



# Programme:

## Day I - 12th December 2012

- 08:30-10:00 Registration
- 10:00-12:00 **Workshop I - eMaintenance Challenges for Railway**  
Room: Olga Bardh  
Chaired by: Christian Eriksson, The Swedish Transport Administration
- Data Harvesting**  
Dan Larsson, Damill AB
- Data Presentation**  
Ramin Karim, Luleå University of Technology
- Data to Decision**  
Thomas Nordmark, MTAB
- 10:00-12:00 **Workshop II - eMaintenance in Process Industry**  
Room: VIP rum  
Chaired by: Anders OE Johansson, ProcessIT Innovations
- eMaintenance and automation at LKAB**  
Carina Persson, LKAB
- KPI for Mining Industry**  
Aditya Parida, Luleå University of Technology
- eMaintenance Challenges for Process Industry**  
Robert Karlsson, SSAB EMEA
- Production reliability at SCA:s Paper Mill in Ortviken**  
Nicklas Holfeldt, SCA Ortviken.
- 12:00-13:00 Lunch break
- 13:00-16:00 **Visit to the Railway way-side research station Visit to LTU and eMaintenance LAB**
- 18:00-19:30 **Outdoor winter activities at Brändön**  
(no extra clothing needed)
- 19:30-22:00 **Traditional swedish christmas dinner "julbord" followed by Lucia celebrations**  
(dress casual)

## Day II - 13th December 2012

- 07:30-08:30 Registration
- 09:00-09:30 **Opening ceremony**  
Rooms: Lilla salen
- 09:00-09:10 Welcome  
Room: Lilla salen
- 09:10-09:30 Karl Petersen, Municipal Governer  
Johan Sterte, Luleå University of Technology  
Vice Chancellor
- 09:30-10:00 **Keynote - Prognostics and Systems Health Management for Sustainability**  
Room: Lilla salen  
Michael Pecht, University of Maryland
- 10:00-10:30 **Keynote - eMaintenance in Transport System**  
Room: Lilla salen  
Christian Eriksson, The Swedish Transport Administration
- 10:30-10:45 Coffee break
- 10:45-11:15 **Keynote - Health Monitoring and Ongoing Initiatives to Prepare Future Aircraft Maintenance**  
Room: Lilla salen  
Christophe Bordry, Airbus industries
- 11:15-11:45 **Keynote - Evolution of Aircraft Maintenance Development**  
Room: Lilla salen  
Tomas Lagerberg, ABB
- 11:45-13:00 Lunch
- 13:00-14:20 **Session I (eMaintenance Railway I)**  
Room: Lilla salen  
Chaired by: Peter Söderholm, Trafikverket
- 13:00-13:20 **The Use of Laser Based Trolley for Railway Switch and Crossing Inspection**  
Marius Rusu, Clive Roberts and Stephen Kent
- 13:20-13:40 **Data to Decision through Contextual Presentation of Railway Infrastructure Performance**  
Christer Stenström, Karina Wandt and Aditya Parida
- 13:40-14:00 **Prognostic and Health Management of Wheel Condition: Integration of Wheel Defect Detection and Wheel Profile Monitoring data**  
Matthias Asplund, Stephen M. Famurewa and Matti Rantatalo
- 14:00-14:20 **Improvement of Configuration Management in Railway Signalling System**  
Amparo Morant, Phillip Tretten, Ramin Karim and Diego Galar
- 13:00-14:20 **Session II (eMaintenance Aviation)**  
Room: Olga Bardh  
Chaired by: Dr Christian Delmas, Airbus Industries
- 13:00-13:20 **Handheld Maintenance Workstation, the mechanic's key to the aircraft**  
Torbjörn Fransson and Olov Candell
- 13:20-13:40 **Simulation as Support for PBL Contract Design**  
Olle Wijk and Patric Andersson

