RobMoSys

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RobMoSys

Composable Models and Software for Robotics Systems

Deliverable D6.1.: Dissemination Plan

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Content

1 Executive Summary

Whereas in typical research projects, dissemination is focussing at communicating results generated during the runtime of the project, dissemination for RobMoSys aims at securing adoption of the developed concepts in the industrial and software community. To reach this, different levels of communication and interaction will be addressed: awareness, understanding, commitment and action (active participation).

The purpose of this document is to serve as a communication plan structuring and listing all communication and dissemination activities for all work packages throughout the runtime of the project.

Chapter two will describes the different target groups and stakeholders that need to be addressed to achieve successful adoption of the models and tools developed.

Chapter three focuses on the different communication channels that will be used to reach out to the target groups at the different levels of involvement. This includes regular press releases and newsletters, all planned events (conferences, workshops, etc.), social media and online promotion as well as training activities ("summer schools").

Chapter four finally lists all dissemination activities planned for quarters two to four in 2017 as well as the already completed activities in the first quarter of the year.

This dissemination plan will be continuously updated throughout the four years of the project, at the beginning of each year, to complete the list of past activities and further plan upcoming activities according to the progress in the project and upcoming milestones.

2 Introduction

Work package 6 "Dissemination and Community Building" has the objective to create visibility, understanding of and commitment to the RobMoSys project in industry, research institutions, higher education and in the general public.

During the runtime of the project, two Open Calls will be announced in relevant media, the project website, through mailing lists and social media channels to attract the interest of potential applicants for the Open Calls. Community involvement is taken very seriously in the RobMoSys project; therefore, the stakeholders will be addressed via workshops and conferences as well as online webinars and an open source platform hosted by the Eclipse Foundation. The website shall serve as a central access point to the project.

3 Dissemination Strategy

Throughout the entire project, the dissemination strategy will be focusing on creating commitment and attracting potential future supporters of the project and its results at four levels of communication: awareness, understanding, commitment and action (participation).

Figure 1: The four communication levels employed in RobMoSys

Awareness will mainly involve delivering the main message of the RobMoSys project in relation to its aim and objectives, while **understanding** will require the providing of detailed information on the project purposes, methods and deliverables. Involvement in both stages will provide the basis for **action**, where the project's products will be delivered for further use.

Since acceptability is at the heart of dissemination activities of RobMoSys, the communication activities of RobMoSys need to be heavily centred around **engagement level 3 (Commitment)**. The most important instrument in this context are the Tier-1 workshops which allow for an intensive dialogue with the full wealth of target groups, moderated by the experts of the Tier 1 group, and the multiplication of their impact by turning participants into followers and ambassadors of the model-driven approach in software architecture.

To get awareness, understanding and commitment from **industry players**, different levels of hierarchy need to be addressed, depending on the position in the value chain (from component manufacturer to end user), the application domain and the company size. Apart from working level

experts, it is essential to get commitment on decision making level. This can be either C-level managers, especially from small sized system integrators, where a technical understanding can be expected on this level, or medium management in larger enterprises and end-user companies.

We will need early involvement of experts in order to define and prepare the open calls. Then we need to reach out to a broader community to get a good selection of qualified applications for the open calls. During project runtime, we must ensure increasing commitment of all parts of the value chain and across the different application domains to get a broad uptake in the industry also beyond project runtime.

Apart from a broad face-to-face spread-out in conferences and trade shows, the outreach will also be guaranteed to collaboration with a range of projects (e.g. Fortissimo, HORSE, new Horizon 2020 projects), networks (e.g. RoboTTnet), national associations (like VDMA) and expert groups, which can link the project to companies that are not well represented at other events, or where it would be unfeasible to guarantee sufficient outreach with a reasonable effort, because the markets are too fragmented (smaller end user markets like cleaning). Ambassadors like Innovation Hubs, business incubators, start-up networks and projects involving a set of SMEs through open calls (e.g. Blue Ocean Robotics, RoboTTnet, the I4MS Centres of Competence, ECHORD++ RIFs) are ideal dissemination partners for RobMoSys.

