RobMoSys

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ROBMOSYS

COMPOSABLE MODELS AND SOFTWARE FOR ROBOTICS SYSTEMS

DELIVERABLE D6.8:
DISSEMINATION PLAN AND REPORT

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Content

1 Executive Summary

Typical research projects focus their dissemination at communicating results generated during the runtime of the project. In RobMoSys dissemination has aimed at securing adoption of the developed concepts in the industrial and software community. To reach this, different levels of communication and interaction have been addressed: awareness, understanding, commitment and action (active participation). In the beginning of the project, dissemination activities were strongly targeted at the systems engineering community that is already familiar with the basic concepts to encourage their active participation in the project, e.g. via the open calls. RobMoSys concentrated on measures to generate a general awareness of the project itself and its concepts. During the runtime of the project, the focus moved more towards a deeper understanding, touting for commitment as well as active participation. Especially for the industrial target group, the system integrators and end-users, the latter steps required the provision of functional tools and software components which were developed in the course of the project, such as the results of the selected ITPs.

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

In chapter three you will find an outline of the overall communication strategy, describing the different target groups and stakeholders that were addressed to achieve successful adoption of the models and tools developed.

Chapter four focuses on the different communication channels that were 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"). A first set of communication channels, like press releases, website, wiki, social media channels (twitter, YouTube, LinkedIn) as well as open community workshops and brokerage days have been established throughout the project. Additional channels for remote interaction both with the selected Integrated Technical Projects and the interested community in general (discourse) were established in the second year. Due to the coronavirus pandemic all events after ERF (March 2020 in Malaga) were held virtually. Online tutorials were also created for the RobMoSys Academy.

Chapter five finally lists all dissemination activities which have been completed in M30-M48, since Deliverable 6.7. The dissemination plan was continuously updated throughout the four years of the project. At the beginning of each year, the list of past activities was updated and a plan of the upcoming activities was created 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 with the general public.

During the runtime of the project, two Open Calls were 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 has been taken very seriously in the RobMoSys project; therefore, the stakeholders were addressed via workshops and conferences as well as online webinars and an open source platform hosted by the Eclipse Foundation. The website served as a central access point to the project at all times.

3   Dissemination Strategy

The dissemination strategy focussed on creating commitment and attracting potential supporters of the project and its results at four levels of communication chronologically: awareness, understanding, commitment and action (participation).

Figure 1: The four communication levels employed in RobMoSys

Awareness mainly involved delivering the main message of the RobMoSys project in relation to its aim and objectives, while **understanding** already required detailed information on the project purposes, methods and deliverables. Involvement in both stages provided the basis for **action**, where the project's results were delivered for further use.

Since acceptability is at the heart of dissemination activities of RobMoSys, the communication activities of RobMoSys were heavily centred around **engagement level 3 (Commitment)**. The most important instruments in this context were the Tier-1 workshops which allowed for an intensive dialogue with the full range 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 needed to be addressed, depending on the position in the value chain (from component manufacturer to system integrator to end user), the application domain and the company size. Apart from working level experts, it was essential to get commitment on decision making level. This could be either C-level managers, especially from small sized system integrators, where a technical

understanding can be expected on this level, or middle management in larger enterprises and end-user companies.

Early in the project we involved experts in order to define and prepare the open calls. We then reached out to a broader community to get a good selection of qualified applications for the open calls. During project runtime, we tried to 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 range of face-to-face conferences and trade shows spread out across the first years and virtual conferences since March 2020, the outreach also included 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) have been ideal dissemination partners for RobMoSys.

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

The final goal was to prepare the sustainability of the RobMoSys framework beyond the runtime of the project. Existing foundations in the area of Cyber Physical Systems were considered as potential cooperation partners to guarantee the sustainability of the RobMoSys framework beyond the project's runtime grounding an ecosystem for software architecture. One of the major open source foundations (ECLIPSE) has been 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 needed to focus on the right 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 – were 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) were the prime medium of communication particularly during the initial phases of the project. As they were involved in the project from the very beginning, the project planned to benefit from their support as ambassadors of the RobMoSys framework throughout their industrial domains and communities.