- 13:40-14:00 **Applying an Integrated Systems Security Engineering Approach within Aviation eMaintenance**  
Timothy Tinney and Olov Candell
- 14:00-14:20 **Augmented Reality as a New Level for maintenance Efficiency**  
Rúben Oliveira, José Torres Farinha, Inácio Fonseca, Luís Andrade Ferreira and Fátima Armas
- 13:00-14:20 **Session III (eMaintenance I)**  
Room: VIP rum  
Chaired by: Prof P.S. Heyns, University of Pretoria
- 13:00-13:20 **Current and Prospective Information and Communication Technologies for the E-maintenance Applications**  
Jaime Campos
- 13:20-13:40 **Case-Based Reasoning Supports Fault Diagnosis Using Sensor Information**  
Ning Xiong, Tomas Olsson and Peter Funk
- 13:40-14:00 **Framework for Design and Performance Evaluation of Effective Condition Monitoring and Maintenance Management Systems**  
Reza Farahani and Michael G. Lipsett
- 14:00-14:20 **Usability Aspects of eMaintenance Solutions**  
Karina Wandt, Phillip Tretten and Ramin Karim
- 14:20-14:40 Coffee break
- 14:40-16:30 **Workshop III - eMaintenance in civil and military aviation - challenges and possibilities**  
Room: Lilla salen  
Chaired by: Dr Olov Candell, Saab Technologies and Luleå University of Technology
- Matching eMaintenance capabilities onboard and on the ground**  
Christophe Bordry, Airbus Industries
- eMaintenance and cost effectiveness**  
K.M. Ali, Boeing
- eMaintenance based services - improving customer and supplier collaboration?**  
Christian Delmas, Airbus Industries
- 14:40-16:20 **Session IV (eMaintenance II)**  
Room: Olga Bardh  
Chaired by: Prof Torres Farinha, University of Coimbra
- 14:40-15:00 **Reliability Predictions based on Failure Rates with Respect to Aging Conditions**  
Jakob Krause and Klaus Kabitzsch
- 15:00-15:20 **Condition monitoring of oil and gas subsea electrical equipment - Case study Åsgard subsea compression project**  
Hermanto Ang, Tore Markeset and Tor Ole Bang-Steinsvik
- 15:20-15:40 **A Study of Wireless Vibration Sensors for Monitoring Bearing Faults**  
Mustafa Aliwan, F. Gu and A. Ball
- 15:40-16:00 **Re-Design of AC Excitation Busduct based on Infrared (IR) Thermography Analysis: Power Plant Condition-Based Monitoring (CBM)**  
S.Gopinath and Abdul Razak b. Jamin

- 16:00-16:20 **Machine Health Monitoring: An Integrated Maintenance Approach**  
Mahantesh Nadakatti, Sarbjeet Singh, Aditya Parida and Uday Kumar
- 14:40-16:20 **Session V (eMaintenance III)**  
Room: VIP rum  
Chaired by: Prof Peter Funk, Mälardalen University
- 14:40-15:00 **Numerical Simulations of Effects of Faults in a Vertical Axis Wind Turbine's Performance**  
Atif Shahzad, Suman Pradhan, Taimoor Asim, Rakesh Mishra and Kyoo-Seon Park
- 15:00-15:20 **Computational Fluid Dynamics based Performance Optimisation of Vertical Axis Marine Current Turbines**  
Kyoo-Seon Park, Taimoor Asim, Rakesh Mishra, Atif Shahzad and Gilbert Mirangwanda
- 15:20-15:40 **Application of Particle Swarm Optimization Approach in the Inflationary Inventory Model under Stochastic Conditions**  
Seyed Mostafa Orand, Abolfazl Mirzazadeh and Farzaneh Ahmadzadeh
- 15:40-16:00 **Multi-objective reliability allocation problem**  
Jalal Safari and Farzaneh Ahmadzadeh
- 16:00-16:20 **On the Integration of Wear Model into Dynamic Analysis for Rolling Element Bearing**  
Idriss El-Thalji and Erkki Jantunen
- 16:30-18:00 **Sightseeing - Gammelstad Church Town and Luleå**
- 19:30-22:30 **Congress Banquet and entertainment**  
(dress casual)