Some application domains have quite a good link to the robotics community, some only to a minor extend, because they do not refer to being a robotics technology. Companies in agriculture, for example, rather call their products as "smart systems" or "intelligent machines" instead of using the term "robot". Approaching them will also require to interact with them at their market focused trade shows rather than at a technology-oriented trade show like AUTOMATICA.

The final goal is to prepare the sustainability of the RobMoSys framework beyond the runtime of the project. Existing foundations in the area of Cyber Physical Systems can be considered as potential cooperation partners to guarantee the sustainability of the RobMoSys framework beyond the project's runtime grounding an eco-system for software architecture. One of the major open source foundations (ECLIPSE) and one industrial association (EUnited, closely linked with VDMA) are part of the core consortium.

As RobMoSys claims to initiate nothing less than a paradigm shift in software architecture – from ad-hoc robotics system development towards fully model-driven methods and tools – the communication activities need to focus on the tight collaboration with, high involvement and acceptance of the approach by key representatives of the target groups relevant for RobMoSys. Therefore, communication instruments – particularly at the beginning of the project – will be heavily focused on face-to-face communication and an intensive dialogue with the relevant community to shape the software architecture in a joint and consolidated effort. Workshops with representatives of relevant stakeholders (Tier-1 group) are the prime medium of communication particularly during the initial phases of the project. Involved in the project from the very beginning, the project plans to gain them as ambassadors of the RobMoSys framework throughout their industrial domains and communities.

The market penetration of the common conceptual framework for software development developed under the umbrella of RobMoSys will heavily depend on the acceptance of a variety of different stakeholders with different information needs, different communication cultures and the preference of different media to gain information:

3.1 Target Groups

3.1.1 Outreach to Software developers

RobMoSys needs to generate the acceptance of software developers of different application domains (automotive, aerospace, etc.) within and outside of industrial companies: Within the consortium, this target group is represented by the ECLIPSE foundation. ECLIPSE is highly familiar with the information requirements of this target group and is able to identify and produce the online media to which this target group is very responsive, in particular:

- Users of existing digital platforms, i.e. communities with specialised customer groups interested in a specific technology or domain (e.g. the DDS middleware community)
- Users of robotics middleware, robot simulators and representatives of educations robotics (high-profile representatives are members of the Tier-1 group)
- Developer Communities, like the global Eclipse open source community that involves thousands of developers worldwide, where software developers can discover and adopt RobMoSys tools and methods both for robotics activities and for the development of cyber-physical systems.

3.1.2 Outreach to industrial players

EUnited will pave the way of RobMoSys to decision makers in industry, the hierarchy level that needs to be addressed depending on the size of the company (large industry, mid-caps, SMEs):

- Representatives of highly influential industrial domains like automotive, aerospace, cleaning (again: powerful representatives are part of the Tier-1 groups) – they can be key enablers for the uptake of the platforms for digitalization of robotic systems
- The target groups addressed by the Open Calls (mainly also SMEs): tool makers, system integrators, modelers, component suppliers
- Representatives of the entire value chain.
- EUnited is closely linked with the VDMA in Germany which is a powerful industrial platform with more than 3000 member companies from almost 40 sectors.

3.1.3 Outreach to academia and research

It will be decisive that the RobMoSys outcomes are considered and perceived as community effort based on broadest possible involvement of expertise from academia and research. Based on this, it will also be decisive that very early renowned institutions in academia and research deploy the RobMoSys outcomes in their environments. KUL, TUM and HSU with their tight networks and strong links into different Topic Groups including exploitation of the Tier-1 group will put strong effort into making all the places offering RobMoSys in teaching and research visible as a strong and growing "places-to-be":

- Colleagues in robotics (teaching as well as research) that advise their researchers and PhD students to base their work on RobMoSys outcomes;
- Wider outreach by approaching colleagues in all related domains, such as software engineering etc., to form a growing number of multipliers and to attract the best brains to grow the RobMoSys ecosystem (including PhD schools, summer / winter schools);
- Robotics competitions as settings where participants are not bound to legacy and can explore new technology easily (education as well as benchmarking);
- Including the methodology developed in RobMoSys in the curricula will enable industry to hire well trained, easing the uptake of RobMoSys outcome in their research and development activities.

