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# PDT North America 2018

May 17, 2018 | Washington D.C, USA.  
Marriott Hotel, Tysons corner.

THEME PDT North America 2018:  
Collaboration in the Engineering Supply Chain –  
the Extended Digital Thread

  
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# WELCOME TO PDT NORTH AMERICA 2018

## **Theme PDT North America and PDT Europe 2018: Collaboration in the Engineering Supply Chain – the Extended Digital Thread**

Business is increasingly performed in networks. These can involve the supply chain, partners, joint ventures and customers. There are many reasons for networked business, such as global access to markets, access to skills, time to market and time to volume production. Sometimes the driver is access to data and information.

Many companies have transformed into system integrators with a majority of the end product created externally. The high level of complexity, number of partners and business speed are challenging the classic model of data exchange in a supply chain and sharing becomes more relevant. Sharing also resonates with the way we communicate in social media.

The new levels of intellectual property captured in Digital Twins and Digital Threads are accompanied by risks. Regulations in Trade Compliance, Export Control and ITAR add complexity. This is relevant in Defense but applies equally between enterprises that value their intellectual property – data is the new oil but it is much easier to copy!

It is vital to drive the Extended Digital Thread towards optimal performance, manageable cost, controlled risk and support for agile business. One needs to assess how internal use can extend to networks, how to enable and at the same time control data exchange and sharing with design partners, manufacturing partners and support partners. In the future we will have vast amounts of valuable intellectual property in digital form connected to Internet. How can we make best use of the cloud, IoT, additive printing, Industrial Internet, systems engineering, block-chain, edge computing etc. and what standards should be in focus?

*PDT North America and PDT Europe 2018 will look into strategies, tactics and implementations moving towards the Networked Model Based Enterprise, the Extended Digital Thread and the anticipated and realized risks as well as business .*



# Agenda PDT North America 2018 | Day 1 - May 17

08.15-08.45	<b>Registration for PDT NA 2018 open</b>
08.45-09.00	<b>Opening of PDT NA 2018</b> Welcome by the Organizers - Introduction of sponsors
09.00-09.30	<p><b><u>Model-based X: What is it and what is its status?</u></b></p> <p>There are so many overlapping definitions, i.e., Model-Based Engineering (MBE), Model-Based Enterprise (MBE), Model-Based Systems Engineering (MBSE), Model-Based Design (MBD), Model-Based Definition (MBD), etc. So, how do we make sense of it all? The alphabet soup of acronyms being used in industry today to define the digitalization of product related processes and information is confusing and becoming counterproductive as industries move towards the adoption of model-centric processes and enabling technologies. Many of these well-intentioned naming conventions originated from industry groups, as well as from government/DoD, often based on the specific interests and objectives of those organizations. This presentation will attempt to highlight the differences and overlap of these different viewpoints and discuss the challenges and standards-related opportunities, with an additional focus on industry status with regards to their adoption.</p> <p><b>Peter Bilello, President</b> <b>CIMdata, USA</b></p>
09.30-10.00	<p><b><u>Spinning a Standards-Based Digital Thread for Smart Manufacturing</u></b></p> <p>A recent economic analysis released by NIST found that smart manufacturing advancements would save manufacturers \$57.4 billion per year. Three of the advancements identified in the NIST analysis are managing digital data through increased exchange of models, seamless transition of digital information throughout the enterprise, and efficient communication of information to decision makers. Together, these advancements describe the digital thread, which links product lifecycle systems so that shared, trusted, and traceable data may be used to generate actionable intelligence to improve design and manufacturing processes.</p> <p>This presentation discusses how semantically rich, open standards are needed to realize the digital thread, especially for small-to-medium enterprises. Such standards democratize innovation and level the playing field for all manufacturers by promoting technology-agnostic solutions able to integrate heterogeneous systems.</p> <p>Three standards are highlighted as key enablers of the digital thread: STEP (ISO 10303), MTConnect, and ANSI Quality Information Framework.</p> <p><b>Robert Lipman, Engineering Laboratory</b> <b>National Institute of Standards and Technology, USA</b></p>
10.00-10.30	<p><b><u>Closing the Information Gap in the Supply Chain</u></b></p> <p>Product data is broken into 3 categories of information: Design, Manufacturing, and Quality (Inspection). When an organization leverages the capacity of digital data (e.g. Model-Based Definition) then it can expand product information into a unique 3-plan system (design, manufacturing, and quality). Today static, non-intelligent 2D drawings capture ALL product information, which drives error, inaccuracies and confusion. Taking advantage of digital data can help to close information gaps between design entities and external suppliers, thereby reducing supply chain costs.</p> <p>Learn the concepts of compartmentalizing digital data about products into three categories: Design, Manufacturing and Inspection in order to improve product communication to and from the supply chain. Establishing a framework such as the Quality Information Framework standard (<a href="http://qifstandards.org/">http://qifstandards.org/</a>) will provide a platform for this digital data to delivered from and introduced into a digital thread that accommodates organizations throughout the enterprise of varying levels of Model-Based maturity.</p> <p><b>Ryan Gelotte, Model-Based Enterprise Analyst</b> <b>Action Engineering, USA</b></p>
10.30-11.00	<b>BREAK IN THE EXHIBITION AREA</b>

