, Lord Mayor of Brisbane, Australia.
- The Opening Address by the Platinum Sponsor, Mr Darren Covington of Mainpac who spoke on, "Delivering Operational Effectiveness in Asset Intensive Industries through Asset Intelligence".

The event hosted seven keynotes, a dinner speaker, 14 special sessions on several application and discipline streams, three mini-courses, three workshops and three panel discussions.

Our keynotes this year were:

1. Alan Johnston, MIMOSA & Standards Leadership Council, USA & Jess B. Kozman, Professional Petroleum Data Management (PPDM) Association, Singapore. "Intelligent Integration and Interoperability of Critical Infrastructure and Assets".
2. Professor Kerry Brown, Edith Cowan University, Australia, "Engineering Asset Management: Understanding the Management Element".
3. Associate Professor Marco Macchi, Politecnico di Milano, Italy, "The 4th Industry Revolution: Reflecting on the opportunities, barriers and risks for asset management".
4. Professor Romuald Rzakowski, Airforce Institute of Technology, Poland, "Asset Management through life estimation".
5. Professor Tang Loon Ching, National University of Singapore, "Systems Resilience: a Unifying Framework and associated measures".
6. Professor Klaus Blache, University of Tennessee, USA, "Technologies and Asset Management: What is really going on in Industry".
7. Professor J P Liyanage, Cluster for Industrial Asset Management, University of Stavanger, Norway, "High Risk Assets under uncertain conditions: strategic imperatives and new initiatives towards defensive solutions in a rapidly changing environment".

The dinner speaker was Dr Paul Simshauser, Director General, Department of Energy and Water Supply, Queensland Government, who spoke on "Energy industry – challenges ahead".

150 management and technical presentations reported on outputs of research and development activities as well as the application of knowledge to industry and government in the practical aspects of the various themes that comprises

Engineering Asset Management and Vibration Engineering. These papers and presentations have been made available for the personal reference of delegates via an eProceedings Dropbox repository and are not for distribution.

Full Papers will be further peer reviewed by two members of the Scientific Committee and if accepted will be published in the Congress ebook proceedings by Springer Verlag. The proceedings is expected be published in the first quarter of 2018.

The Congress was augmented with a series of three interactive workshops.

The first of these workshops was entitled "The Long Future Sustainability for Asset Managers" in which David Hood and Guy Lane encouraged participants to think about and discuss their individual mind-sets and roles as asset managers in influencing and creating a sustainable future for our planet. At the workshop, David remarked that the principle of sustainability is often confined to the financial sense rather than encompassing a more holistic and long term sense by including environmental sustainability.

Jess Kozman, a Regional Representative of the Professional Petroleum Data Management Association and independent data management practitioner, lead a workshop on the evaluation of data management maturity in relation to engineering assets. The workshop took participants through a short exercise in which a range of survey questions were used to establish the data management maturity of the participant's organisations. The workshop was attended by participants from a broad range of industries and backgrounds. Some practical ideas in relation to the application of maturity surveys were given by Jess.

Fostering the development of Engineering Asset Management Programs at Higher Educational Institutions via Recognition was the subject of the final workshop. A highly interactive discussion was led by Professor Joe Amadi-Echendu, Chair of the International Society for Engineering Asset Management. Participants discussed the merits of recognition rather than accreditation of programs, the development and custodianship of the Asset Management Body of Knowledge and made comparisons between Asset Management and the Project Management Institute and their development path.

Three mini-courses were conducted on the final day of the Congress. Alan Johnston from MIMOSA led the training session entitled "The open industrial interoperability ecosystem, a supplier-neutral digital ecosystem, enabling critical infrastructure and industrial asset management". Professor Romuald Rzadkowski from the Polish Academy of Sciences conducted the course "Life estimation and exact time of failure of last stage steam turbine blades". Dr Carla Boehl from Curtin University held a training session on Mine Autonomous Haul System: Assessing the Impact in Asset Management. Each of the mini-courses was well attended.

The generous support of our Sponsors are acknowledged. They were our Platinum Sponsor, Mainpac, our Silver Sponsors, Brisbane City Council, Schneider Electric and the Fredon Group. Bronze Sponsors: QUT, Synengco, NMEMS Japan, K2Fly and Redeye, as well as our Exhibitors, Asset Finda, SAVTek, Springer and Request Direct.