4   Communication Channels

Different communication channels need to be addressed in order to reach out to all target groups. Some of them will be important from the first day of the project, others will get more important over time. Social media and online promotion can be triggered from day one, while publications and participation in different kinds of events require having a more detailed input which first needs to be developed. First major trade show participation for example is planned for mid-2018 (AUTOMATICA).

3.1.   Social Media and online promotion

Social Media accounts will be set up for the project, with the aim to foster a more familiar communication. The icons will be integrated in the website, for the audience to be aware of the availability for "conversation" of the project. Very important to create understanding and involvement among the most important stakeholder groups (current and potential users of the model-driven software framework) is the media coverage which we can reach through press releases.

The twitter account (#robmosys) has already been set up, LinkedIn and Facebook and an own YouTube Channel for online tutorials and webinar will follow in due course. Social Media has to be fed with posts on an ongoing basis.

The website *robmosys.eu* (started in January 2017) will act as the central access point to the project. It will be updated constantly, as soon as there is new information available.
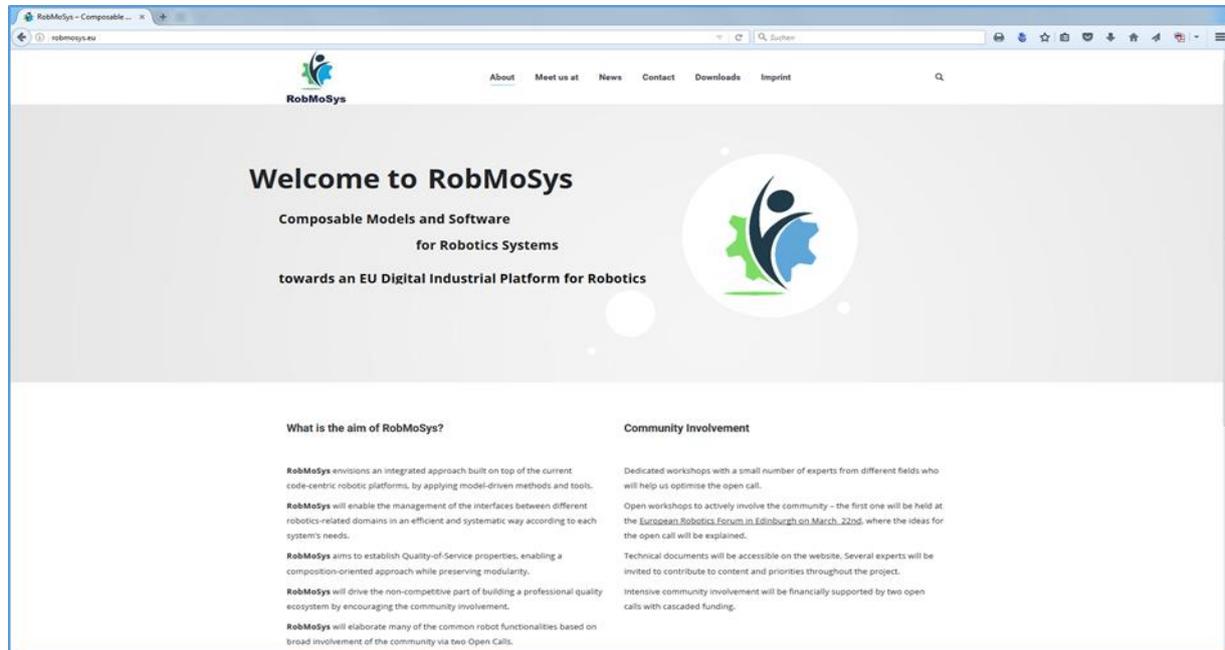
Figure 2: *Screenshot of the website (as of April 5, 2017)*

