AMASS

Architecture-driven, Multi-concern and Seamless Assurance and Certification of Cyber-Physical Systems

WP8 Exploitation, Dissemination and Standardization

Objective: To ensure take up of AMASS results

First EAB workshop
Trento, 11 September, 2017

Ran Bi
WP8 Leader
RAPITA Systems Ltd
A DANLAW Company

Achievements up to Aug 2017

- Dissemination

Items	Achievements
Publications	25+
Events	30+
Social media	50+ actions
Other materials	5 main elements
Audience	100,000+ people

- Training

Items	Achievements
Internal training	7 training sessions
Recorded training video	14+ hours
External training	18 Research training activities

- Standardization

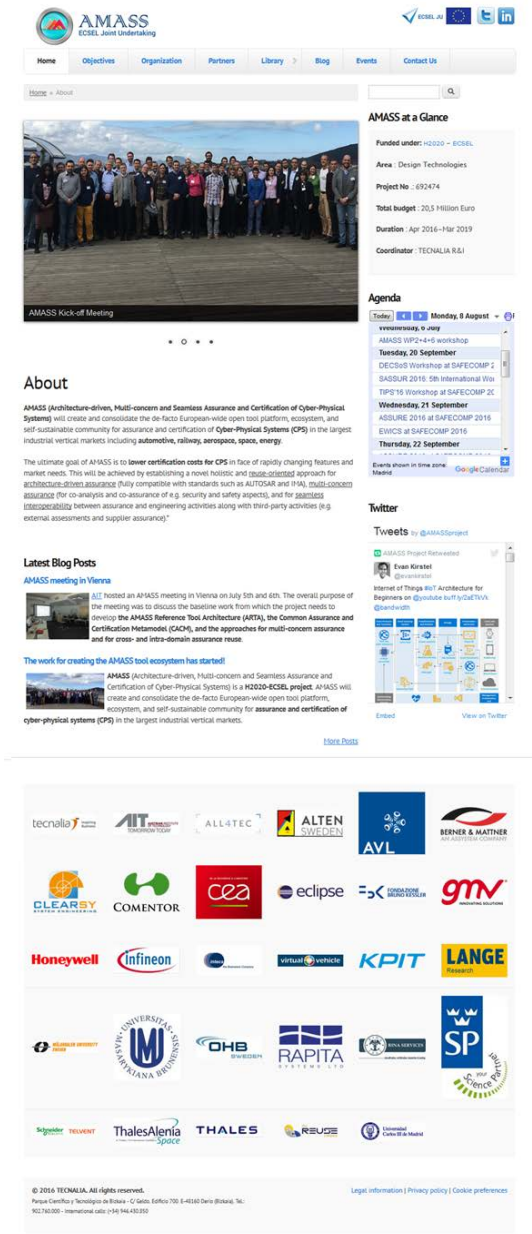
Items influenced	Achievem.
Safety & Cybersecurity	4
Automotive (ISO TC22)	3
OMG (SysA, ACM2.0)	2
IoT, Smart Manufacturing	3
Robotic (ISO TC299)	2

- Exploitation

Items	Achievements
Background IP	28
Foreground IP	16
Exploitation	13 activities

Dissemination highlights in D8.6

- On-line
  - Website (http://www.amass-ecsel.eu/) 3500+
  - Blog and events calendar 16
  - Twitter (@AMASSproject) 35
  - LinkedIn group 255
- Off-line
  - Leaflet, Presentation
  - Newsletter 2
  - Publications 17
  - Events 26

