



Collaborative Large-scale Integrating Project



**Open Platform for Evolutionary Certification Of
Safety-critical Systems**

Training Plan D9.2 B



| | |
|-----------------------------|--|
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| Date: | 30 November 2012 |
| Responsible partner: | Daniela Cancila (ATF) |
| Contact information: | daniela.cancila@atego.com |

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Contributors

| Names | Organisation |
|-----------------------------------|--------------|
| Daniela Cancila, Sébastien Rocher | Atego France |
| Paolo Panaroni, Andrea Musone | Intecs |
| Huascar Espinoza | Tecnalia |
| Erik Borgers | INSPEARIT |
| Diana Mulloy | Atego, UK |

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Executive Summary

The main objective of WP9 is to make relevant stakeholders aware of project results and to guide the exploitation strategy of the project. Additionally, internal training and courses are held so that the consortium members will get the appropriate skills in using the platform and its components. The deliverable D9.2B (Training Plan) is devoted to external and internal training activities.

The main objective of the training activities is to encourage the adoption of the OPENCROSS results in the standardization bodies, academic and industrial communities. A secondary objective of the training activities is to stimulate the OPENCROSS consortium through the mutual exchange of knowledge experience and working methods.

This deliverable describes the training strategy, training stakeholders, material, quality indicators and measurement, as well as the initial training activities completed during the first months of the project. Task 9.2 started in November 2011, and this document reflects progress made by October 2012. During this time OPENCROSS partners have:

- Defined a way of working in the training task (T9.2)
- Defined a Training Plan
- Provided four internal training sessions with supporting materials
- Provided training facilities

1 Introduction

Safety assurance and certification are amongst the most expensive and time-consuming tasks in the development of safety-critical embedded systems. European innovation and productivity in this market is curtailed by the lack of affordable (re)certification approaches. Major problems arise when updates to a system require reconstruction of the entire body of certification arguments and evidence. Market trends strongly suggest that many future embedded systems will be comprised of heterogeneous, dynamic coalitions of systems of systems. As such, they will have to be built and assessed according to numerous standards and regulations. Current certification practices will be prohibitively costly to apply to these kinds of embedded systems.

The OPENCROSS project aims to devise a common certification framework that spans different vertical markets for railway, avionics and automotive industries, and to establish an open-source safety certification infrastructure. The infrastructure is being realised as a tightly integrated solution, supporting interoperability with existing development and assurance tools. The ultimate goal of the project is to bring about substantial reductions in recurring safety certification costs, and at the same time increase product safety through the introduction of more systematic certification practices. Both will boost innovation and system upgrades considerably.

OPENCROSS Work Package 9, led by Paolo Panaroni (Intecs), is concerned with communicating the results of the work done within the project, both within and outside the project. Within this package, Task 9.2: Training; led by Daniela Cancila (Atego France), started in November 2011 (m02) and to end in m40.

Deliverable 9.2 has been restructured, to separate Dissemination from Training and now consists of two deliverables:

- Deliverable 9.2_A, the Dissemination Plan is the responsibility of Martijn Klabbers (TUE),
- Deliverable 9.2_B, the Training Plan is the responsibility of Daniela Cancila (Atego France).

The D2.9_B deliverable includes a number of documents:

- The Training Plan (this document), which focuses primarily on the outline (Strategy, Rules, and so on).
- The Training Calendar - a proposed and non-exhaustive training calendar, which is available in the OPENCROSS Subversion repository directory for Task 9.2¹. The plan will be updated every three months, and on occasion during OPENCROSS meetings, when we summarize what is already done and what is planned – thus reducing risks such as inconsistency and incongruence.
- The Training Satisfaction Survey

The information in this deliverable will be updated as the project progresses with the following deliverables:

D9.4 [m15] *First report of dissemination, training, and exploitation activities (report), responsible T9.1 task leader*

First report of the WP9 activities, including refinements to the initial plans. It includes a reference to the communication activities (press releases, newsletters, etc.)

D9.5 [m27] *Second report of dissemination, training, and exploitation activities (report),*

¹ https://svn.win.tue.nl/repos/opencross/WP9/D9.2_in_progress/FINAL_VERSION_FOR_EU_Deliverable_9.2_B_Training/Training_Calendar_v5.xlsx

responsible T9.2 task leader

Second report of the WP9 activities, including refinements to the previous plans. It includes a reference to the communication activities (press releases, newsletters, etc.)

