

# DATA ETHICS: BUILDING TRUST

*How Digital Technologies  
Can Serve Humanity*

Editors **Christoph Stückelberger and Pavan Duggal (Eds.)**

## ROBOTS FOR SOCIAL SERVICES

*Sylvia Stocker*<sup>259</sup>

Elon Musk is currently both the best-known entrepreneur and the richest person in the world. At the quarterly report conference of his company Tesla, he said in April 2022: “Tesla's humanoid robot will one day be the most valuable part of the company.”

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## **12.1 Service Robots in Direct Contact with People**

While most of us are still thinking about Musk's electric cars, he's already thinking about his own human-like robot. One could dismiss that as something played out too early in the future. We know that industrial robots have been the dominant force in manufacturing for decades, and we are reasonably aware that "bots" (short for robots) play a key role in the software we use. But the so-called service robots are only at the beginning of their upswing. The industrial robots and the service robots are the two main categories in robotics. While industrial robots are mainly used in production and are often used behind glass for safety reasons, service robots are gentle and designed for direct contact with people. Now the time has come to deal intensively with their possibilities and areas of application. On the one hand, the service robots are technically mature and they can support people in a variety of tasks. On the other hand, the market is getting organized and important players are positioning themselves. On the demand side, early adopters are incorporating service robots into their strategies to address major challenges. One such early adopter is the leader of the elderlies' home center in Falkenhof in Aarburg, Switzerland. Sari Wettstein sees herself confronted with ever-increasing demands on the quality of care in her everyday life, while at the same time the lack of skilled workers in the industry is causing concern.

The pandemic, with its special requirements and health-related staff absences, put the crown on the situation. As a first step, Sari Wettstein set up a robot trial with my company Arabesque to test in practice how the humanoid robot named Pepper can be used sensibly in the senior citizens' center. Pepper was used to activate the seniors and to support the administration at the reception. He relieved the staff and became a favorite numerous seniors who showed a great affinity and acceptance for this technology.

From the point of view of many companies, service robots are not a moment too soon. The more work they take on, the better. They are part of automation and digital transformation. The service robots show a new physicality of machines. They roll around, walk or – in the case of cleaning robots – even climb up windows. Humanoid robots are given arms to gesture or lift goods, and some have heads with large eyes that contain cameras and sensors, for example. The partially human-like appearance leads here and there to philosophical discussions that simple software bots are hardly able to trigger.

## **12.2 Elderlies Homes: Increasing Robot Demand due to Lack of Staff**

Apart from that, the service robots were also developed simply to support us humans with processes that can be automated. The corresponding demand is currently increasing parallel to the lack of qualified personnel. With global sales of USD 6.7 billion and global growth of 12 percent, service robotics is experiencing the beginning of dynamic growth. These figures come from the IFR World Robotics Service Report 2021 (figures from 2020). The report also says that while China is arguably automating faster than any other country, South Korea is by far the most automated country in the world.

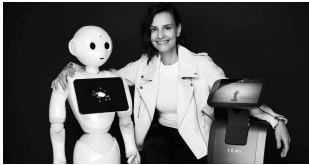
## **12.3 Main Sectors for Service Robots**

Service robots can be and already are used in all sectors. Examples:

- Healthcare
- Hotel industry
- Retail workplaces
- MICE Logistic robots
- Social robots

- Care, transport and cleaning robots, e.g. Cobots and telepresence robots.

The great benefit of using service robots are process automation, resource optimization, Analytics and Compliance. Robots can be integrated into everyday life and important initial experiences can be gained.



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Arabesque stands for consulting and implementation of humancentered service robots.

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# Data Ethics: Building Trust

## *How Digital Technologies Can Serve Humanity*

Data is the magic word of the 21st century. As oil in the 20th century and electricity in the 19th century: For citizens, data means support in daily life in almost all activities, from watch to laptop, from kitchen to car, from mobile phone to politics. For business and politics, data means power, dominance, winning the race. Data can be used for good and bad, for services and hacking, for medicine and arms race.

How can we build trust in this complex and ambiguous data world? How can digital technologies serve humanity? The 45 articles in this book represent a broad range of ethical reflections and recommendations in eight sections: a) Values, Trust and Law, b) AI, Robots and Humans, c) Health and Neuroscience, d) Religions for Digital Justice, e) Farming, Business, Finance, f) Security, War, Peace, g) Data Governance, Geopolitics, h) Media, Education, Communication. The authors and institutions come from all continents.

The book serves as reading material for teachers, students, policy makers, politicians, business, hospitals, NGOs and religious organisations alike. It is an invitation for dialogue, debate and building trust! The book is a continuation of the volume “Cyber Ethics 4.0” published in 2018 by the same editors.

### **Editors**

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