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Federal Ministry
of Education
and Research



EffizienzCluster
LogistikRuhr

Focus on the Environment

2015

Urban Supply World-Wide Logistics
Today Maximizing Cluster Potential Together

Presenting the

Adaptable Logistics Systems

7 Key Issues

2010

Top Cluster
Clusters

Efficiency

Market Potential of 2 Billion

Freight Management International

100 Innovations

Logistics-as-a-Service

130 Partners

Logistics Design Competence

Mobility

Technology

Individuality

Transportation

Cloud Computing

Future

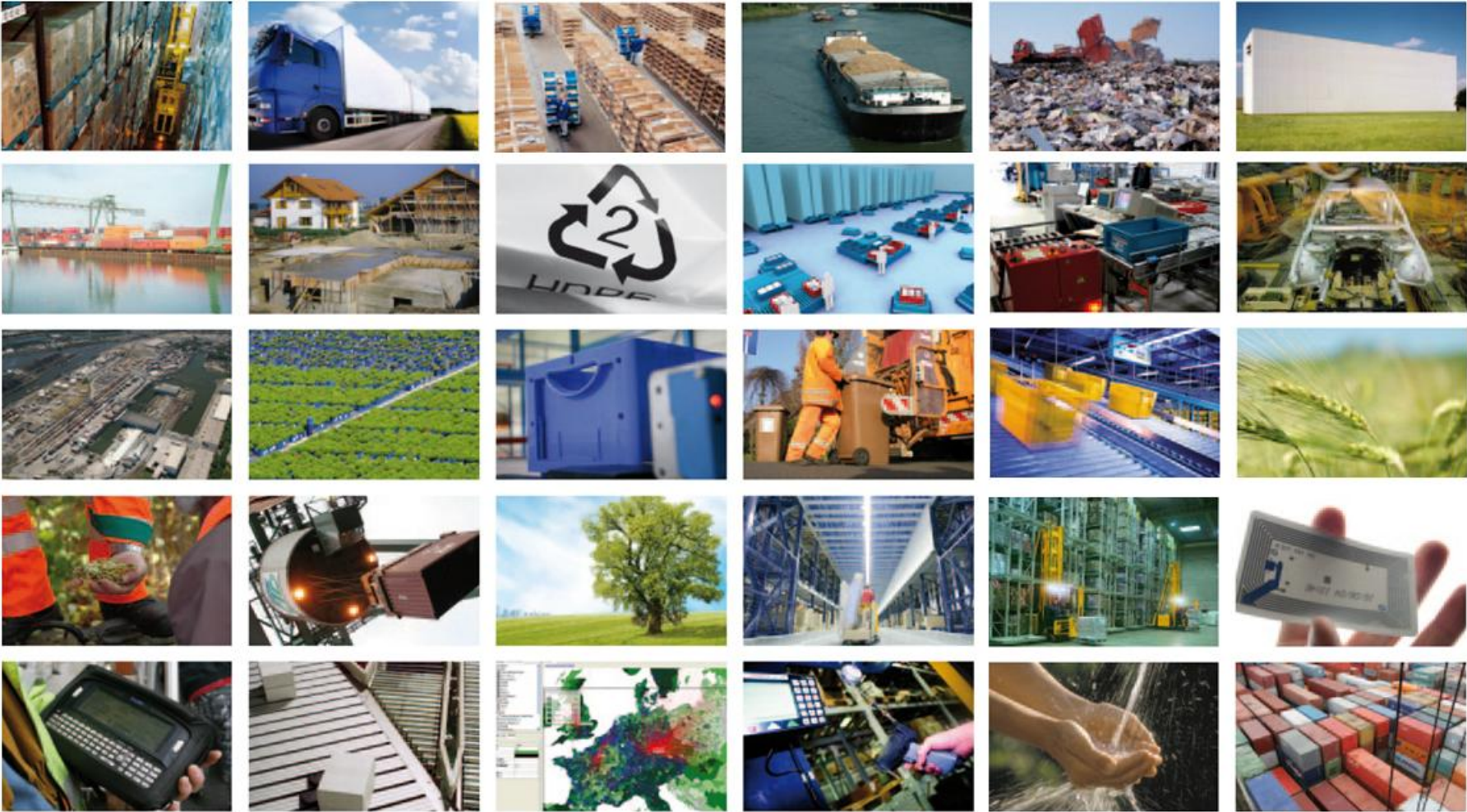
Navigation

30 Projects

Research

Cooperation

Diversity of Logistics



Service Innovation Logistics 2.0

mobile warehouses,
inflatable hangars, trailers, etc.

individual logistics service

physical internet

energy logistics

energy harvesting

water logistics

document logistics

new sea routes

innovative loading equipment

city logistics for senior citizens

floating warehouses and factories

prototype factory

innovative «last mile»

brand development and lobbying work

opening up new,
adjacent industries

fabbing provider

rapid prototyping production

Geo-fencing

managing diversity

global recruitment

securing the supply chain

individual product design

logistics for private households
moving, shopping, mobility, etc.

