



## Singapore-Dutch Seminar on New Developments in MRO Technologies

**Date:** 23 February 2016, Tuesday

**Time:** 12.00pm – 17.00pm (Registration starts from 12.00pm)

**Venue:** SIMTech Auditorium, Tower Block, Level 3,

Singapore Institute of Manufacturing Technology

71 Nanyang Drive, Singapore 638075

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### Introduction

Through this joint Singapore-Dutch seminar, SIMTech, together with Dutch industry experts aim to introduce disruptive innovations into the maintenance processes in Aerospace and in other industrial sectors. “Maintenance processes of tomorrow” will be driven by the need for sustainability, social responsibility and social acceptance in close relationship with improvement of productivity, maintaining and increasing added value and global market access. The introduction of robotic solutions, advanced inspection & composite repair techniques associated with advanced simulation modelling and training methods will change the way of doing (maintenance) business forever. The maintenance market for Singapore and Dutch companies is very much a global market that requires a global solution, hence the need to form global partnerships.

### Programme

12.00pm	Registration & Lunch
<b>1.00pm</b>	<b>Welcome Address</b>
1.05pm	<b>Surface Treatment Technology</b> by Mr Paul van Ijsselstein, LR Systems
1.35pm	<b>Virtual Maintenance Training</b> by Mr Rudi Dullens, BlueTea
2.05pm	<b>Vacuum Assisted Thermography for NDT</b> by Dr Isakov Dmitry, SIMTech
2.35pm	<b>Laser Aided Additive Manufacturing (LAAM) for Engine Component Repair</b> by Dr Bi Guijun, SIMTech
3.05pm	Tea Break & Networking
3.35pm	<b>Composite Repair and NDT Technology</b> by Mr Rick van Opdorp, ACRATS
4.05pm	<b>Industrial Robot Processing</b> by Dr Lin Wei, SIMTech
4.35pm	<b>Teleoperation, Simulation and Process Planning</b> by Dr Cornelis Heemskerk, Heemskerk Innovative Technology
5.05pm	End of Seminar

## About the Speakers



**Mr Paul van IJsselstein BSc** is CEO of LR Systems BV, a new start-up that was established in September 2014 for the development, production, support, marketing and sales of the Laser Coating removal Robot (LCR), a fully automatic, robotised, fast and sustainable state-of-the-art solution for stripping paint and coatings from aircraft and helicopters. Paul has more than 30 years' experience in the aerospace sector and has provided industrial leadership to many small- and medium size business and has been instrumental in developing new "MRO product-market combinations" through market and product research and innovation. He is specialised in using an 'out of the box' approach to achieve real breakthrough and unique 'best of industry' MRO solutions for a global market. During his career Paul has worked for companies such as Fokker, Airbus Space & Defence, Thales and Boeing and had postings in the UK, USA and Australia.



**Mr Rudi Dullens** is co-founder and CEO of BlueTea, a company that he founded in 2014 and that is specialised in virtual maintenance training, interactive simulation and serious gaming. Mr Dullens started his career in the 90's and was educated as technical engineer followed by various courses in leadership and technology. From 1993 until 2014 he was Chief Technology Officer at Stepco (annual turn-over of >Euro 12 Mio and >110 technician and engineers). His specialisations include development of software and simulation applications, embedding innovative technology such as Serious Gaming, Virtual Reality, Augmented Reality and Intuitive (haptic) Devices. Within BlueTea Mr Dullens is developing an intelligent software platform that enables fast development of simulations, serious games and virtual maintenance training applications. This platform, that drives the simulation technology is known as Virtual Studio.



**Dr Isakov Dmitry** has received M.Sc in Physics from Moscow State University and Ph.D in Electrical & Computer Engineering from National University of Singapore. From 2008 he is working as research Scientist in Singapore Institute of Manufacturing Technology. His original research focus was semiconductor failure analysis and his work received several local and international research awards. From 2011 he has got an opportunity to apply his knowledge in Aerospace NDT through development of advanced thermography NDT, which resulted already in two filed patents. He has also successfully completed two projects in collaboration with The Boeing Company within Aerospace Programme of Singaporean Agency for Science Technology and Research (A\*STAR).



**Dr Bi Guijun** is a Research Scientist and Team Lead with the Joining Technology Group in SIMTech since 2008. He received his PhD in laser material processing from Fraunhofer Institute for Laser Technology and RWTH Aachen University, Germany in 2004. Before joining SIMTech, he worked as a Research Fellow at Rolls-Royce Technology Center in School of Mechanical, Materials and Manufacturing Engineering, University of Nottingham, UK. His research concentrates on Laser Aided Additive Manufacturing (LAAM) for surface modification, repair and 3D AM, process monitoring and control for applications in Aerospace, Marine, Oil & Gas, PE etc. He has published more than forty peer reviewed journal and conference papers with several patents, trade secret and technology disclosures related to LAAM, welding and cladding. His research outcomes has also been adopted and licensed to local companies in marine turbo-charger MRO and Oil & Gas industries.



**Mr Rick van Opdorp** is owner of ACRATS Training Services and Composite Trade since 2013. Both organisations are start-ups. Mr van Opdorp started his career in the Royal Netherlands Airforce, after completing the 4 year vocational training program at the Aircraft Maintenance & Training School as aircraft engineer. As a specialist in structural repair he received further training at Boeing Training Systems & Services, the Eurocopter Training Academy and the Agusta Westland Training Academy. During his time in the Airforce, he built-up a significant knowledge of structural repair and inspection methods, particularly for helicopters. After retiring from the Airforce he started his own company and developed a unique practical & training concept for metal and composite structural repair. In 2015 he participated in a feasibility study into the repair of a primary structure for a maritime application in close relationship with a NDT inspection method.



**Dr Lin Wei** is a Senior Scientist with the Mechatronics Group in SIMTech. His research interests are in the areas of industrial robotics, vibration suppression for high-precision motion systems, and non-destructive testing methods for composites. He is an Adjunct Associate Research Professor at the Mechanical Engineering Department of NUS, and a NGS/AGS supervisor at NUS. Dr Lin has been a technical and project leader for more than 50 major industrial projects for the precision engineering, marine, aerospace, and electronics industries. These projects included automated wafer inspection, non-destructive testing (NDT) for aircraft composites, automated palletising system for high-mix items, high-precision hot-embossing, and automated welding of large structures. He is the course leader of PE WSQ Graduate Diploma in Precision Mechatronics..



**Dr Cornelis Heemskerk** MSc is CEO and owner of Heemskerk Innovative Technology. After his MSc in Mechanical Engineering at the University of Delft in 1985, Dr Heemskerk worked as a visiting scientist at the Carnegie Mellon University in robotics and artificial intelligence and returned to the University of Delft as research assistant working in the field of methodology development for computer aided process planning for robotic assembly. After completing his PhD in Technical Sciences in 1990 he started to work for Fokker Space (now Airbus Space & Defense) as lead engineer with responsibility for the technical coordination of software development of the ESA European Robotic Arm project. He started his own company in 2007 and became intimately involved in a remote handling and robotic control programs for the International Thermonuclear Experimental Reactor, European Space Agency and the Nuclear Research and Consultancy Group. Dr Heemskerk is a member of the Review Board that oversees the development of the Laser Coating removal Robot.

### Who Should Attend

Senior management, engineering or operation managers, engineers, inspectors, supervisors.

### Registration

This is a non-chargeable seminar. To register online, please [click here](#).

### Contact Us

For more information, please contact:

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