

RobMoSys

composable models and software for robotics systems

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Innovation Action on systems development
technology
www.robmosys.eu

The project ID



RobMoSys

- **RobMoSys**: Composable Models and Software for Robotic Systems
- In response to **H2020** Project – ICT-26- TOPIC : System abilities, development and pilot installations
- SubTopic c: **Innovation Action** on systems development technology.
The “**System development tools**” sub-call

- **Start Date 01/01/2017**
- **End Date 31/12/2020**
- **Duration 4 Years**
- **Budget €8M**, where **€4M for Open Calls**
- **Web Site <http://robmosys.eu/>**

APPROACH



RobMoSys

Model-driven engineering:

- formalisation & abstraction
- to give **meaning** to software
- to **structure** that meaning
- in **hierarchies** that are not *hiding* complexity but **dealing** with it, head on



APPROACH (2)

Models + tools + software:

- always **together**
- focus on **platform** and **composition**: the capabilities that every robot system must offer, in a granularity that any application can reuse
- tooling for **correct-by-construction** composition and code generation
- **open-source models, software and tools**

We do not want as many reusable components as possible, but as little duplication as needed

APPROACH (3)

Ambition of creating models:

- **short term:** **harmonize** semantic interpretation between human developers
- **medium term:** formal enough to support **model-to-X** tooling
- **long term:** ontological enough to let **robots** reconfigure **themselves** and **explain** their actions; mature enough to support **certification**

Role of Consortium

- **map the platform:** define scope, and model the “big picture”
- **meta meta models:** Block-Port-Connector, composition patterns, stack hierarchies, property graphs, Entity-Relation-Constraint,...
- **less is more:** work with projects to minimize duplication and maximize synergies
- **kickstart software and tooling:** we’ve done some things wrong so many times ourselves already that we now can provide valuable contributions, in selected areas
- **organize inter-project workshops:** to optimize stakeholders’ efforts
- **pro-active synergies with other projects:** ROSIN, I-MECH,...

Role of Projects

- **fill in the platform!**
- **meta models:** domain-specific languages with robotics-centric semantics
- **less is more:** work with consortium to **minimize duplication** and maximize synergies + focus, focus, focus
- **realise software and tooling:** you have some unique expertise, and a stellar **multi-domain** team
- **participate to inter-project workshops:** **all** models of all projects + RobMoSys consortium must be composable
- **improve our Wiki “book”**

Calls

Call 1:

- **platform** capabilities
- **models, software and tooling**

Call 2:

platform capabilities

pilot applications

models, software and tooling