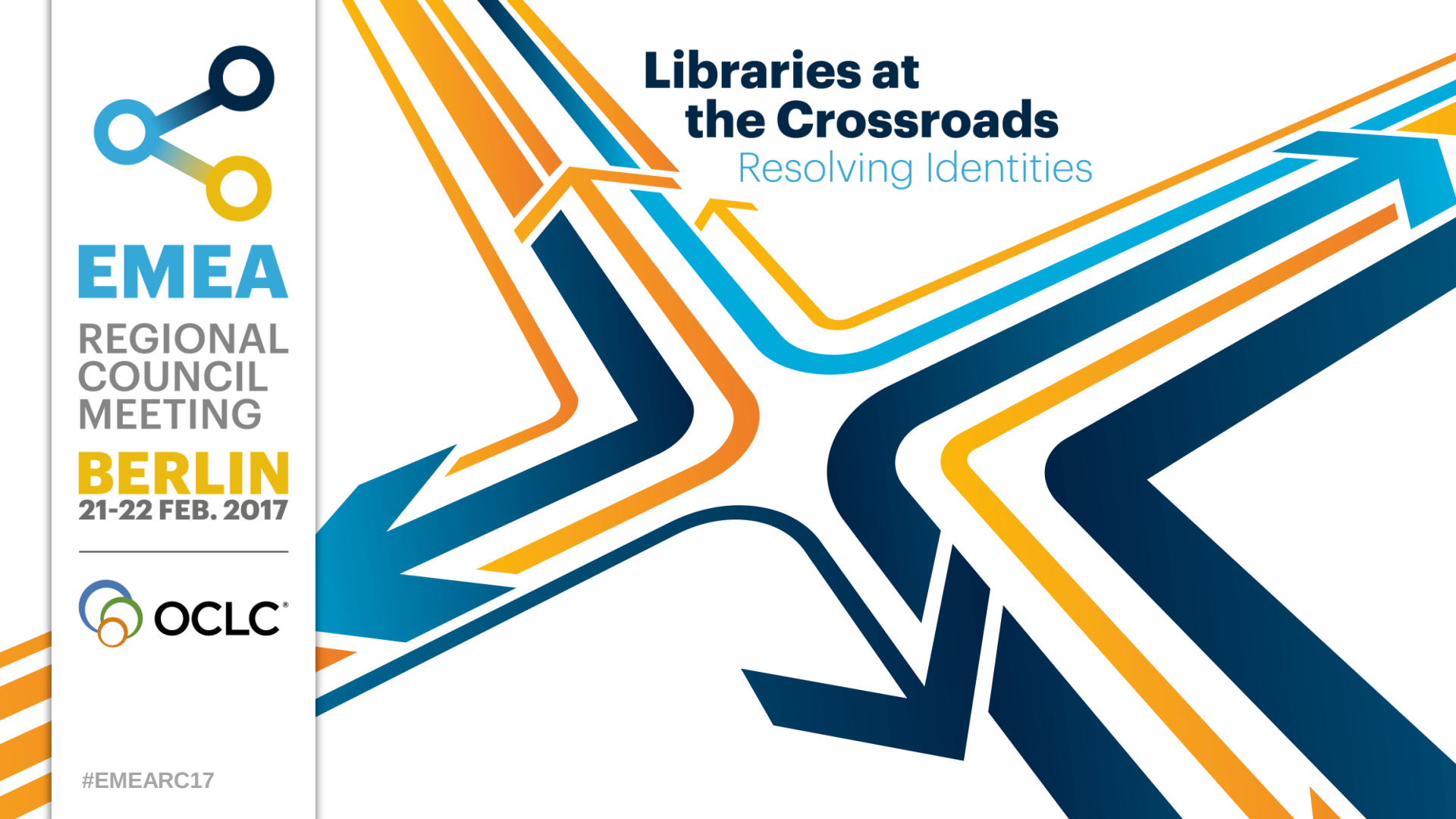

EMEA
REGIONAL COUNCIL MEETING
BERLIN
21-22 FEB. 2017
OCLC
#EMEARC17
Libraries at the Crossroads
Resolving Identities

