

Proposal of **Marine Robotics Topic Group** in euRobotics aisbl



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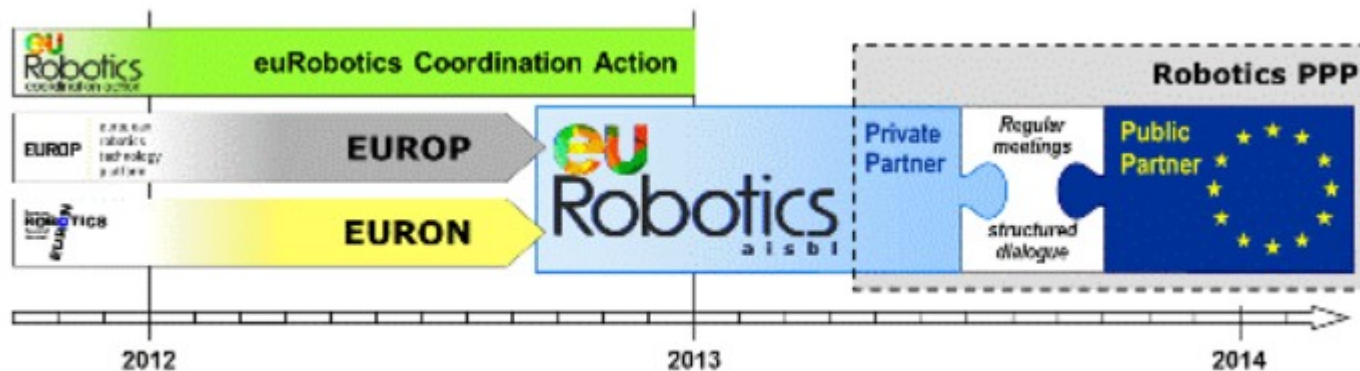
EuRobotics aisbl

- <http://www.eurobotics-project.eu/eurobotics-aisbl/about-eurobotics-aisbl.html>

About euRobotics aisbl

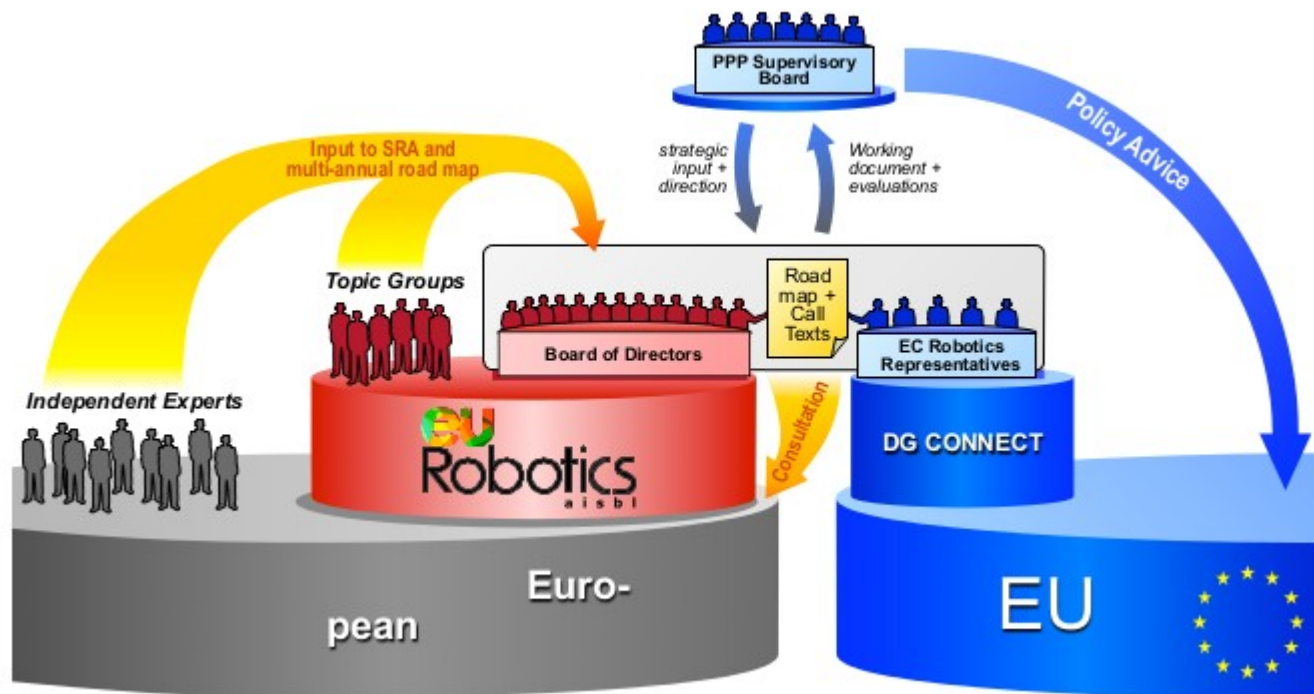
euRobotics aisbl (Association Internationale Sans But Lucratif) is a Brussels based international non-profit association for all stakeholders in European robotics. euRobotics builds upon the success of the **European Robotics Technology Platform (EUROP)** and the academic network of **EURON**, and will not only continue the cooperation but will also strengthen the bond between members of these two community driven organisations. Thus, leading towards the establishment of only one sustainable organisation for the European robotics community as a whole.