The market penetration of the common conceptual framework for software development created under the umbrella of RobMoSys heavily depended 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 needed 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 has been represented by the ECLIPSE foundation. ECLIPSE is highly familiar with the information requirements of this target group and has been able to identify and produce the online media to which this target group has been 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 could 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

In the first half of the project runtime, EUnited was a member of the consortium and responsible for paving the way of RobMoSys to decision makers in industry, the hierarchy level that needed to be addressed depending on the size of the company (large industry, mid-caps, SMEs). In 2020 PAL robotics took over this role:

- Representatives of highly influential industrial domains like automotive, aerospace, cleaning (again: powerful representatives are part of the Tier-1 groups) – they could 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.

3.1.3   Outreach to academia and research

It is important 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 was also decisive that very early renowned institutions in academia and research deploy the RobMoSys outcomes in their environments. KUL, TUM and THU with their tight networks and strong links into different Topic Groups including exploitation of the Tier-1 group have 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);

- Including the methodology developed in RobMoSys in the curricula will enable industry to hire well trained applicants, easing the uptake of RobMoSys outcome in their research and development activities.

3.2   Cooperation with the H2020 ROSin project

The European Commission decided to double the funding for innovation actions on "system development tools" in the call "H2020 ICT-26: System abilities, development and pilot installations". With the resulting high expectation towards the success of these two closely related projects, the EC voiced the need for closer collaboration between these projects. In a first joint RobMoSys-ROSIN project meeting (initiated by the EC in February 2017), the slogan "EU Digital Industrial Platform for Robotics" was developed as a joint header for both projects. The slogan has been used to market this approach. The concept was further shaped during the runtime of the project.

Our first joint action was a press release announcing "RobMoSys & ROSin: towards an EU Digital Industrial Platform for Robotics" on March 20th of 2017. We regularly invited the ROSin project to participate in our ERF workshop as a speaker with a presentation of their project and offering them to chair a table of the World Café. In exchange the ROSin project invited representatives of the RobMoSys project to speak at the ROS Industrial Conference in Stuttgart. The European Commission scheduled joint workshops accompanying the review meetings in their premises in Luxembourg. Both projects invited other relevant EU-funded projects to share best practises, develop joint concepts and share thoughts about possible future collaboration and mutual benefits. The coordinator of the ROSin project has also been invited to participate as a panellist at our Conference and closing event in January 2021 (see 4.2).

4   Communication Channels

Different communication channels needed to be addressed in order to reach out to all target groups. Some of them have been important from the first day of the project, others became more important over time. Social media and online promotion have been an ongoing process and needed to be updated continuously, while scientific publications and participation in different kinds of events required having a more detailed input which had to first be developed.

4.1   Social Media and online promotion

Social Media accounts have been set up for the project, with the aim to foster more familiar communication. The icons have been integrated in the website, for the audience to be aware of the availability for "conversation" of the project. Social Media announcements and personal contacts turned out to be even more important to create understanding and involvement among the important stakeholder groups (current and potential users of the model-driven software framework) than classic media coverage.

The **twitter** account (#robmosys) which was set up in February 2017, has submitted 546 tweets and is being followed by 919 followers (as of Dec 16). The tweets receive an average of 1.000 impressions (how often a tweet has been seen) and 50 interactions. The account is still being updated with tweets on an ongoing basis. A group in **LinkedIn** has been created and has 113 members. The first video we produced for our YouTube channel was a whiteboard animated video explaining the complex idea of the RobMoSys project in a simple way. It is still the mostly clicked video on our **You Tube** Channel with 2.920 views. In the meantime we have uploaded 13 videos, with 10 links to other RobMoSys related videos, such as demos of ITPs or interviews with Consortium partners on other YouTube channels. A series of six online tutorials was produced and uploaded onto the platform, organized in a playlist called **RobMoSys Academy**. These tutorials are also accessible via the [RobMoSys Academy](#) website. In order to involve the community into the creation of the tutorials,

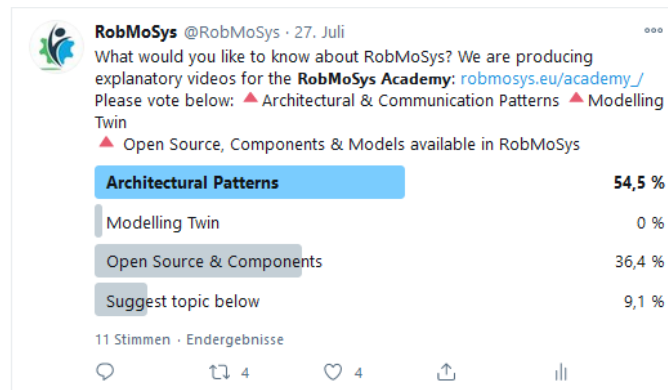we used our twitter account to ask our followers for their preferred topic.