EMEA
REGIONAL COUNCIL MEETING
BERLIN
21-22 FEB. 2017

OCLC

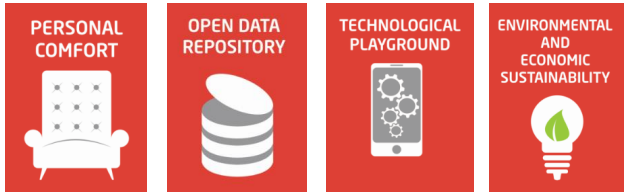
SMART Library

Lars Binau

#EMEARC17

Agenda

- Why transforming the library to a living lab
- DTU Smart Campus
- The SMART Library concept
- How will we do it
- Strategic impact




DTU Bibliotek
DTU Library

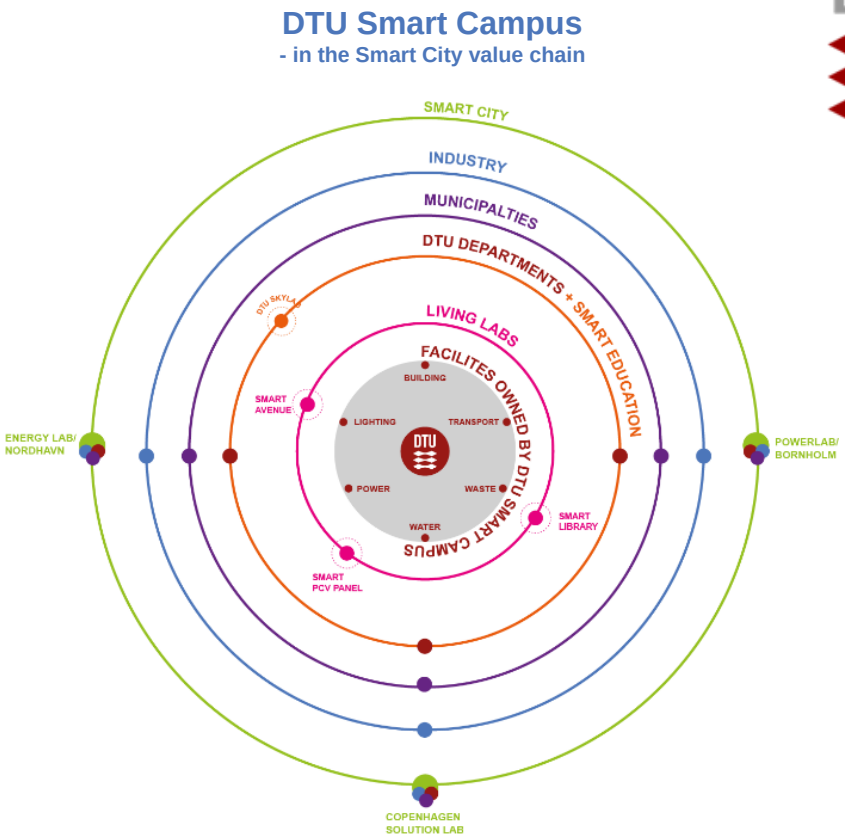
Build for books, but now for people

IOT – connecting everything

Fast growing industry
Revenue

SMART CAMPUS - THE HOLISTIC MODEL

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)

