

## EDA – Industry standardization conference 04 April 2013

### EDA Standardization management and introduction to standardization relevant EDA projects, Mr Christian Schleippmann & Ms Isabelle Desjeux



Mr Christian Schleippmann is a Principal Officer Armaments Cooperation at EDA where he has been working since 2008. He is responsible for materiel standardization management at EDA and as such secretary of the Material Standardization Group (MSG), chairman of the Joint Maintenance Committee for the European Defence Standards Reference system (JMC EDSTAR) and involved in further standardization groups both at EDA and at other standardization stakeholders.

Ms Isabelle Desjeux is Project officer Industry & Market Directorate at EDA since 2011. She is mainly contributing to the assessment and analysis of the European Defence Equipment Market but also assist to the development of key industrial capabilities analysis through the monitoring and implementation of Key Industrial Capabilities (KIC) Future Land Systems study.

### EDA Standardization management and introduction to standardization relevant EDA projects

The presentation gives an overview about the Defence Standardization stakeholders and introduces to the two EDA standardization management portals:

- The European Defence Standardization Information System (EDSIS) available at [www.eda.europa.eu/edsisweb](http://www.eda.europa.eu/edsisweb),
- and the European Defence Standards Reference system (EDSTAR) available at [www.eda.europa.eu/edstar](http://www.eda.europa.eu/edstar) .



Furthermore an introduction to the EDA standardization relevant projects “Future Land Systems Study” and the “Harmonization of Ammunition Qualification” is presented.

**Future Land Systems – The Challenge of Standardizing Interfaces between Platforms and Software, Rheinmetall Waffe Munition GmbH,  
Dr Claudia Urbanovsky**



Dr Claudia Urbanovsky was NATO Civil Standards Coordinator at the NATO Standardization Agency until 2007. Before, she represented a major German defence company in the Russian Federation. Over the last years, she has been contributing to several EDA studies in the field of Standardization, Ammunition and Land Systems. She is especially interested in the cooperation between civil and military standardization organizations and the harmonization of standards.

Dr Urbanovsky has trained as a lawyer in Germany and France. She is specialized in international public and private law. She is fluent in French, English and Russian.

Future Land Systems -The Challenge of Standardizing Interfaces between Platforms and Software

It is important to develop mechanism for systems integration and interoperability to ensure coherency for military units for training and operations. Military units (e.g. a combat logistic patrol) consist of 3 basic platforms: the soldiers, the vehicles and their headquarters/ bases. All three platforms need to be interoperable.

This has been thoroughly underlined in the “Future Land Systems” study, presented to EDA at the end of 2012.

It is important that “open” standards are developed by all stakeholders together, MoDs and the industries involved, defence companies, suppliers etc. Today, it is industry that has the best view of open standards and technical and commercial limitations (e.g. Intellectual Property Rights (IPR)) on implementation.

The “open” standards can be applied for relevant projects. They ought to standardize interfaces between platform, infrastructure, power, supply and data. “Open” standards will be important to anyone wishing to build future sub-system, to ensure that these sub-systems will be compatible with the infrastructure etc. Based upon “open” standards sub-systems can be quickly and easily added to the platform.

With user needs and technology advancing faster than projects can deliver or changed or upgraded as needed, this flexibility from “open” standards will also provide a factor of improved operational effectiveness and enhanced cost effectiveness.

## **Enhanced Interoperability for Military Land Vehicle Systems by defining an Open Reference Architecture for Land Vehicles, Rheinmetall Defence Electronics GmbH, Dr Norbert Härle**



Dr Norbert Härle is “Head of Technology Strategies” in the business unit “Defence Electronics” at Rheinmetall Defence Electronics in Germany. 1988, he received his doctoral degree in the area of Stochastic Methods for Machine Diagnoses at the faculty of Electrical Engineering, Ruhr University in Bochum, Germany (incl. a one year exchange at Purdue University, USA). At STN Atlas Electronics, Germany, he then managed the ESPRIT project “TOPMUSS” until 1994, when he was appointed as lecturer for Control Engineering at Queensland University of Technology in Australia. Since 1999, he kept several managing positions at Rheinmetall.

### Enhanced Interoperability for Military Land Vehicle Systems by defining an Open Reference Architecture for Land Vehicles

Land vehicle mission systems are a key element of Armed Forces for achieving their mission and have been largely designed and built for a single mission, a specific vehicle platform, and with proprietary interfaces. Better Situational Awareness and faster, more efficient and precise effects require the use of more and more Information Technology and a tight networked integration while allowing for mission flexibility and system innovation. The EDA Project LAVOSAR intends to develop an Open Reference Architecture with open, publicly available specifications and standards which is to be used for the design of mission systems and when specifying the Target Architecture for a Vehicle. As a new international standard for land vehicle mission systems, this architecture shall ensure decreased systems engineering and integration costs, more flexibility through plug’n’play and reduced vendor lock-in in order to save procurement and life cycle costs and to improve defence capabilities.