financial SCM

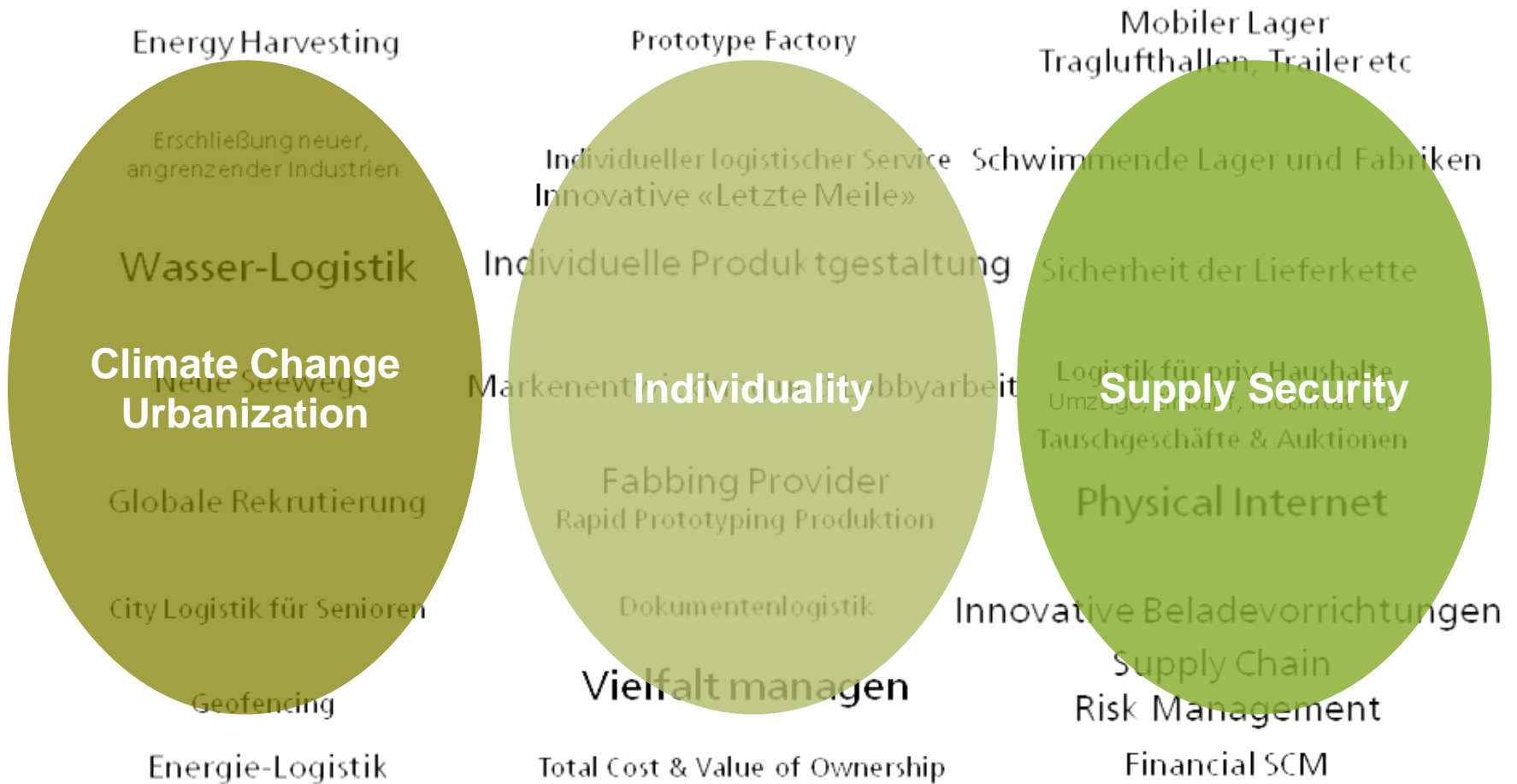
total cost & value of ownership

**supply chain
risk management**

trade transactions & auctions



Service Innovation Logistics 2.0










Major Trends

-  Importance of sustainability is increasing
-  Scarcity of raw materials
-  Demographic changes
-  The next step toward individualization
-  New forms of mobility
-  Growing need for security
-  Urbanization

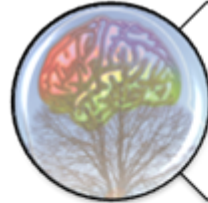
Society
and the
Environment

Major Trends

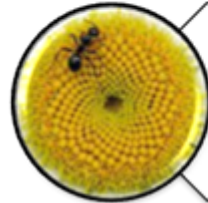
-  Intelligent, decentralized (power) supply systems
-  Knowledge-based added value
-  Digital life
-  Batch size of one → personal production/fabbing
-  A changing working environment
-  Automation of mobility
-  Growing need for security

Technology
and
Economy

Is a technology explosion on the way?



Availability of more technologies and knowledge than we (are able to) utilize



Bionics
Learning from nature



The internet of things
Ubiquitous computing



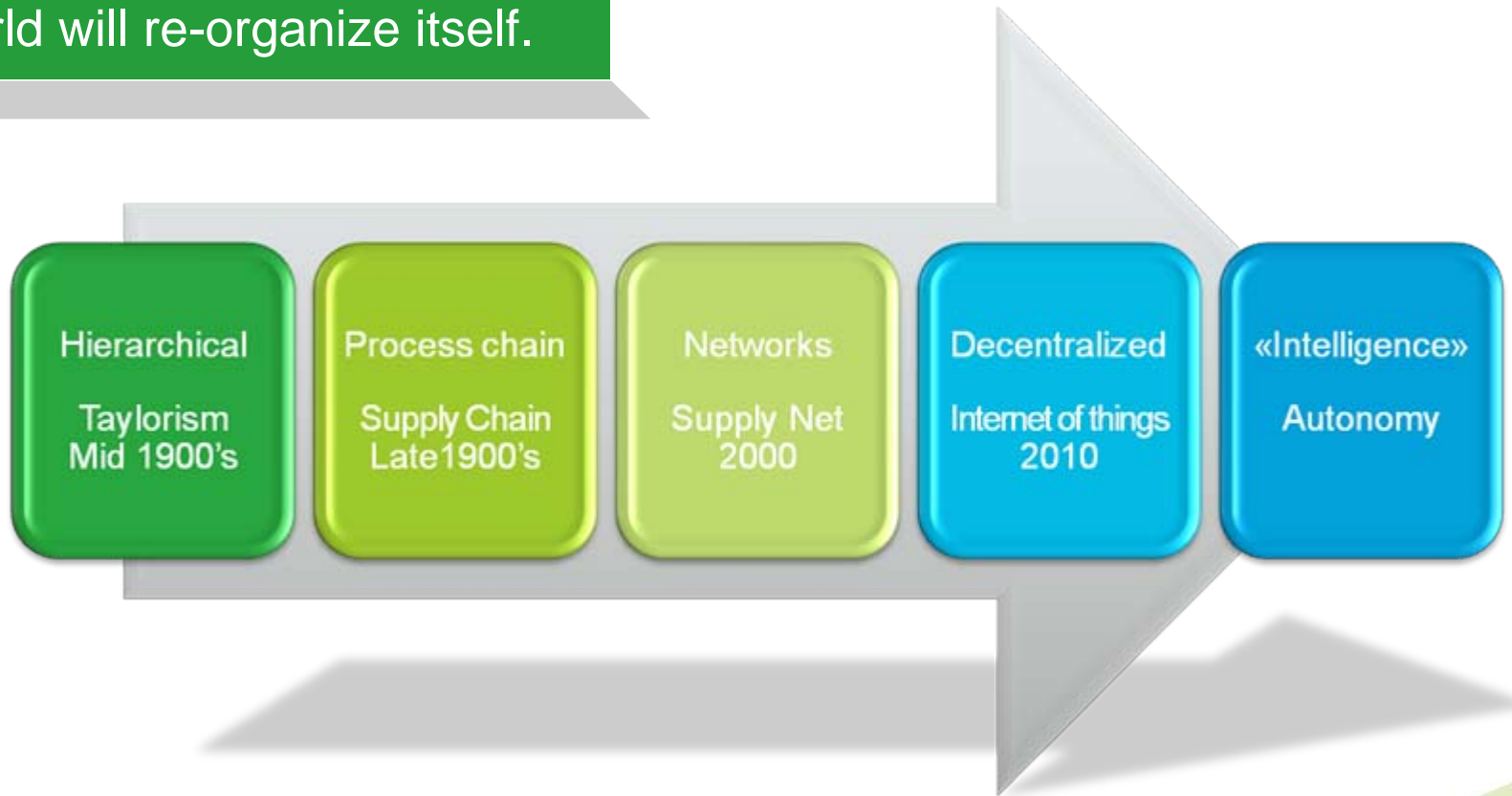
Digital globalization 2.0
Swarm based on conv. technology

