



for efficient and iterative
development of smart factories

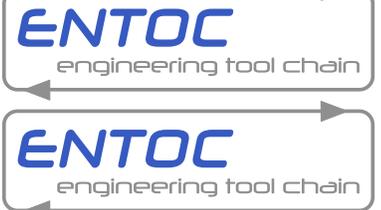
ITEA 3 – 15015

Work package 7 & 8
Dissemination and Exploitation & Project Management

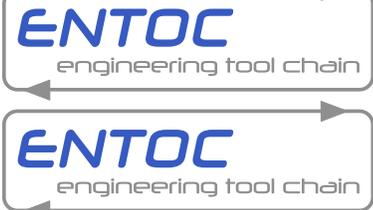
Deliverable 7.2a
Dissemination Plan and Report (initial version)
&
Deliverable 8.1a:
Standardization Plan and Report (initial version)

Document type	: Deliverable
Document version	: 01
Document Preparation Date	: 04..09.2018
Classification	: private
Contract Start Date	: 01.09.2016
Contract End Date	: 31.08.2019



	<p style="text-align: center;"> ENTOC Engineering tool chain for efficient and iterative development of smart factories ITEA 3, 15015 Project Coordinator: Thomas Bär, Daimler AG </p>	
---	---	---

Final approval	Name	Partner
Review Task Level	Thomas Bär	Daimler
Review WP Level	Petter Falkman	Chalmers
Review Board Level	Matthias Riedl	ifak

	<p style="text-align: center;"> ENTOC Engineering tool chain for efficient and iterative development of smart factories ITEA 3, 15015 Project Coordinator: Thomas Bär, Daimler AG </p>	
---	---	---

Executive Summary

This deliverable outlines the dissemination and standardization strategy and the achieved and planned dissemination activities of the ENTOC project during the course of the first and second year since the project kick-off.

At this stage of the project, the results that are worthy of sharing have already started emerging and their amount is rising. Some of those results have already been disseminated in related conferences, fairs and workshops. Over the coming months, more emphasis will be given to generate not only individual publications but also joint scientific publications.



Contents

Executive Summary	3
1 Introduction.....	5
2 Dissemination Strategy.....	6
2.1 Standardization	6
2.2 Scientific community	6
2.3 Industrial community	6
2.4 ITEA Community.....	7
3 Dissemination Activities	7
3.1 Website	7
3.2 Digital Innovation Forum in Amsterdam.....	7
3.3 EUREKA Innovation Days in Helsinki	8
3.4 Conferences.....	9
3.5 Workshops and Fairs	10
4 Planned Dissemination Activities	10

	<p style="text-align: center;">ENTOC Engineering tool chain for efficient and iterative development of smart factories ITEA 3, 15015</p> <p>Project Coordinator: Thomas Bär, Daimler AG</p>	
---	---	---

1 Introduction

The deliverable 7.2 “Dissemination Plan and Report (initial version)” presents both the dissemination strategy as well as completed and planned dissemination activities.

The completed activities include the ENTOC project website, workshops, conferences and fairs, where project posters and articles are presented. Alongside these activities, for the dissemination of the scientific achievements of the project several conference and fair contributions are in preparation.

2 Dissemination Strategy

Depending on three different types of our research results our dissemination strategy is divided in four categories.

2.1 Standardization

All standardization activities (mainly of WP2 and WP3) will be discussed within the AutomationML association in relevant AutomationML meetings, conference, etc.

The steps toward standardization within the AutomationML e.V are defined briefly:

1. **Presentation of approach** to the workshop team (possible at one of 6 meetings per year) and ask for relevance, technical improvements and support among other AutomationML e.V. members.
2. **Announce** the intention to create either a **Best-Practise Recommendation (BPR)**(published by the AutomationML e.V.) **or a Whitepaper** (published by the AutomationML e.V. and pushed to become an IEC standard) to the board of the AutomationML e.V. and wait for acceptance
3. **Create the document** (BPR or Whitepaper)
4. In case of a **Whitepaper take part in the IEC standardization**

On any step standardization can be stopped by 3rd-party influence.