Figure 2: Twitter survey on next tutorial

The **website** www.robmosys.eu represents the central access point to the project. News, events, FAQs and the Wiki are being updated constantly, new sections were added at different stages of the project.
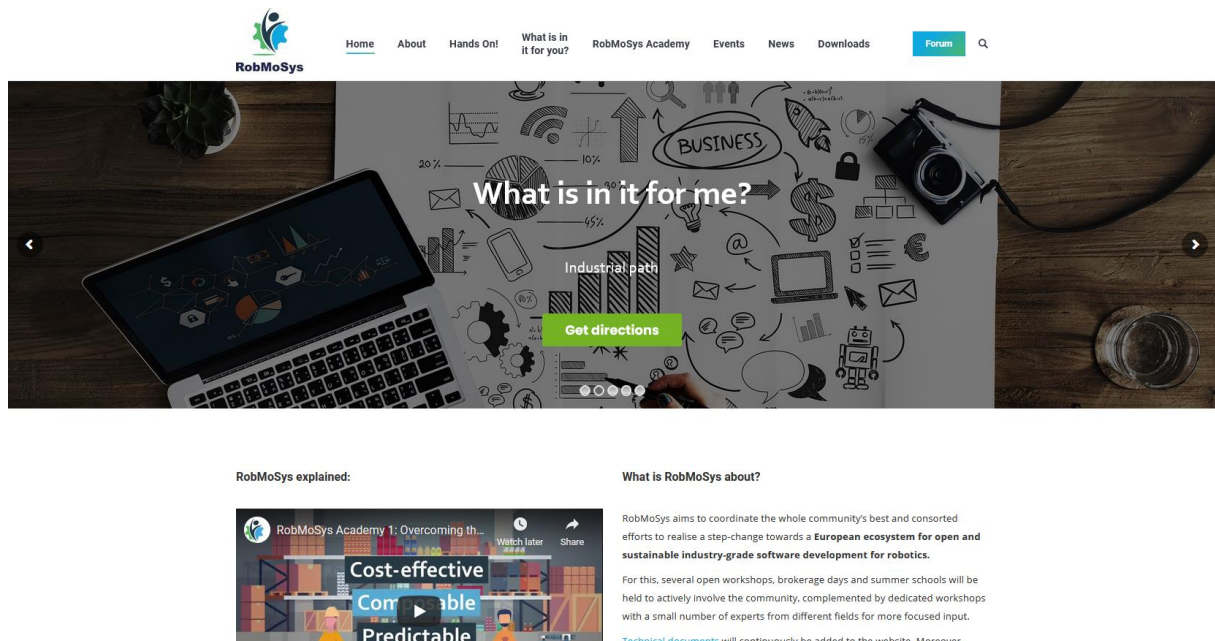

Figure 3 *Screenshot of the website (December 2020)*

Since the start of robmosys.eu we have received 83,183 views, from 25,582 visitors. Most visitors find our website via **search engines**, followed by **Twitter** and **github.com**. Regarding the provenance of the visitors, most visitors log in from Germany, followed by Spain, France, the Netherlands and Italy.
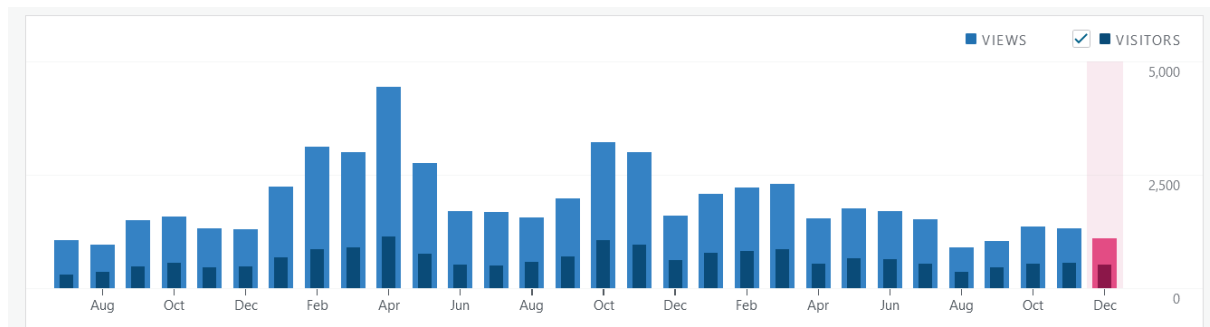
Figure 4: *All time views of website (as of December 17)*

During the open calls we included an online Brokerage tool on the website to facilitate networking among prospective participants who could not make it to one of the brokerage days. Registered participants were able to browse through the profiles of other registered participants to find complementary partners to team up with.

