

## **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 Status Review<br><i>TC 261 Additive Manufacturing TDP and AMF<br/>AP238 Edition 2 and ISO 14649-17</i>                    |
| 12:00PM | Lunch   |
| 01:00PM | ISO 23247 Digital Twin manufacturing framework – CD Preparation<br><i>Part 1 – Overview<br/>Part 2 - Architecture</i>                       |
| 03:00PM | Break   |
| 03:30PM | ISO 23247 Digital Twin manufacturing framework – CD Preparation<br><i>Part 3 – Digital Representation<br/>Part 4 – Information Exchange</i> |
| 05:00PM | Close   |

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

- |         |   |
|---------|---|
| 08:00AM | AP238 Model Based Manufacturing – DIS Preparation<br><i>Review of Modular ARM -1000 new objects</i> |
| 10:00AM | Break   |
| 10:30AM | 10303-59 Product Data Quality and Digital Manufacturing<br><i>Joint meeting with WG12</i>           |
| 12:00PM | Lunch   |
| 01:00PM | AP238 & AP235<br><i>Integration of Product, Process and Materials</i>                               |
| 03:00PM | Break   |

03:30PM Digital Twin Part 21 and the Administration Shell  
*Requirements for digital twin manufacturing*

05:00PM Close

### **Wednesday May 15<sup>th</sup> – Standards development**

08:00AM ISO 23247 Digital Twin manufacturing framework – CD Preparation  
*Part 1 – Overview*  
*Part 2 - Architecture*

10:00AM Break

10:30AM WG15 will attend the AP242 session of Industry Day

12:00PM Lunch

01:00PM ISO 23247 Digital Twin manufacturing framework – CD Preparation  
*Part 3 – Digital Representation*  
*Part 4 – Information Exchange*

03:00PM Break

03:30PM Preparing for Los Angeles meeting  
*Digital Twin Part 21 NWI submission*  
*ISO 23247 (Framework) CD submission*  
*AP238 e2 (STEP-NC) DIS submission*  
*ISO 23952 (QIF) DIS submission*

05:00PM Close

05:30PM Tour of Airbus final assembly plant

08:00PM Banquet

### **Thursday May 16<sup>th</sup> – Digital Manufacturing Implementors Forum**

08:00AM Introductions  
*David Odendahl, Boeing*

08:30AM Digital Twin: “robot drill and fill” demonstration  
*Remote from Seattle with Kenny, Stan, Cartman and Kyle*

09:00AM Digital Thread: “CATIA to STEP to Kyle”  
*David Loffredo, STEP Tools*

09:30AM	Digital Twin manufacturing framework for multiple robots <i>Martin Hardwick, STEP Tools</i>
10:00AM	Break
10:30AM	Administration Shell <i>Eric Truffet, IoT Management</i> <i>Michael Hoffmeister, Festo</i>
12:00PM	Lunch
01:00PM	Applications Roundtable <ul style="list-style-type: none"> <li>• Context-Based Machine Monitoring/State Display <i>David Odendahl, Boeing &amp; OMAC</i></li> <li>• Cutter Assembly Management <i>Bengt Olsson, Sandvik</i></li> <li>• Standards-Based Digital Twins of Complete Machining Systems <i>Gordon Shao, NIST</i></li> <li>• Seamless Tooling Optimization <i>Thomas Lundholm, KTH</i> <i>Darya Botkina, KTH</i></li> <li>• Materials Database (Granta) <i>Afina Lupulescu, ASM International</i></li> </ul>
03:00PM	Break
03:30PM	Next Meeting Preparation (Los Angeles, November) <i>Participation by Robot CNC vendors</i> <i>Participation by CAD/CAM vendors</i> <i>Participation by OEM's</i>
05:00PM	Close

**Friday May 17<sup>th</sup> – DMIF Digital Twin Demonstration at Mitutoyo facility in Toulouse - (rsvp required - no cost)**

08:00AM	Introductions
08:30AM	The Digital Twin and the Digital Thread <i>From CAD to CAM to CNC to CMM to CAD</i> <i>David Odendahl, Boeing</i>
09:00AM	CMM Digital Twin demonstration <i>Larry Maggiano, Mitutoyo America</i>

## Meet Kenny, Stan, Cartman and Kyle



*Figure 1 Digital Twin Demonstration Testbed*