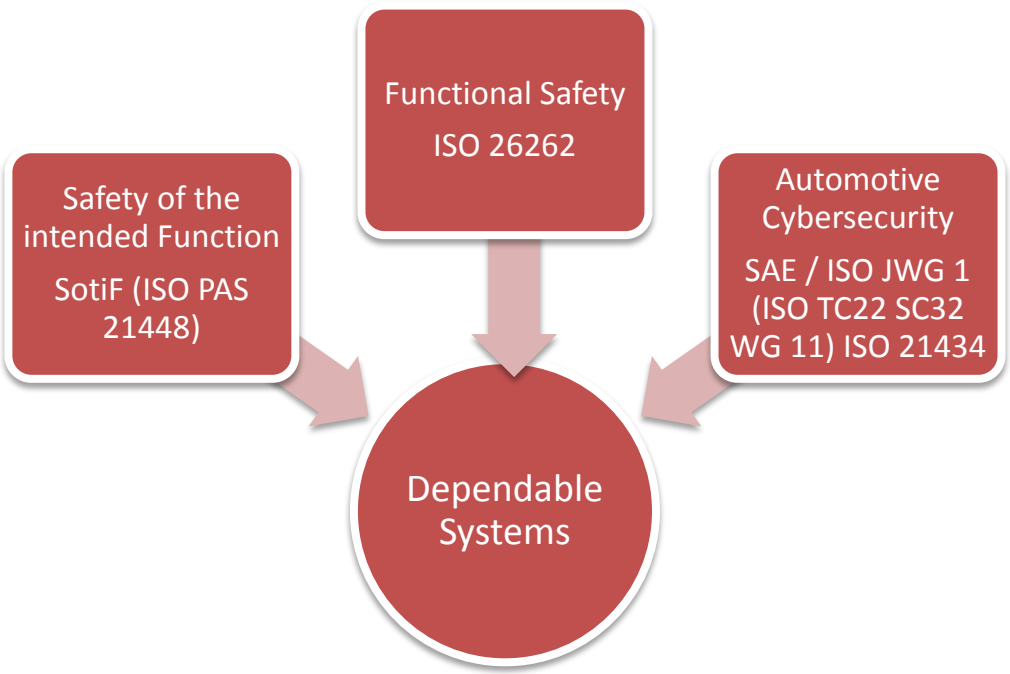


Training highlights

- Focus on internal training
  - Training on baseline solutions: from previous projects
  - Training on Technologies for Seamless Interoperability: gathering know-how in the core tools from previous partners experiences.
  - Training on the Core Prototype: how to use the AMASS core-prototype platform implementation.
- External training based on research training:

9 MSc	4 PhD
4 BSc	1 Public presentation

Standardization highlights



NEW: IEC TC65 Ad Hoc Groups – Safety, Reliability, Cybersecurity, Smart Manufacturing, Human Factors, … (Examples) – Multi-concern Assurance!

- **IEC TC65 AHG1 – now WG 20: "Framework for functional safety and cybersecurity – IEC TR 63069**
- **IEC TC65 AHG2: "Reliability of Automation Devices and Systems",** looking at the demand of reliability design, test, verification and operational life of (safety related) automation devices and systems.

Standardization highlights

- **IEC TC65 AHG3: "Smart Manufacturing Framework and System Architecture"** addresses the issues of highly interconnected industrial automation systems for smart manufacturing in a multi-concern manner **(RAMI4.0).**
- **Task Force "Standards Landscape" → JWG21 ISO TC184/IEC TC65 AHG3, Smart Manufacturing Reference Models**
- **IEC SC65E** (Devices and integration in enterprise systems) **AHG1 "Smart manufacturing information models"** (enterprise management systems from top level down to devices), ***interoperability*** of models and data exchanged, smart items in enterprise context (safety, security and dependability important!)
- **IEC SC65A WG 17: Human factors – Functional Safety (IEC TR 62879)**
- **IEC 61508-3** Ed 3.0 preparation: Security aware safety guidelines –consideration in part 1 and 2 agreed in principle at Milan Meeting April 2017 with MT 61508-1-2, Ron Bell!!
- **ISO 26262**, Ed. 2.0: consider security aware safety issues → successful inclusion in Part 2 (Safety Management), Part 4 (Product Development), Part 6 (Software Development) in DIS (FDIS expected Autumn 2017)
- **ISO PAS 21448 SotiF** – Safety of the intended Functionality (automated driving)
- **"Road Vehicles – Cybersecurity Engineering":**
  ISO/SAE JWG1 (and ISO TC22 SC 32 WG 11) for ISO 21434

Business Model Canvas in D2.1

Key Partners

- Standard organizations
- Tool providers
- Manufacturers
- Integrators

Key Activities

- The development and maintenance of the platform
- Platform technical support to the customers
- The maintenance of the AMASS open source community

