



Safe Automotive soFtware architEcture (SAFE)

Newsletter No. 02

Welcome to the SAFE newsletter

Welcome to the second newsletter of the SAFE project. After one year of project work it is again worth to inform you about our progress.

This newsletter informs you about the status reached with the second major milestone. It includes several public events which were used to present and discuss the work done within the project. In addition it links you to some upcoming events which give you the opportunity to discuss with the project partners from SAFE face-to-face.

If you are new to SAFE you can find a short summary of the project at the end of this newsletter.

Major results in milestone 02

In July we reached the second major milestone of the project. This includes mainly the preliminary meta-model and method definition. The main results of the project are elaborated according the following principles:

The project works in three development loops. Each loop consists of the four steps:

Requirements

- > Meta-model and method definitions
- > Development of tool support
- > Evaluation.

The milestone 2 finalizes the second step in the first loop. The first loop will continue until the end of the year.

The result is an integrated meta-model in Enterprise Architect format that enables the referencing of elements from the standardized automotive meta-model formats EAST-ADL and AUTOSAR.

Already in the first integration draft version of four concepts out of eleven were included:

- Environment and Hazard Definition
- Safety Requirement Expression
- Hardware description

- Safety code generation

Based on the meta-model an Eclipse based technology platform has been initiated, which enables the tool supported access to the meta-model. The backbone of the platform set up and maintenance is available, in detail a transformation that takes the Enterprise Architect model and generates an Eclipse data-format, i.e. an ECORE. This tool is already available in open source at the Automotive Industry Working Group (A-IWG) Eclipse Lab (<http://code.google.com/a/eclipselabs.org/p/eclipse-auto-iwg/source/checkout?repo=eatop-conti>).

Some of the safety concepts will be implemented as plug-ins on top of this platform. Others will be directly interfaced with commercial solution of contributing tool-vendors Dassault Systèmes, pure-systems, and Aquintos/Vector, and implemented in these tools.

Publications during first half of 2012

The main dissemination activities have been the activation of an OEM advisory board. This advisory board enables a close feedback loop by major European OEMs and shall increase their acceptance of the project results. It consists of employees from

- Audi I/AEV
- Daimler
- Fiat CRF
- Renault
- Volvo Technology

Use cases identified during the requirements analysis phase have been discussed and the OEM participants of the board presented their own, additional use cases.

Although the technical work started in this period - in 2011 we made industrial use case scenario elicitation for safety application development. Several conference presentations and a journal article have been published. This shows the big interest in the automotive industry on this topic. On the top of that, further discussions have been done with the Eclipse automotive industry workgroup and through a French initiative “CG2E” aiming to establish a domain independent development platform for safety cases. In both initiatives partners from the project SAFE have taken over actions to correlate and establish the results of SAFE.

Furthermore the exploitation of initial results in the AUTOSAR consortium has been started. This is mainly done by personal participation of project partners in the AUTOSAR safety work-package.

The following table lists the presentations and papers in detail.

Author(s)	Title	Type	Name of Conference / Workshop / Event	Place/Country	Date
<i>Stefan Voget et.al. (Conti-G)</i>	<i>Collaboration in Automotive - The Eclipse Automotive Industry Working Group</i>	<i>Conference</i>	<i>ERTS2012</i>	<i>Toulouse/France</i>	<i>Feb 12</i>
<i>Stefan Voget et.al. (Conti-G)</i>	<i>Safe development by adaptation of standardized safety</i>	<i>Conference</i>	<i>ERTS2012</i>	<i>Toulouse/France</i>	<i>Feb 12</i>

