



Advanced robotics

Robots with a physical presence that combine improvements in machine dexterity and the ability to interact with the environment with intelligent functions



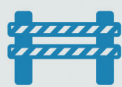
Trends shaping the landscape

- The market interest and activity in advanced robotics has seen a general upward trend since 2007.
- The service robotics sector is set to experience significant growth in the coming years, particularly in the fields of logistics, public relations, defence, and healthcare.



Drivers

- Increased efficiency in work processes
- Safety benefits offered
- Continued technological advances
- Novelty and PR value



Barriers

- Intensive development and investment costs
- Public acceptance
- Sector-specific challenges depending on the limits of the technology and ethical and practical concerns



Sectors impacted

- Health and healthcare
- Civil service
- Technical safety
- Science and research
- Customer service
- Logistics



Socio-economic implications

- Robot adoption may drive employment demand in specific areas (e.g. jobs that involve engaging with, supervising or developing automating technologies); however, the ultimate impact on job creation/loss is difficult to predict, and may vary significantly across sectors.
- The use of robots is likely to change the nature of tasks performed by humans, automating some repetitive tasks but relying on human collaboration for other tasks.
- Work environments may need to be redesigned to accommodate robots.
- Robots may enhance productivity by augmenting or replacing human labour.
- Robotics, along with wider digital technologies, may change work organisation within the service sector by enabling greater remote and platform working.
- New service sector business models may be created, including system integrators and a new 'robotics as a service' sector may develop.