Key Resources

- The AMASS software platform
- The engineers for development and maintenance of the platform
- The AMASS open community

Value Propositions

- Introduce safety/security concerns in the early phases of product development in order to reduce costs
- Introduce safety/security co-assessment
- Reduce efforts and costs for managing compliance with targeted standards
- Reduce efforts and costs for safety/security assurance and certification
- Reduce efforts to run safety/security analyses
- Reuse of assurance results for product upgrades and re-certifications
- Reduce the risk for new developments/certifications

Customer Relationships

- Personal assistance would be suitable to facilitate the integration of AMASS in the customer processes.
- Another option is to use the AMASS open source community for an interaction with the clients.

Channels

- The appropriate channel for AMASS could be an intranet or internet site.

Customer Segments

- Original Equipment Manufacturers (OEM)
- Component suppliers (manufacturers)
- Integrators of Safety-critical Platforms
- Consulting and Service Providers
- Certification Organizations
- Tool Vendors
- Policy Makers and Standardization Groups

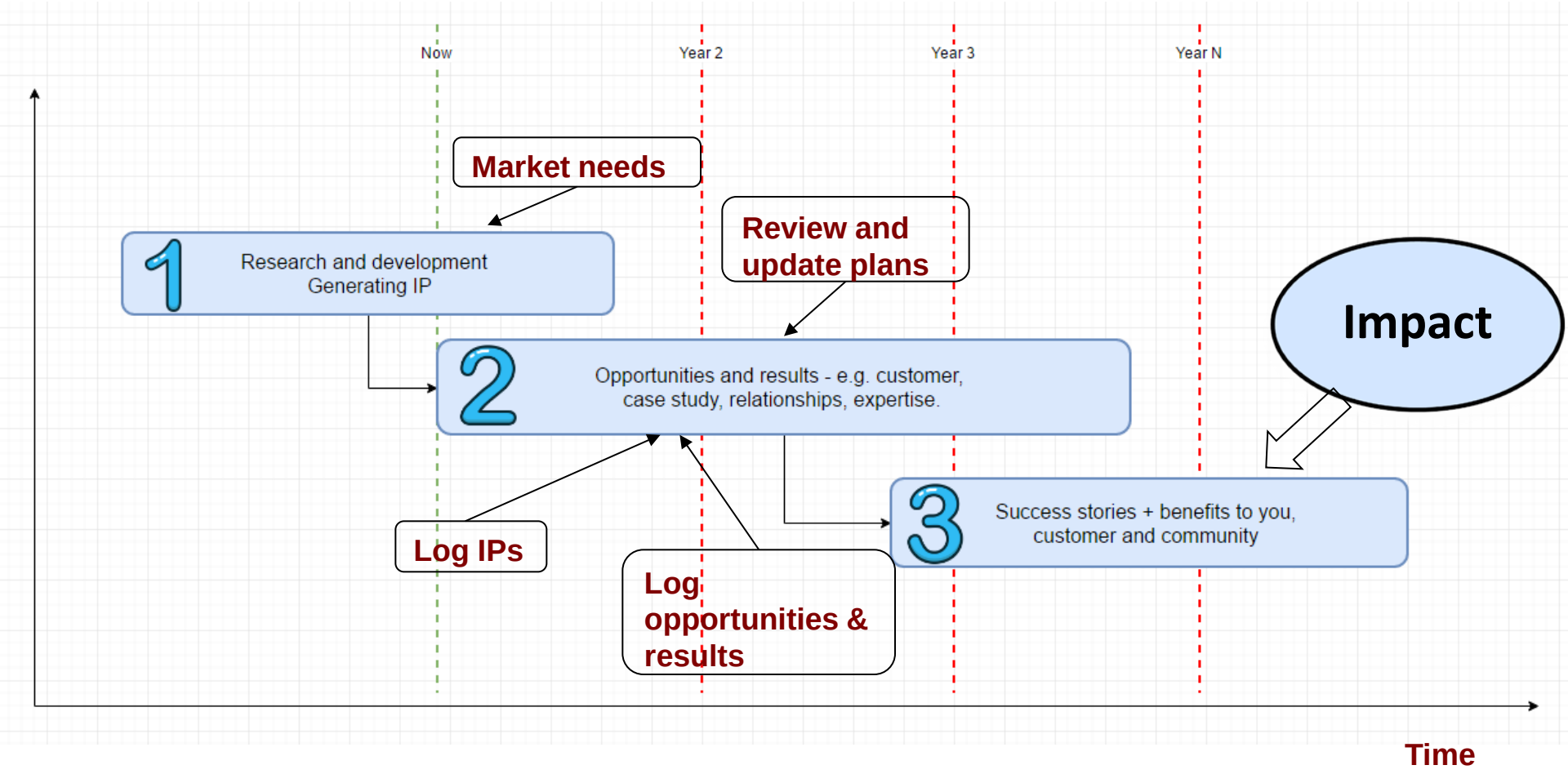
Cost Structure

- The development and maintenance of the platform
- Platform technical support to the customers

Revenue Streams

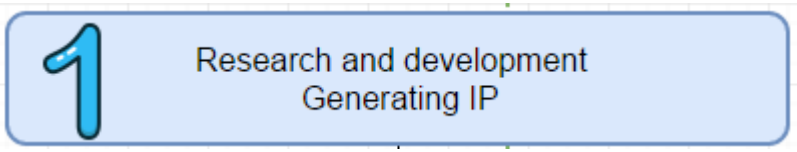
- The AMASS platform will be available as open source.

Exploitation progress



Market needs

- Time to market & competitiveness
- Reuse challenges
- Open solutions & reuse
- Security
- Rising complexity



- New development practices
- Automation of intelligent control
- Increasing product lifespans
- Cross-domain and cross-country standardization
- Other changes in certification and safety in aerospace

IPR and Exploitation Opportunity & Results log

Intellectual Property Register

Item No.	Project Intellectual Property Originator	Intelectual Property Owner	Intelectual Property Type*	Intelectual Property Description**	Date Intellectual Property created	Paten, Trademark or Design No. (Denote 'A' for Application or 'G' for Granted No. as applicable)