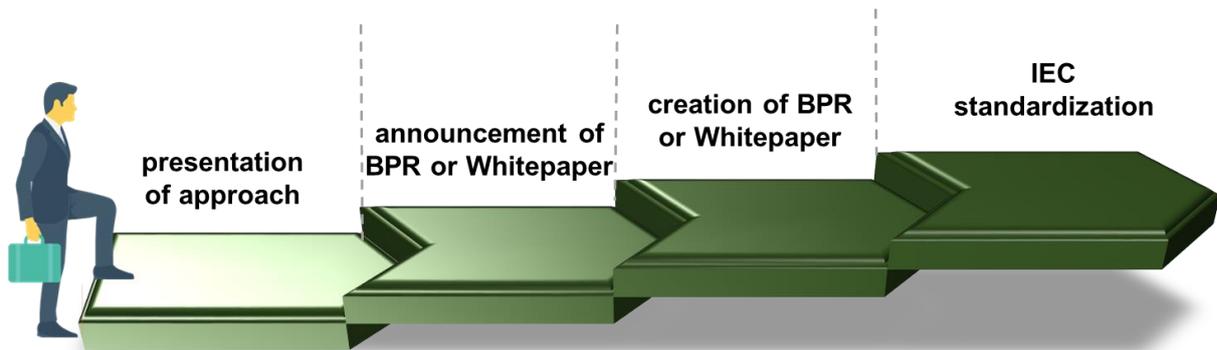


Figure 1: Steps of standardization

2.2 Scientific community

Research results will be presented mainly at conferences with high reputation. Depending on the addressed area mainly the following two types of conferences are of relevance and are addressed by the ENTOC consortium

- Manufacturing related topics: CIRP conferences
- Automation and computer science topics: IEEE conferences

2.3 Industrial community

Results to be exploited will be discussed in relevant conferences and workshops with mainly industrial participation. Important examples of such conferences and workshops are:

- Conference “Digital Factory”
- VDMA Workshops / VDA group “Virtual Commissioning”

	<p style="text-align: center;">ENTOC Engineering tool chain for efficient and iterative development of smart factories ITEA 3, 15015</p> <p>Project Coordinator: Thomas Bär, Daimler AG</p>	
---	---	---

- Workshops with component suppliers

2.4 ITEA Community

Part of the dissemination strategy is also to attend relevant ITEA summit and workshops.

3 Dissemination Activities

3.1 Website

The ENTOC-Website (<https://entoc.eu/>) was created by Chalmers as the first task for work package 7. The website became active in October 2016 and it is being updated frequently as new material is available.

