

## Toulouse Meeting Agenda WG15 Digital Manufacturing

Monday May 13<sup>th</sup> to Friday May 17<sup>th</sup>, 2019

### Monday May 13<sup>th</sup> – Standards development

- 08:00AM Participate in SC4 plenary
- 10:00AM Coffee break
- 10:30AM Introductions and project status review  
*JWG8: Mandate, PSL and 18828*  
*TC 261: Additive Manufacturing TDP and AMF*  
*SC1: Part 17 Additive STEP-NC*  
*QIF: ISO 23952 DIS*  
*SC4: AP238*
- 12:00PM Lunch
- 01:00PM ISO 23247 Digital Twin manufacturing framework – CD Preparation  
*Part 1 – Overview*  
*Part 2 - Architecture*
- 03:00PM Break
- 03:30PM ISO 23247 Digital Twin manufacturing framework – CD Preparation  
*Part 3 – Digital Representation*  
*Part 4 – Information Exchange*
- 05:00PM Close

### Tuesday May 14<sup>th</sup> – Standards development

- 08:00AM AP238 Model Based Manufacturing – DIS Preparation  
*Review of Modular ARM -1000 AP242 objects*  
*Kinematics models in STEP and ISO 13399*
- 10:00AM Break
- 10:30AM 10303-59 Product Data Quality and Digital Manufacturing  
*Joint meeting with WG12*
- 12:00PM Lunch

01:00PM	AP238 & AP235 <i>Integration of Product, Process and Materials</i>
03:00PM	Break
03:30PM	Digital Twin Part 21 and the Administration Shell <i>Requirements for digital twin manufacturing</i>
05:00PM	Close

### Wednesday May 15<sup>th</sup> – Industry day

09:00AM	All teams are expected to attend industry day
05:30PM	Tour of Airbus final assembly plant
08:00PM	Banquet

### Thursday May 16<sup>th</sup> – Standards development

08:00AM	ISO 23247 Digital Twin manufacturing framework – CD Preparation <i>Part 1 – Overview</i> <i>Part 2 - Architecture</i>
10:00AM	Break
10:30AM	ISO 23247 Digital Twin manufacturing framework – CD Preparation <i>Part 3 – Digital Representation</i> <i>Part 4 – Information Exchange</i>
12:00PM	Lunch
01:00PM	Preparing for Los Angeles meeting <i>Digital Twin Part 21 NWI submission</i> <i>ISO 23247 (Framework) CD submission</i> <i>AP238 e2 (STEP-NC) DIS submission</i> <i>ISO 23952 (QIF) DIS submission</i>
03:00PM	Break
03:30PM	Closing items
05:00PM	Close

**(For competitive reasons, meeting restricted to invited guests only)**

08:15AM Digital Twin CMM Demonstration  
*Larry Maggiano, Mitutoyo America*

**Friday May 17<sup>th</sup> – DMIF Meeting at Mitutoyo facility near Toulouse Airport -  
(No cost register by sending e-mail to [hardwick@steptools.com](mailto:hardwick@steptools.com))**

09:00AM Introductions  
*David Odendahl, Boeing*

09:15AM Digital Twin: “robot drill and fill” demonstration  
*Remote from Seattle with Kenny, Stan, Cartman and Kyle*

10:00AM Break

10:30AM Digital Twin Frameworks Roundtable  
*Martin Hardwick, STEP Tools. Inc., USA*  
*Jin Young Lee, ETRI, Korea*  
*Eric Truffet, IoT Management, France*  
*Michael Hoffmeister, Festo, Germany*

12:00PM Lunch

01:00PM Applications Roundtable

- Context-Based Machine Monitoring/State Display  
*David Odendahl, Boeing & OMAC*
- Cutter Assembly Management  
*Bengt Olsson, Sandvik*
- Standards-Based Digital Twins of Complete Machining Systems  
*Gordon Shao, NIST*
- Seamless Tooling Optimization  
*Thomas Lundholm, KTH*  
*Darya Botkina, KTH*
- Materials Database (Granta)  
*Afina Lupulescu, ASM International*

03:00PM Break

03:30PM Planning for Next Meeting (Los Angeles, November)  
*Goals for next meeting*  
*Action Items*

05:00PM Close

## Meet Kenny, Stan, Cartman and Kyle



*Figure 1 Digital Twin Demonstration Testbed at UW*