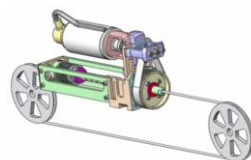
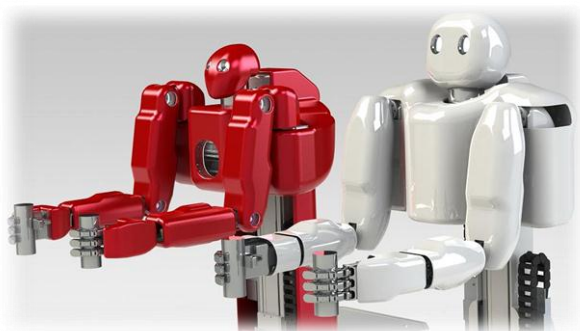


# Enabling technologies for Cognitive Robotics

*Backdriveable actuation (high efficiency, self-sensing, torque control)*

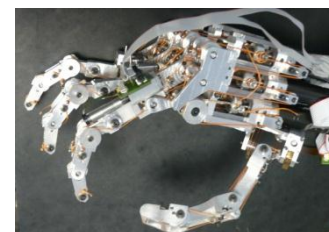
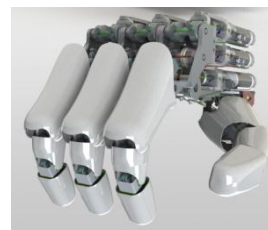
- Cable Capstans
- Electric Muscles
- Cable Reducers
- Dual level reducers
- Augmented reducers



*Can be used at different scales (fingers, hands, arms, body)*

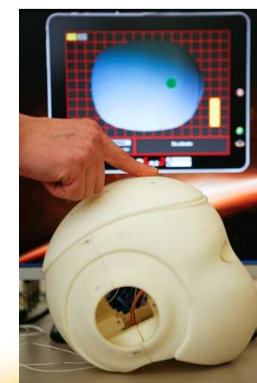
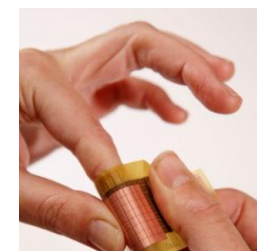


*High perfs. Robotic Platforms*



*Complementary sensing technologies (additional channels, distributed sensing, increased sensitivity)*

- 3 DOFs miniature force sensor matrices
- Ultrasonic touch shells



*Vision understanding modality (Object recognition from vision, Visual servoing, Knowledge representation)*