11.00-11.45	<p><b><a href="#">The story of the PLCS standard. Why PLCS is a good fit for the MBE and the MBEE (Model Based Extended Enterprise) and Systems Lifecycle Management and where it is in use</a></b></p> <p>The PLCS standard (Product Life Cycle Support) was created to meet a stated need: <i>to keep the information needed to operate and maintain a product aligned with the changing product over its life cycle in a heterogeneous organization, process and system environment?</i> Today that information includes models of the products and systems concerned. The presentation will look at the original aims of PLCS, some of the cases where it is being used for data sharing and how suited PLCS is to supporting cross-organization through-life digital threads.</p> <p><b>Nigel Shaw, Managing Director Eurostep Limited, UK</b></p>
11.45-12.30	<p><b><a href="#">Raising the Digital IQ: Linking Business and Digital Strategies</a></b></p> <p>While most companies have now aligned their business and IT initiatives, the problems and opportunities that are available involved with a digital transformation have become more complex and robust. Digital initiatives related to product lifecycle management (PLM) need to be integrated or organizations will discover that systems, data, or processes don't work together. Even the word "digital" now means something different, it used to be synonymous with "IT."</p> <p>Nowadays, a company's digital strategy drives the portfolio management, roadmap, business architecture and goals across departments, from marketing to sales, engineering thru aftermarket support.</p> <p>A critical first step in raising your Digital IQ is to link your <i>business strategy</i> to your <i>digital strategy</i>.</p> <p><b>Melissa Harvey, Airplane Level Engineering Integration (ALEI) 2CES Data Standards, Boeing, USA</b></p>
12.30-1.30	<p><b>LUNCH</b></p>
1.30-2.00	<p><b><a href="#">Modelling Next Generation MBSE for the Industrial Internet</a></b></p> <p>The "Internet of Things" brings us a growing number of smart, connected products across both consumer and industrial sectors, and opens the door to new opportunities and also new challenges that are presented to the electronics industry.</p> <p>Model Based Systems Engineering (MBSE) is applied in many cases to help develop new products rapidly, but the approach and the associated solutions have to swiftly evolve to address these challenges and support the growing demands of the connected Industrial Internet world.</p> <p>In this session, we will see how systems approaches can drive the strategies, and look for execution that serves those aspirations.</p> <p><b>Bill Chown , CIO Incose, USA</b></p>
2.00-2.30	<p><b><a href="#">Connecting the Digital and Physical Worlds in Construction</a></b></p> <p>For decades, the industry has sought to bring technology tools to building construction through design modeling, PLM, and project management. These types of tools are very impactful, but this impact is substantially greater when we can connect these digital tools with the physical world.</p> <p>Several trends are driving the importance of this digital/physical connection:</p> <ul style="list-style-type: none"> <li>- Detailed constructible models that can connect with tools on the job site (e.g. for layout) to take design decisions through construction.</li> <li>-IOT for making a "smart" anything, collecting data for analytics, and device configuration.</li> <li>-Augmented reality for bringing digital models and other data into the context of the real world built environment.</li> </ul> <p>This session will cover some real world examples of physical to digital connection today, and look at what is likely to be a significant growth trend over the next several years.</p> <p><b>Doug Brent, Senior Vice President, Technology Innovation Trimble, USA</b></p>

2.30-3.00	<p><a href="#"><u>Expeditionary Digital Manufacturing for Military Alliances</u></a></p> <p>Military services are interested in the suitability of Digital Manufacturing and specifically Additive Manufacturing to augment parts stockpiles in future deployed operations. Within NATO, several nations have decided to collaborate on enabling deployable digital manufacturing capabilities that can support multinational demand.</p> <p>Norway, USA, and NATO have planned a series of experiments in 2018 to identify processes, technologies and gaps to implementing such capabilities – specifically addressing interoperability of Technical Data, guarantees against malicious tampering with technical data, and integration of with national supply chain management systems. Our team has been working to harness PLCS ‘capabilities’ to employ solutions that enable a Defense AM force multiplier.</p> <p><b>Bill Black, Partner &amp; President of International Operations Troika Solutions, USA</b></p> <p><b>Joel Battistoni, North American and Global Operations Manager Nexus Life Cycle Management, LLC, USA</b></p>
3.00-3.30	<p><b>BREAK IN THE EXHIBITION AREA</b></p>
3.30-4.00	<p><a href="#"><u>Support for Export Control and ITAR in a model based sharing environment</u></a></p> <p>Many countries have regulations designed to protect their capabilities, both in commerce and defense. Generally these are known as Export Control Regulations (ECR). They are designed to stop both physical objects and related data, including software and design data, falling into "the wrong hands", thereby protecting that country's interests. Perhaps the best known such regulations are the International Trade in Arms Regulations coming from the United States. Known as ITAR, these are designed to protect the USA's lead in defense and carry big penalties for infringement.</p> <p>This presentation will describe a PLCS implementation that has been designed to enable and facilitate controlled sharing of data. It will present controls needed for handling ECR data, controls that can be used in line with ECR regulations by aligning user roles and organizations to ECR licenses. This approach provides an ECR control solution suitable for use within organizations that have matching overall processes in place for ECR data.</p> <p><b>Magnus Färneland, Director Product Unit Eurostep, Sweden</b></p>
4.00– 4.30	<p><a href="#"><u>Are You Ready to Reap the Benefits of Smart Manufacturing?</u></a></p> <p>Smart manufacturing has been hailed as the next industrial revolution – but is it? And if so, how do practitioners become part of it? In this talk, Ms. Morris discusses the opportunities smart technologies will bring to manufacturers. From the macroeconomic perspective, she looks at opportunities in the value chains, the environment, and the workforce. Then, she discusses organizational factors—from the cultural to the operational—that influence smart manufacturing readiness. Finally, she describes ongoing standards-based activities that make it easier for manufacturers to introduce smart practices into their workplace. From the enterprise throughout its operations and in the supply chain, new research is helping to identify the steps needed to understand where and how to introduce the new technologies and how to measure their success.</p> <p><b>KC Morris, Smart Manufacturing Systems Design and Analysis Associate Program Manager National Institute of Standards and Technology, USA</b></p>
4.30	<p><b>Closing remark</b></p> <p><b>End of PDT North America</b></p>