



Berner Fachhochschule
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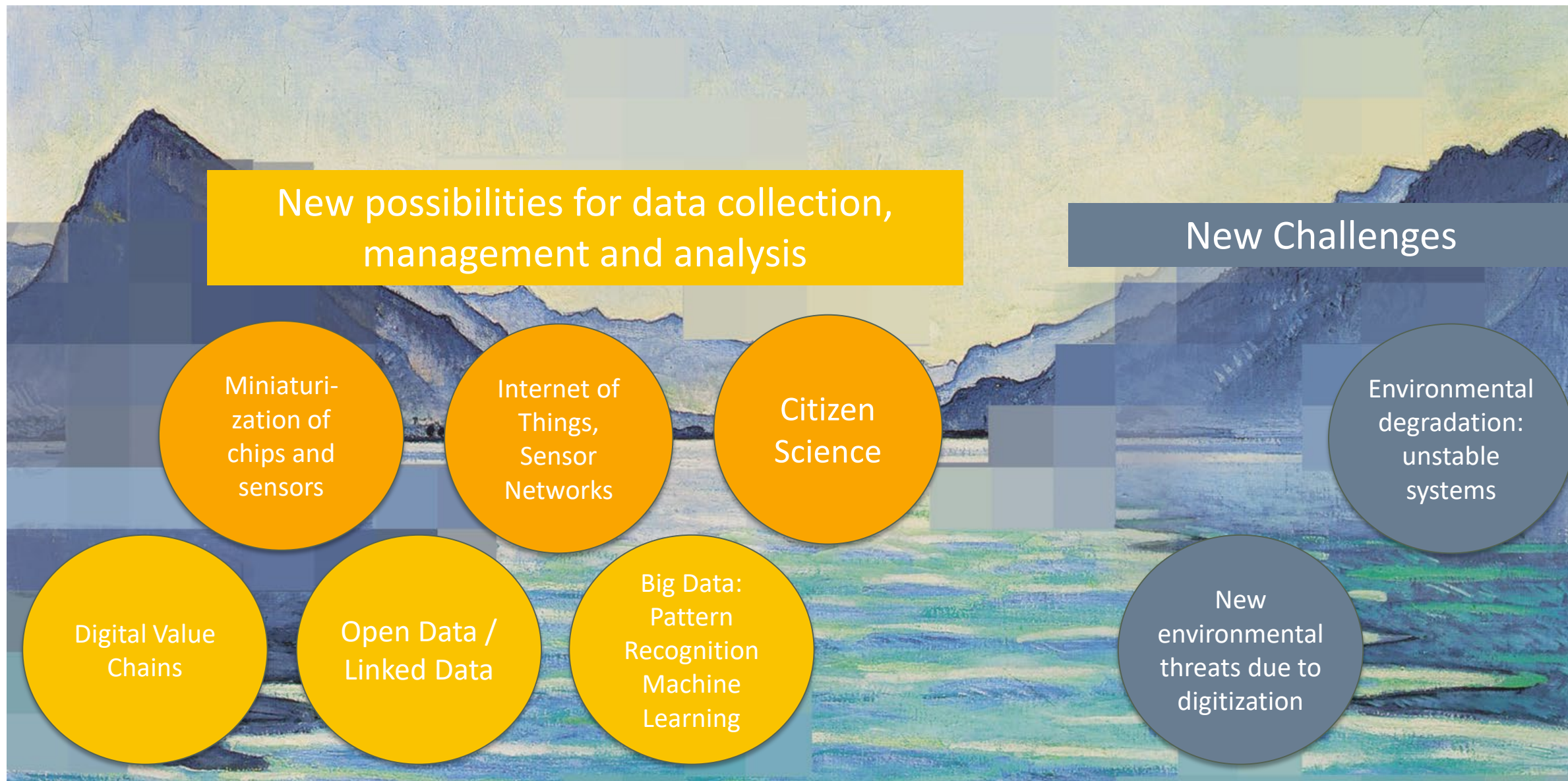


Data Exchange and Data Governance

Prof. Beat Estermann

Online-Workshop “Shaping a Sustainable Digital World” (8 May 2020)