D9.6 [m42] *Final report of dissemination, training and exploitation activities (report), responsible WP9 leader*

Final report of the WP9 activities, including refinements to the previous plans. It includes a reference to the communication activities (press releases, newsletters, etc.)

2 Training Objectives and Strategy

The Training Plan is devoted to internal and external training activities.

The main objective of the training activities is to encourage the adoption of the OPENCROSS results in the standardization bodies, academic and industrial communities.

A secondary objective of training activities is to stimulate the OPENCROSS consortium through the mutual exchange of knowledge experience and working methods.

In order to realize these objectives, two activity types are used:

- External training - to support the first main objective (Section 5.2)
- Internal training - to support the secondary objective (Section 5.1)

External and internal trainings use various types of electronic documents (such as presentations, tutorials and videos). The OPENCROSS project is centered on “open”, for example with respect to open-platform, open-source and open-documentation. To pursue the OPENCROSS strategy towards the “open”, then the training material should be accessible to other communities where possible.

There are many ways to deal with promoting events and training; OPENCROSS partners plan to exploit mailing lists, websites (the OPENCROSS website and websites of the OPENCROSS consortium partners) and social networks, such as LinkedIn.

Finally, training activities are coordinated through the rules and organization given in Section 2.1 and Section 3.

2.1 Training Rules and Organization

All partners are encouraged to identify needs for training and to propose training activities, when they anticipate or perceive the need for it.

All partners are encouraged to freely perform training activities. To coordinate and maximise benefit from the training efforts, partners should:

- Inform in advance, by email, the following leaders:
 - the task 9.2 leader - Daniela Cancila (ATF)
 - the work package 9 leader - Paolo Panaroni (Intecs)
 - the project manager - Huascar Espinoza (Tecnalia)
- On completion of any training activity report back to the same leaders

The calendar will be updated every three months, and during OPENCROSS meetings, where we summarize what has already been done and what is planned – thus reducing the risks of inconsistency and incongruence.

All new training material created during the OPENCROSS project shall include the following statement to indicate that the information has been produced with the financial support of the European Commission, and the FP7 programme:

“The research leading to these results has received funding from the FP7 programme under grant agreement n° 289011 and from the [partner-specific funding sources].”

The FP7 logo must always be included in any external training material.

3 Training Standard Template and Target Groups

In this section, the groups to benefit from training are highlighted; this is followed with practical details of how to prepare the OPENCROSS branded training material with the assistance of some OPENCROSS templates and guidelines.

3.1 Training Target Groups

The following groups, within the consortium, the EU, and worldwide, are specific targets for training activities:

- Project partners
- Industrial community
- Prime contractors, OEM
- Suppliers
- Tool Vendors
- Consultancy/Training providers
- Scientific community, including students
- Academic Institutions, including students
- Standardization Bodies and Organisations
- Agencies (e.g. ESA, ERA, etc.)

3.2 Training Standard Template

Training can be promoted by using one or more of the following formats:

- Presentation, e.g. in PowerPoint
- Documentation, e.g. in Word
- Video, e.g. in Wink
- mailing list and e-mail
- website
- other

All the training material should be branded as OPENCROSS, to show authority, homogeneity and consistency. This can be done by using the OPENCROSS templates, which are updated by the OPENCROSS consortium and are available in the OPENCROSS Subversion repository in folder *00_Templates_Forms_Logos*² (See Figure 1).