In order to encourage the ITPs to communicate among each other and keep the conversations open to the fellow ITPs, as well as to the core consortium, we created a public discourse forum which is reachable via a quick link on the home page.

4.2   Participation in workshops, conferences and events

In M30-48 we participated in 23 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. Since March 2020many have been cancelled or turned into virtual events. A detailed list of events RobMoSys attended can be found in section 5.

Examples for workshops, conferences and events:

- General robotics related conferences and forums: ICRA – IEEE International Conference on Robotics and Automation; IROS – IEEE/RSJ International Conference on Intelligent Robots and Systems; ERF – European Robotics Forum;

- More specialised conferences for the software community: Models Conference; 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: 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 ReconCell and REMODEL
- Regional clusters and platforms, like FLOR, Factory Lab, Regional Innovation Hubs;
- Business Incubators and start-up initiatives; e.g. UnternehmerTUM
- National associations, like VDMA, DIRA, SIRI, SYMOP, SWIRA, AER, HispaRob

Our goal of participating at conferences was not only to speak publicly and inform the community about the project, but also to involve them in participating in the RobMoSys project. The first public

workshop took place in March at the ERF 2017 in Edinburgh, since then we have had workshops at every ERF. As the 2019 ERF took place during the RobMoSys Open Call, we decided to set up a booth, informing delegates about the funding opportunities. The booth was very well attended at all times. Learning from the positive experience we had with the booth, we decided to repeat it the following year which was going to be the last ERF during the runtime of the project. This time our main message was to show that RobMoSys is not over after the end of the funding. We developed a catchy slogan to draw people's attention and be more memorable: "*Where Models meet Robots*". The slogan was used on all printing materials, such as the new flyers which focused on RobMoSys Use Cases and tools, on the roll-up and the pencils which were produced as giveaways for exhibitions. To attract more attention to our booths at ERF 2020 and automatica, a large foldable wall was produced, displaying the new slogan. Unfortunately automatica was cancelled due to the Coronavirus pandemic.

Figure 5 *RobMoSys booth at ERF 2020*

From March 2020 onwards, all events took place virtually. A virtual event for all ITPs of the second call including the newly selected ITPs of the second cut-off date was organised virtually. All presentations are available for download. ICRA, which was supposed to take place in Paris in June was turned into a virtual event. RobMoSys participated with a virtual booth and a 1h demo, which was presented by PAL Robotics. The live stream had 246 unique viewers from 22 countries, which is a strong result considering it was early in the morning in the USA. A recording was available on IEEE TV until the end of August. Another virtual Conference RobMoSys participated in was Eclipse Con, where we provided a virtual booth in the Research Lab area with a live chat option.

Because our opportunity to have our big closing event on automatica fair was first moved to December and then finally cancelled, we decided to organise our own virtual event in the form of a conference. The **Conference on Software and Systems Engineering for Robotics** will take place virtually on January 12 & 13 2021. We have decided to split the program into an Industry and an Academy Day to better focus on the topics of the relative target groups, also the programme has been scheduled for the European afternoon, to facilitate a participation from the US. We managed to attract many highly recognized experts from the Industry, such as BOSCH, ABB Robotics, MAN Truck & Bus, SIEMENS, euRobotics and renowned scientists from various European Universities to play an active role at our event. They will participate as keynote speakers and panellists. As the Conference will also be the closing event of the RobMoSys project, some of the application-oriented ITPs will be showing demonstrations on both days. All information on the conference including agenda and profiles of the invited speakers can be found on https://robmosys.eu/CSSER21/. The Conference & Closing Event has been announced via all social media channels of RobMoSys and PAL Robotics, sent to regional robotic clusters, distributed via the EUrobotics newsletter and robotics

worldwide, placed on the events website and communicated to all relevant eclipse working groups. A detailed report about the event will be included in the final report.