## Day III - 14th December 2012

- 09:00-09:30 **Keynote - Integrated Logistic Support with eMaintenance**  
Room: Lilla salen  
Laurence Earl, Saab Technologies
- 09:30-10:00 **Keynote - Status and outlook of eMaintenance in aviation**  
Room: Lilla salen  
K. M. Ali, Boeing
- 10:00-10:30 Coffee break
- 10:30-11:00 **Keynote - Evolution of Aircraft maintenance development**  
Room: Lilla salen  
Christian Delmas, Airbus Industries
- 11:00-11:30 **Keynote - eMaintenance makes Business Sense: A State-of-the-Art Review**  
Room: Lilla salen  
Raj B. K. N. Rao, COMADEM International
- 11:30-13:00 Lunch
- 13:00-14:40 **Session VI (eMaintenance Railway II)**  
Room: Lilla salen  
Chaired by: Vivianne Karlsson, Banverket
- 13:00-13:20 **Control charts for assessment of linear asset condition using both temporal and spatial information**  
Bjorne Bergquist and Peter Söderholm

- 13:20-13:40 **Information logistics for continuous dependability improvement**  
Per Norrbin and Peter Söderholm
- 13:40-14:00 **Holistic Maintenance Information with Multi-layers of Contractors**  
Mikael Palo, Isabelle Lindsund and Per-Olof Larsson-Kräik
- 14:00-14:20 **E-Monitoring of Operation and Maintenance Task under Difficult Visual Work Environment**  
Ravdeep Kour and Ramin Karim
- 14:20-14:40 **Evaluation of Data for Traction Frequency Converters: Using the IEEE Std 762**  
Yasser Mahmood, Alireza Ahmadi and Ramin Karim
- 13:00-14:40 **Session VII (eMaintenance IV)**  
Room: Lilla salen  
Chaired by: Dr Jaime Campos, Linnaeus University
- 13:00-13:20 **New Idea to Estimate the Reliability and Failure Probability with quantitative Methods for Critical Applications**  
Ossmane Krini and Josef Börcsök
- 13:20-13:40 **Modified Physics of Failure approach for prediction of Electronic Components**  
Adithya Thaduri, A K Verma, Gopika Vinod, Rajesh Gopinath and Uday Kumar
- 13:40-14:00 **eMaintenance Related Ontologies**  
Mustafa Aljumali, Karina Wandt and Ramin Karim
- 14:00-14:20 **Information Security in eMaintenance - a study of SCADA Security**  
Yamur K. Al-Douri, Mustafa Al-Jumali and Ramin Karim
- 13:00-14:20 **Session 8 (eMaintenance V)**  
Room: Lilla salen  
Chaired by: Prof Tore Markeset, University of Stavanger
- 13:00-13:20 **e-Monitoring for haul road maintenance in mining applications**  
PS Heyns, HM Ngwangwa, T Heyns and SF van der Westhuizen
- 13:20-13:40 **CMMS Benchmarking Development in Mining industries**  
Yonas Lemma, Stephen M. Famurewa, Diego Galar, Håkan Schunnesson and Jonas Fjellner
- 13:40-14:00 **Urban Road Transports E-maintenance, supported in HMM**  
António Simões, José Torres Farinha, Inácio Fonseca and Fernando Maciel Barbosa
- 14:00-14:20 **A new approach for the diagnosis of maintenance state**  
Hugo Raposo, José Torres Farinha, Inácio Fonseca and Luís Andrade Ferreira
- 14:20-14:40 **Lean versus Kanban - An Actual Paradigm**  
Pedro Dias, José Torres Farinha, Inácio Fonseca and Luís Andrade Ferreira
- 15:00 **Closing Session**  
Coffee break