² https://svn.win.tue.nl/repos/opencross/00_Templates_Forms_Logos

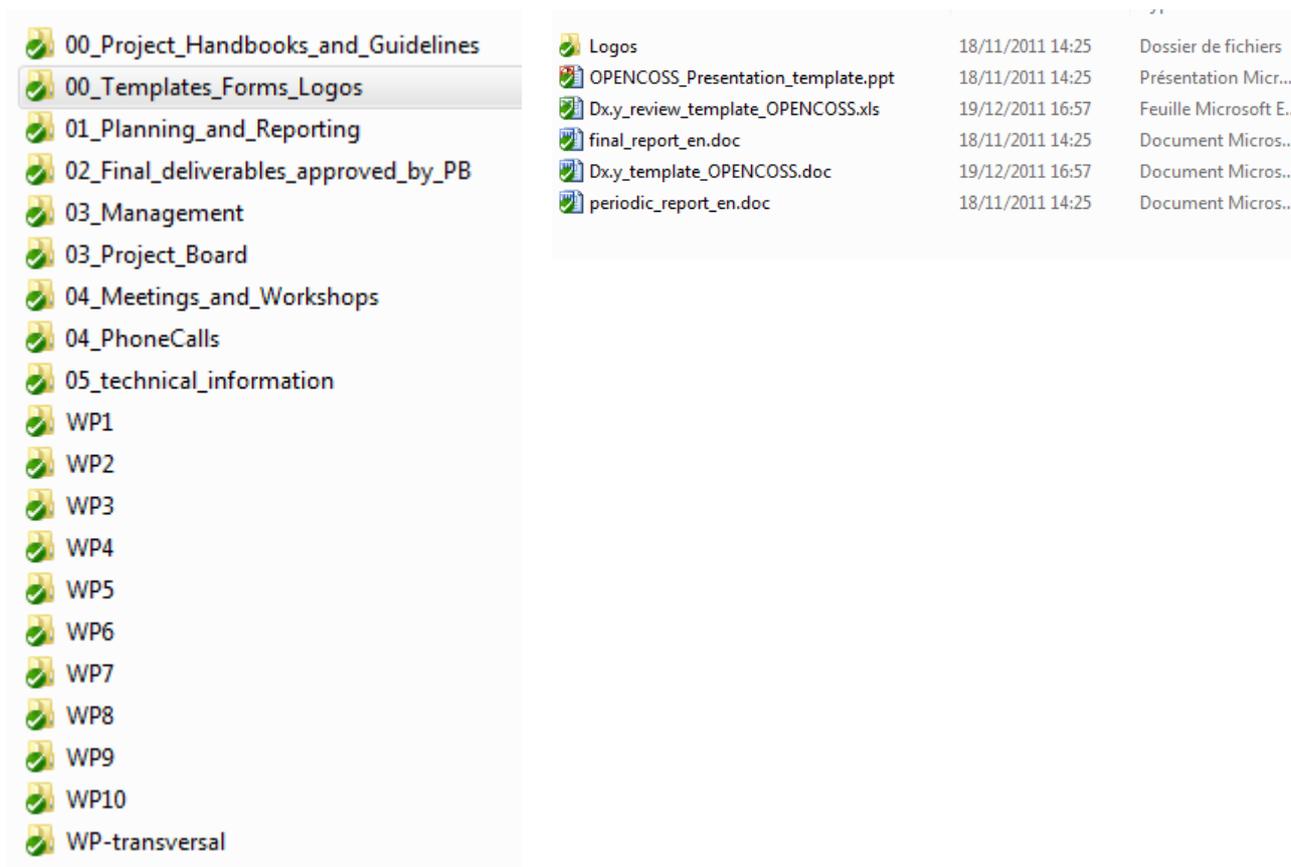


Figure 1: Location of the standard templates

3.3 Training Material

Many different training materials are required to support the OPENCROSS training. The identified training material is listed below:

- Training Presentation
- Training Leaflet
- Teacher Profile
- Training Satisfaction Survey (one per participant). See Section 3.3.4
- Training Participants List
- Training Announcement
- Training Plan
- Training Calendar
- Training Reports

3.3.1 Training Presentation

This is the material that actually contains the course content to be delivered to one or more training target groups as identified in 3.1. The content can be presented in one or more format types as identified in 3.2.

3.3.2 Training Leaflet

This is an optional leaflet promoting the training course.

3.3.3 Teacher Profile

Profile information about the course provider.

3.3.4 Training Satisfaction Survey

OPENCROSS has provided a one page survey that each course participant is requested to complete. It is the responsibility of the course administrator to distribute the survey with the training. A copy of the survey is included here; the original document is in SVN³.

OPENCROSS

**TRAINING
SATISFACTION SURVEY**

You have completed some OPENCROSS training. This survey allows us to verify the pedagogical content of the training and its quality. We thank you in advance to completing this survey.