Trends in Environmental Monitoring

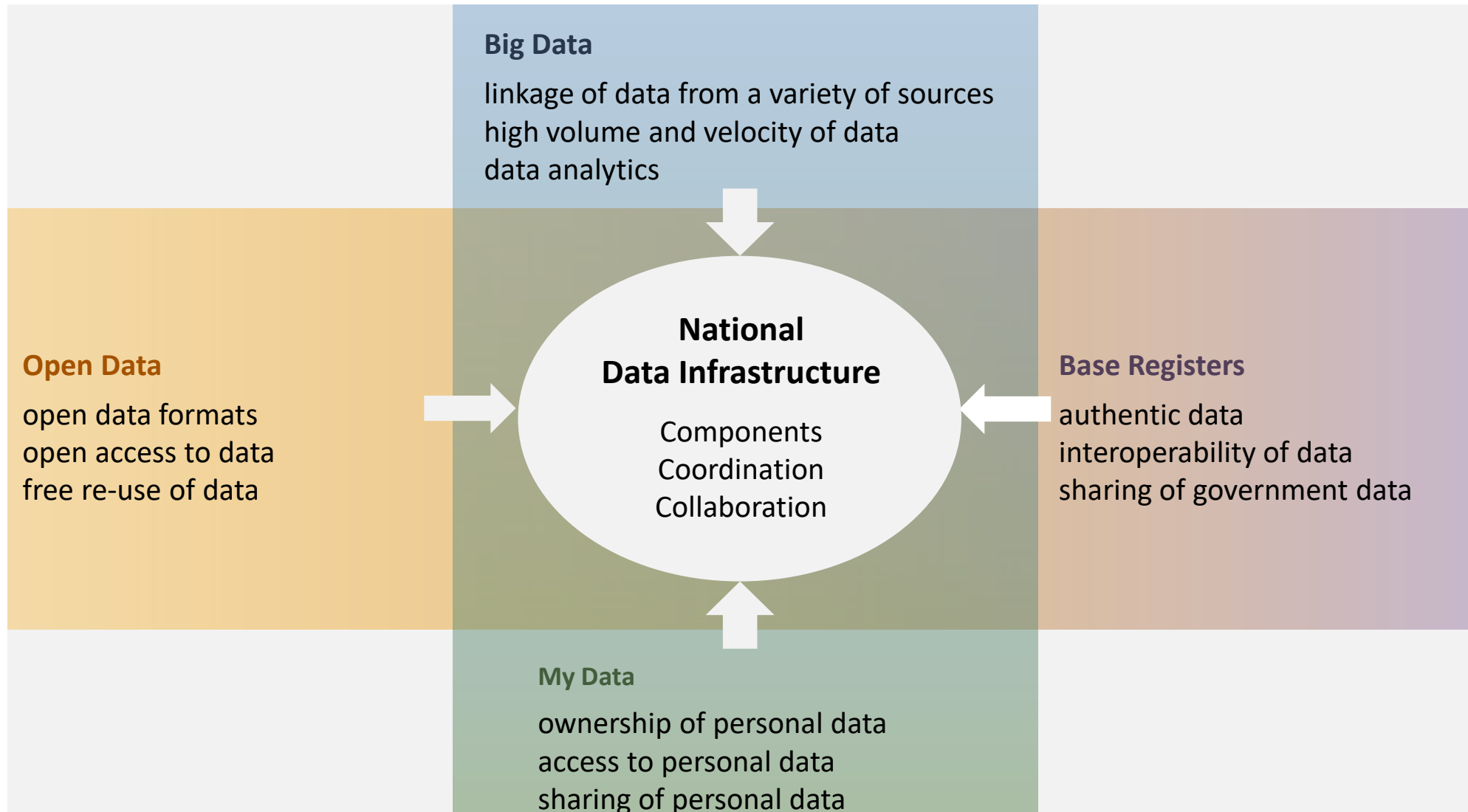


Environmental Monitoring: Opportunities, Risks and Need for Action

N = 801

Greatest Opportunities (scale: 1-5)	Greatest Risks (scale: 1-5)
More efficient data collection (4.19)	Aggravation of data protection issues (3.76)
Improvement of knowledge processing (4.15)	Power abuse by firms (3.43)
Areas with the greatest need for action	
<ul style="list-style-type: none">• Promotion of the exchange of environmental data• Standardization of technical interfaces for data exchange• Consistent implementation of the Open Data principles• Promotion of monitoring systems to increase efficiency	<ul style="list-style-type: none">• Implementation of the principle of informational self-determination / Mydata principle• Improving data protection through technical, legal and economic measures

Four Perspectives on a National Data Infrastructure



Needs for Coordination in the Context of a NDI

Dimensions	Fields of action requiring coordination
Ethical	Ethical norms regarding the use of personal data
Legal	Regulation of data protection and security Regulation of the usage of government data (e.g. fees, conditions limiting its usage) Regulation of data provision (attribution of tasks, regulation of liability issues) Regulation of the use of personal data
Political	Legal foundations/legal mandate (clarification of government agencies' responsibilities) Coordination (across sectors and federal levels)
Economical	Funding for data provision/basic investment Business models for data refinement Competitive situation of state-owned enterprises Data monetization (as an incentive for data provision)
Organizational	Access regimes (open vs. club model, private data) Data-lifecycle management Processes (data provision, data usage, etc.) Knowledge management, sharing of know-how, support to data providers and users
Semantical	Shared ontologies Metadata
Technical	Basic infrastructure (for the storage, transport, and processing of data) Infrastructure components (data portals, platforms and interfaces for service provision) Identity and access management Knowledge management functionalities