

EMREX seminar Bologna

# The perfect(?) digital world – the tale of Norway

# CERES

- National Center for Systems and Services for Research and Studies
  - Manages, develops, maintains and operates:
    - Student administration systems
    - Admission systems
    - Research information systems and services
  - On behalf of the Norwegian higher education sector and Norwegian research communities, such as national research institutes and health care institutions
- Geir Vangen
  - Manager of department of development

# How we work with Digitalization

# Expectations from our students

- Everything on-line
- We know everything about them already
- Everything is a stream of events – everything happens on their mobile

# Our goals for student administration

- All student services on-line
- Large extent of automatization
- Effective, open and transparent, GDPR-compliant
- Secure

- How will this affect our applicants and students?

- How this will affect university administrative employees ?

# How do we work on digitalization?

- **Cooperation between HEIs**



# How do we work on digitalization?

- Cooperation between HEIs
- **Demands from the government**
  - New directives every year from the Ministry of Local Government and Modernization

- Compilation of directives and recommendations on digitalization of the public sector
  - How to digitalize
  - Project completion
  - Financing
  - Principle of User first

# Background

- Digitalization → renew, simplify and improve
- Offer effective, simple and reliable services
- Added value and innovation → improved productivity
- Government's main politics on how to make use of technology for the best of society



# User first

- Service design (user involvement, user testing...)
- Help and guidance
- Cooperate on services across organizations
- Clear language
- Choose digital first: Integrated, user friendly, safe and universally designed



dreamstime.com

# User first

Reuse of information, map:

- What data do we work with?
- What do these data mean?
- What is the intended usage of these data?
- Who uses the data?
- Possibility for reuse?
  - Only ask for the same data once, reuse



# User first

The use of common components

- ID-portal
- Secure digital mailbox
- Contact and reservation registry
- National registry
- ...and more

# User first

- Information security
  - Internal control in the area of information security
    - Standardized
    - Integrated part of management
    - Designed based on risk analysis



# User first

- Built-in privacy
  - User friendly standard settings
  - GDPR





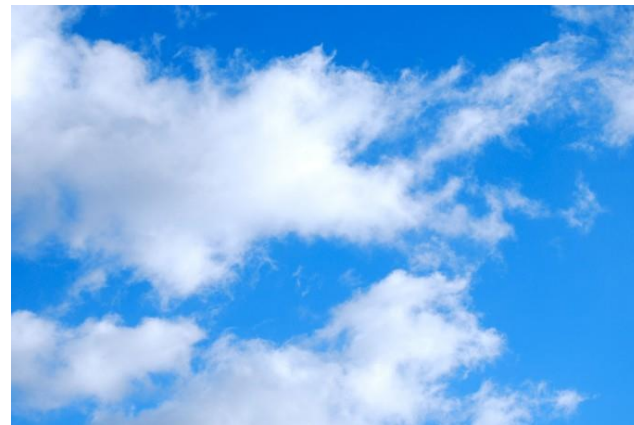
# User first

- Exchange of information across borders
- EU's digital infrastructure through CEF



# User first

- Use of cloud services



# How do we work on digitalization?

- Cooperation between HEIs
- Demands from the government
  - New directives every year from the Ministry of Local Government and Modernization
- **Architecture principles**

# Architecture principles

- Service orientation
- Interoperability
- Accessibility
- Security
- Transparency
- Flexibility
- Scalability

# How do we work on digitalization?

- Cooperation between HEIs
- Demands from the government
  - New directives every year from the Ministry of Local Government and Modernization
- Architecture principles
- **Strategy on digitalization of higher education**

# Goals

For the student



For the teacher



For the researcher



# Goals

For the student



- Digital learning and exams platforms
- Take part in research projects
- Digital skills
- Awareness on ethical, legal and security related issues
- Modern, personalized learning environment – individual teaching/courses, effectiveness, collaboration and flexibility of studies

# Goals

for the teacher

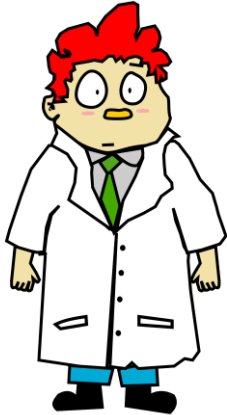


- Digital and pedagogical competence
- Wide variety of applications and digital tools and services which support the education



# Goals

for the researcher



- Access to relevant scientific publications, good overview of relevant researchers and accessible scientific data in their field
- User friendly IT support functions

