



#### Consortium

11 partners (5 countries)

#### Project Coordinator

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Project number: **731456**

Project website: [www.certmils.eu](http://www.certmils.eu)

Project start: **1<sup>st</sup> January, 2017**

Duration: **48 Months**

Total cost: **EUR 5,616,543.75**

EC contribution: **EUR 3,999,055.63**

Newsletter / June 2020  
Issue 6

## Compositional security certification for medium- to high-assurance COTS-based systems in environments with emerging threats

### Message from the Coordinator

2020 represents the last year of certMILS and we are proud of what has already been achieved. However, 2020 will be decisive for the overall success of the project and therefore, a few challenges still need to be faced. The last step now is to certify the three MILS pilots together with the MILS platform, the core of this project. But before, we would like to make a small throwback to the past few months.

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731456.

## Project Progress/Highlights

In 2019 the implementation of the kernel fuzz-testing tool-chain was refined by our collaborator from University of Rostock. Trials and performance evaluations were executed on an kernel-AFL approach and a gcc-plugin approach. The effectiveness was tested on an intentionally defective driver. The testing framework can now execute tests on remote systems. This is of particular interest, if a special or dedicated hardware is analyzed, which is not available for simulation in the QEMU environment.

Partner Schneider Electric from Spain, successfully implemented the high-assurance pilot. Schneider Electric has also teamed up with DEKRA for the evaluation of the pilot according to IEC 62443-4-1 and 4-2.

Regarding the railway pilot, partner Thales presented a prototype during the technical meetings in Austria and Czech Republic in 2019. In February 2020, Thales did an on-site penetration testing with partner DEKRA. Thales received the world's first certification according to the IECCE Industrial Cyber Security Programme schema for IEC 62443-4-1 by EZU.

Q-media, from the Czech Republic – with the support of Prague Public Transport (DPP) – implemented the subway pilot and showed it to the whole consortium at the technical meeting in November 2019. QMA is currently in touch with partner EZU for a certification of the pilot according to IEC 62443-4-1 and 4-2.



## MILS Community

If you want to

- **learn more on the MILS Community,**
- **participate in it,**
- **be informed about its status,**

then send an e-mail to [community@mils.community](mailto:community@mils.community) or subscribe to the MILS mailing list [mils@lists.technikon.com](mailto:mils@lists.technikon.com)

The MILS mailing list is a public mailing list for discussions of Multiple Independent Levels of Security (MILS) architectural approach for security and safety, MILS components, MILS implementations, MILS research, MILS use-cases, real-time separation kernels, MILS evaluation and certification, MILS testing and vulnerability, and analysis of MILS systems.



## Past meetings and events

### Technical Meeting Prague

Q-media, one of three certMILS partners from the Czech Republic, hosted our last f2f meeting in November 2019 at their premises in Prague. The overall goal of the meeting was to look back at the successful

implementation of the pilots and to define the necessary steps for the evaluation and the certification by national or private certification bodies.



### 2<sup>nd</sup> Review meeting

In March 2020 the consortium met remotely with the EC project officer and two external reviewers to carry out the review of the second Project period (July 2018 – December 2019). The meeting was very constructive

and we received valuable feedback, which we are currently implementing in the three pilots and the MILS platform.

In order to disseminate the certMILS project to stakeholders, several partners presented results at significant conferences throughout Europe:

### MILS Workshop 2019

**December 6, Sindelfingen, Germany**

In 2019 SYSGO organized a MILS workshop - this time co-located with the Embedded Software Engineering Congress 2019 – with great speakers from companies such as BMW, DEKRA, Gemalto and WolfSSL. The main goal of this event was to bring industry and research stakeholders together to advance methods, tools, ap-

proaches, and use-cases on creating compositional assurance and trustworthiness for safety, security and mixed-critical connected systems. To view all presentations, visit the workshop [website](#).



## International Common Criteria Conference 2019 (ICCC)

October 1-3, Singapore

Partner atsec gave a talk at 2019's International Common Criteria Conference hosted by the Cyber Security Agency of Singapore (CSA) and presented "The Common Criteria and IEC 62443" to about 40 listeners

who participated in a parallel session on Common Criteria and critical infrastructure security.

## ESREL 29th European Safety and Reliability Conference 2019

September 22-26, Hannover, Germany

The European conference organized by The European Safety and Reliability association and Leibnitz University of Hannover hosted experts from all over the world. The project was represented within a session called "Cyber Security of Urban Guided Transport

Management according to MILS Principles". The presentation and same name paper are published in: "Proceedings of the 29th EUROPEAN SAFETY AND RELIABILITY CONFERENCE (ESREL 2019)" and available online on **Zenodo**.

## Ongoing dissemination activities

In 2020 - due to the forced cancellation of most events because of Covid-19 - the certMILS consortium has decided to use other channels to spread the word about its progress in the field of cyber security. Among other things, a podcast was recorded with two collaborators from University of Rostock and Thales Austria. Visit our project **website** to listen to it now!

certMILS partners are also continuously taking part in online events and workshops organized by several standardization groups worldwide, i.e.: CCUF, IEC 62443, railway's prTS 50701 and the ENISA ad hoc Working Group on the SOG-IS MRA successor certification scheme.