Figure 6 *Banner announcing the RobMoSys closing event*

4.3   Press releases, Blogs 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. The following clippings were found in the news from M30-48

Medium	Type	Date	Topic	Country
Industry of Things	Automation Industry	19.08.2019	Funding opportunities for Robotics	Germany
Cordis - EU Research Results	Research & Academia	04.12.2019	ROS Industrial Conference	Europe
Techno-Science.net	Industry, IT	03.03.2020	Software for modular and intelligent Robots	France
Cnews	IT	13.01.2020	Funding opportunities for Robotics	Russia
Eclipse Foundation	Software community	24.07.2020	Industry 4.0.	international
Blog PAL robotics	Robotics Industry & Academia	15.10.2020	Interview RobMoSys	international
Industria embebidahoy	Industry	03.12.2020	Modular and reusable software	Spain
Cordis - EU Research	Research & Academia	18.12.2020	Conference on Software and Systems Engineering	Europe

	Roboticist			Conference on Software and Systems	
EU robotics event			17.12.2020	Engineering	Europe

Figure 5: *Press clippings M30-48*

Another way of providing relevant information about the project directly to the target audience and to maintain a strong relationship, is sending out newsletters. Starting with a small database of Tier 1 experts and addresses which we collected at the ERF, we have reached a subscriber database of 253 addresses by the end of the year 2020. We decided to distribute our newsletter at regular intervals of 4-6 weeks, depending on the news value. In this period, nine newsletters were distributed to the subscribers of the RobMoSys newsletter featuring and announcing new developments in RobMoSys, events we attended and giving an insight into our ITPs in every newsletter. Additionally, we have used the newsletter channels of PAL Robotics (approx.. 900 subscribers) and the Eclipse Foundation (~130.000 subscribers, mainly software developers) as well as the euRobotics mailing lists and RoboticsWorldwide to announce open calls and other big milestones of the project.

Scientific publications

At the early stage of the project, RobMoSys set a focus on building up the approach and explaining and communicating this to the interested community via a wiki (part of the RobMosys website at http://robmosys.eu/wiki/). This is to be seen as the most substantial scientific documentation of the project so far. The wiki consists of a private part which is only accessible to the core consortium, and a public side that contains the most relevant information the technical team of the consortium already agreed upon. The wiki is also the scientific basis for the ITPs. Although not being peer-reviewed, we would call it our most relevant scientific publication so far.

List of scientific publications in this period:

- F. Martín Rico, M. Morelli, H. Espinoza, F. J. Rodríguez Lera, V. Matellán Olivera, "Optimized Execution of PDDL Plans using Behavior Trees", Extended Abstract in 20th International Conference on Autonomous Agents and Multiagent Systems, AAMAS 2021 (accepted)
- Christian Schlegel, Alex Lotz. "The SmartMDSD Toolchain: Model-Driven Software Development for Robotics Software Systems", SiriusCon Live, 18.06.2020.
- Christian Schlegel. "Roboterkontrollarchitekturen: Herausforderungen – Einführungs- und Übersichtsvortrag", Workshop Roboterkontrollarchitekturen, Schloss Dagstuhl, Wadern, Germany, 09.12. – 10.12.2019
- Christian Schlegel. "Composition, Separation of Roles and Model-Driven Approaches as Enabler of a Robotics Software Ecosystem – Towards an EU Digital Industrial Platform for Robotics", RoboSoft – Royal Academy of Engineering, London, UK, 13.11.2019.
- RobMoSys Tutorial at IROS 2019 http://www.servicerobotik-ulm.de/iros2019/
- RobMoSys Tutorial at MODELS 2019 https://modelsconf19.org/?page_id=1209
- A. Radermacher, S. Li, M. Morelli, "Application Configuration via UML Instance Specifications", In Proceedings of the 7th International Conference on Model-Driven Engineering and Software Development, MODELSWARD 2019, Prague, Czech Republic, February 20-22, 2019
- G. Juez Uriagereka, E. Amparan, C. Martinez Martinez, J. Martinez, A. Ibanez, M. Morelli, A. Radermacher, H. Espinoza, "Design-Time Safety Assessment of Robotic Systems Using Fault Injection Simulation in a Model-Driven Approach,"

2019 ACM/IEEE 22nd International Conference on Model Driven Engineering Languages and Systems Companion (MODELS-C), Munich, Germany, 2019, pp. 577-586, doi: 10.1109/MODELS-C.2019.00088.

