



ASSET MANAGEMENT AND ENGINEERING – IMPROVING MAINTENANCE, RENEWALS AND TECHNICAL QUALITY



What is Asset Management and why do we need it?



Formulating Risk-Based Asset Replacement Policy



Enhancing Asset Management with Technical Quality



Digital Asset Management Analytics and Predictive Maintenance



Mr Michael Patterson
Principal Consultant & Lead
AMCL



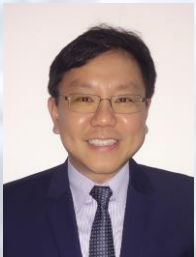
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for more information

Date: 4 November 2020, Wednesday
CPD: PDU's for PEs and CEngs (All TBC)
Time: 3.00pm to 5.30pm
Fees: \$15 (Members) / \$20 (Non Members)
(Fees exclude GST)

SYNOPSIS AND SPEAKERS PROFILE

WHAT IS ASSET MANAGEMENT AND WHY DO WE NEED IT ?

Asset Management is a discipline and about the lifecycle management of assets. Asset Management is often misunderstood, thought to be primarily about the maintenance of assets.

Asset management is concerned about all activities associated with getting the most value from the assets which are used to achieve the organisation goals and objectives.

This includes activities associated with human resource management, strategy, planning, procurement, engineering, risk, performance and activities associated with the operations and maintenance of equipment.

Organisations who don't practice good asset management carry hidden risk(s) which may result in tragedy, waste of money, resources, teams and processes that are disjointed. There is a lot of firefighting happening and organisation is not making headway or improvements. Whether you are an Engineer, Para-professional, Asset Manager or a member of top management, you play a role in asset management.

How well is asset management practised in your organisation and/or entrenched in your culture?. What is your role in asset management ?

This 40 min talk is about promoting the benefits of asset management and is presented by Mr Richard Edwards and Mr Michael Patterson of AMCL – an international leading asset management consultancy with offices across the world including Singapore.

This talk will provide cover the following key topics

- Overview of what is good asset management and what is can deliver to your organisation
- Drivers for Asset Management and ISO 55001
- People in Asset Management
- Asset Management Maturity Journey
- Asset Management in Singapore

Mr Richard Edwards is a Chartered Engineer and is the Global Technical Director of AMCL and is the technical authority for the development of products and services within AMCL.

He regularly undertakes independent assessments of asset intensive businesses and facilitates executive level discussions to agree strategic improvement opportunities. He is the Independent Reporter for Transport for Wales where he provides independent assessments of the Operator and Development Partner charged with regenerating the rail network around Cardiff.

He advises a range of infrastructure owners and regulators on Asset Management and related business issues. Richard is a Past President of the Institute of Asset Management UK and a member of Council for the Global Forum on Maintenance and Asset Management.

Mr Michael Patterson is an experienced asset manager, trained business leader and consultant and is currently the Principal Consultant and Lead for AMCL's business in Asia.

He has close to 20 years' experience in the management of infrastructure assets which he achieved from a diverse career delivering in numerous roles; operational and maintenance engineering; major capital delivery; managing commissioning and managing the lifecycle of multibillion-dollar portfolios of water and wastewater infrastructure.

Michael has led large multidisciplinary asset management and technical teams and has designed and implemented Public Private Partnership model for a Government utility to drive greater productivity and commercial focus for its Operations, Maintenance and Asset Management functions.

As a professional consultant, Michael has provided specialised asset management advisory across Australia and South East Asia in numerous sectors including aviation, water, health, government, power, etc.

SYNOPSIS AND SPEAKERS PROFILE

FORMULATING RISK-BASED ASSET REPLACEMENT POLICY

A traditional replacement approach often involves fixed replacement criteria, which are normally being defined for each specific equipment type. The main drawback of this approach is that no account is made for the differences in stress history or in the impact and thereby the risk of failure: within a specific asset class, critical assets follow the same criteria as non-critical assets, leading to (too) high replacement volumes and (too) early replacements.

This presentation is about how to formulate a risk-based replacement process, staying away from fixed replacement criteria. Rather than simply replacing these assets, only these assets (and only these assets) they are subjected to a risk assessment by estimating the probability and impact, using the risk matrix. Next, the optimum solution for mitigating the risk is defined. This may consist of replacement, but it may just as well be refurbishment, intensification of maintenance, or even accepting the risk.

Mr Sungin Cho is currently working as Deputy Director and Principal Investigator (PI) in SP Group - NTU Joint Laboratory. His main role is to set up and carry out research projects with NTU principal investigators in the domain of risk-based asset management such as risk matrix, asset health index modelling, failure statistical modelling, and various optimization of decision-making process for electrical utility context. Sungin has varied asset management relevant experience for electrical infrastructure such as risk-based decision-making process, risk assessment and integrity study based on asset condition and Failure investigation for the root cause analysis and recommendation on mitigation

ENHANCING ASSET MANAGEMENT WITH TECHNICAL QUALITY

At the current times, due to demands for high efficiency, performance and optimization of utilising assets, asset owners are struggling with managing the end of electrical asset life, operating the power network at manageable risk levels, and increasing the quality of service.

This requires a new framework for asset management which allows asset owners to have a better understanding and visibility of their assets, thus enabling appropriate decisions to be made in terms of the allocation of investments required to operate and manage their asset portfolio.

While international AM standards such as the ISO 55000 series provide an internationally accepted framework, terminology and structure, they do not propose industry-specific guidelines. Thus asset owners should incorporate the proper technical content in their asset management system when developing a roadmap and corresponding implementation plan.

Er. Desmond Ng is a registered Professional Engineer and licensed Electrical Worker in Singapore, Chartered Electrical Engineer with ECUK and ASEAN Chartered Professional Engineer.

He is also a member of several engineering institution and technical committee in the Standards Council.

Desmond has extensive experience on transmission and distribution power systems ranging from project development, engineering, delivery and asset utilization of electrical assets and systems in the utility and oil & gas industry.

He is currently a Head of Section and Senior Consultant for network asset management team in DNV GL – Energy in Singapore, providing regional technical excellence services to customers within the APAC region.

DIGITAL ASSET MANAGEMENT ANALYTICS AND PREDICTIVE MAINTENANCE

With the ubiquity of data through the use of condition monitoring, industrial automation systems and networks, big data and data analytics can enable new ways in how asset information and data can be used in Asset Management and Maintenance.

The presentation will introduce ideas and applications in using such asset information and data with analytics to improve reliability management, adoption of Predictive Maintenance tenets and delivery of asset management outcomes.

Mr Leow Meng Fai is a Chartered Engineer in System Engineering from the Institution of Engineers, Singapore (IES) and he is the Chairman of Asset Management Technical Committee in IES.

He is currently 2Dy Group Director of Rail Asset Operations and Maintenance Group in LTA. He looks after the rail asset renewal planning, life cycle management as well as use of asset information and data for maintenance and asset management.