It is planned to extend the website and content according to the following structure:
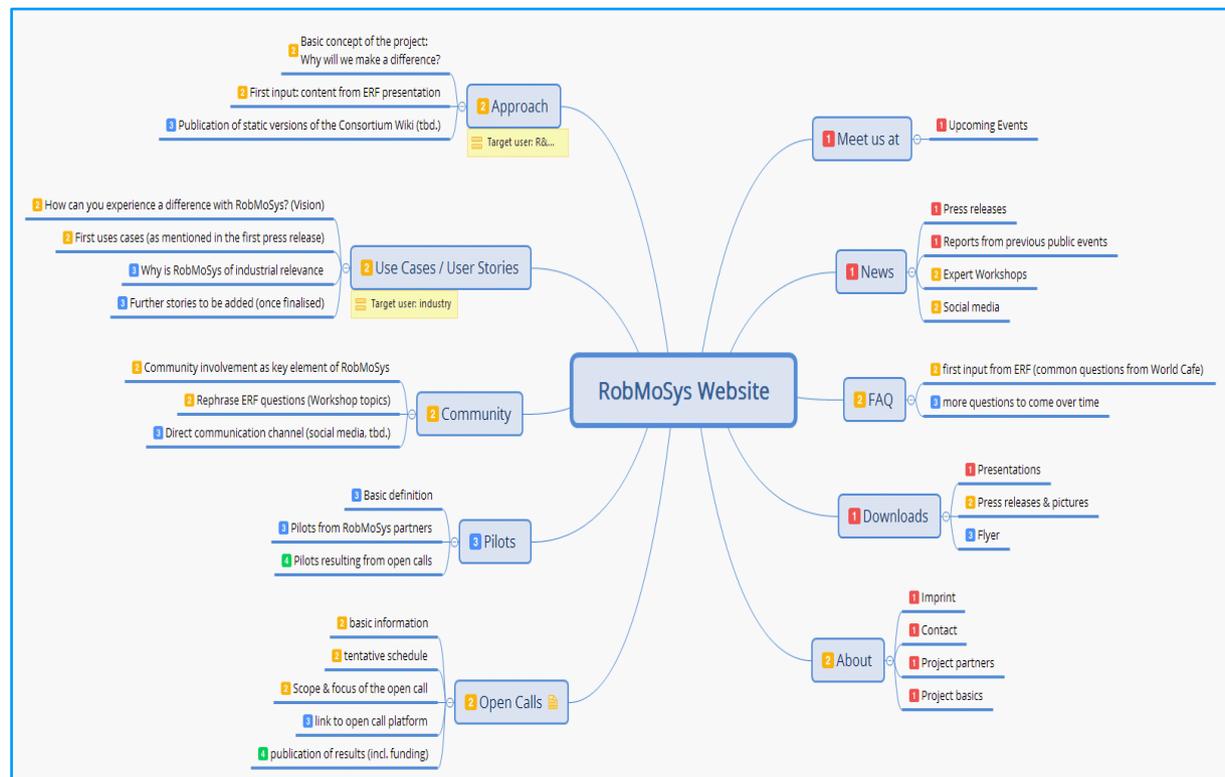

Figure 3: *Planned website structure*

(1 already there 2 within the next month 3 in the second half of 2017 4 next year)

3.2. Participation in workshops, conferences and events

Participation of the project to up to 30 relevant European or international events (workshops, conferences and exhibitions) taking place within the European Union mainly (but not limited) to gain followers and supporters of the RobMoSys framework vertically and horizontally. This exercise is facilitated by the tight involvement of high-level experts in the Tier-1 group and the fact that members of the consortium are well-linked with the target groups which are key to achieve market penetration.