NAME : _____ FIRST NAME : _____
 COMPANY : _____ COMPANY ADDRESS : _____

TRAINING TITLE: _____
 PROVIDED BY: _____
 DATES: from _____ to _____

| TRAINING | EXCELLENT | HIGH | MEDIUM | LOW | NOTES |
|------------------|------------|-------|--------|-----|-------|
| CONTENT | | | | | |
| SUPPORT MATERIAL | | | | | |
| PRESENTATION | | | | | |
| DURATION (1) | SUFFICIENT | BRIEF | LONG | | |

CONCLUSION:

- Does the training meet your objectives? **yes** **no**
- Would you recommend this training to other people? **yes** **no**

 o Main motivation for your positive or negative recommendation _____

Date: _____
 Signature: _____

(1) Please circle your answer.

Figure 2: Training Satisfaction Survey

3.3.5 Training Participants List

One list should be compiled per training course.

³

https://svn.win.tue.nl/trac/opencross/browser/WP9/D9.2_in_progress/FINAL_VERSION_for_EU_Deliverable_9.2_B_Training/Appendix_A_Deliverable_9.2_B_Training_Survey_Training.pdf

3.3.6 Training Announcement

The administrator of the training must publish the forthcoming training. This can be done in a variety of ways e.g. web site, e-mail list. How this is done will depend if the course is internal or external. The announcement will provide details of where and when the training will take place, alternatively how the participant can proceed with on-line training.

3.3.7 Training Plan

The Training Plan identifies generic training activities and the objectives, see section 4 for more detail.

3.3.8 Training Calendar

The Training Calendar instantiates the activities identified in the Training Plan into specific events (date/time, location, teacher and expected participants).

The OPENCROSS calendar is available in the SVN⁴ see section 4 for more detail.

3.3.9 Training Reports

As the project progresses OPENCROSS will provide 3 deliverables - D9.4, D9.5 and D9.6, see section 1 for a brief introduction and section 5 for the current status.

3.4 Training Quality Indicators

To assess the quality of the training some characteristics are collected. As a minimum these characteristics should address the following:

- Volume (e.g. how much training was done)
- Attendance (e.g. number of people participating in training events)
- Training material checklist (Section 3.3)
- Training satisfaction survey (Section 3.3.4)

In order to ensure effectiveness of training, the “satisfaction survey” feedback is evaluated with respect to the following parameters:

| Date | Number of training hours | Number of trained people | Training summary | Notes | Average satisfaction |
|------|--------------------------|--------------------------|------------------|-------|----------------------|
| | | | | | |
| | | | | | |

The result of this analysis helps OPENCROSS partners to plan future training.

4

https://svn.win.tue.nl/trac/opencross/browser/WP9/D9.2_in_progress/FINAL_VERSION_for_EU_Deliverable_9.2_B_Training/Appendix_B_Deliverable_9.2_B_Training_Calendar_v5.xlsx

4 Training Plan

In the first part of the project (2011 – 2012), the Training Plan devotes effort in creating a common knowledge base among the OPENCROSS consortium. Such knowledge allows the consortium to better communicate and work together in the technical work packages (WP2-WP7).

At this point, internal training deals with basic concepts:

- administrative training to meet the EU administrative requirements
- model-based engineering
- goal structured notation
- safety norms, processes and certification

In the second part of the project (2013 - 2014), the Training Plan devotes effort to techniques for the definition of the platform and in the use of the platform. At this point, internal training deals with the use of the platform and of the preliminary results. External training can now be introduced to foster adoption of the results.

Finally, in the last part of the project (2014 – 2015), the Training Plan devotes effort to the adoption of OPENCROSS results by both external and internal training.

Figure 3 shows an evaluation of the effort for training activity, with respect to the workload declared in the DoW, during the project life.

As the figure shows, we expect to increment training activities in the second and the last part of the project. In 2014, we expect to spend our main efforts in training on divulging the OPENCROSS results to promote their adoption.