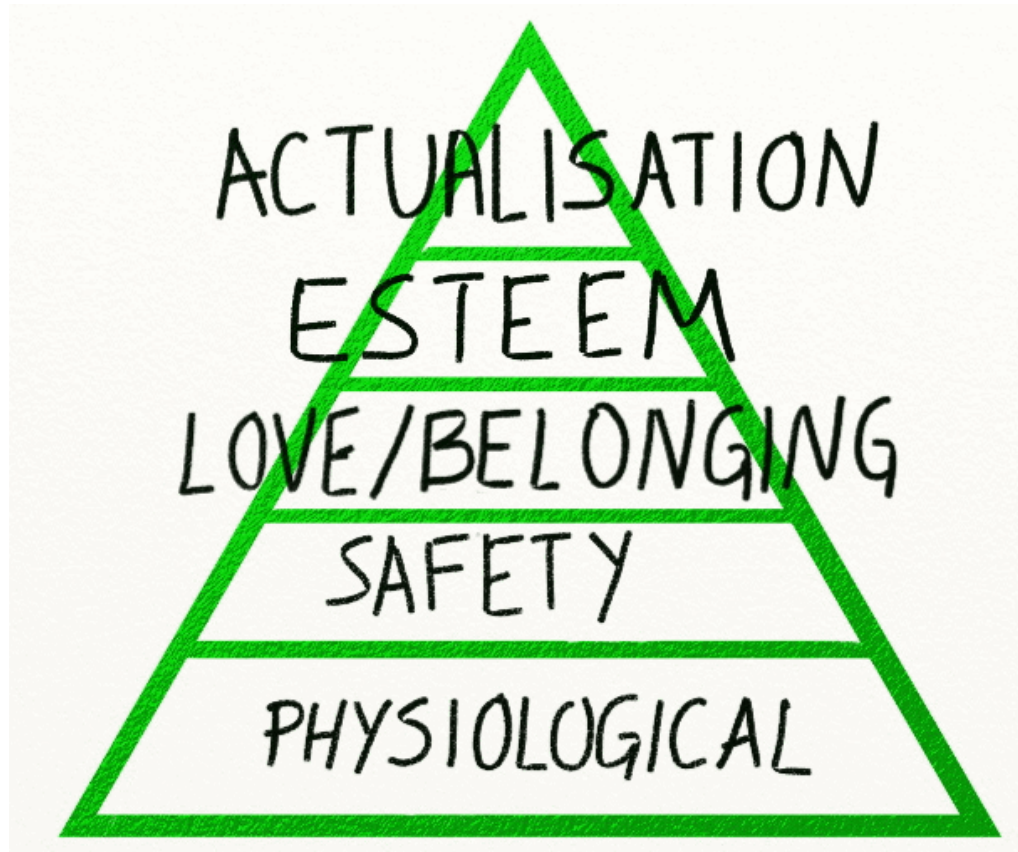
# Goals

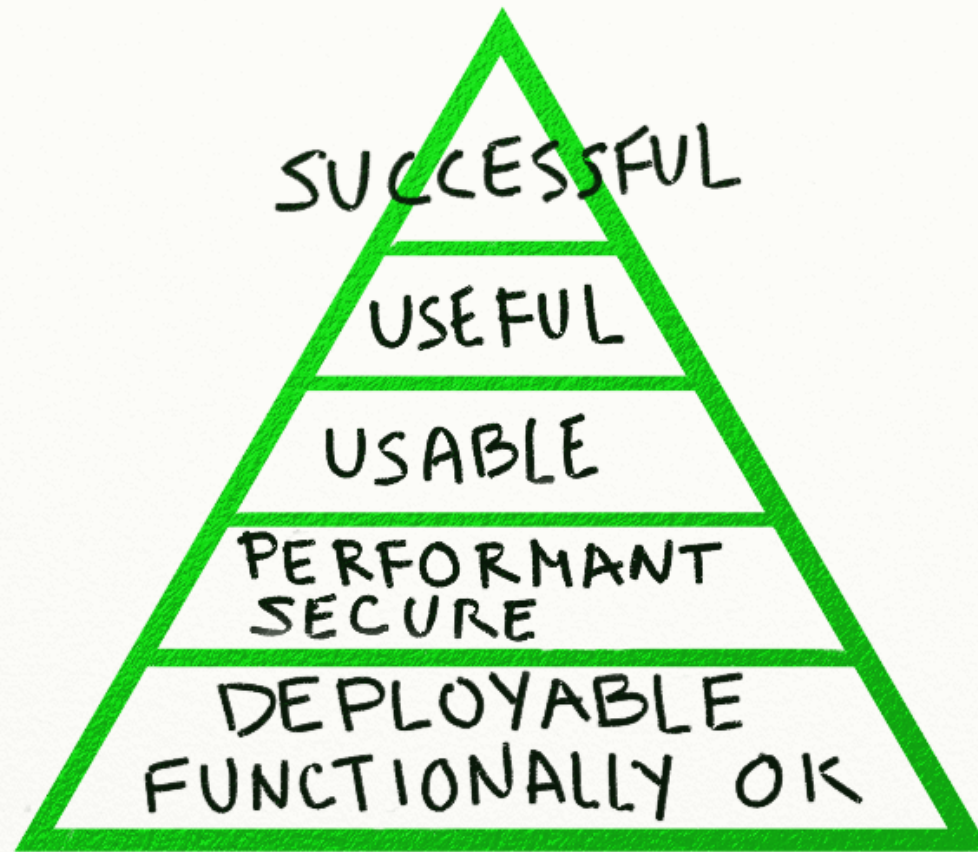
- **Management on any levels**
  - Exploit digitalization
  - Information security
  - Cooperation as a rule (between HEIs and externally)
- **Data and infrastructure**
  - Register once, reuse later
  - FAIR
- **Administrative systems**
  - All services digitally accessible
  - New services: needs, user friendly and user experience
  - Standardization and digitalization
  - Common systems
  - Automation and self service