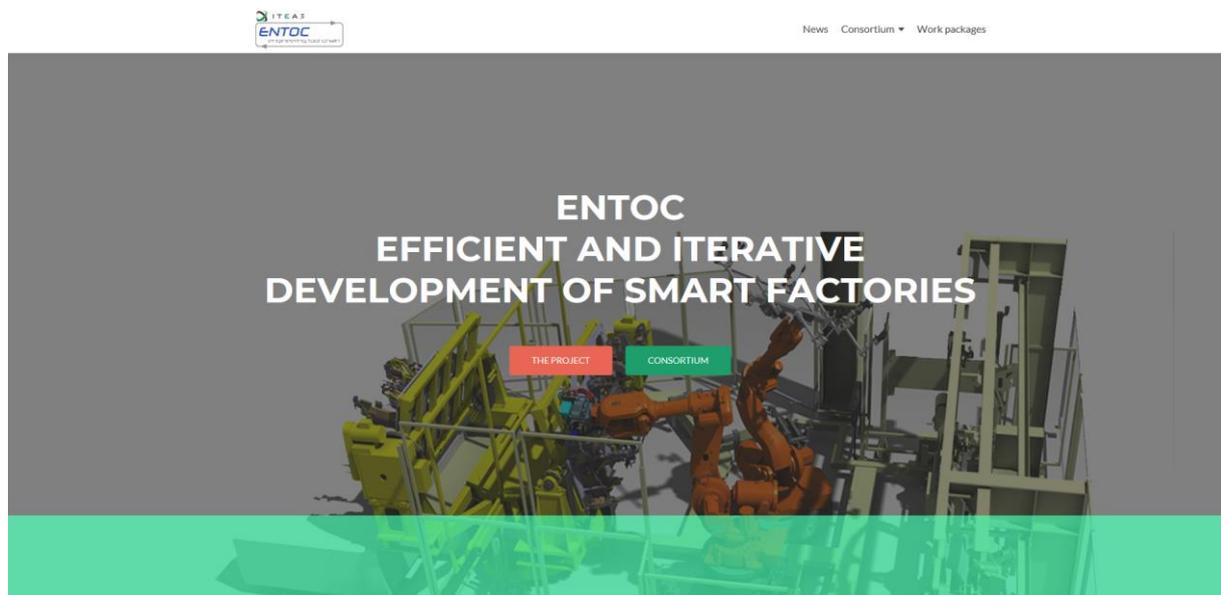


Figure 2: Home screen of the web representation of ENTOC

3.2 Digital Innovation Forum in Amsterdam

The project ENTOC was presented by the partners ifak, TWT and Daimler with a booth at the Digital Innovation Forum in Amsterdam (10. - 11. May 2017).

	<p style="text-align: center;"> ENTOC Engineering tool chain for efficient and iterative development of smart factories ITEA 3, 15015 Project Coordinator: Thomas Bär, Daimler AG </p>	
---	---	---



Figure 3: ENTOC booth at Digital Innovation Forum

3.3 EUREKA Innovation Days in Helsinki

The project ENTOC was presented by the partners TWT, Algoryx, EKS InTec and Daimler with a booth at the EUREKA Innovation Days in Helsinki (22.-24. May 2018).



Figure 4: ENTOC presentation at EUREKA Innovation Days

	ENTOC Engineering tool chain for efficient and iterative development of smart factories ITEA 3, 15015 Project Coordinator: Thomas Bär, Daimler AG	
---	--	---

3.4 Conferences

The project partners participated in the following conferences that are either directly or indirectly related to factory automation and virtual commissioning. The participation was at the level of poster presentation, oral presentation and publication in the conference proceedings.

Title	Event & Location	Date	Authors
Anlauf-Management in der Fahrzeugproduktion	Ramp up, Fachkongress, Neckarsulm, Germany	03./04.05.2017	Thomas Strigl
Engineering Tool Chain der Zukunft	Fachkongress Digitale Fabrik, Leipzig, Germany	15./16..11.2017	Thomas Bär, Thomas Strigl, Anton Strahilov
Digitaler Schatten von Produktionsanlagen als Big-Data Quelle - Herausforderungen und Potential	Big-Data Technologien in der Produktion, VDI ,Karlsruhe, Germany	16./17.05.2017	Anton Strahilov
Multifunctional Use of Functional Mock-up Units for Application in Production Engineering	15th IEEE conference, INDIN 2017, Emden, Germany	24.-26.07.2017	Dominik Hauf, Sebastian Süß, Anton Strahilov, Jörg Franke
Towards shorter validation cycles by considering mechatronic component behaviour in early design stages	IEEE ETFA 2017, Limassol, Cyprus	12-15.09.2017	Felix Auris, Sebastian Süß, Andreas Schlag, Christian Diedrich
Seamless simulation toolchain for virtual engineering and virtual commissioning of smart factories	18th Stuttgart International Symposium 2018, Stuttgart, Germany	13./14.03.2018	Jos Höll, Yvonne Ritter, Victor Fäßler, Felix Auris, Sebastian Süß, Thomas Bär, Manuel Paul
Layout Based Requirements Specifications	tarakos User Days , Magdeburg, Germany	08./09.11.2017	Klaus Hanisch, Ireneus Wior
Keeping the Digital Twin up-to-date - Process Monitoring to Identify Changes in a Plant.	IEEE International Conference on Industrial Technology (ICIT 2018), Lyon, France	20.-22.02.2018,	Holger Zipper, Felix Auris, Anton Strahilov, Manuel Paul
Digitale Anforderungsmodelle und ihr realer Einsatz	21. IFF Wissenschaftstage, Magdeburg, Germany	19.-21.06.2018	Ireneus Wior
Durchgängige Nutzung mechatronischer Anlagenmodelle über den gesamten Lebenszyklus automobiler Produktionsanlagen	Automation 2018, Baden-Baden, Germany	03./04.07.2018	Felix Auris, Holger Zipper, Michael Brandl, Sebastian Süß, Christian Diedrich