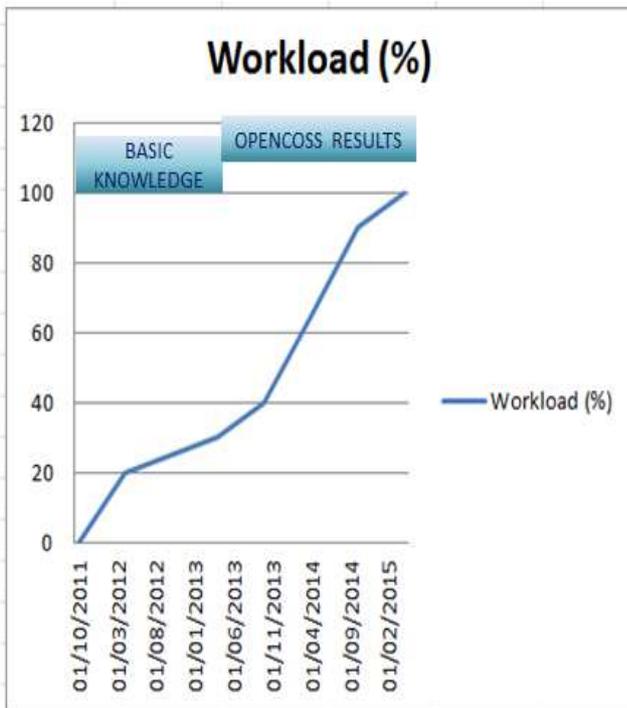


Figure 3: Expected effort for training activity

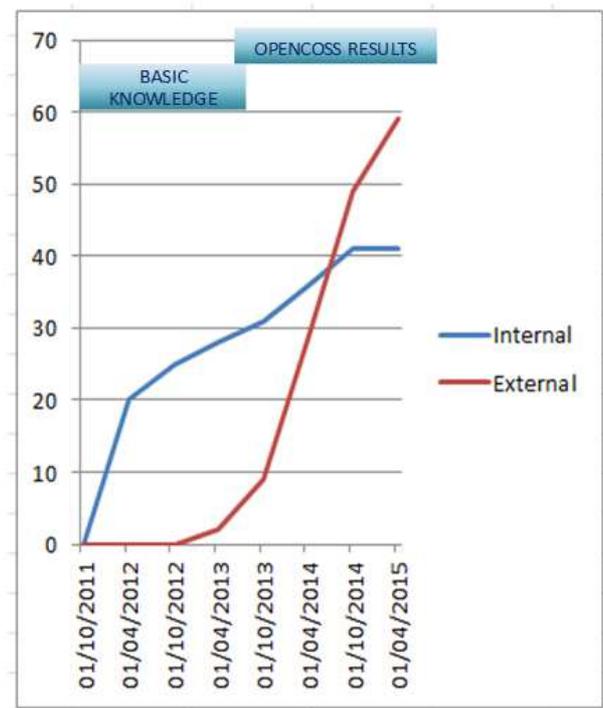


Figure 4: Expected effort for internal and external training

Figure 4 highlights the evaluated effort for internal and external training. In the figure, the blue line indicates internal training; the red line indicates external training. Figure 4 clearly points out how the first part is devoted to internal training, and the second part concentrates on the external training.

Figure 5 shows the training calendar for 2011. In few months, we have provided three internal trainings devoted respectively to:

- developing basic knowledge of administrative management
- Goal-Structured Notation (GSN), which is used in WP4 and WP5
- the Model-Based Engineering approach to system and software design

Figure 6 shows the calendar for 2012 and 2013. OPENCROSS have provided:

- a “facility training”, i.e. training with a special discount for OPENCROSS consortium. We point out that a facility training is not supposed to utilise FP7 funding, that is, the work to prepare a facility training cannot be charged as an OPENCROSS effort
- an ISO 26262 automotive safety training

CENELEC training is planned at the end of November 2012.

For 2013, one or more public academic trainings are planned.