Research
and
Innovation



The World is Re-Organizing Itself

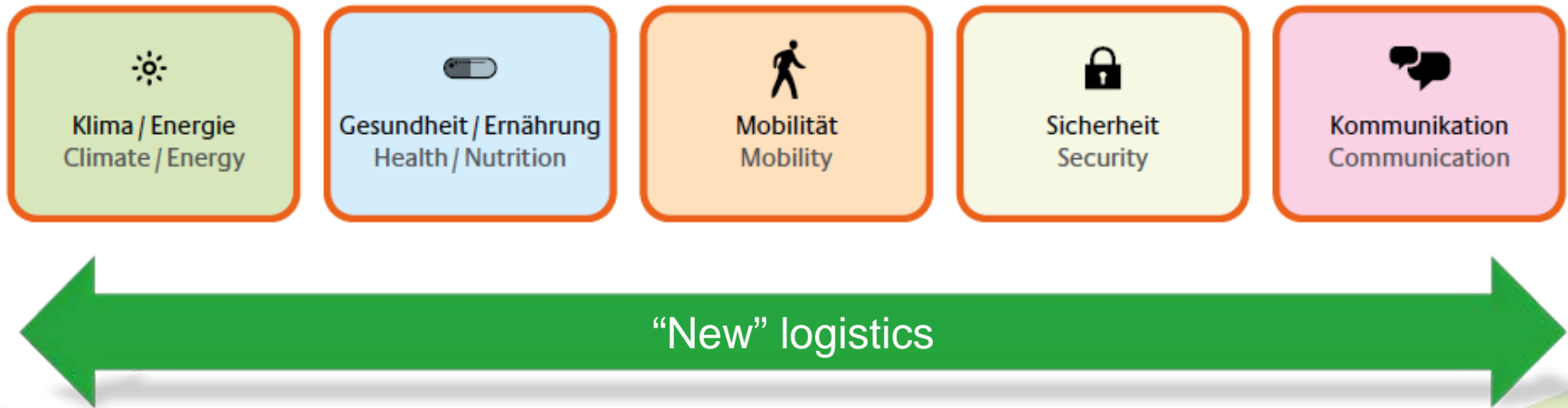
There will be no new world order,
the world will re-organize itself.





Germany's High-Tech Strategy: Areas of Demand and Leading-Edge Clusters

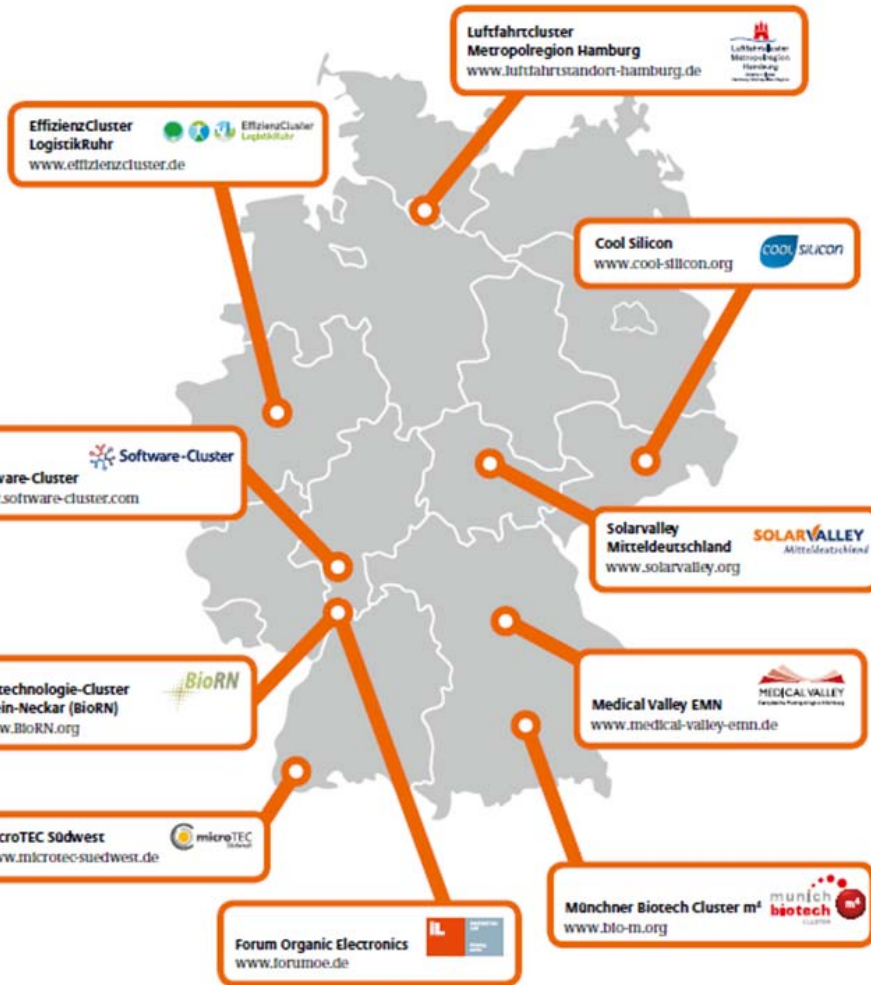
Promoting strategic partnerships between business and research to strengthen the innovative capacity and economic success of Germany as a business location.



