Bots - on the edge of the digital frontier

- Petman Tests Camo: http://youtube.com/watch?v=tFrjrgBV8K0
- DARPA Robotics Challenge: http://www.theroboticschallenge.org/

Topics

Autonomous Cars

Autonomous cars (also self-driving cars) are capable of sensing their environment and navigating without human input.
In order to archive this they use technologies like radar, lidar, GPS and computer vision.
The first self-driving cars were developed at the beginning of the 90s and were only capable of driving short sections on empty roads. Today Daimler - the most pessimistic automaker - expects autonomous vehicles to hit the road until 2025 at the latest.

- Stanley: http://cs.stanford.edu/group/roadrunner/stanley.html
- Google self-driving car: http://youtube.com/watch?v=cdgQpa1pUUE

Drones

Drones are aircrafts, which are controlled either autonomously by integrated computers or remote controlled by pilots on the ground.
Because of the advanced possibilities introduced through autonomous drones, they are expected to be the tools of tomorrow in terms of surveillance, delivery services, construction work but also warfare. At the moment the only hurdle preventing drones from being deployed is the lack of necessary regulations.

- Pocketdrone: http://kickstarter.com/projects/airdroids/the-pocket-drone-your-personal-flying-robot
- Construction with Quadcopter Teams: http://www.youtube.com/watch?v=W18Z3UnnS_0

3D Printing

3D printers are capable of making a three-dimensional solid objects of virtually any shape from a digital model.
This might lead to revolution in manufacturing processes as it enables the individual to build customized, or even self designed products on demand.

- Makerbot: http://makerbot.com/

Virtual Reality

Virtual Reality is a computer-generated simulation of a three-dimensional environment that can be interacted with in a seemingly real or physical way by a person. Therefore special electronic equipment, such as helmets with integrated screens and motion capturing systems are used.

- Oculus Rift: http://oculusvr.com/

Wearables

Wearables are miniature electronic devices that are worn under, with or on top of clothing. By being constantly connected with the wearer they can be used as health care and fitness monitoring systems or as extensions of the user's mind and body in form of VR goggles and prothesis.

- Google Glass: http://google.com/glass
- Pepple: https://getpebble.com/

Internet of Things

The Internet of Things is a scenario in which almost all objects and things are equipped with microprocessors and sensors and are connected to the internet. This will enable solutions where our environment acts in a smart way and leverages network effects to simplify our live and improve processes.

- Intel Edison: http://intel.com/content/www/us/en/do-it-yourself/edison.html

Cloud Computing

Cloud computing is the worldwide distribution of internet connected resources (computing power, storage) and their access from internet connected devices from around the world. This enables clients especially to leverage almost unlimited performance through small and connected mobile devices.

- Google Data Centers: http://google.com/about/datacenters

Hardware

Decades of unrestrained development in electronics, physics and related fields has lead to a breed of enormously powerful devices which cost just a fraction of what electronic devices used to cost just several years ago.
Those advances enable companies to build amazing gadgets which improve and simplify our lives.

Software

Especially improvements in software, like smarter and more efficient algorithms, made the incredible feats of recent years possible.

- Artificial Intelligence
    - Speech Recognition
    - Computer Vision
    - Machine Learning
- Big Data
- Social
- Always online (3G & 4G Networks)