| When | What | Where | Organizer | Purpose, Subject, Rationale | Type (Internal, External, Facility) | Target Group |
|------------------|--|--------------------|---------------|---|-------------------------------------|----------------------|
| YEAR 2011 | | | | | | |
| 17 november | Project management and Risk Management | WEBEX | TEC | | internal | OPENCROSS consortium |
| 22-23 november | Workshop: Introduction to safety cases and GSN (Goal Structuring Notation) | University of York | UoY | The first day of the workshop is dedicated to Safety Cases: Basic concepts, safety arguments, evidences, development and maintenance, review and evaluation, modularity. In the second day the GSN is presented together with practical exercises to model safety cases. This training is relevant to all OPENCROSS consortium, especially for WP4 and WP5. | internal | OPENCROSS consortium |
| 9 december | Model Based Engineering Design | WEBEX | ATF, ATU, TEC | The main objective of the training is to create a common knowledge on model-based engineering and to understand how these concepts can be used in the OPENCROSS project. The training has two main parts. The first one deals with the MBE basic concepts (e.g. chat is a model, meta-model, profile, modelling language) and it has been provided by Atego. The second one deals with a potential use of modelling and meta-modeling in the OPENCROSS project, and it has been provided by Tecnalia. | internal | OPENCROSS consortium |

Figure 5: 2011 Training Calendar

| | | | | | | |
|------------------|------------------------------|-------------|-------------------------|---|----------|--|
| YEAR 2012 | | | | | | |
| 2-3 February | Workshop : DO-178 and D0-254 | Toulouse | Atego HighRely | Atego HighRely's course focuses on minimizing DO-178 certification costs, maximizing benefits, and providing the best DO-178 industry practices. Our DO-178 training for managers and executives provides an overview including scheduling, cost-estimation, and tool selection, along with objective descriptions and experiences. | facility | OPENCROSS consortium and external people |
| 18-20 September | Workshop : ISO 26262 | Pise, Italy | Paolo Panaroni (Intecs) | The main objective of the training is to create a common knowledge on safety automotive norm. | internal | OPENCROSS consortium |
| End of November | Workshop : CENELC norms | Paris | Atego France and RINA | The main objective of the training is to create a common knowledge on safety railway norms. | internal | OPENCROSS consortium |
| YEAR 2013 | | | | | | |
| | public academic training | | Atego France, TU/E | | external | academic community |

Figure 6: 2012 Training Calendar

5 Initial Report

This section presents an initial report of the training activities as of October 2012. This information will also be included into Deliverable D9.4.

5.1 Internal Training

The internal trainings have been listed in chronological order.

5.1.1 Project and Risk Management Training

Tecnalía and HPDahle gave a first internal training on 17 November 2011. Supporting material was provided via the OPENCROSS Subversion repository (See Folder 00_Project_Handbooks_and_Guidelines).

The main objective of the training was to familiarize the OPENCROSS consortium with the administrative tasks within the project.

5.1.2 Goal Structured Notation (GSN) Training

The University of York gave a two-day training on Goal Structured Notation (GSN) at the University of York on 22 and 23 November, 2011.⁵ Supporting material was distributed to attendees.

The main objective of the training was to create a common knowledge on the GSN formalism. Numerous participants from OPENCROSS consortium partners attended and feedback was positive.

5.1.3 Model-Based Engineering (MBE) Training

Atego France, Atego UK and Tecnalía gave a training on Model-Based Engineering via Webex on 9 December 2011. Supporting material was provided via the OPENCROSS Subversion repository (See Folder WP9/Training material).

The main objective of the training was to create a common knowledge on model-based engineering and to understand how these concepts can be used in the OPENCROSS project. The training had two main parts. The first one dealt with the basic concepts of MBE (e.g. what is a model, meta-model, profile, modelling language, domain-specific modelling language) and was provided by Atego. The second one dealt with the potential use of modelling and meta-modelling within the OPENCROSS project and was provided by Tecnalía.

5.1.4 ISO 26262 Training

Intecs provided training on ISO 26262 safety norm in September 2012 (See Folder WP9/Training material).

The main objective of the training was to create a common knowledge on safety automotive norm.

TEACHERS: JOHN FAVARO and GIOVANNI SARTORI (INTECS)

⁵ https://svn.win.tue.nl/repos/opencross/04_Meetings_and_Workshops/2011-11-22-25 Safety Case workshop, York

CONTRIBUTION: CRF provided a valuable contribution to the preparation of the event with its critical review of the training material to assure that relevant important aspects of the standard were presented and discussed.

The workshop was an unprecedented opportunity to expose the concepts of ISO 26262 to an audience well-skilled in safety engineering but lacking specific ISO 26262 competences. A brief “safety manifesto” was elaborated with main common concepts and was circulated for comments.