# How do we work on digitalization?

- Cooperation between HEIs
- Demands from the government
  - New directives every year from the Ministry of Local Government and Modernization
- Architecture principles
- Strategy on digitalization of higher education
- **Strategy on development**





Gojko Adzic's «pyramid of software quality»

# RS3G 10 years





Diploma  
Bank



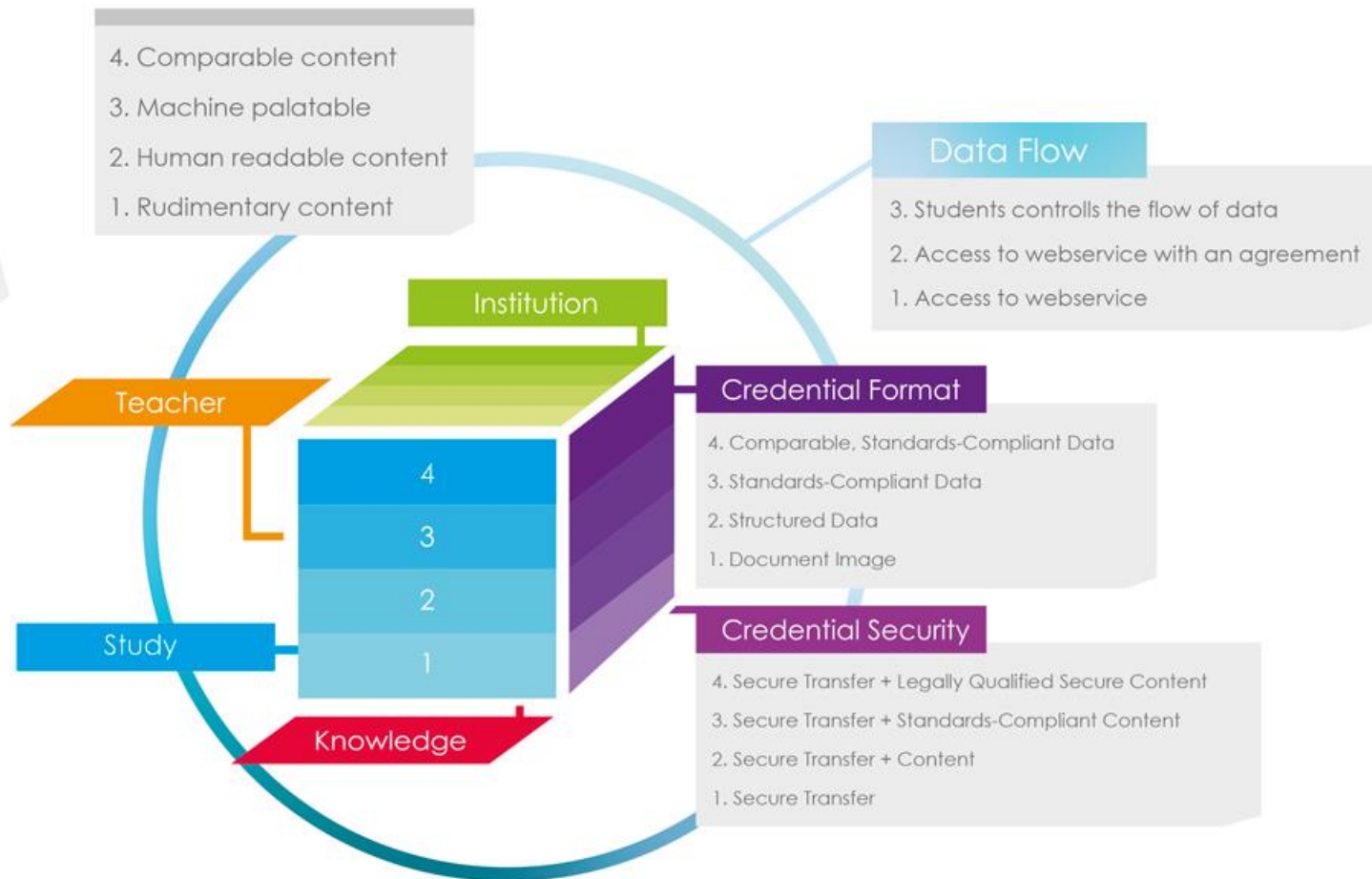
Publication  
Bank



Backpack  
Badge



Identity  
Bank







- Outstanding Security Performance Awards
  - Best security product



**OSPA WINNER 2017**

# Summary?

- Exploit technology to improve your organization
- Student mobility is one such area
- We need international cooperation to solve digitalization of our administrative procedures when it comes to mobility in large
- Open up your data (or the students?) for the student
- Cooperate – learn from each other