Agenda

• Why transforming the library to a living lab
• DTU Smart Campus
• The SMART Library concept
• How will we do it
• Strategic impact
Build for books, but now for people
IOT – connecting everything

Fast growing industry

Revenue
By providing students, scientists, companies and municipalities access to parts of the campus infrastructure, building management systems and data, the university is rethinking the role of the campus as a testbed for smart city solutions.
SMART CAMPUS – Living Labs

DTU Smart Library (2017)
An indoor living lab, where students, researchers and entrepreneurs can develop, test and demonstrate SMART technologies

DTU Smart Avenue (January 2016)
On the avenue there are 106 LED Smart Street Lights with light control and room for equipment to test and demonstrate Smart City technologies at the prototyping stage

Smart City Data Hub (January 2017)
The hub is a creative, non-formal community and gives the opportunity of meeting and working with fellow students and companies with the same deep interest in creating new solutions based on open data sharing

Autonomous busses (February 2017)
In 2017, we expect to be able to present an autonomous bus at DTU. The bus will work as a facility for research and student innovation on various topics such as mobility-on-demand

DTU Skylab (2013)
DTU’s 800 m2 melting-pot for student innovation and entrepreneurship
Vision for SMART Library

The library space will be an indoor living lab, where students, researchers and entrepreneurs can develop, test and demonstrate SMART technologies, analyze the collected data and conduct research- and student projects, while optimizing the indoor climate, lighting and acoustics and therefore boosting the chances of learning.
The SMART Library concept

- Personal Comfort
- Technological Playground
- Open Data Repository
- Environmental and Economic Sustainability
Personal comfort

- User centered design and learning
- Indoor climate4me, light, ventilation and acoustics
- Security – video, fir
- Personalised services
Comfortzones
Technological playground
Sensors

- Movement, infrared, wi-fi, bluetooth
- Acoustics, microphones, speakers.
- Light measurements, brightness and color
- Climate, temperature, humidity, CO₂, particles, anemometer (air-speed), VOC (smell)
- Bluetooth, Li-Fi, camera

http://www.modcam.com/
LearningArena
Projects in the name of SMART Library

✓ Acoustics
✓ Acoustics and white noise
✓ Dynamic light
✓ Seat occupancy
✓ Data ethics
✓ Indoor climate – particles
✓ Many more to come
Open data repository

Internet of Things Topography

http://www.slideshare.net/deepind/ibm-iot-architecture-and-capabilities-at-the-edge-and-cloud
Data literacy
Research data

*Research data* is the material, data, records, files, and other evidence underpinning the research projects’ findings, or other outcomes.

Research data should be:
- Recognised as valuable
- Planned for (when commencing a new research project)
- Stored securely and appropriately
- Findable, accessible, interoperable and reusable
- Retained in accordance with disciplinary traditions, otherwise for a minimum of five years after publication or public release of the research
- Appropriately disposed
- Managed in line with ethical protocols, including confidentiality
- Compliant with legal requirements, such as privacy and data protection
Environmental and economic sustainability

- Budget
- Timeline
Strategic potential

- Excellent conditions for learning
- Service assessment, library impact, grades, retention
- Data-science-employees, analytics, datamanagement
- Closer collaboration with researchers
- Contributing to research and student-assignments
- Standard for learning environment on campus
- Network with industry and entrepreneurs
- Collaboration with other organisational units
- Innovation and inspiration
Thank you

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SMART Library - indoor living lab
Take a virtual tour at DTU Bibliotek

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