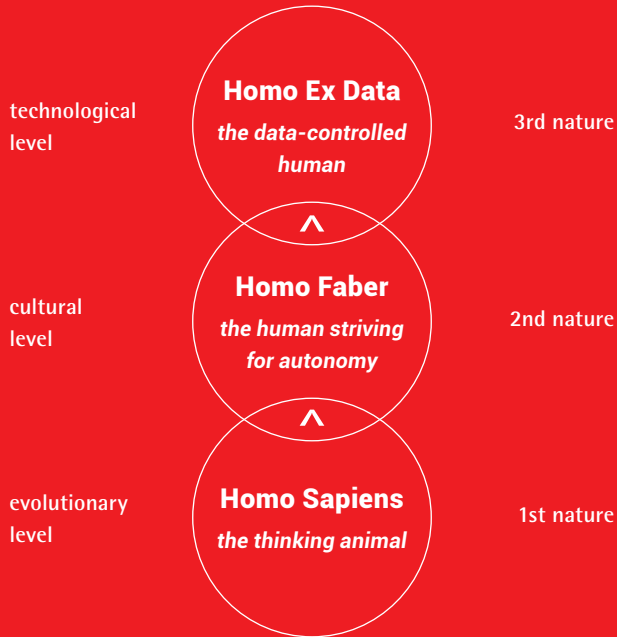


Design
in the
Age of
Big
Data

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reddot design museum



Design in the Age of Big Data

"Design in the Age of Big Data" features innovative products that highlight the impact of digitisation on the products we use and the lives we lead today. The exhibition mainly breaks down into three major areas: "Collecting Data", "Processing Data" and "Experiencing", an area that shows optimised end products that have only become possible because of big data. Overriding aim of the exhibition is to help visitors understand the complex interplay between humans, technology and data flows in the era of big data, how they affect each other mutually and what the consequences are for the design of intelligent products.

Homo ex data – a new type of human is emerging

The exhibition concept is based on the article "Homo Ex Data" by Professor Dr. Peter Zec, founder and CEO of the Red Dot Design Award. In that article he takes an in-depth look at the reality of living in an era of big data and draws the following conclusion: "After Homo sapiens and Homo faber, a new type of human is emerging that we call "Homo ex data", a human whose living circumstances are determined by the generation and transfer of data."

Homo ex data is both the subject and the object of constant data transfer: he reveals data about himself and feeds it into big data. At the same time, he is a beneficiary of this all-encompassing data exchange. In this way, new worlds gradually open up to the data-based human.

The design of intelligent products

In an era of digitisation, more and more products are no longer stand-alone. Instead, they are integrated in entire service and data processing systems. The task of the designer is to design the interaction with these products perfectly so that these devices can be used simply and intuitively even without a deeper understanding of the underlying processes and can be integrated as naturally as possible in our world.

A further challenge for designers is to facilitate and shape the mutual communication and interaction between products as well as between humans on the one hand and products or entire systems on the other. Within this process, the design of individual products becomes less significant than the design of comprehensive systems. In these cases, the products themselves are to a certain extent only the tip of the iceberg – a small part of the system that is visible and thus tangible for the consumer. These devices are representative of the underlying system and make it possible to use services or access data and interact with that data. Examples include intelligent loudspeakers such as Google Home, which use language assistance to provide users with easier access to information, or sensor-based systems like Grohe Sense, which help to control intelligent functions in the home.

The "less is more" design principle predominantly applies to these devices: The more complex the underlying systems, the more reduced the design of the devices that serve as an interface between the data and the users. The aim of the design process is to achieve as much user-friendliness as possible and to overcome any hesitancy about using highly complex technical systems. The actual design retreats behind ease of use and sophisticated system-based communication.



Google Home
Smart Speaker
Google, USA
In-house design
Red Dot: Best of the Best 2018



Sense
Water Sensor
Grohe, Germany
In-house design
Red Dot 2018

Collecting Data

using the example of fitness and health trackers

In the era of big data, all kinds of sensors are used in all areas of life and products. Humans themselves are at the same time subjects and objects of this data recording. Already today, roughly two billion people around the globe monitor their body with the help of wearables and apps. Huge quantities of personal data are collected and stored, and these become part of big data. All of this serves not only improved self-awareness but ultimately also systematic self-optimisation. Despite precise sensors to monitor bodily functions, fitness and health tracking is less a medical matter than a lifestyle choice. Accordingly, the measuring devices that can be worn on the body ("wearables") are designed to look more like jewellery or accessories than medical devices.

But also in all other product areas, more and more sensors are being used. They are part of systems with which for example homes and cars, refrigerators and robots are becoming "intelligent". In the era of digitisation, the design of these systems is becoming the most important task for companies and designers.



Apple Watch Series 3
Smartwatch
Apple, USA
In-house design
Red Dot 2018

SmartVest
Sensor Clothing
Lenovo, China
In-house design
Red Dot: Best of the Best 2018



Dräger Babyleo® TN500
IncuWarmer
Incubator
Drägerwerk, Germany
Design: MMID, Germany
Red Dot: Best of the Best 2017