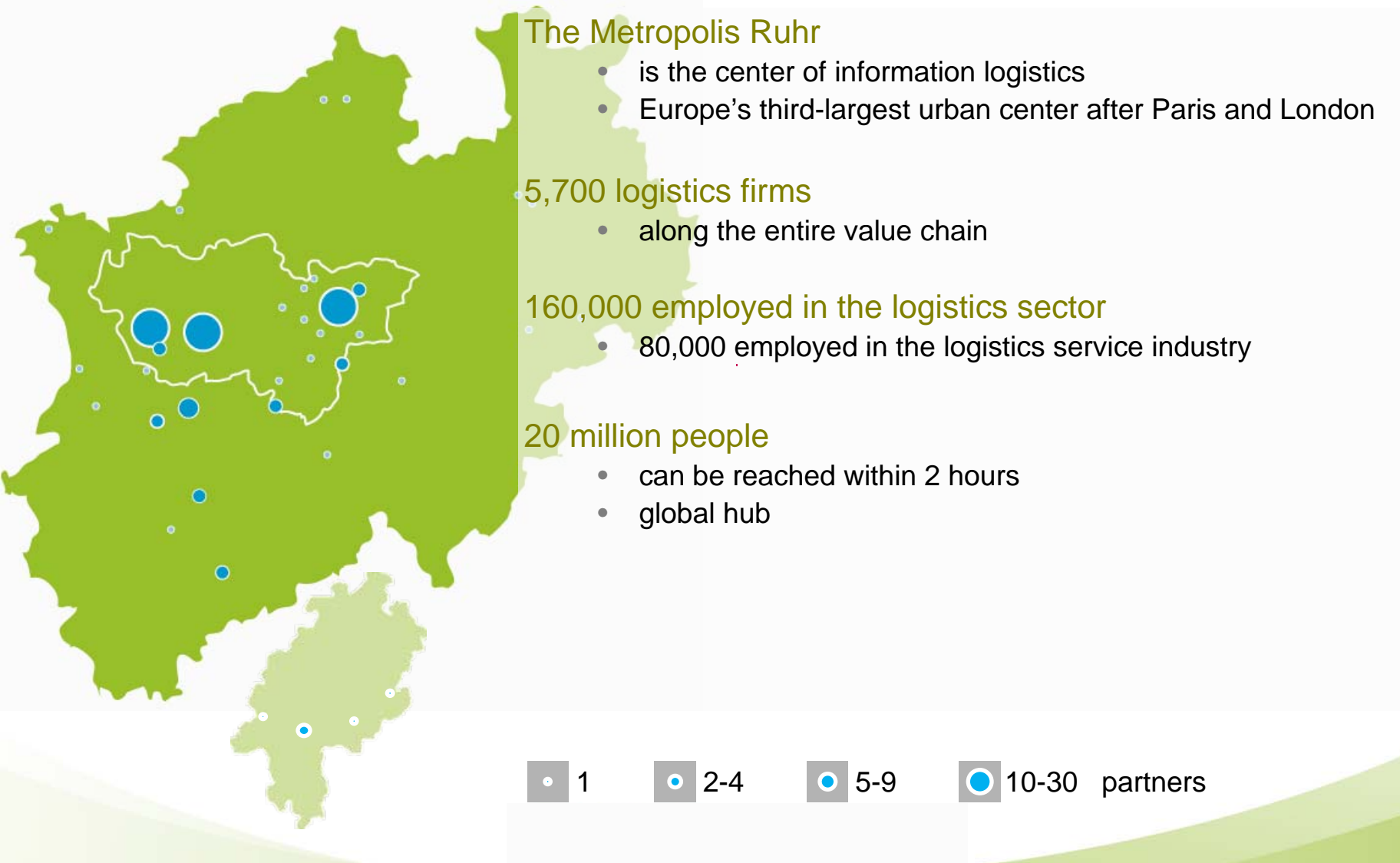
Leading-Edge Cluster Competition of the Federal Ministry of Education and Research

Government Goals

- supporting the continuing strategic development of excellent clusters in science and business
- converting regional potential for innovation into lasting added value
- sustainable consolidation of Germany as a location for innovation and business
- motto “Germany’s leading-edge clusters – More innovation. More growth. More jobs.“
- nationwide, thematically open competition
- €200m funding for up to 5 clusters
- 3 competition rounds every 1.5 years



Focus: Metropolis Ruhr Logistics Region



The Metropolis Ruhr

- is the center of information logistics
- Europe's third-largest urban center after Paris and London