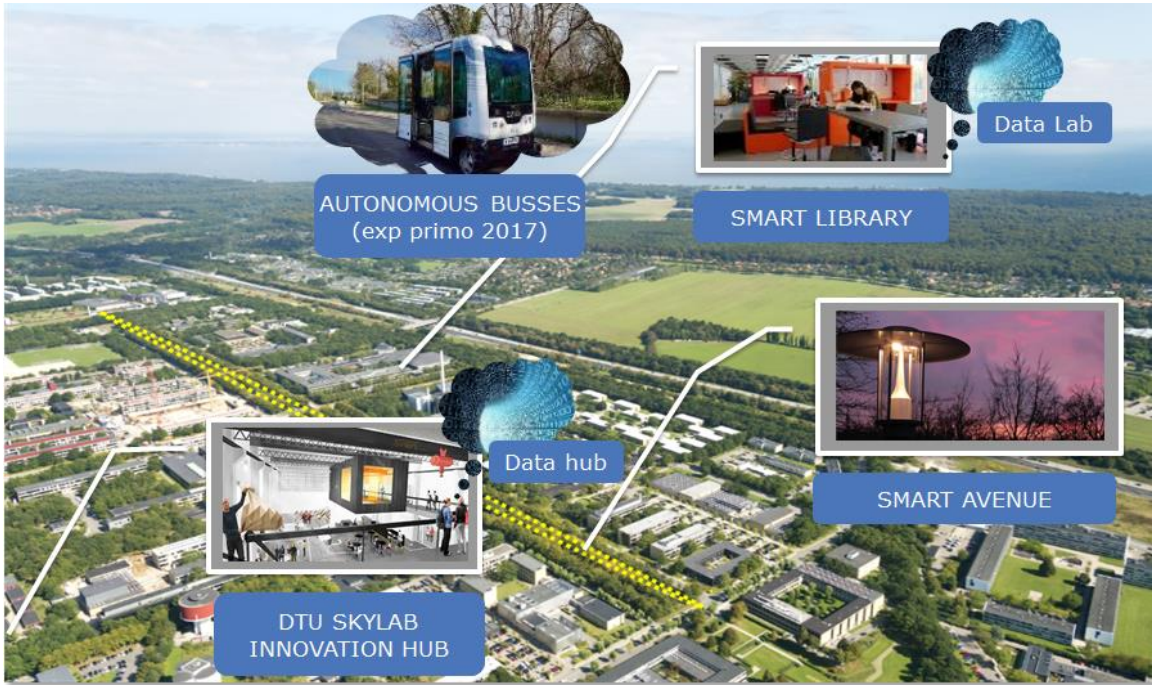
The hub is a creative, non-formal community and gives the opportunity of meeting and working with fellow students and companies with the same deep interest in creating new solutions based on open data sharing

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



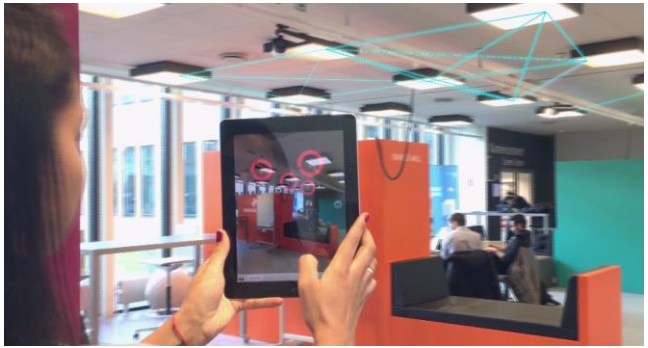
Vision for SMART Library

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.

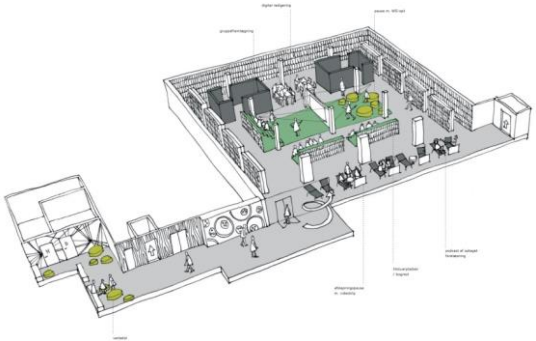
The SMART Library concept

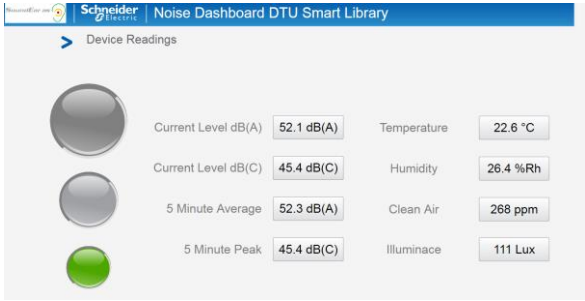
Personal comfort

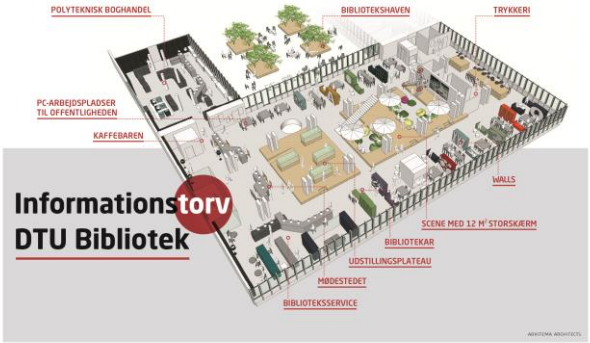
- User centered design and learning
- Indoor climate4me, light, ventilation and acoustics
- Security – video, fir
- Personalised services