Also acknowledged were our Partners who assisted us in organizing this event and providing some of our key speakers, ie, MIMOSA, PPDM, the Vibration Institute of India, the IFAC A-MEST Working Group, the 2017 Global Business Challenge and NCCARF, Australia.



:Figure 1: A/Professor Rob Perrons receiving the award from Professor Mathew, Congress Chair with Professor Markus Stumptner on left.

This year ISEAM gave out two awards for the Best Paper Award, one for the Management category and the other for the Technical category and acknowledged the runner-ups as well. These were:

Management

Winner: "Analysing an Industrial Safety Process through Process Mining: A Case Study"

Authors: Anastasiia Pika, Arthur H.M. ter Hofstede, Robert K. Perrons, (QUT) and Georg Grossmann, Markus Stumptner, (University of South Australia), and Jim Cooley (Origin Energy).



Figure 2: Mr Norihiko Ogura receiving the award from the Congress Chair

Runner Up: "Semiparametric valuation of heterogenous assets" Authors: Roar Adland and Sebastian Köhn, Norwegian School of Economics (NHH), Norway.

Technical

Winner: "Efficient Evaluation of Internal Concrete Damage of Steel Plate-bonded RC Slabs". Authors: Norihiko Ogura, CORE Institute of Technology Corp, Hitoshi Yatsumoto, Hanshin Expressway Company Ltd and Takahiro Nishida and Tomoki Shiotani, Kyoto University.

Runner Up: Joint Optimization of Preventive Maintenance and Spare Parts Logistics for Multi-echelon Geographically Dispersed System. Authors: Keren Wang and Dragan Djurdjanovic, University of Texas at Austin, USA.

This year's ISEAM Lifetime Achievement award for exceptional dedication and contribution to advancing the field of Engineering Asset Management was presented to Emeritus Professor Robert B Randall, University of New South Wales, Australia. 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.

The Congress Chair was especially honoured by the International Society of Engineering Asset Management (ISEAM) this year with a Lifetime Achievement Award for his exceptional dedication and contributions to advancing the field of Engineering Asset Management. He is the 5th recipient of this award since the formation of the Society in 2006.

In addition, ISEAM further honoured the Congress Chair with a Pioneer Award in recognition of his foundational contributions to ISEAM as its Founder and Chair of the Board in its first 11 years. The awards were bestowed by the ISEAM Chair, Professor Joe Amadi-Echendu, University of Pretoria, South Africa.

The event was a resounding success judging from the feedback of the delegates and the program may be used in future WCEAMs' as a template for trans-national, trans-sectoral, and transdisciplinary knowledge sharing events in asset management going into the future.



Figure 3: Professor Randall receiving the Lifetime Achievement Award from the ISEAM Chair



Figure 3: Professor Mathew receiving the Lifetime Achievement Award from the ISEAM Chair

We are grateful for all the voluntary assistance provided by members of the International Scientific Committee, the Organization Committee, and the Conference Secretariat.

In particular we acknowledge the efforts of the Organising Committee Co-Chaired by Don Sands, Synengco and Professor Lin Ma, Queensland University of Technology with members - Professor Kerry Brown, Edith Cowan University, Australia, Professor Andy Koronios, University of South Australia, Australia, Professor Robin Drogemuller, Queensland University of Technology, Australia, Professor Ashantha Goonetilleke, Queensland University of Technology, Australia, Jess Kozman, PPDM, Singapore – Industry sectors, Dr Steve Pudney, Queensland University of Technology, Australia – Industry sectors, Dr Paul Shantapriyan, University of Tasmania, Australia, Professor Andy Tan, Universiti Tunku Abdul Rahman, Malaysia, Professor Terry Lin, Qingdao University of Technology, China, Elise Sommer, Professional Petroleum Data Managers (PPDM) Association, Canada, Lucas Skoufa, Queensland University of Technology, Australia, Professor Belle Upadhyaya, University of Tennessee, USA, Dr Jeremy Novak, Centaur Institute, Australia, Mario Bojilov, MBS Conventions, Australia and Betty Goh, Asset Institute, Australia.

Congress Chairs and Co-Chairs:

Adjunct Professor Joseph Mathew, Chair

Alan Johnston, Co-Chair

Dr Trudy Curtis, Co-Chair

Professor Chee Wah Lim, Co-Chair

Professor Marco Macchi, Co-Chair