5,700 logistics firms

- along the entire value chain

160,000 employed in the logistics sector

- 80,000 employed in the logistics service industry

20 million people

- can be reached within 2 hours
- global hub





Standort in NRW



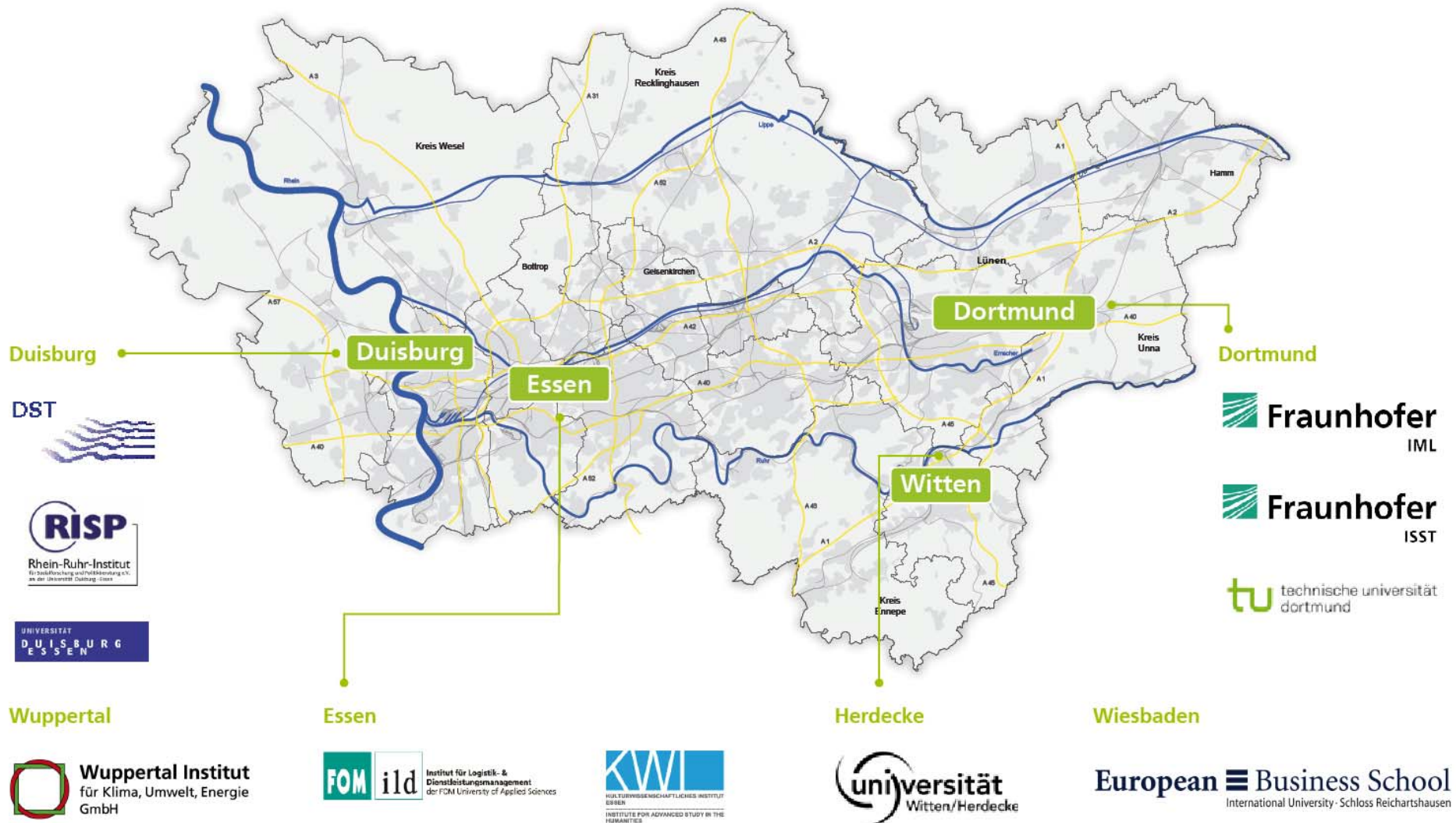
Standort im Partnerland Hessen



Standort im übrigen Bundesgebiet



11 Education and Research Facilities



Central Research Issue

In the coming years it will be essential to resolve the contradiction between resource efficiency and individuality¹.

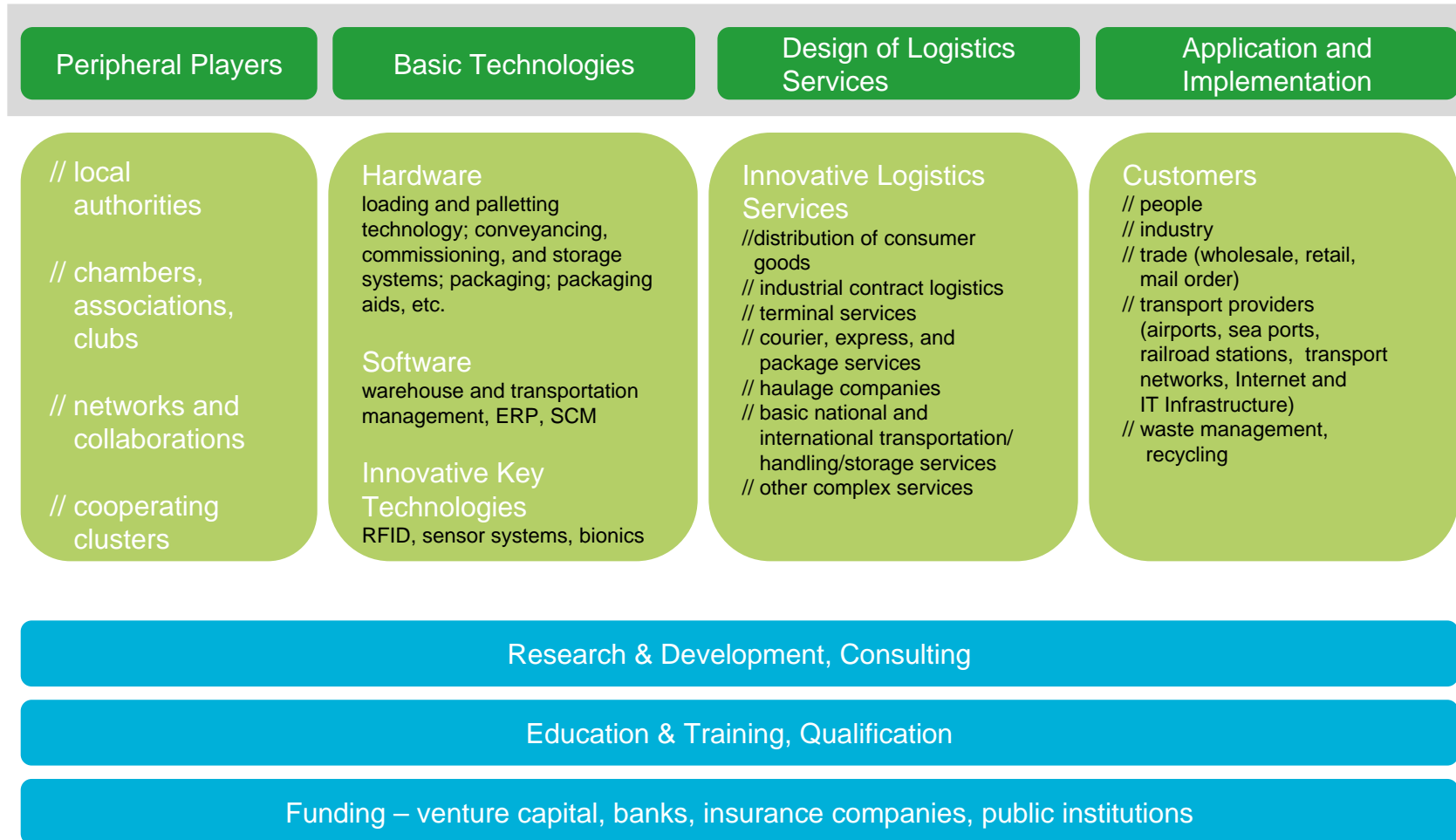
Creating tomorrow's individuality with 75% of today's resources.