A social dinner contributed toward the good spirit of cooperation despite the many different points of view on the safety area. The Babel Tower now appears less invincible. The participants expressed their positive feedback afterward in the course evaluation questionnaire, with comments such as:

- *Great course!*
- *Group exercises have been very helpful for comparing the viewpoints of the different experts participating.*
- *Attending the course made me realize the complexity and ideas underlying this standard. Very recommendable.*



5.2 External Training

External training activity is starting at the end of the first year of the project.

5.2.1 Public Academic Training

In the first EU report, the EU commission highlights the importance of introducing public academic training. The broad objective of the training is to diffuse (cross-) certification issues, challenges and strategy identified by the OPENCROSS project as well as solutions, uses cases and demonstrators that are achieved by the project.

The aim of this section is to provide the first iteration of public academic training. A further investigation is planned in the coming months and iteration with the EU commission seems desirable to enhance in the public academic training in an efficient way.

5.2.1.1 Setting the Strategy

The public academic training consists of a set of modules and it exploits both high-level academic and industrial experiences. A module can be set to suit the expectations of various groups of students and disciplines. Therefore, a modular structure of the training allows us to increase quality.

The planned (draft version) agenda follows the results of the project.

OPENCROSS have identified two main periods of the project life.

During the first period, the modules will focus on the industrial and scientific importance in certification and cross-certification. Indeed, in the last decades, there has been a gradual increase in the adoption of MBE techniques and approaches to developing systems, and more recently, systems of systems. Industrial and research feedback shows MBE techniques can be used as a means to reduce the development cost of a system. Therefore, integration between certification issues and MBE methodologies for system and software development seem a viable solution, although MBE is not the focus.

The modules could include: investigations in safety standards, with special focus on the differences and similarity among them; reuse of structural goal notation and evidence argument. Use cases will be provided to support the training.

During the second period, modules will focus on solutions achieved during the project, for example the platform or the “common certification language” (CCL).

Broadly speaking, a module can include theory, exercises and multimedia material. For example, it could integrate videos and live-interviews.

The original format of a module will be available to the community (with the exception of multimedia material, e.g. live-interview). As a result, a teacher can easily “customize” the course with respect to specific needs. However, the teacher shall always quote the original one. To ensure adherence to this clause, a disclaimer could be introduced at the beginning of each module.

A module shall always have the consensus of the OPENCROSS consortium before publication. The consensus is not required when a teacher customizes the course.

5.2.1.2 Format

1. The public academic training adopts the OPENCROSS standard format, defined in Deliverable 9.1.A_dissemination and this deliverable (9.2.B_training).
2. The public academic training will be available on the OPENCROSS website
3. The public academic training should explicitly introduce a disclaimer on
 - a. Envisaged student group (master, PhD, etc.)
 - b. Discipline (Computer Science, Automotive Technologies, etc.)
 - c. Contents
 - d. Timing
 - e. Authors, as a guarantee of the source

5.2.1.3

To reduce the risk of errors, trainings will be integrated (if applicable) in existing teaching courses of the OPENCROSS partners, before publishing them. The University of York and TuE have already provided their availability.

5.2.1.3.1 Jour-J

To start there will be a six hour module aimed at a master student in Computer Science and Automotive Technology. The module will capitalize on the academic expertise of TuE and the industrial know-how of Atego and Intecs.

The module will be integrated into an existing academic course. The planning is that TU/e will be able to provide the training next year (i.e. 2013) – thus providing the first and initial feedback. This feedback could play a leading role in refining the next modules, or reducing the risk of failures, although some differences can be expected between countries, teachers and students.

Figure 7 and Figure 8 show an example of the timing and contents of the first public academic training (draft version).

Disclaimer

The training is set for 6 hours and contains 7 parts, including 2 exercises
We suggest the following timing:

PART I 1:30 h.

PART II 00:45 – 1:00 h.

PART III 00:30 - 0:45 h.

PART IV 00:45 h.

PART V 00:30 - 0:45 h.

PART VI 00:30 h.

PART VII 00:45 h.