	<i>concepts in AUTOSAR 4.0</i>				
<i>Hans-Leo Ross (Conti-T)</i>	<i>Funktionale Sicherheit auf Systemebene (Functional safety on system level)</i>	<i>Conference</i>	<i>ITS Niedersachsen</i>	<i>Braunschweig/Germany</i>	<i>Feb 12</i>
<i>Danilo Beuche (pure-systems)</i>		<i>Exhibition</i>	<i>Embedded World 2012</i>	<i>Nuremberg/Germany</i>	<i>Feb-26-28</i>
<i>Stefan Voget</i>	<i>SAFE project presentation</i>	<i>Conference</i>	<i>ARTEMIS Technology Conference on interoperability</i>	<i>Nuremberg/Germany</i>	<i>March 12</i>
<i>Stefan Voget</i>	<i>SAFE project presentation</i>	<i>Conference</i>	<i>IQPC conference on Experiences with ISO26262</i>	<i>Munich/Germany</i>	<i>March 12</i>
<i>Stefan Voget</i>	<i>Less tool usage errors by the user - workflow oriented tool platform enabled by the project SAFE</i>	<i>Conference</i>	<i>Open Forum Stuttgart - "Softwarekompetenz für die Zukunft"</i>	<i>Stuttgart/Germany</i>	<i>May 12</i>
<i>Janet Feigenspan, Christian Kästner, Sven Apel, Jörg Liebig, Michael Schulze, Raimund Dachsel, Maria Papendieck, Thomas Leich and Gunter Saake</i>	<i>Do background colors improve program comprehension in the #ifdef hell?</i>	<i>Journal</i>	<i>Empirical Software Engineering</i>	<i>-</i>	<i>Mai 11</i>

Upcoming Events

24.-25.09.2012 - Berlin

International Workshop on Challenges in methodology, representation, and tooling for automotive embedded systems - organized by the projects

- AMALTHEA (<http://www.itea2.org/project/index/view/?project=10015>),
- MAENAD (www.maenad.eu),
- SAFE (www.safe-project.eu),
- TIMMO-2-USE (www.timmo-2-use.org)

The goal of the workshop is to present results and plans from the projects AMALTHEA, MAENAD, SAFE and TIMMO-2-USE to an interested audience. The projects will explain the challenges addressed and the solutions provided in the areas of methodology, representation and tooling.

At the end of the workshop the views of the projects should be aligned and possible cooperation's be defined.

30.-31.10.2012 - Paris

The ITEA & ARTEMIS Co-summit 2012 will be held in CNIT - La Défense in Paris, France. It will be the 5th edition of the Co-summit, organized by ITEA 2 – the EUREKA Cluster on software-intensive systems and services and by the ARTEMIS Joint Undertaking on embedded systems. More than 650 participants from industry, academia, public authorities and press are expected to attend this key European event.

The SAFE project will be available with a booth showing the tool development activities.

Best regards by the SAFE consortium partners



(SAFE is an ITEA2 project)

- aquintos GmbH
- BMW Car IT GmbH
- Continental Automotive France SAS
- Continental Automotive GmbH
- Continental Teves AG & Co. oHG
- Dassault Systèmes SA
- FZI Forschungszentrum Informatik
- ITEMIS France SARL
- Laboratoire Bordelais de Recherche en Informatique
- OFFIS e.V.
- Pure Systems GmbH
- TÜV Nord Mobilität IFM
- Valeo Equipements Electriques Moteur
- ZF Friedrichshafen AG



(SAFE-E is a EUROSTARS project, which is entirely affiliated with SAFE)

- AVL Software and Functions GmbH
- Fortiss GmbH
- Infineon Technologies AG
- TTTech Computertechnik AG

SAFE - Project Summary

The SAFE project provides solutions to demonstrate compliance with the automotive functional safety standard “ISO26262” for the development of safe automotive applications based on the “AUTOSAR” architecture.

Objectives

- Minimize modelling effort by the integration of safety documentation and analysis
- Enable application of ISO26262 in AUTOSAR architecture and methodology
- Enable ISO26262 compliant processes

Expected results

- Assessment model for demonstration of compliance to the ISO 26262
- Technology platform for development of automotive products
- Proposal for extension of the AUTOSAR standard, with specialized properties for safety analysis

For more information about SAFE, please have a look at our website www.safe-project.eu. Project information, publicly available results and news from the project are presented there.

Acknowledgement

This newsletter has been sent to you because you were mentioned as possibly interested in the SAFE project. If you want to receive further newsletters in the future please register with an e-mail to the project coordinator stefan.voget@continental-corporation.com.

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