¹ in the sense of individual supply of goods and services and individual mobility



120 Companies along the Logistics Value Chain



Key Issues for the Logistics of the Future



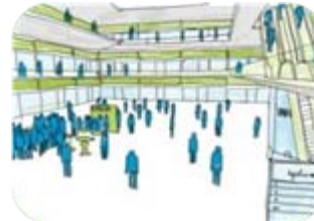
Focus on the Environment



Transportation Management



Urban Supply



Logistics-as-a-Service



Adaptable Logistics Systems

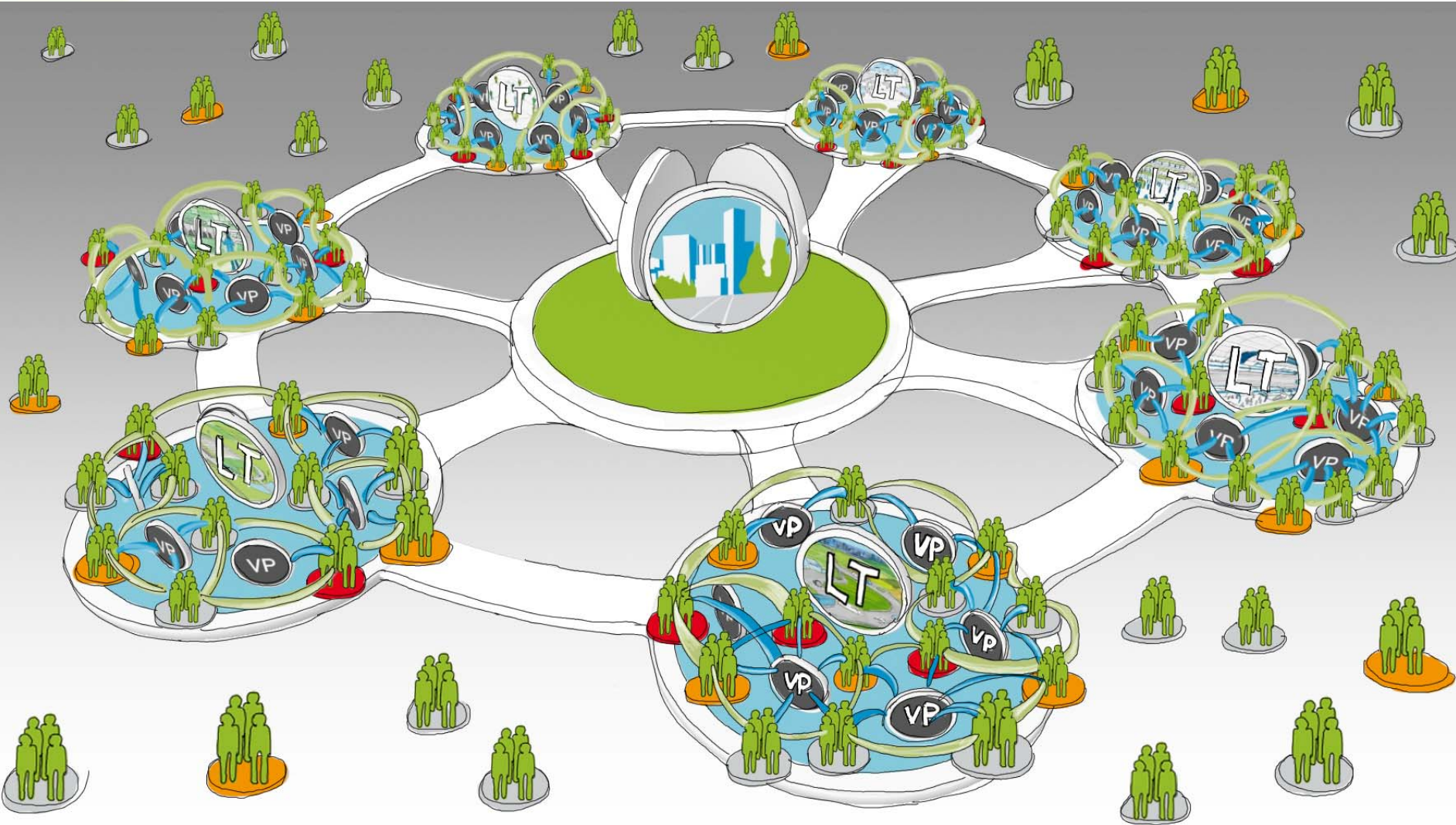


Design Competence

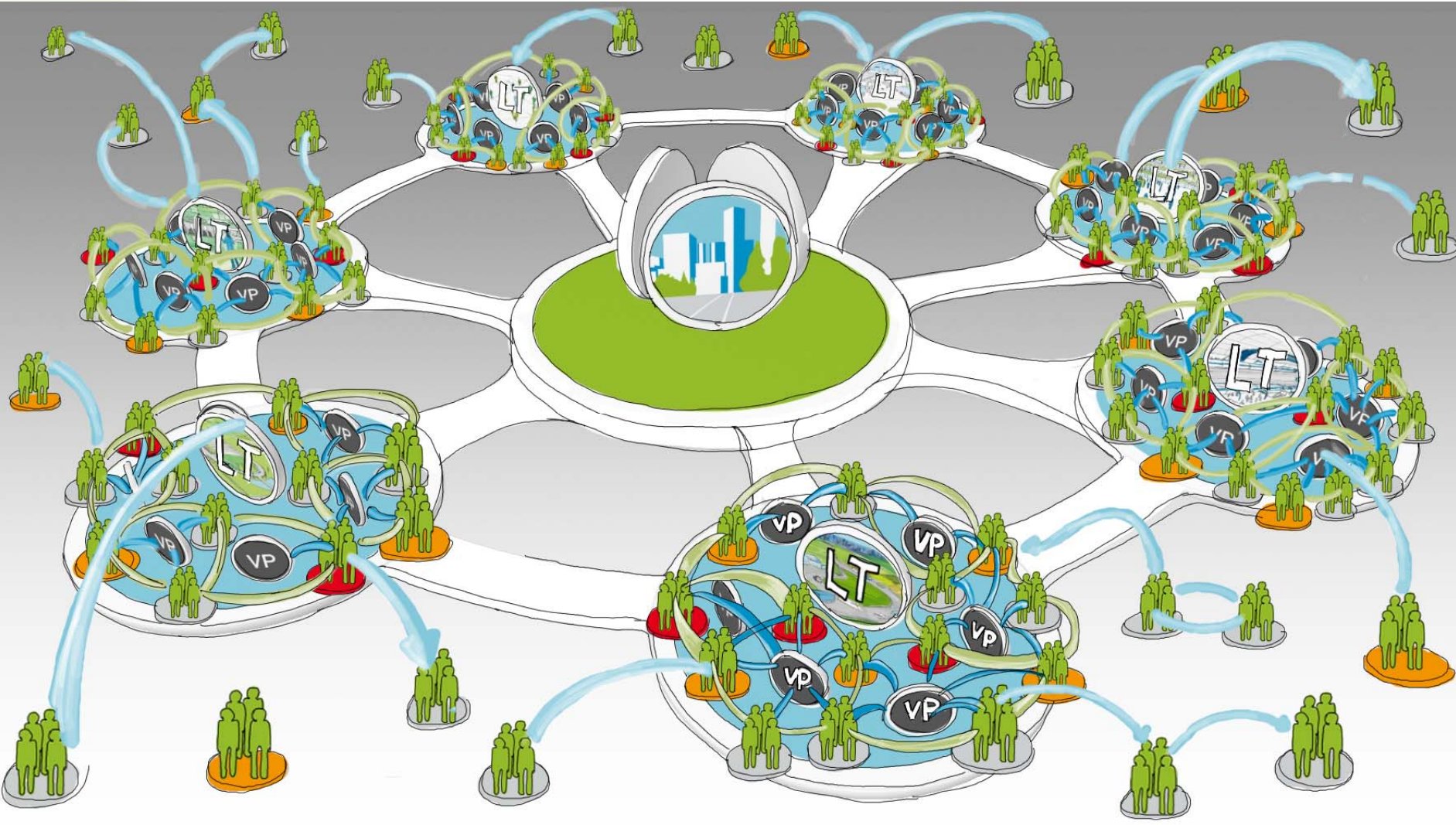
Management & Activation of Cluster Potentials



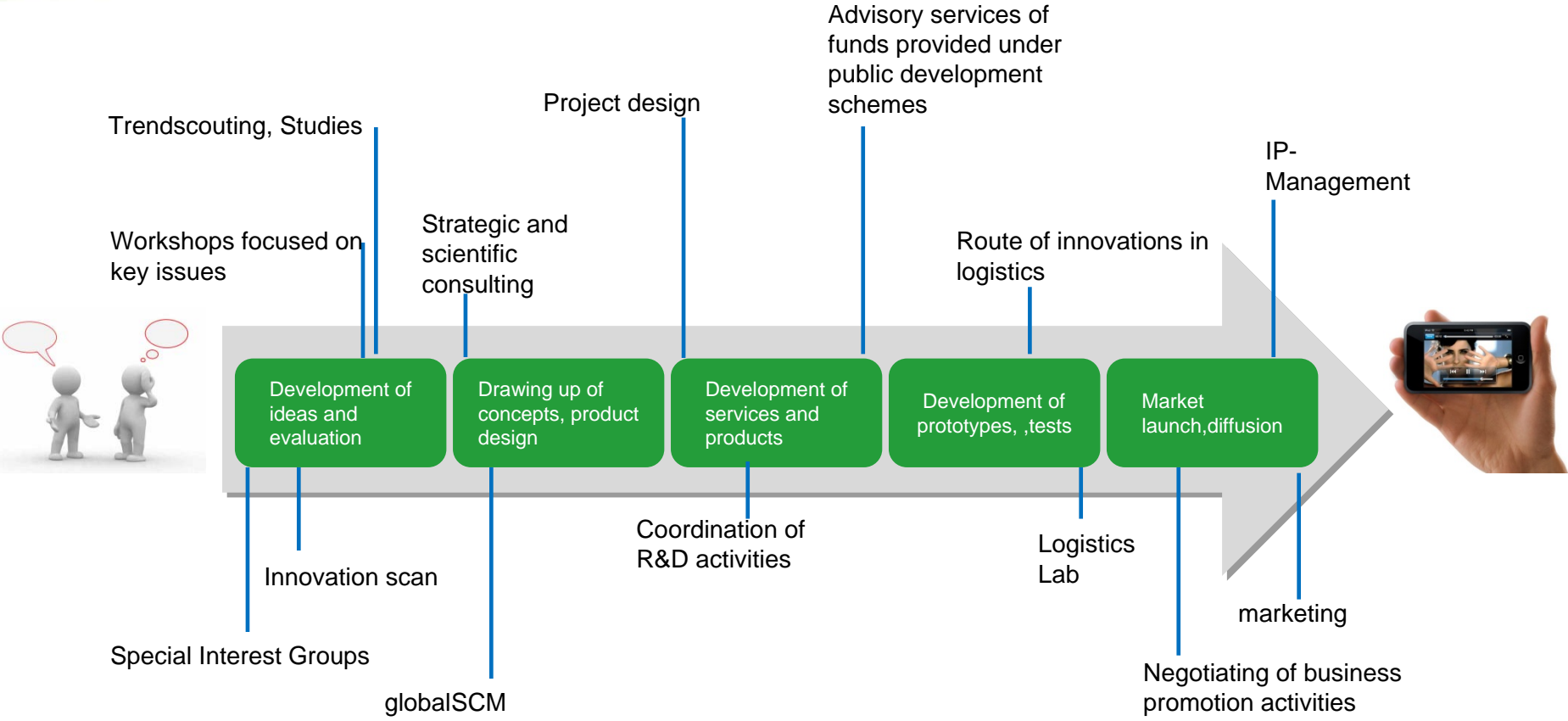
This is how we mobilize innovation...



