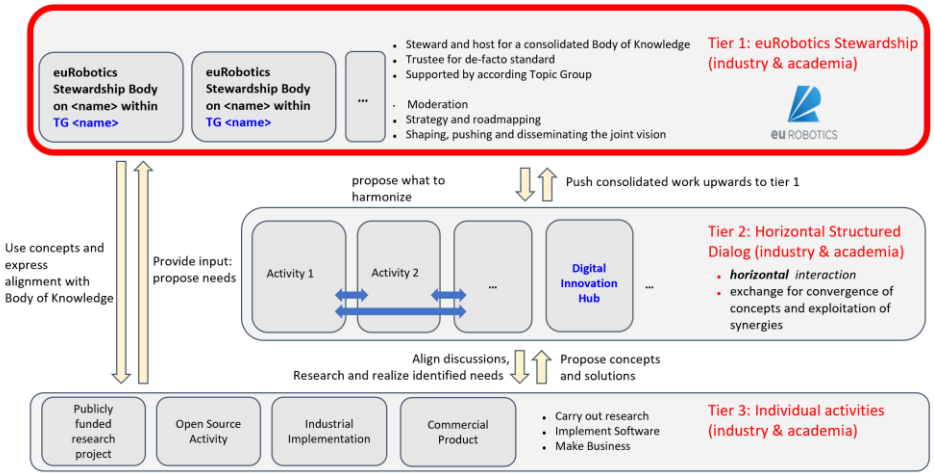
Processes Needed for Establishing Stewardship

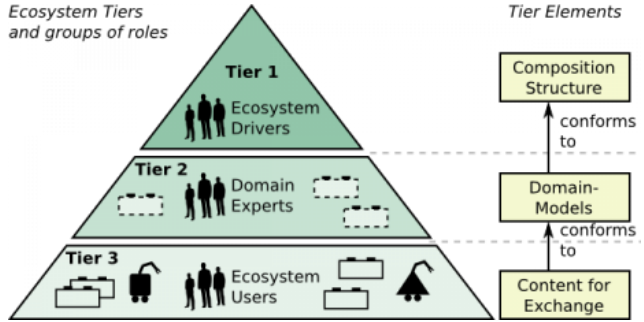
Processes / Experiences from RobMoSys as baseline, but need to be scaled for TG:

- Processes for horizontal interaction / vertical interaction in the ecosystem
- Processes for coverage / conformance
- Processes for incubator status
- Transfer of RobMoSys Wiki to TG Wiki
- Principle of Meritocracy

RobMoSys provides ***concepts & structures & mechanisms***

- to deal with different coexisting levels of maturity, acceptance, innovation, …
- to achieve evolvement, be inclusive, to achieve trust, to go beyond project life-times, …





EUROPEAN ROBOTICS FORUM
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Establishment of Stewardship as concept and process within euRobotics: **A general approach**

euRobotics Stewardship Body on <name> within TG <name>

euRobotics Stewardship Body on <name> within TG <name>

...

- Steward and host for a consolidated Body of Knowledge
- Trustee for de-facto standard
- Supported by according Topic Group

- Moderation
- Strategy and roadmapping
- Shaping, pushing and disseminating the joint vision

Tier 1: euRobotics Stewardship (industry & academia)

Use concepts and express alignment with Body of Knowledge

Provide input: propose needs

propose what to harmonize

Push consolidated work upwards to tier 1

Activity 1

Activity 2

...

Digital Innovation Hub

...