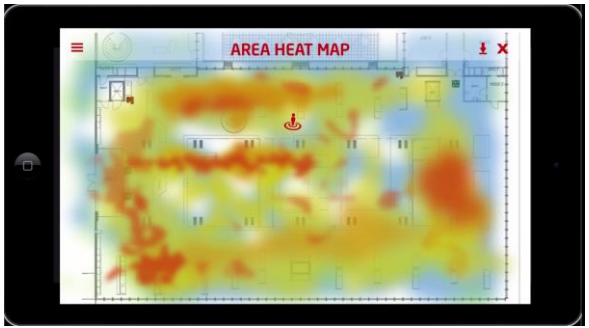


Comfortzones

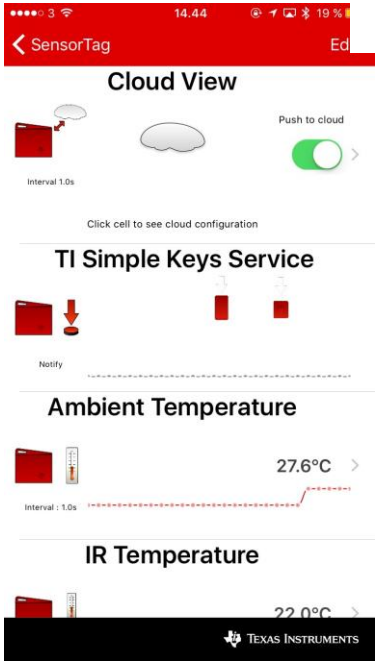






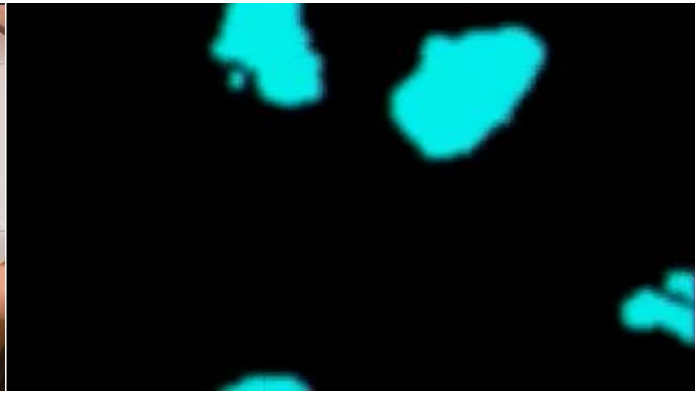


Technological playground



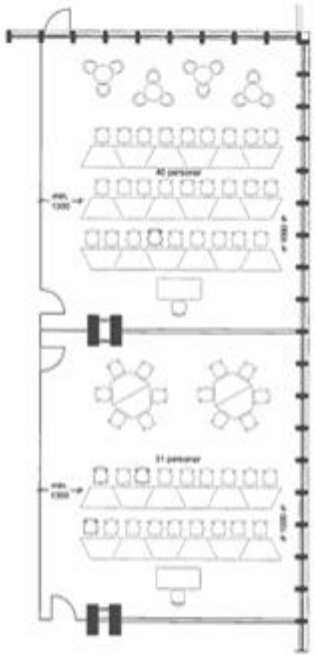
Sensors

- Movement, infrared, wi-fi, bluetooth
- Acoustics, microphones, speakers.
- Light measurements, brightness and color
- Climate, temperature, humidity, CO_2, particles, anemometer (air-speed), VOC (smell)
- Bluetooth, Li-Fi, camera