## **Supporting VEA standardization through a European Demonstrator, Thales, Mr Benoit Senechal**



Benoit SENECHAL is a Product Manager in the Business lines Protected Vehicles and Armaments in the Land Defence division – Lead on international Vehicle Electronic Architecture (VEA) standardisation initiatives. He is working for Thales since more than 13 years with expertise in the land domain.

### Supporting VEA standardization through a European Demonstrator

The presentation is explaining:

- The benefits of building a Demonstrator made of various technologies coming across European countries (as identified in the LAVOSAR studies) to support standardization of Vehicle Electronic Architecture;

- Identify key driver for such a demonstrator;
- Initial operational scenario to be demonstrated;
- Preliminary ideas about programmatic aspects.

A good opportunity to complement the LAVOSAR 'paper study' permitting to influence by concrete element future standard in alignment with MILVA.

### **A Single Open Network for Land Vehicle Systems, TTech Computertechnik AG, Mr Matthias Mäke-Kail**



Matthias Mäke-Kail, Senior Marketing & Sales Manager at TTech Computertechnik AG in Vienna, Austria.

Matthias has worked at TTech Computertechnik AG since 2002. He has coordinated all land vehicle activities there since 2005. Time-triggered communication technologies have been recommended in particular for safety-critical functions and high-performance applications. In parallel the increased usage of COTS control units (ECU) using automotive technology has benefitted TTech. Matthias represents TTech at MILVA and is an active member in one of the (N)GVA subgroups.

#### A Single Open Network for Land Vehicle Systems

The use of open industry standards can lead to lifecycle cost reductions for all kinds of land vehicles and land vehicle applications. In data networking one can argue, the broader the standard, the lower the cost of "owning" the technology. Take CAN for example. Now Ethernet has emerged as the future-proof data communication standard. Soon it will conquer the automotive world. Building upon standard "COTS" Ethernet and adding two additional traffic classes (using ARINC/AVB and SAE standards), TTEthernet offers a cost-effective single network that can handle mixed-criticality traffic. It scales from transporting unclassified data with no timing guarantees to safely and securely delivering critical data with sub-microsecond jitter in any kind of vehicle. Its built-in synchronization and fault-containment features simplify software development and system integration.

**Survivability - Fire protection on military vehicles, Kidde Deugra,  
Mr Christian Manthey**



Christian Manthey, Dipl.-Ing.

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Tech. University Aachen-GER; Studies of Aviation and Space  
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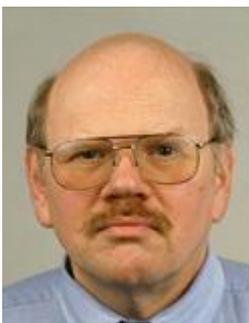
Since Feb 1987 at Kidde Deugra

- to start with a feasibility study for dry bay fire/explosion suppression systems installed on modern combat aircrafts,
- followed by project responsibility for A/C projects, later on project responsibility for military vehicle projects,
- project manager for development activities (for instance alternative extinguishing technologies and agents).

Survivability – Fire Protection on Military Vehicles

- Kidde Deugra – general information
- Fire threats in and on vehicles
- Engine compartment fire fighting system
- Crew compartment fire suppression system
- External fire fighting system
- Lessons learned/Summary

**Industry's views on EDA's Harmonization of Ammunition Qualification Activities,  
European Land Defence Industry Group, Dr Gerhard Hubricht**



Dr Gerhard Hubricht has been working for Rheinmetall Waffe Munition (RWM) GmbH for twenty five years. He has started his career in the company, developing new products. He has been involved in the development of guided missiles and laser weapons. During the development in the field of laser weapons, he has been in contact with Russian defence companies and participated in several projects in Russia, including programs financed by the European Union. Today, he is specialized within RWM in quality control. Dr Hubricht is member of several international standardization groups in the NATO and the EDA framework. He also represents for different subject matters the ELDIG group.

### Industry's views on EDA's Harmonization of Ammunition Qualification Activities

A large number of standards, both national and transversal, exist across the land systems domain

Harmonization of requirements and standardised procedures can make significant contributions to cost reductions. This is valid for both legacy and new systems.

Harmonisation of requirements and standardised procedures are of particular importance in new types of products such as UGVs and PGA systems, where new and radically different methods are employed. It is of great importance to commence developments at a very early date, preferably in the pre-industrial phase in order to have compatibility of systems all over Europe together with interoperability. Furthermore harmonisation of requirements and standardised procedures enhance systems' potential in future pooling and sharing efforts of the pMS.

The European Land Defence Industry, as represented through ELDIG, is willing to assist EDA and the pMS to elaborate approaches in harmonisation and standardisation and has included a corresponding recommendation in the recent Future Land System (FLS) study.