



# ROBOTICS FLAGSHIP

Proposal for a Preparatory Action  
for a FET Flagship on Robotics

**Disruptive effects** of robotics and AI are expected worldwide.

*The issue is not if robots will enter our life, but who will design and deploy them first, who will set the science and technology agenda, and who will ensure they will benefit society.*

**Europe cultural tradition** grounded in **humanities** and multi-disciplinarity can drive the development of future robots and AI that are ethically, socially, economically, energetically, and environmentally **responsible and sustainable**.

**Europe** plays a **leading role** in robotics on the planetary scale. It is competitive at both industrial and scientific levels. EU-28 has the highest number of (as of year 2017):

- robotics companies: 243 service robot manufacturers, closely followed by the USA
- service robotics start-ups: 80 start-ups, followed by US (72), Korea and China (less than 20)
- publications in robotics: almost 70,000 papers, 20% more than the USA (all other countries below 20,000)

Research investment in future robots will integrate **AI** and **material science** for more effective, helpful, and intelligent robots that add a physical dimension to conventional software-based AI.

Future robots need **novel abilities** that require a drastic rethinking of robot bodies, brains, and human interaction and go well beyond current achievements. The Robotics Flagship will approach these challenges with **interdisciplinary** research in science, technology, economics, sociology, and ethics of intelligent robots.

The **Robotics Flagship** is an excellent opportunity for Europe to:

- invent and produce the high-performance, effective, helpful and **sustainable robots of the future**
- provide solutions for many of **Europe's societal challenges**
- be in the driving seat and act **proactively** rather than reactively,
- design novel **economic and social models** for robotics and AI
- take an innovative approach to the global **AI competition**
- maintain and nurture the **competitiveness of key European industries**
- create **job opportunities** in Europe

CALL IDENTIFIER:

FETFLAG-01-2018

FET Flagships are science- and technology-driven, large-scale, multi-disciplinary research initiatives built around a visionary unifying goal.

SCALE OF EFFORT:

Flagship: 1B€ in 10 years

Preparatory Action: 1M€ in 1 year

TEAM

Cecilia Laschi (SSSA, Italy)

Barbara Mazzolai (IIT, Italy)

Stefano Stramigioli (University of Twente, Netherlands)

Tamim Asfour (KIT, Germany)

Dario Floreano (EPFL, Switzerland)

Jean-Paul Laumond (LAAS-CNRS, France)

Sabine Hauert (University of Bristol, United Kingdom)

PARTICIPANTS:

800+ scientists

27 (EU & Ass.) countries

22 disciplines: science, engineering, life science, humanities

300+ institutions

300+ endorsements

WEB SITE:

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TO PARTICIPATE AND GIVE SUPPORT:

[www.roboticsflagship.eu/participate](http://www.roboticsflagship.eu/participate)

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