Examples for workshops, conferences and events:

- General robotics related conferences and forums: ICRA – IEEE International Conference on Robotics and Automation; CASE – IEEE International Conference on Automation Science and Engineering, and IROS – IEEE/RSJ International Conference on Intelligent Robots and Systems; ERF – European Robotics Forum;
- More specialised conferences for the software community: ARTEMIS Spring Event; SIMPAR International Conference on Simulation, Modeling and Programming for Autonomous Robots; ROSCon developers conference; EclipseCon conference;
- Technology-oriented trade fairs: AUTOMATICA, Innorobo
- Application-oriented trade fairs: AGRITECHNICA, Logimat, CeMAT, Medica
- Others: European Robotics Week, Schunk Expert Days on Service Robotics, Ulmer Robotertage, etc.

Activities, projects and networks to reach out to in order to gain broader acceptance in industry through their multiplier effect:

- Arena 2036 (http://www.arena2036.de/de/);
- I4MS projects: Fortissimo, BeInCPPS, Euroc, HORSE and ReconCell;
- Regional clusters and platforms, like FLOR, Factory Lab, Regional Innovation Hubs;
- Business Incubators and start-up initiatives;
- National associations, like VDMA, DIRA, SIRI, SYMOP, SWIRA.

Our goal of participating at conferences is not only to speak publicly and inform the community about the project, but also to involve them into participating in the RobMoSys project. The first public RobMoSys workshop took place in March at ERF 2017 in Edinburgh. We offered a 90 min workshop which included half an hour of introduction followed by a world café with four topics which were discussed in small groups. We also used a 5 minute slot to present our project at the "New Horizon 2020 robotics projects in the SPARC strategy" workshop of the EC.

Apart from the open workshop, we are also organising dedicated expert workshops to inform them about the project, get their feedback and commitment with the purpose to use them as multipliers in the market. We had our first 1-day expert-workshop on 7th of February in Frankfurt with 4 experts from industry and academia and one member of each technical consortium partner, where the state of the art and challenges to address the RobMoSys open calls were discussed. Prior to the workshop, every expert was contacted in a one-to-one briefing by the technical consortium partners.

In terms of trade shows Automatica 2018 (June 19-22) will be the first official fair participation of RobMoSys. The fair offers a broad participation of system integrators as well as industrial users of robotics from different domains. By then, first results of the running projects selected from the Open Call can already be presented. It should also be possible to showcase effects of the RobMoSys

approach in live demonstrations. In year 1, all consortium partners will take their opportunity to make use of side events, e.g. at eclipse conference.

3.3.   Press releases and Newsletters

In order to inform the broader public about events, open calls and other milestones throughout the runtime of the project, the media needs to be informed via press releases to benefit from their multiplier effect. Two press releases have already been sent out: the launch press release "EU's innovative new funding project RobMoSys kicked off" – 1 week before the ERF workshop - and the joint press release together with the H2020 project ROSIN "RobMoSys & ROSIN: towards an EU Digital Industrial Platform for Robotics" on March 20th.

Medium	Type	Date	Topic	Country
in.tum.quarterly	TUM in house newsletter	01.02.2017	new project	Germany
computer-automation.de	special interest press	17.03.2017	launch of project	Germany
factorynet.at	special interest press	20.03.2017	launch of project	Austria
hanser-konstruktion.de	special interest press	21.03.2017	launch of project	Germany
controldesign.com	special interest press	20.03.2017	RobMoSys & ROSIN	
Südwest Presse	local newspaper	21.03.2017	launch of project	Germany

Figure 4: Press clippings up to March 2017

For the second half of the year we will be focusing on the announcement of the open calls, with variations depending on the stages: announcement, reminder, last chance for open calls. Other topics will be announced as soon as they are available, for example user stories, results of successful events, new tools, pilots.

In a first joint RobMoSys-ROSIN project meeting (initiated by the EC), the slogan "EU Digital Industrial Platform for Robotics" was suggested as kind of a header for both projects. Although the concept is still very vague on both sides (projects and within EC) we will try to push and market this approach. Whether this will result in one overarching European robotics platform concept, a rather diffuse one or one example of a very concrete software tools platform (possibly among others), remains unclear at the moment and will further be shaped during the runtime of the project.

