

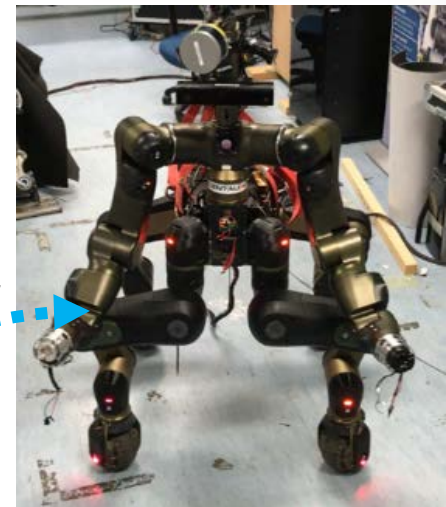
Collaborative Robotic Responders

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- IIT - Italian Institute of Technology
 - Humanoids & Human Centered Mechatronics
 - (<https://www.iit.it/research/lines/humanoids-human-centered-mechatronics>)
 - The home of WALK-MAN and CENTAURO disaster response mobile manipulation platforms
- Role: Coordinator – R&D
- Proposal activity: DRS02-2018 – Technologies for first responders, Sub-topic - Open

WALK-MAN

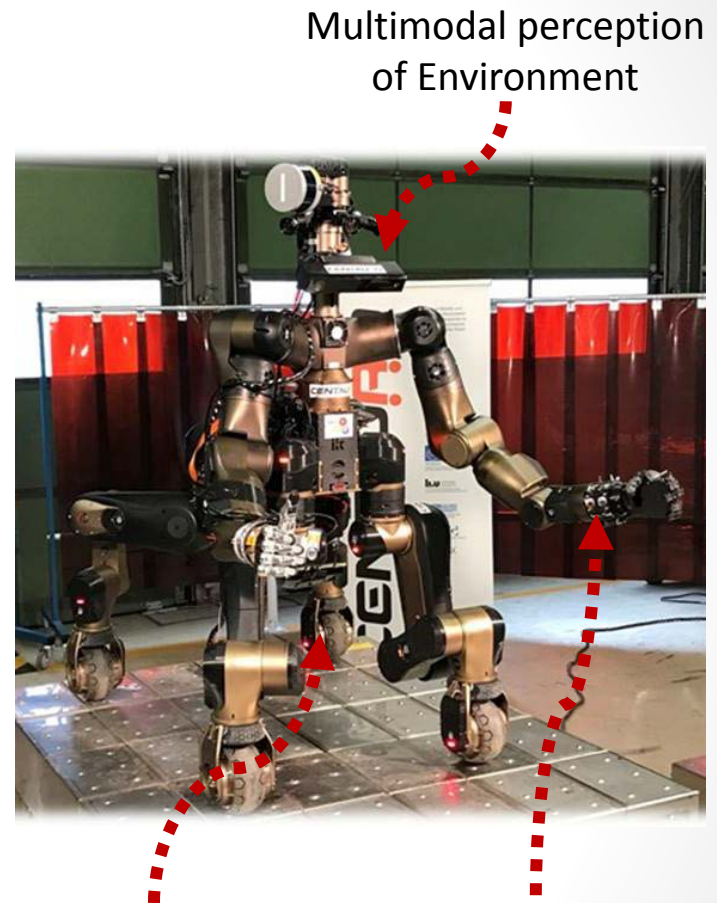


CENTAURO



Proposal idea/content

- To develop Collaborative robotic responder technologies based on
 - **Mobile manipulation platforms** with **enhanced physical performance and perception** capable of operating in difficult and hostile environments
 - Human-robot responders interaction based **rich multimodal perception data exchange**.
 - Enhanced situation awareness based on fused and **augmented representations of environment conditions**.
- To validate the technologies in relevant challenge scenarios executed by **Mixed Human-robot responders teams**



Multimodal perception
of Environment

Hybrid
Wheeled/Articulated
Locomotion

High Performance
Bi-manual
manipulation

Project participants



ISTITUTO
ITALIANO DI
TECNOLOGIA

MISSIONS

- Cutting edge research
- Tech transfer



- Coordinator:
IIT - Italian Institute of Technology
Humanoids and Human Centered Mechatronics

- 320 **grants** (150+ EU funded – 30+ coordinator)
- 8500 **scientific papers**
- 100+ **industrial projects**/year
- +570 filed **patents** (value >10M€) – 24% robotics
- 17 **spin-off** companies
- 45,000 **sqm labs**
- 1520 **people** (avg age 35; 82% dedicated to research; F/M gender ration 41/59)
- 10 (+3) **Centers** in Italy + 2 USA outstations (MIT & Harvard)
- Support offices: **Proposal, Projects, Tech Transfer, Legal**

- Partners / Other participants: 5
- **Robot Mechatronics** (ITALY)
- **UAV technologies** (SWITZERLAND)
- **Virtual Reality** (ITALY)
- **Perception in difficult environments** (SWEDEN)
- **Robot Navigation** (GERMANY)
- Looking for partners with the following expertise/ technology/ application field:
 - Agencies or first responders' organisations
 - Ethics (privacy, personal data protection, ...)
 - SSH – societal aspects
 - Regulation & standards
 - ...