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Figure 7: Example of timing for module presentation

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|-----------------|--|
| PART I | Railway and Automotive safety standards, main concepts and how they are used |
| PART II | How you demonstrate that a software is correct with respect to safety standards |
| PART III | exercise |
| PART IV | How safety standards are reflected in a model-based engineering approach and <i>vice-versa</i> |
| PART V | exercise |
| PART VI | Introduction of FP7 European Project OPENCROSS |
| PART VII | Cross-certification |

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Figure 8: Example of module content

5.2.1.4 Difficulties and counter-measures

Among the main difficulties, the following are highlighted:

1. setting student groups and disciplines (Generic vs. specialized trainings);
2. publishing OPENCROSS industrial use cases could encounter IP problems;
3. achieving an OPENCROSS consensus;
4. publically available safety standards

A modular structure of the training could be considered as a means to better fit suitable student groups and disciplines.

A counter-measure for item 2 could be to ask the OPENCROSS end-user group for the availability of the use case exploited by each module. Additionally OPENCROSS can adopt a light version of the use cases and report some industrial feedback of the use case adopted inside the OPENCROSS consortium.

The OPENCROSS project is an IP FP7 project, with several partners. This adds the complication that coming to a consensus in a short timespan can be difficult. To counter act this, a core OPENCROSS team will make the broad decisions, and, then, the OPENCROSS consortium works to get general consensus.

Finally, public availability of safety standards (e.g. ISO 26262, CENELEC, DO) is an insurmountable difficulty. *Ad impossibilia nemo tenetur.*

5.2.1.5 On-Going Work

Section 5.2.1 illustrates some broad decisions about the EU requirements, published in the first EU report. The initiative has found a fertile answer in the OPENCROSS community. However, more effort should be devoted by the OPENCROSS consortium to confirm a more comprehensive planning of the public academic trainings.

The academic training planning is a hot-topic for the next months and for the next EU revision meeting (in December 2012).

We are also looking forward to additional financial support for this activity.

5.3 Other Training Facilities

In addition to the internal and external training provided and funded by the OPENCROSS consortium, OPENCROSS plan to provide some “facility training”. This will be provided by an outside agency in order to increase the knowledge within the OPENCROSS consortium, such that:

- The consortium can attend external training, at a reduced price
- The training is not included in the OPENCROSS effort (participants, teacher and supported material)

5.3.1 DO178-B and DO254 Training

Atego HighRely has provided a DO-178/254 training at a discounted price for the OPENCROSS consortium, for two days, 02 and 03 February 2012, in Toulouse, France.

The main objective of the training is to focus on minimizing DO-178 certification costs, maximizing benefits, and providing the best DO-178 industry practices. The DO-178 training provides an overview including scheduling, cost-estimation, and tool selection, along with objective descriptions and experiences. The training has had a positive feedback.

6 Conclusions

Task 9.2 was started in November 2011 and during the last year OPENCROSS have:

- Introduced corresponding training wiki page, <https://svn.win.tue.nl/trac/opencross/wiki/T9.2> ;
- Defined a Training Plan ;
- Delivered this document ;
- Provided four internal trainings and supported materials ;
- Provided a training facility

Two observations were highlighted after the delivery of the first three internal training sessions:

- A problem: too many meetings in the whole project. As a result, OPENCROSS decided to reduce the number of training sessions towards the end of this first phase of the project to allow more time on technical work packages.
- An advantage: trainings are more successful when delivered at physical meetings rather than Webex-based ones. Therefore, OPENCROSS plan to organize internal training courses with partners in attendance where possible.

7 Glossary (Abbreviations and Definitions)

CA. *Consortium Agreement.* A signed agreement between the partners to rule the cooperative work and the intellectual property of results.

DoW. *Description of Work.* The main and agreed document describing the project activities.

GA. *Grant Agreement.* A signed agreement between all partners and the EU commission to rule the relationship with the Commission.

Teacher. A person qualified to provide formal training

Training. Support familiarization with project results, internally within the consortium partners, and toward a target group, with aim to better support dissemination and exploitation.

Training Activity. An activity with the purpose of training, be it a course, a seminar, a video, etc.

Training Event. The execution of a training activity at a given date, time and location, and with given participants.

Training Material. Any information used to support a training activity.

Training Needs. Specific incompleteness of knowledge or skills that can be filled by a training activity.

Training Target Group. Those who will be positively affected, directly or indirectly, by the project through its activities and its results.

User. The User is an individual or an organization which can utilize project results.