One of the association's main missions is to collaborate with the European Commission (EC) to develop and implement a strategy and a roadmap for research, technological development and innovation in robotics, in view of the launch of the next framework program Horizon 2020. Towards this end, euRobotics aisbl was formed to engage from the private side in a contractual Public-Private Partnership with the European Union as the public side.



Robotics 2020 PPP

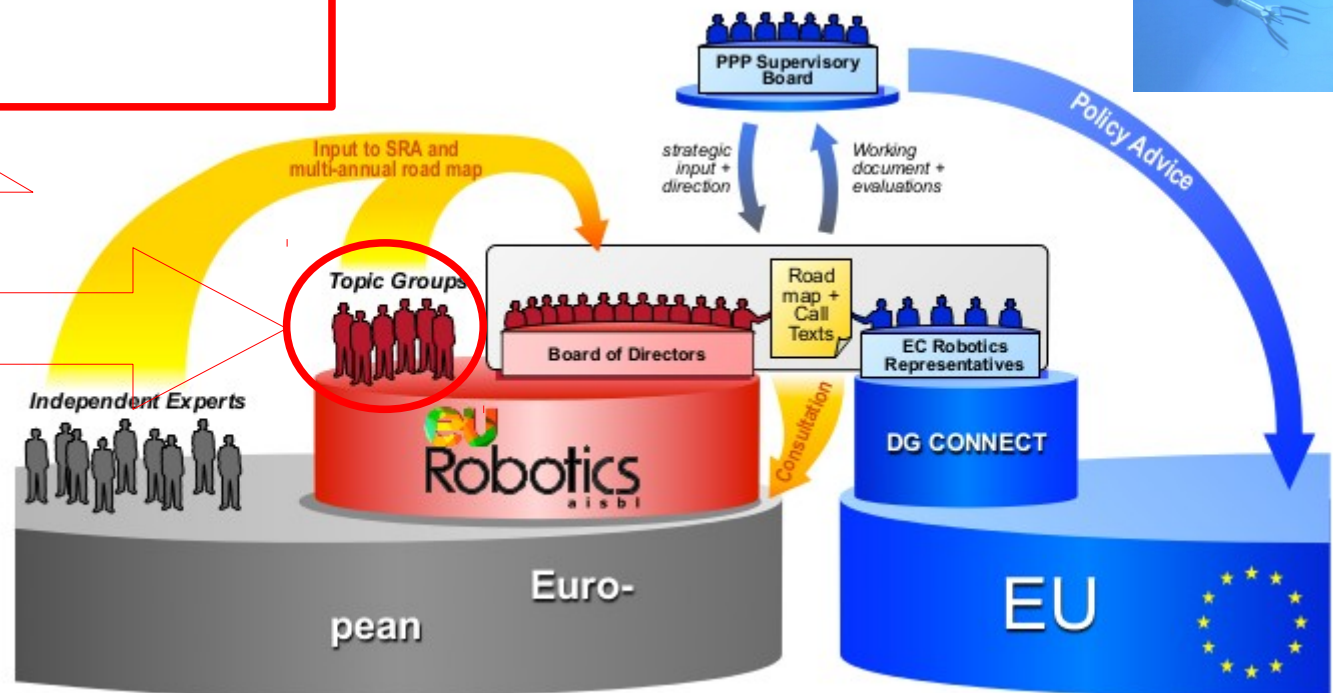
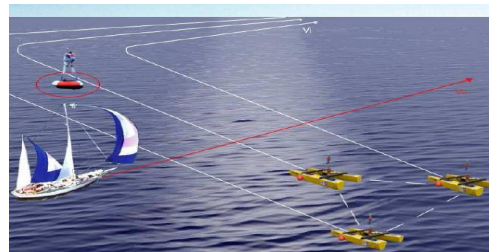
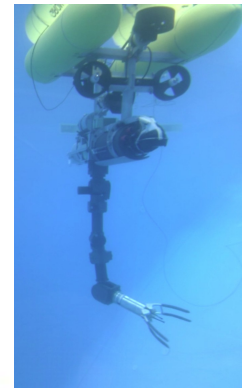
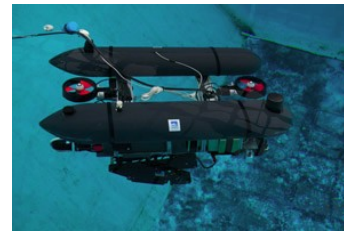
- The Public Private Partnership, Robotics2020, is the agent for implementing robotics strategy within Europe. Its purpose is to connect the science base to the marketplace, a connection that ultimately benefits society.