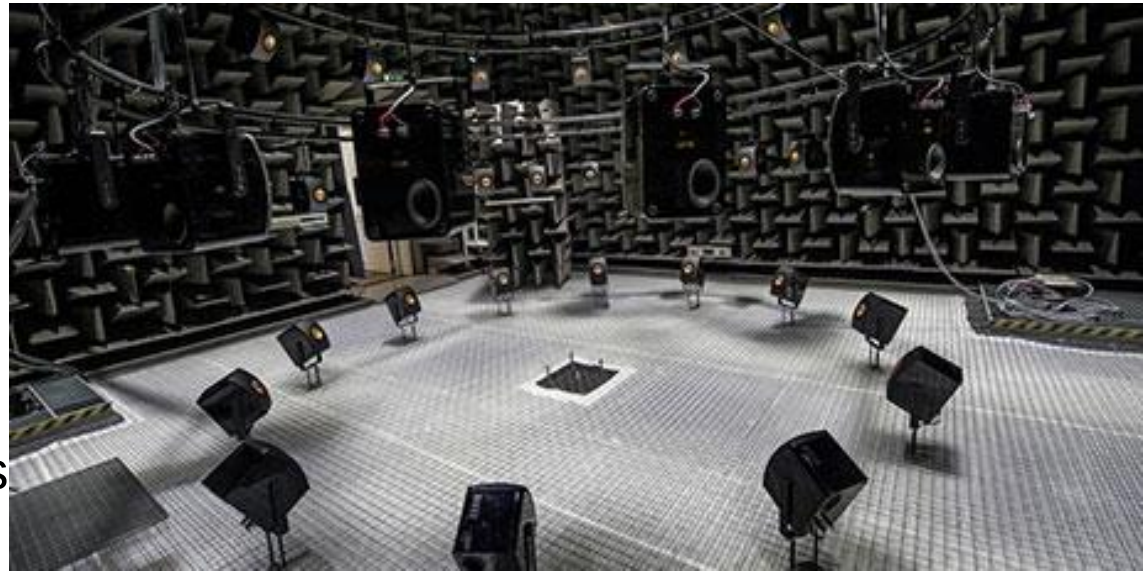
http://www.modcam.com/

LearningArena

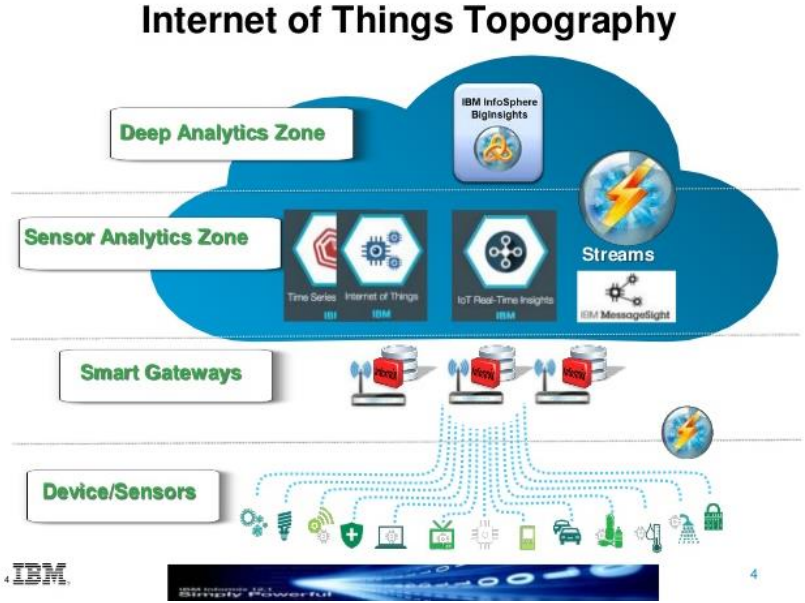


Projects in the name of SMART Library

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



Open data repository



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

Smart Library

Data Topics / Aspects

A Data Ethics
- Law
- Anonymity
- Abuse
- Influence
- Sensitive Information
- Security