Another way of sending relevant information about the project directly to the target audience and to maintain a strong relationship is to send out newsletters. As of today, we have collected a subscriber database of 56 addresses, consisting of Tier 1 experts and addresses we have collected at the ERF. We plan to send out one newsletter every 2-3 months, depending on the news value. Additionally, we can use the newsletter channels of EUnited Robotics (~180 subscribers), VDMA R+A (~1200 subscribers) and the Eclipse Foundation (~130.000 subscribers, mainly software developers) as well as the quasi-public robotics mailing lists in Europe and worldwide to announce open calls and other big milestones.

3.4. Training Activities

The project aims to deliver effective training programmes for software programmers and engineers to enable the uptake of the technologies developed by RobMoSys. As far as possible, a train-the-trainer model, which enables experienced personnel to show a less-experienced instructor how to deliver courses, workshops and seminars, will be adopted to achieve a high impact in training. Two "Robotics Software Design Schools" every year (of max 20 participants) will be hosted by the academic partners. The delivery of the training programme will be carried out both by traditional approaches (such as "class-based" courses, seminars, and workshops) and through online webinars (inviting participants all over the world) for presenting RobMoSys features, usage and use cases. Tutorial videos will be made available for self-learning. Teaching material including web casts, video tutorials and webinars will be provided on a regular basis. In addition, the Eclipse Foundation will compile and deliver the appropriate training material for RobMoSys users.

To reach out to the community and get as many people involved as possible, we will be offering online tutorials over our website/YouTube channel. To reach the next generation of roboticists, we have to introduce RobMoSys in the educational sector. From the next semester on, HSU will offer lectures for bachelor program and KULeuven is planning one or two summer school courses. Private on–site trainings are also possible on invitation (see April 11th at Universal Robots).

5 Dissemination plan 2017

5.1 Planned activities for Q2-4 in 2017

2017-04	Newsletter	Announcing results of ERF workshop		Tier 1 experts & subscribers
2017-04-11	Training (on invitation)	System integration: individual consultation with Universal Robots (KUL)		Experts
2017-04-4th and 6th	Conference	Advanced Factories Expo & Congress, Barcelona PAL Robotics as exhibitor informing about the RobMoSys project		Industry
From May on the main focus will be on announcing and reminding of the Open Call				
2017-05	Press release	Announcement of Open Call		Industry, Research & Academia, Software Developers
	Website	Announcing Open Call		All
	Newsletter	Announcing Open Call through Eclipse Platform Newsletter		Software developers
	Newsletters	Re-distribution of RobMoSys Newsletter through euRobotics-mailing list; and the email list of robotics researchers worldwide		Robotics Researchers (Industry and Academia)

2017-06	Newsletter	EUnited Robotics & VDMA R+A Newsletter to inform about open call		Industry
	Workshop	Schloß Dagstuhl, "Roboterkontrollarchitekturen" (on-invitation-only seminar), presenting the RobMoSys project and approaches to model-driven system composition in two workshop talks to expert community in robotics architectures (HSU)		Experts (on-invitation-only seminar)
2017-06-21 & 22	Conference	eclipsecon, Eclipse Conference, Toulouse – RobMoSys presentation for the Eclipse community of users and developers		Software developers
	Conference	PAL Robotics at ICRA, Singapore		Robotics Researchers (Industry and Academia)
2017-07	Newsletter	Reminder Open Call!		Industry, Research & Academia, Software Developers
	Education	Summer school (Robotics Software Design Schools) (tbd.)		
	Workshop	Brokerage day for the Open Call at KULeuven (tbd.)		Industry, Research & Academia, Software Developers
	Newsletter	Open Call – last chance		
2017-08		Reminder Open Call (tbd.)		
	Education	Summer school (Robotics Software Design Schools, tbd.)		
2017-09	Workshop	Brokerage day for the Open Call (tbd.)		Industry, Research & Academia, Software Developers
	Competitions	European Robotics League competition in Piombino, Italy (through PAL Robotics)		Robotics Researchers (Industry and Academia)
2017-08-30 2017-09-01	Conference	Euromicro Conference on Digital System Design, Vienna. RobMoSys project presentation for the Digital System Design community (CEA, PAL)		Software developers/ all

