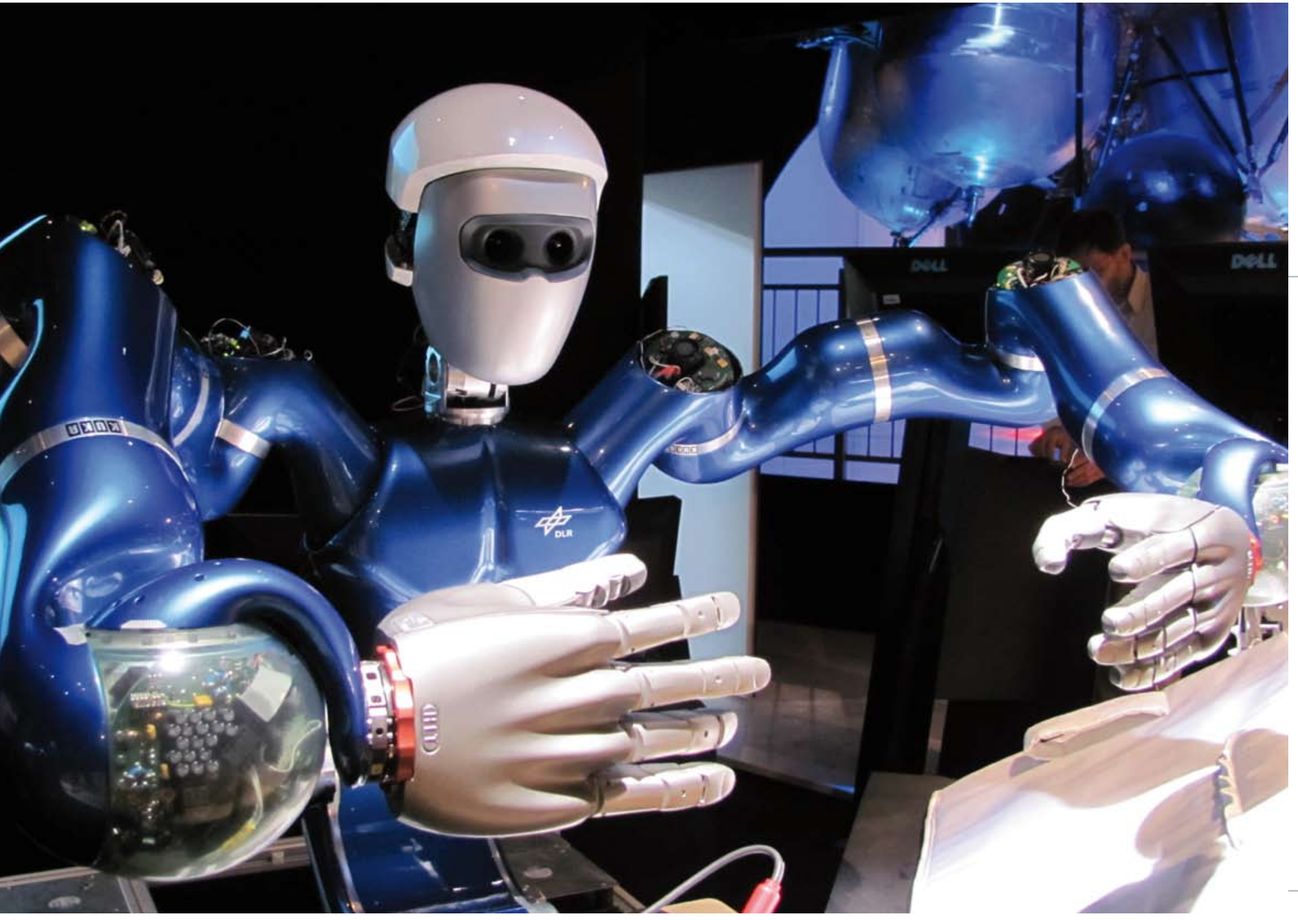

↑ Service robot Justin of the German Aerospace Center (DLR) can shake hands and assist astronauts in outer space

Interdisciplinary and holistic: Mechatronics

Automotive and mechanical engineering along with the electrical branch have long formed the traditional industrial triumvirate of the Stuttgart region. Nowadays the development is characterised by intensified integration and miniaturisation of mechanical and electronic elements. The modern field of mechatronics has a cross-functional and synergetic effect on mechanical engineering, electrotechnology and information technology. The Stuttgart region provides a broad spectrum of commercial sub-areas. These include medical technology, measuring and navigation technology, the production of electrical equipment for engines and vehicles, chip production, the manufacture of information and telecommunication technology hardware as well as the production of electric cables and electricity distribution facilities.

Family companies from the region around Stuttgart have sometimes been ahead of their time and have developed trailblazing control systems. As early as 1970 the standard for a storage-programmable system was developed here, which later prevailed as the international standard.

Control technology is a strong motor for innovation. Engineers are continuously working on advances in information processing systems within machinery. These include sensors, systems for signal processing and micromachining. The development of miniaturised electronic components is being researched intensively. The future belongs to so-called intelligent machinery which analyses the environment with sensors and automatically adjusts to changes. Independent controls within machinery must accordingly communicate with each other. As an important Linux centre, Stuttgart is connected throughout Europe to all important economic centres via a Datex-M high-speed network.

The Stuttgart region is one of the leading German IT locations and has the highest number of employees in this high-tech sector in all of Europe.

↓ PSENsgate combines secure safety door monitoring with secure locking and control elements in one single system

↑ Relief for the driver: The utilisation of video technology for driver support is being intensively tested at Bosch. Sensors recognise driving lanes objects and traffic signs.