Proposal for a Topic Group on Marine Robotics

- **Marine Robotics**

- Academic/Research institutions
- Industry
- Stakeholders

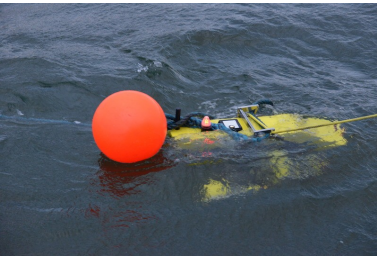


Marine Robotics market domains

- **Robotics 2020 Strategic Research Agenda**

- **Civil Robots**

- Applications managed by civil authorities. Robots operated by regional and national services or by contractors engaged to do so.



- **environmental monitoring & assessment**
- **harbour protection**
- **search & rescue**



- **Commercial Robots**

- Operated by trained personnel, operating with or in cooperation with people in a work environment.



- **offshore industry (survey, monitoring & intervention)**
- **diving operators (support to)**
- **transport system safety (inspection & emergency intervention robots)**

Marine Robotics research challenges

- Opportunities for scientific discussion
 - Looking into the Crystal Ball: 20 years hence in Marine Robotics
 - Eurocast 2013, Gran Canaria, Spain, February 11-13, 2013
 - Recent advances in sensing, localization, and control for underwater robotics
 - Workshop @ European Robotics Forum 2013, Lyon, France, March 21, 2013
 - Oceans Challenges and Opportunities
 - Porto, Portugal, May 13-17, 2013
 - Breaking The Surface 2013
 - Murter, Croatia, September 30 – October 6, 2013



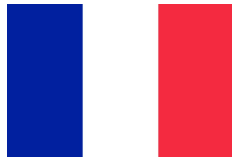
Marine Robotics research challenges

- **Cooperative networked unmanned marine vehicles**
 - cooperation between remote sensors, air and marine vehicles in coastal areas
 - low cost platforms for open ocean and coastal monitoring
- **Autonomous and persistent marine systems**
- **Underwater intervention**
 - (cooperative) grasping, manipulation and transportation
 - hard work operations (excavations, welding, cutting, assembly, mounting, dismantling, etc.)
- **Interaction**
 - **Underwater**: interactive robot assistance to professional divers
 - **Surface**: guidance in presence of manned vessels
- **Multisensor mapping and navigation**
- **Mission management: from design to debrief**
- **Biomimetic approaches to underwater navigation and motion control**
- **Standards and codes of practice**

euRobotics aisbl:

Marine Robotics TG candidate members

- Institutions/companies already members (or have applied to membership) of euRobotics aisbl
 - CNR-ISSIA-GE (Italy)
 - ISME (Italy)
 - + 9 other members from 5 countries (France, UK, Spain, Portugal, Italy)
- Academic/Research institutions not yet members of euRobotics aisbl
 - 19 institutions from 8 countries



euRobotics aisbl: Marine Robotics TG candidate members

- Institutions/companies already members (or have applied to membership) of euRobotics aisbl
 - Industries
 - Tecnalia France
 - Heron Robots
 - EvoLogics
 - ...



**Industry/Stakeholders
Consultation Group**

euRobotics aisbl: Marine Robotics TG next steps

- Increase the participation of industries as
 - euRobotics aisbl members
 - TG consultation group participants
- Involve in the process stakeholders for civil market
 - e.g. environmental agencies, local authorities, ...
- Establish relationships and synergies with
 - environment
 - transportation
 - security
 - space