Tier 2: Horizontal Structured Dialog (industry & academia)

- ***horizontal*** *interaction*
- exchange for convergence of concepts and exploitation of synergies

Align discussions, Research and realize identified needs

Propose concepts and solutions

Publicly funded research project

Open Source Activity

Industrial Implementation

Commercial Product

- Carry out research
- Implement Software
- Make Business

Tier 3: Individual activities (industry & academia)

based on ERF 2019 Bukarest / WS TG Software Systems Engineering
refined after August Munich Meeting / Telco José Saenz, Rich Walker, Christian Schlegel, Dennis Stampfer, Reinhard Lafrenz

Establishment of Stewardship as concept and process within euRobotics:
Example of TG Software Engineering, System Integration, System Engineering

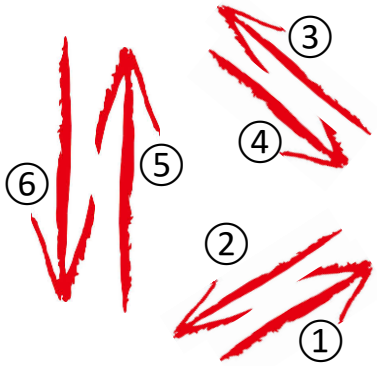
euRobotics accepts role of host and of stewardship for robotics body-of-knowledge
support for topic groups that these can fill the host and stewardship role in their respective domains

Topic Group Software Engineering, System Integration, System Engineering
Consolidated Concepts

- Meta-Meta-Models, Meta-Models, Models
- Conceptual Models, Domain Models
- Block-Port-Connector
- ...

Other Topic Groups <name>
Consolidated Concepts

Tier 1: Stewardship (industry & academia)



Eclipse Working Group Robotics

RobMoSys Concepts
e.g.
Composition Structures, Component Model, Digital Data Sheet

SeRoNet Concepts
e.g.
Mixed Port Component,

ROSIN Concepts
e.g.
Code Scanning, Testing Methods

other bodies...

DIHs
Digital Innovation Hub
Digital Innovation Hub

Tier 2: Horizontal Structured Dialog (industry & academia)

SmartMDSD
RobMoSys
Plugins
SeRoNet Plugins
...

SmartSoft
ACE
DDS
OPC UA

SeRoNet
OPC UA

Papyrus
RobMoSys
Plugins

ROS 2

ROS I

SeRoNet
Brokerage
Platform
Operation

VDMA
Companion
Specifications

...

Tier 3: Individual activities with their partners and platforms

based on ERF 2019 Bukarest / WS TG Software Systems Engineering
refined after August Munich Meeting / Telco José Saenz, Rich Walker, Christian Schlegel, Dennis Stampfer, Reinhard Lafrenz

Board of Directors Meeting, 27.11.2019

There is for the first time a real chance to shape an ***EU Digital Industrial Platform for Robotics***. The ***RobMoSys*** methodology not only allows to structure the robotics body-of-knowledge, it also provides processes to take up new developments and to be most inclusive. The figure on slide 1 shows a first idea for bodies and roles needed to achieve sustainability. This idea has been presented first at the workshop of the ***Topic Group on Software Engineering, System Integration, System Engineering*** at the ***European Robotics Forum (ERF) in 2019***.

This first idea was received very well. It is not at all carved in stone yet, but it forms the starting point for further discussions, improvements, refinements and concrete activities. The cornerstones are again three different tiers: (i) the role of a trustworthy ***stewardship*** (tier 1) for established structures (e.g. under the roof of the ***euRobotics aisbl*** that already gathers the community), (ii) an ***institutionalized setting*** (tier 2) for a horizontal structured dialogue for coming up with aligned proposals for extending tier 1, and (iii) finally the individual activities with their platforms and partners. Obviously, the glue can be explicated again via ***coverage*** and ***conformance***.

In short, individual projects provide new concepts and bring them into tier 2 (see ①). Projects can align with horizontal technical discussions at tier 2 and they have implementations of these concepts (see ②). Tier 2 proposes consolidated extensions to tier 1 (see ③), while tier 1 gives hints on what is in need and what one might want to harmonize (see ④). Tier 3 projects can also directly bring-in consolidated extensions to tier 1 (see ⑤). Projects use the consolidated concepts of tier 1 and express their coverage and conformance (see ⑥).

To summarize, there is now for the first time the chance that we as robotics community all together make the shift from handcrafted robotic software systems to an ***EU Digital Industrial Platform for Robotics***.

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