VESSEDIA

Verification Engineering of Safety and Security Critical Industrial Applications

Newsletter

February 2018 - Issue 2

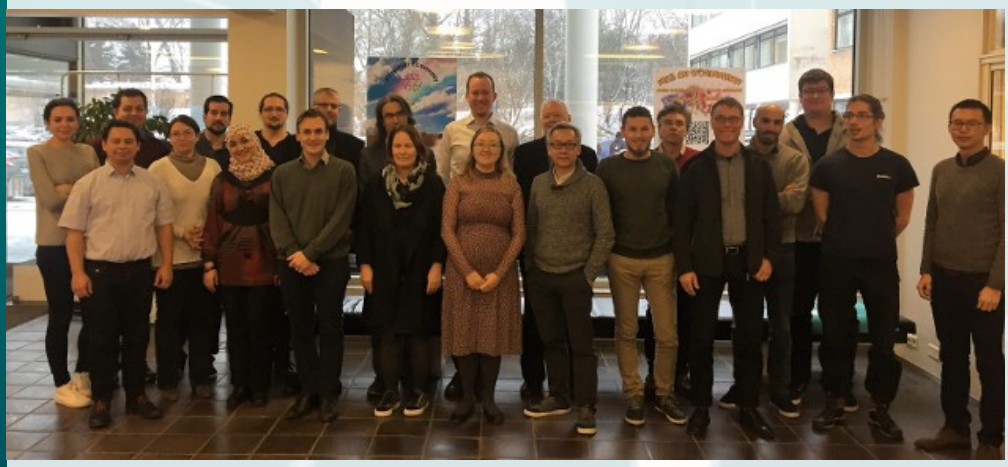
Message from the Coordinator

The VESSEDIA project will bring safety and security to many new software applications and devices. In the fast evolving world we live in, the Internet has brought many benefits to individuals, organisations and industries. The project aims to enhance and scale up modern software analysis tools, namely the mostly open-source Frama-C analysis platform, to allow developers to benefit rapidly from them when developing connected applications. The outcomes of VESSEDIA will be a drastic shift of perspective related to the trustworthiness in current ICT security-sensitive software protection for connected systems. Finally VESSEDIA will reside in bridging the gap between high-level security requirements expressed on the whole system and low-level verification activities performed on the source code of each component.

In this Issue

Technical meetings in France and in Finland

After the kick-off meeting in January 2017, the first technical meeting, which brought together all VESSEDIA partners took place from 31st May - 1st June 2017 in Paris, France at CEA premises. The meeting was dedicated to provide the status and future outlook of the technical work packages (WPs). Each technical WP leader presented the work done and some in-depth and ground-laying technical discussions took place.



From 22nd to 23rd November 2017 the second technical meeting took place in Turku, Finland at Turku University of Applied Sciences (TUAS). The meeting was combined with the first Advisory Board meeting and a standardisation workshop. The VESSEDIA team received valuable feedback and comments from the AB members to different aspects, such as usability, standardisation approaches or existing solutions. The standardisation workshop provided an insight in the ISO Standardization, as well as current standardization work towards a new ISO standard called "Software and Systems Engineering - Capabilities of Software Safety and Security Verification Tools". Moreover, entities and the entity relationship (ER) model, as well as the common use of verifications tools and tool categories have been discussed.

The third technical meeting is already planned and will take place from 5th-6th April 2018 in Berlin, Germany at Fraunhofer FOKUS premises.

Key Data:

Start Date:	1st of January, 2017	*Consortium:*	10 partners (7 countries)
End Date:	31st of December, 2019	*Project Coordinator:*	Dr. Klaus-Michael Koch coordination@vessedia.eu
Duration:	36 months	*Technical Leader:*	Dr. Armand Puccetti armand. puccetti@cea.fr
Project Reference:	731453	*Project Website:*	www.vessedia.eu
Project Costs:	€ 4.192.058,75		
Project Funding:	€ 4.192.058,75		

The VESSEDIA project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731453.

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Technical progress

One of the main achievements during the past months was the completion of D1.1 "Security requirements for connected medium security-critical applications". This deliverable provides a set of minimum requirements for interconnected products, specifically focusing on the IoT devices.

Further the extensions needed in the ACSL++ specification language were discussed in order to analyse C++ code, and their potential impact on ACSL at C level. A new release of Frama-C was done in November 2017, including some developments (on the EVA plug-in and built-in support for functions of the C standard library) that are directly relevant for the case studies of VESSEDIA. A verification server was defined, in order to consider verification tasks within Frama-C as services that can be performed remotely w.r.t. standard Frama-C analysis tasks. The development of a prototype for generating code-level specifications from higher-level models started. With these low-level specifications, it will be possible to use Frama-C to ensure that a C function will fulfil its intended purpose inside the whole system. More precisely, this prototype will target an experimental Frama-C plug-in, RPP, that allows to deal with a specific kind of properties that seems to be well suited for embedding Diversity's output.

Standardisation activities

Another important ongoing task of VESSEDIA project is the standardization process WP6.4. The purpose of this work is to provide a new ISO/IEC standard to protect the users and to **give** guidance to the vendors of Software Safety and Security Verification Tools. Typical users of these tools are the organizations who want to get safety and security certification for their software products or components. Another group of users consists of third-party evaluators in certifying bodies. The most important achievements from WP6.4 so far are the adoption of the project to the ISO/IEC JTC1 SC7 Working Group WG4, the nomination of project editor and eight co-editors representing six countries, and provision of the first 27 page version of base document. VESSEDIA is well represented within the editorship. Next step is to finalize the base document to be mature enough for submission to the first international ballot. The editors welcome all support and constructive comments from consortium and AB members. This step should be completed before the third VESSEDIA technical meeting.

Past and upcoming events

- RESSI 2018: Rendez-vous de la Recherche et de l'Enseignement de la Sécurité des Systèmes d'Information
  23rd - 25th of May 2018, La Bresse, France
- 10th NASA Formal Methods Symposium (NFM 2018)
  17th - 19th of April 2018, Virginia, USA
- International Conference on Embedded Wireless Systems and Networks
  14th - 16th of February 2018, Madrid, Spain
- SSTIC 2017 - Symposium sur la sécurité des technologies de l'information et des communications
  7th - 9th of June 2017, Rennes, France
- Frama-C & SPARK Day - Formal Analysis and Proof for Programs in C and Ada
  30th of May 2017, Paris, France

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