2017-09	Newsletter/ Website	Open Calls closed – number of proposals, evaluation begins		Industry, Research & Academia, Software Developers
2017-09-12	Conference	SafeComp Conference in Trento, Italy International workshop on the Timing Performance in Safety Engineering ; Presentation of RobMoSys project with a focus on "Safety by Design" user story (CEA)		Software developers, Industry
2017-10	Education	Application in "Autonomous mobile systems" lecture, bachelor course at HSU		Students
2017-11		Promotion of RobMoSys during the European Robotics Week		General public
2017-12	Website	RobMoSys Christmas wishes		all
2018-01	Website/ Newsletter/ Press release	Announcement of the finalists of the Open Call		all

5.2   2017 past activities at a glance

TIME	EVENT	REALISATION		TARGET GROUP
2016-12-08	Workshop	EUnited Robotics to inform its industry members about the RobMoSys project (during EUnited Robotics Annual General Assemby)	✓	Industry
2017-01-01	Website robmosys.eu	Content will be updated continuously	✓	All
2017-02-03	Newsletter	Informing about the project, what has happened until now and what is planned. -> Sent to tier one experts and topic group "system integration"	✓	Tier 1 Experts, Topic Group "System Integration"
2017-02-08	Social media	Twitter account was set up – Tweets to be sent out as an ongoing activity	✓	All
2017-02-07	Expert Workshop	1 day meeting in Frankfurt, 4 experts from industry and academia & technical consortium partners met to discuss the state of the art and challenges to address the RobMoSys open calls	✓	Tier 1 Experts
2017-02-12 - 2017-02-17	Seminar	HSU participated at "Computer Assisted Engineering for Robotics and Autonomous Systems" (on-invitation-only seminar), presented concepts of model-driven software development and	✓	Participants from three communities: robotics, model-driven software

Date	Type	Description		Target Audience
		system composition for robotics, presented the RobMoSys project and the open call format.		engineering and formal methods
2017-03-22	Trade Show	10th Ulmer Robotertage, HSU presenting RobMoSys to regional robotics and automation community in southern Germany	✓	Automation Industry (regional)
2017-03 14 – 2017-03-16	Trade Show	LogiMAT logistics fair in Stuttgart, Germany. HSU running a booth - RobMoSys was presented as one of the current activities	✓	Industry/ Logistics
2017-03-15	Press release	Project Launch & ERF announcement: *"EU's innovative new funding project RobMoSys kicked off"* Information on the EU project RobMoSys, their goals and open call opportunities and announcing the workshop at ERF	✓	Industry, Research & Academia, Software Developers, General Public
2017-03-20 – 2017-03-24	Trade Show	CeBit Hannover: HSU as partner of the BW-i/BW-CAR booth to inform about HSU involvement in the RobMoSys project (among other current activities)	✓	Industry, Software developers
2017-03-20	Press release Joint with ROSIN	Joint press release announcing both EU H2020 projects: *"RobMoSys & ROSIN: towards an EU Digital Industrial Platform for Robotics"*	✓	Industry, Research & Academia, Software Developers, general public
2017-03-22	Presentation of RobMoSys @ ERF	Presentation of the RobMoSys project within the EC H2020 workshop "New Horizon 2020 robotics projects in the SPARC strategy" incl. poster	✓	Industry, Academia, Roboticists in general
2017-03-22	ERF open workshop	*"**RobMoSys**: the next level of a Model Driven Robotic Software Ecosystem "* presenting the scope and aim of RobMoSys, introduction of the ROSIN project and followed by world cafe discussions, gathering input and feedback from the community	✓	Industry, Academia, Roboticists in general Software developers & Management
2017-03-31	Newsletter	EUnited Robotics Newsletter informs members and interested parties about the start of the RobMoSys project (~180 recipients)	✓	Industry, politics

... to be continued at the beginning of each year.