1	RPT	RPT	Background IP	RapiTestFramework V1.0	30th Sep 2016	Copyright / Know-how
2	AMT	AMT	Background IP	medini analyze functional safety tool	since 2008	Copyright
3	AMT	AMT	Foreground IP	medini analyze model of automotive case studies		Copyright/Know-How
4	AMT	AMT	Foreground IP	Technology Experiments (source code) for collaborative engineering		Copyright/Know-how
5	AMT	AMT	Foreground IP	Requirements and Business cases for collaborative engineering		Know-how
6	AMT	AMT	Foreground IP	medini analyze connection to OpenCert		Copyright/Know-how

Exploitation Opportunities and Results

Item No.	Title	WP/T	Owner	Description	Benefits to partner or community	Activity type	Status/Note
1	Using RapiTest Framework on a service contract	WP5, T5.3	RPT	Activity engaging with customers on needs for v&v service contract	Reduce testing cost	Individual	Q4: C/C++ support and RPF V1.3
2	Investigating how Rapita tool chain would be benefit for OHB	WP1, T1.2	RPT	Evaluation for Rapita tools with OHB current process.	Integration with Matlab and reducing cost on testing for OHB; Future licence revenue for RPT	Cluster	Q4: Initial contact/introduction
3	Investigating how Sophia tool for safety and security analyses would be benefit for Clearsy use case	WP1, T1.2	CEA	Evaluation of CEA tools on railway engineering process	Increase the TRL of CEA tools.	Cluster	Q4: Initial contact/introduction
4	Investigating how to perform co-analyses (safety and security) based on Payrus tool and its plugin Sophia	WP4	CEA	Definition of safety and security co-analyses tools/methods and methodologies based on Papyrus	Ensure the relevance and adequacy of CEA functional safety and cybersecurity tools to industry needs	Cluster	Q4: Initial contact/introduction

Main Achievements

- Dissemination

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Next steps in WP8

- Organised workshops:
  - SASSUR, DECSoS, SAFECOMP
- Training:
  - 1 Major Training on the AMASS second prototype
  - 7 External training courses
- Standardization:
  - Evolution of the SACM standard
- Exploitation:
  - Success stories from case studies

Thank you for your attention!