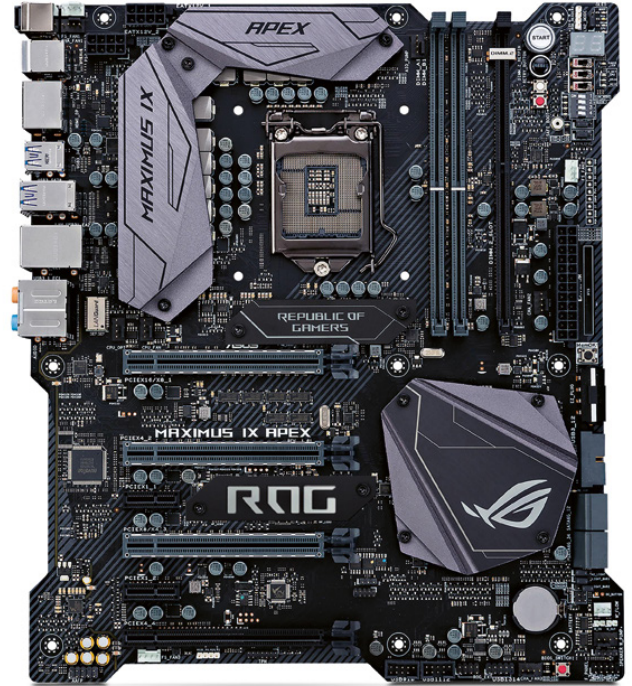
Processing Data

and the Black Box principle

The intermediaries between human beings and big data are, in turn, mainframe computers and servers, personal computers, tablets and smartphones, wearables, storage devices, and intelligent devices and machines. Such devices are black boxes within which complex processes take place.

These black boxes got their start in the development of cameras. All at once, reality was no longer reproduced by hand in the form of a drawing, but depicted true-to-reality by complex physical and chemical processes inside the camera, without direct intervention by human beings. Everything that happened between pressing the shutter release and the finished image escaped the observation and knowledge of by far the majority of people.

Concealed in today's black boxes are calculations, algorithms, data clouds, access to the internet, virtual reality, and neural networks – in short, big data. All this can potentially be accessed and used via these black boxes. The complexity inside these devices is juxtaposed today with the most purist possible design of the housing.



ROG Maximus IX APEX

Motherboard
ASUSTek Computer, Taiwan (China)
In-house design
Red Dot 2017



PrimeMini 3

Desktop PC
Prime Computer, Switzerland
In-house design
Red Dot 2018

Interacting

Interaction with intelligent products

For human beings to be able to interact with black boxes and gain access to the data that is stored or processed in them, a human-machine interface is necessary. Since the market launch of graphic interfaces, it has become extremely simple to operate a computer by using a mouse, trackball, keyboard, stylus or the like. These devices are, in principle, an extension of the hand with which we are able to reach and manipulate virtual objects on the screen effortlessly, without actually touching them.

While input devices are needed to control conventional computer monitors, interacting with devices equipped with touchscreens consists simply of gestures. Human-machine communication has thus become much more direct and intuitive, which explains the swift triumph of this technology. Nevertheless, the future of human-machine interaction will involve completely doing away with physical control elements. Conversational user interfaces are already tending in this direction, for instance interaction via chatbots, which communicate between humans and machines as personal language assistants.



Unimouse
Ergonomic Mouse
Contour Design, USA
In-house design
Red Dot 2018



BrailleSense Polaris
Braille Tablet
SELVAS Healthcare, South Korea
Design: Cyphics, South Korea
Red Dot 2018

Bamboo Ink
Stylus
Wacom, Japan
In-house design
Red Dot 2018



Experiencing

Intelligent products in our day-to-day life

Robots

Robots are today increasingly becoming part of our day-to-day life. Technology and big data have meanwhile become so advanced that the artificial creatures are able to take on ever more tasks. Just as at the beginning of the machine age, many people today regard the beginning of the robotic age with mixed feelings. The question that is therefore gaining in significance is how robots can be designed so that they are not seen as competition or a threat, but instead accepted in future as a natural part of our lifestyle and everyday work life.

In the case of service or educational robots, the focus is on an at least distantly humanoid design. To establish a kind of personal relationship, when designing robots and their human-machine interface, manufacturers and designers focus primarily on two elements: language and eyes.

In contrast, the purpose of household robots consists mainly of relieving people by doing their work for them. Interestingly, from a design perspective, household robots have absolutely nothing in common with the at least remotely humanoid robots largely spread by pop culture. Their image is for the most part technically cool, objective and characterised by basic geometrical forms.



Care-O-bot 4
Service Robot
Fraunhofer IPA, Germany
Schunk, Germany
Design: Phoenix Design, Germany
Red Dot: Best of the Best 2015

Scout RX2
Robot Vacuum Cleaner
Miele, Germany
In-house design
Red Dot 2018



Drones

Drones, originally developed as flying practice targets for military use, hold enormous potential: When equipped with cameras, drones broaden our horizons by providing us with magical views and insights that could previously only be obtained from conventional aircraft or helicopters. This flight with a bird's-eye view is not only fascinating, but meanwhile available to a broad public as well. Designers have played a big role in this development: They have designed human-machine interaction and thus contributed to the fact that these flying robots, which move through the air around us and over our heads, are as easy as possible to operate.



AirSelfie

Flying Camera
AirSelfie, United Kingdom
In-house design
Red Dot: Best of the Best 2018



Lenovo Mirage Solo with Daydream

Virtual Reality Headset
Lenovo, USA/China
In-house design
Red Dot 2018

Virtual, Mixed and Augmented Reality

The boundaries between the analogue and the virtual world are becoming ever more blurred. Whether computer-simulated reality, a mix of reality and computer-generated content, or augmented reality – with virtual, mixed and augmented reality, new, complex forms of reality that will significantly shape and expand people's world of experience in the years to come are coming into being. Design increases the usability of the devices needed for experiencing these expanded realities.

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Opening hours

Tue – Sun: 11 a.m. – 6 p.m.
Last entrance: 5 p.m.
(Subject to change)

Museum closed:

24, 25, 31 December 2018 & 1 January 2019

Individual tour booking by phone

+49 201 30104-60



reddot design museum

Cover photo:
Motherboard ROG Maximus IX APEX
Design:
Maren Reinecke, Berlin, Germany
www.goldhaehnchen.com