	ENTOC Engineering tool chain for efficient and iterative development of smart factories ITEA 3, 15015 Project Coordinator: Thomas Bär, Daimler AG	
---	--	---

3.5 Workshops and Fairs

AVANTI project is closely related to the topics of modelling and simulation, virtual commissioning and digital factory automation. The workshops participated by the project partners on those topics are listed below.

Title	Event & Location	Date	Authors
AVANTI and ENTOC - Future Engineering Tool Chain	Digital Innovation Forum, Amsterdam, Netherlands	10./11.05.2017	Matthias Riedl, Thomas Bär, Sebastian Süß
Den virtuella tvillingfabriken	"Digitalisering i människans tjänst", topic day about digitalization at Umeå University, Umeå, Sweden	12.10.2017	Magnus Johansson, Michael Brandl
Integrierte Engineering Toolkette von der Konstruktion bis zum Test der Automatisierungstechnik	VDMA, Frankfurt am Main, Germany	14.03.2018	Thomas Strigl, Felix Auris
ENTOC	EUREKA Innovation Days, Helsinki, Finland	22.05-24.05.2018	Christian König, Anton Strahlilov, Michael Brandl, Felix Auris
Entoc Forschungsprojekt "Durchgängiges Mechatronisches Engineering"	iSILOG Kundentag 2018, Würzburg, Germany	26.06.2018	Felix Auris, Thomas Strigl

4 Planned Dissemination Activities

In addition to the dissemination activities given above, with the progress of the project, more activities are planned. These include scientific publications both as individual groups and as joint publication of the project group at visible conferences and journals. The targeted scientific publications will aim to convey the technical knowledge acquired on virtual engineering and virtual commissioning to the others, demonstrate the efficiency improvements, and also quantify the time and money savings in factory automation with the use of the proposed technologies.

In addition to this joint activity, there will be an effort in presenting the results of the project in national/international conferences as individual groups. The German group for example plans to present their progress in Fachkongress Digitale Fabrik.

Additionally, more activities are planned for 2019. Since the deadlines for the relevant conferences are within the upcoming months, it is not yet specified which ones will be selected.

Some of the already addressee dissemination activities are listed below:

Title	Event & Location	Date	Authors
-------	------------------	------	---------



ENTOC
Engineering tool chain for efficient and iterative
development of smart factories
ITEA 3, 15015



Project Coordinator: Thomas Bär, Daimler AG

Engineering of Cyber-Physical Systems in the automotive context: case study of a range prediction assistant	International Symposium On Leveraging Applications of Formal Methods, Verification and Validation (ISOLA 2918), Limassol, Cyprus	09.11.2018	Christian König, Gerd Meisl, Natalia Balcu, Benjamin Vosseler, Henrik Hörmann, Jos Höll
Lebenszyklusbegleitender Digitaler Zwilling trotz „lebender“ Anlage	Fachkongress Digitale Fabrik, Berlin, Germany	09./10..10.2018	Ireneus Wior, Anton Strahilov, Felix Auris
Evaluation of Photogrammetry for Use in Industrial Production Systems	14th IEEE International Conference on Automation Science and Engineering (CASE)	20.-24.08.2018	Jason Li, Jonatan Berglund, Felix Auris, Atieh Hanna, Johan Vallhagen, Knut Akesson
Durchgängige Nutzung mechatronischer Anlagenmodelle über den gesamten Lebenszyklus automobiler Produktionsanlagen	Automation 2018, Baden-Baden, Germany	03./04.07.2018	Felix Auris, Holger Zipper, Michael Brandl, Sebastian Süß, Christian Diedrich
Workshop with Component Suppliers for supporting the FMU concept	Weingarten, Germany	28.09.2018	Anton Strahilov, Manuel Paul, Thomas Bär