...and “open” the process of innovation



Transform good ideas into good products



Together in project and key issues

Key Issues for the Logistics of the Future



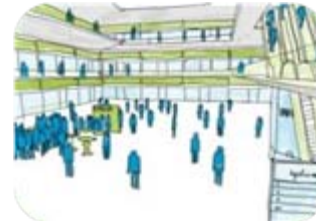
Focus on the Environment



Transportation Management



Urban Supply



Logistics-as-a-Service



Adaptable Logistics Systems
smart re-usable transport items



Design Competence
Logistics Campus

Management & Activation of Cluster Potentials

We Need to Create Logistics Systems That Endure



Flexibility

- System changes within planned limits.
 - Flexible goods · Flexible performance · Flexible layout
- It is necessary to create flexible systems.
 - Consequence: an end to rigid hierarchical systems.
 - Consequence : an end to deterministic systems.

Adaptability

- Expandability and adaptability of the system beyond planned limits.
- It is necessary to create adaptable systems.
 - Consequence at an operative level: autonomous agents, multi-agents systems etc.
 - Consequence at a normative level : Cloud computing, from processes to services etc.
- Perception is a prerequisite to adaptability!

Key Issues for the Logistics of the Future



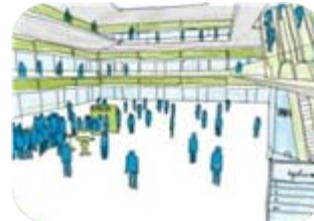
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Transportation Management



Urban Supply



Logistics-as-a-Service



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Sample Project smaRTI



Project brief

- smaRTI = smart re-usable transportation items
- 3.5 years project run-time
- 8.4 m Euro project volume
- 8 industrial and research partners

Three Branches, eight partners

Eight partners from industry, trade, logistics, and research jointly researching intelligent load carriers and networking within the internet of things.



Logistics Can No Longer Be Managed by Fax and with a Calculator



- The days of being able to control logistics by intuition are over.
- Logistics has become an interdisciplinary, highly complex scientific discipline.
- More than ever, logistics are called upon to contribute to issues of the future.
- It is important to recognize logistics as technology and as a response to many social issues.

Key Issues for the Logistics of the Future



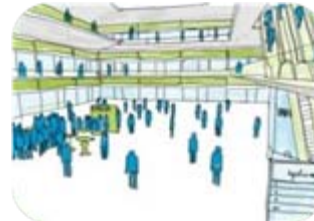
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Design Competence
Logistics Campus

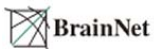
Management & Activation of Cluster Potentials

Knowledge as a Strategic Resource in Global Competition

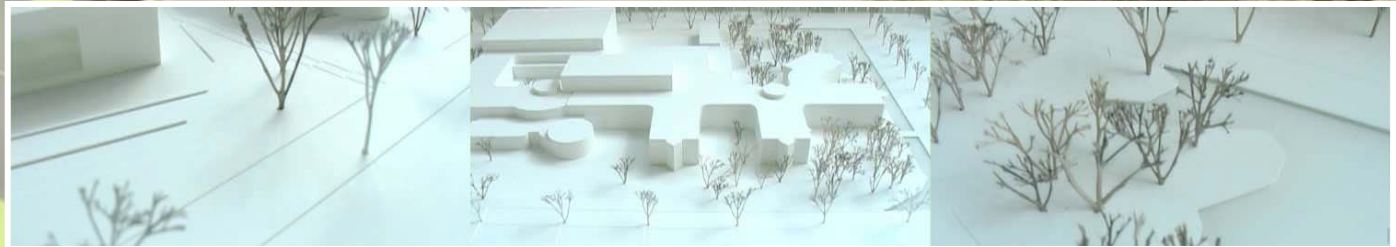


Tailored Training via Corporate Academies

- company-specific ready-made learning and training approach
- individual training paths
- blended learning: a combination of e-learning, classroom-teaching (group work and lecturers), workplace coaching, and informal learning
- company-specific training platform
- choice of over 100 modules from Supply Chain Management to Technical Logistics
- measurability of learning outcomes through regular assessment and proof of return on education



LogistikCampus as core of the new ResearchCampus for Logistics and IT



- » Interdisciplinary Research Center
- » Endowed Professorships, Graduate School, Technology Center, Living Labs

Funding

Cluster Management

30 Projects

4 Associated Projects



wirtschaftsförderung@metropol Ruhr



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Ministerium für Innovation, Wissenschaft und Forschung des Landes Nordrhein-Westfalen



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