4.4   Training Activities

For a successful uptake of the RobMoSys concept, it is crucial to both integrate the model-driven software development (MDSD) approach in the curricula of the universities, so that the next generation of students graduating is already familiar with MDSD, and to develop appropriate tools for professional training of software programmers and engineers to enable the uptake of the technologies developed by RobMoSys.

HSU is strongly active in education, with a master's degree in the area of computer science (covering model-driven software development, robotics) and a joint PhD program with University of Ulm ("Cognitive Computing in Socio-Technical Systems", again with robotics and model-driven software development being key topics). HSU also includes the approach in their lecture on "Autonomous mobile systems" for the bachelor programme at HSU.

With regard to professional training, it is important to achieve a high impact by choosing the appropriate training methods. This includes, 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. While part of the delivery of the training programme was and will be carried out by traditional approaches (such as "class-based" courses, seminars, and workshops), it is important to develop and establish new ways of teaching, as time constraints are becoming more and more restricted for industry professionals. KULeuven included MDSD in their lectures. And also TUM conducted a Lab Course Model-Drive Approach for Robotics Perception for Master students, where the students learned how to use the tool RobMoSys tool Papyrus4Robotics to implement in a composable and modular way state-of-the-art perception algorithms.

Time saving online tutorials with coding examples and examples of using RobMoSys methods and tools in real robotic environments is always playing a more important role, particularly now during the pandemic where all educational institutions have switched to online teaching. For a broader audience, tutorial videos have been produced and are meant for self-learning. The RobMoSys Academy was made available on the RobMoSys website https://robmosys.eu/academy/. Its content is structured in three main areas: Methodology (Wiki), Videos and Pilots. Six consecutive videos explain the RobMoSys approach in a simple way :

1.   Overcoming the boundaries of today's Model Driven Engineering
2.   System Architecture in Robotics I
3.   System Architecture in Robotics II
4.   Modelling Principles in Robotics
5.   RobMoSys Views for Robotics Software Development
6.   Architectural and Communication Patterns

Private on–site trainings are possible by invitation at any time. Another important channel to promote and offer professional training in model-driven software engineering is through the already established Competence Centres and European Digital Innovation Hubs.

5 Summary of activities in chronological order (2019/20) M30-48

TIME	EVENT	REALISATION		TARGET GROUP
2019-08-05	Newsletter	Let's make the community work together - apply now!	✓	All subscribers
2019-08-08	Workshop	Internal workshop for Consortium partners to identify message for industry	✓	RobMoSys Consortium
2019-09-01	Website robmosys.eu	Content is being updated continuously	✓	All
2019-09-17	Tutorial	Full day tutorial during Models Conference	✓	Modelling Community and Industry
2019-09-15 to 17	Conference	Models Conference, Booth with Eclipse Foundation, Rollup and showing videos of RobMoSys pilots	✓	Modelling Community and Industry
2019-09-26	Newsletter	Second cut-off date approaching	✓	All subscribers
2019-10-29	Newsletter	Meet our new Integrated Technical Projects	✓	All subscribers
2019-10-21 to 24	Conference	Eclipse Con Europe 2019 in Ludwigsburg shared booth in research area	✓	Software developers
2019-10-23 to 24	Workshop	2 day Kick-off event for all ITPs of Call 2	✓	ITPs
2019-11-08	Conference	ICRA , Macau: Half day tutorial on Model-Driven Robot Software Engineering: From ROS-specific coding to framework-agnostic modeling	✓	Roboticists, Industry, Academia
2019-11-13 to 14	Conference	Talk at Royal Academy of Engineering, RoboSoft event: Software engineering for Robotics	✓	Robotics Community
2019-11-19	Conference	Talk at Cybersecurity for Robotics: *Safe Robotic Systems using RobMoSys*	✓	Robotics Community, Safety Experts
2019-11-26	Brokerage Day	Presentation at H2020 upcoming calls on Robotics and AI: Information and Brokerage day	✓	EC, H2020 projects, DIHs, Robotics Community
2019-12-10 to 12	Conference	Talk at ROS-Industrial Conference	✓	Roboticists, Software developers
2019-12-08 to 10	Workshop	Schloss Dagstuhl Convention on Robotic architectures	✓	On invitation only
2019-12-17	Newsletter	Happy RobMoSys Poem	✓	All subscribers
2020-02	Communication Material	500 Flyers produced with new slogan, new Roll-up consistent in design and slogan, as well as pencils as give away, and foldable exhibition wall	✓	
2020-02-13	Newsletter	Where Models meet Robots	✓	All subscribers