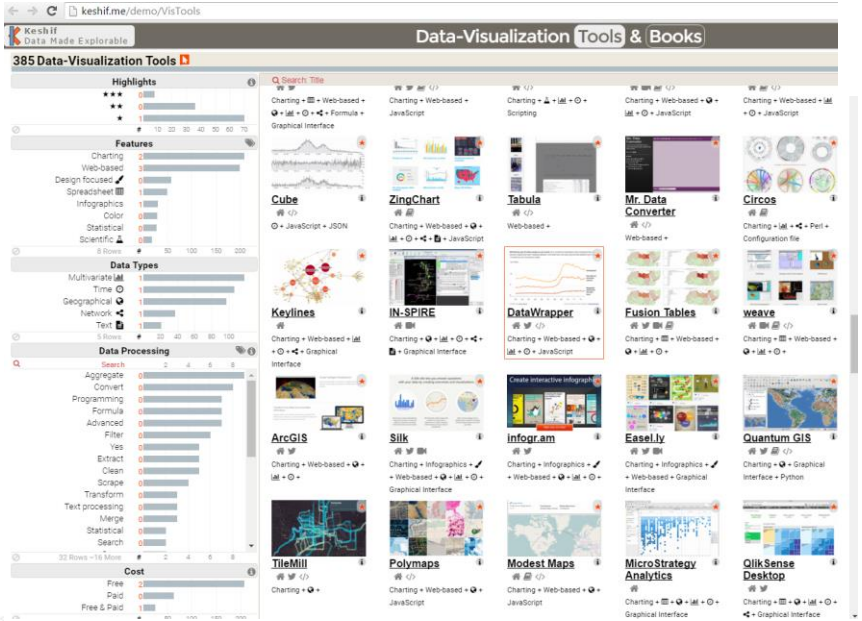
B Real Time Data
- Important information

C Future Data
- Experiments
- Expectations

D Recorded Data
- Patterns
- Reactions
- Prevention
- Preparation
- Optimisation
- Statistics

E Data Visualisation
- Virtual Reality
- Augmented Reality
- Information
- Displays

Data literacy



Research data

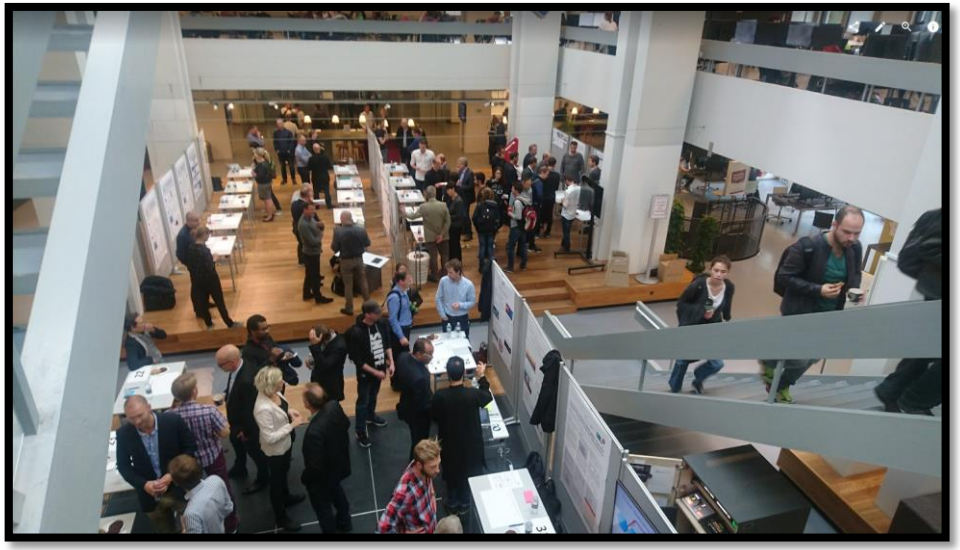
Research data is the material, data, records, files, and other evidence underpinning the research projects' findings, or other outcomes.

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-emplyees, analytics, datamanagement
- Closer collaboration with reseachers
- 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

Lars Binau
Team Manager, Library Facilities and Stacks
Office for Innovation and Sector Services
SMART Library - indoor living lab
Take a virtuel tour at DTU Bibliotek

Technical University of Denmark
Anker Engelunds Vej
Building 101, Room 4.115a
2800 Kgs. Lyngby
Direct +45 45257315
Mobile +45 51801563
labi@dtu.dk
www.library.dtu.dk/