2020-03-03 to 05	Conference	European Robotics Forum, Malaga Booth and Workshop "*Overcoming the boundaries of Model Driven Engineering for Robotics*"	✓	Industry, Research & Academia, Industry
2020-03	Video Tutorial 1	Concept and creation of RobMoSys Academy videos for YouTube and website	✓	All
2020-04-09	Newsletter	Some good news: welcome our new ITPs	✓	All subscribers
2020-05	Video Tutorial 2	Concept and creation of RobMoSys Academy videos for YouTube and website	✓	All
2020-05-14	Workshop *virtual*	Kick-off event and Interim workshop for ITPs of Call 2 (VIRTUAL)	✓	ITPs
2020-05	Information day	13. Ulmer Robotertage, exhibition and talk	✗	Industry and Academia (regional)
2020-05-31 to 08-31	Conference *virtual*	ICRA 2020 – International Conference on Robotics and Automation. Virtual booth	✓	Roboticists, Automation Industry
2020-06	Video Tutorial 3	Concept and creation of RobMoSys Academy videos for YouTube and website	✓	All
2020-06-11	Demo *virtual*	Live Demo of RobMoSys by PAL Robotics recording available until August 31st	✓	Roboticists, Automation Industry
2020-06-16 to 19	Trade Show *postponed*	Automatic was postponed to December Booth and Speaking Opportunity at automatica Forum	✗	Automation and Robotics Industry
2020-06-18	Conference	SiriusCon, Online Conference on Graphical Modeling Talk on SmartMDSD Toolchain	✓	Modeling industry
2020-07	Video Tutorial 3	Concept and creation of RobMoSys Academy videos for YouTube and website	✓	All
2020-07-16	Newsletter	Launching the RobMoSys Academy	✓	All subscribers
2020.07.09	Use Case story	RobMoSys Papyrus Use Case story "A consolidated EU Digital Industrial Platform for Robotics"	✓	
2020-07-24	Newsletter eclipse	Newsletter on Industry 4.0 by Eclipse Foundation featuring RobMoSys	✓	Software developers from Industry and Academia
2020-09	Video Tutorial 4	Concept and creation of RobMoSys Academy videos for YouTube and website	✓	All
2020-09-28	Newsletter	Virtual event in 2021, new tutorials and more	✓	All subscribers
2020-10-02	Workshop *virtual*	ITP workshop – presentation of the results	✓	ITPs

2020-10	Video Tutorial 5	Concept and creation of RobMoSys Academy videos for YouTube and website	✓	All
2020-10-15	Blogpost@PALrobotics	PAL Robotics Blogpost: Developing composable models and software for robotics systems with project RobMoSys	✓	Industry, Research & Academia
2020-10-19 to 22	Conference *virtual*	EclipseCon 2020 – virtual booth in Research Lab with live chat	✓	Software developers, Industry
2020-11	Video Tutorial 6	Concept and creation of RobMoSys Academy videos for YouTube and website	✓	All
2020-12	Conference Teaser	Creation of a teaser video for 2021 RobMoSys Conference	✓	All
2020-12 – 8 to 11	Trade Show *cancelled*	automatica Booth & Speaking opportunities in automatica forum were planned	✗	Industry, Automation and Robotics
2020-12-16	newsletter	Invitation Conference, introducing Xito (RobMoSys Startup)	✓	All subscribers
2020-12-16	Panel discussion	ROS-Industrial Conference PAL Robotics in "Controlling robots" discussion	✓	ROS community
2021-01-12 to 13	Conference and Closing Event *virtual*	Conference on Software and Systems Engineering for Robotics. Organisation of the whole event incl. two keynotes and two panel discussions, demos and talks by external guests from Industry and RobMoSys Consortium partners. 12. January: Industry Day 13. January Academy Day		MDE community, Industry, Software developers, Research & Academia

✓ realized ✗ has been cancelled