Governance for a smart world

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Leuven


Eindhoven
Oostende
Brugge
Antwerpen
Gent
Mechelen
Hasselt
Düsseldorf
Zaventem
E314
E40
Leuven
Brussel
Bruxelles
E40
Liège
Aachen
Lille
E19
Namur
Paris
E411
Luxembourg

KU Leuven

Founded 1425

1968 – Split into KU Leuven – UC Louvain

KU Leuven
- 16,000 Staff (incl. 8000 ‘medical’ staff)
- 55,000 students (9900 foreign students)
- Satellite campuses in Kortrijk Antwerp, Ghent, Bruges, Ostend, Geel, Diepenbeek, Aalst, Sint-Katelijne-Waver, Brussels
- 3 Leuven Campus (Hospital, Science, Human)

Strong research-oriented

Numerous spin-offs

Famous Professors: Erasmus, Mercator, Vesalius
Famous Alumnus: Herman Van Rompuy

Utopia

2016
Leuven, 500th Anniversary

Thomas More - *Utopia*
De Optimo Reipublicae Statu deque Nova Insula Utopia
"The Best State of a Republic on the New Island Utopia"
Published in Leuven in 1516

Utopia

An imagined place or state of things in which everything is perfect (Oxford Dictionaries)

An imaginary place in which the government, laws, and social conditions are perfect (Merrian Webster)

Perfect society, which is ultimately unreachable (More, 2016)

Utopia, Ambrosii Holbenii imago ligno incisa, 1518

Smart world?

Smart world

The converging of the real and digital worlds
Bringing sustainability and lots of new opportunities

Smart World ≠ Utopia? **Smart World ≠ Utopia**

Imaginary place?
No – It is our world (planet)

Perfect society?
Not only, it is also about our beautiful Earth

Unreachable?
No, it might be feasible / realistic

Is Smart World perfect?
Up to you to decide

Smart world keywords

Connected

Innovative technologies

Digital

Interoperability

Sensors

Smart cities

Big Data

Interactive

Performance

Quality of life

Efficiency

Service delivery

Objective Presentation

Provide governance recommendations for migrating to a smart world

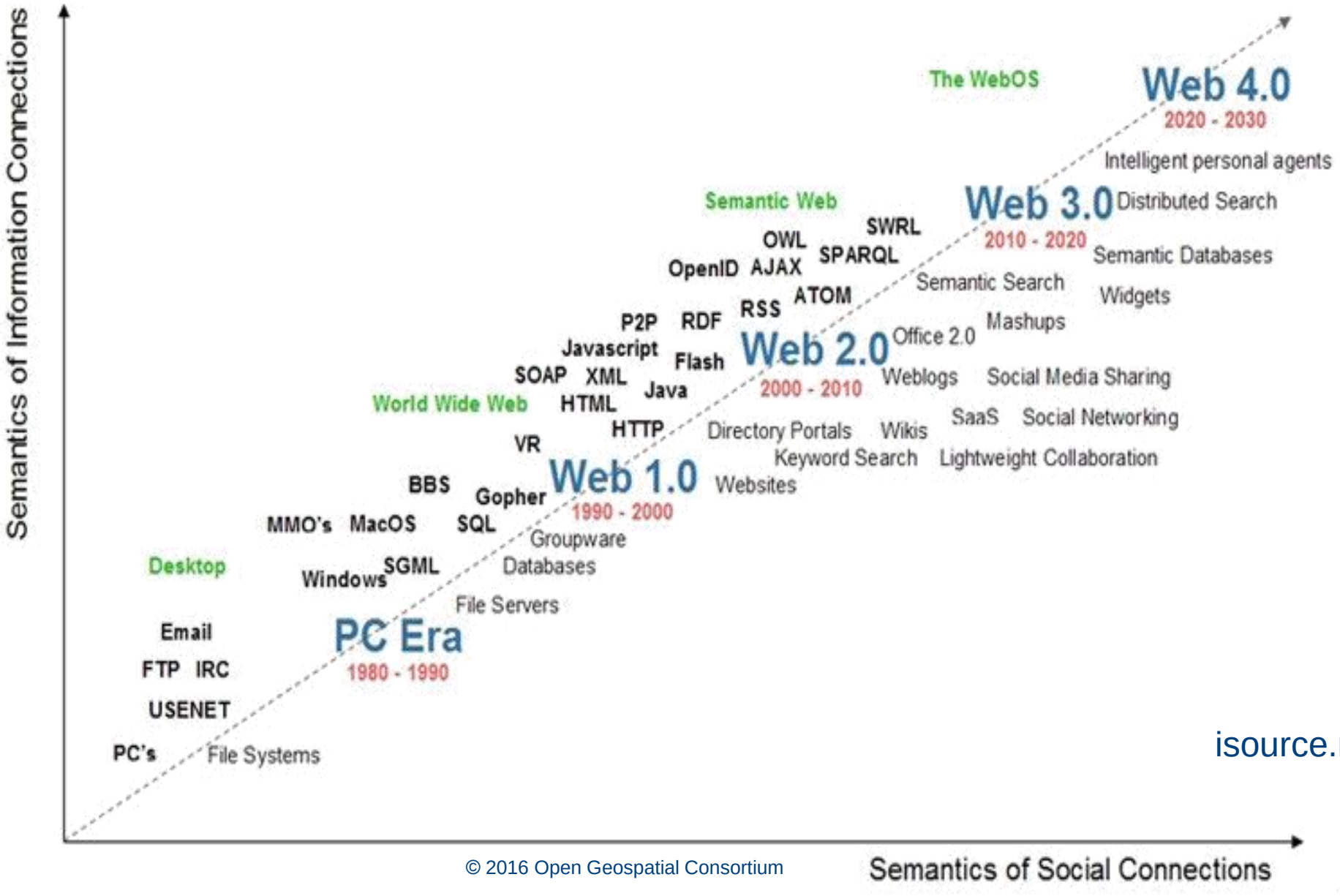
- Founding technologies for the smart world
- Governance
- Good Governance - Migrating
- Governance recommendations for a smart world
- Summary

Propositions

Founding technologies

- Internet
- Internet of Things – Internet of Everything
- Cloud computing
- Big Data
- Social media

Internet



isource.nl

Internet of Things

- 4.9 billion connected things (2016)
- By 2020, the number of Internet-connected things even exceed 50 billion
- By 2020, a quarter of a billion vehicles connected to the Internet
- Cars driving on their own – Google's self-driving cars currently average about 10,000 autonomous miles per week
- Internet-connected clothing. 10.2 million units of smart clothing will ship by 2020, compared to a meagre 140K units in 2013
- Total economic impact of up to $11 trillion by 2025

Clouds

- Cloud computing will cross the $270 billion mark by 2020
- 36% of all data to be stored in the cloud - 7% in 2013
- 90% of Microsoft's R&D budget is being used to improve cloud technology and security services
- US Federal Government saved $5.5 Billion per year by shifting to Cloud Services

Big Data

- 1.7 MB new information created every second for every human (2020)
- Growth of accumulated digital universe of data from 4.4 zettabyets (2016) to around 44 zettabytes (2020)
- 40,000 search queries every second (on Google alone)
- Healthcare savings by big data as much as $300 billion a year
- US White House investment more than $200 million in big data projects
- **Less than 0.5% of all data is ever analysed and used**

Social Media

- 2.1 billion people have social media accounts
- 1.4 billion Facebook users (47% of all Internet users!)
- 4.5 billion likes are generated daily
- Twitter has 284 million active users
- 500 million tweets per day
- 600 million users on Whatsapp
- Earning Social networks $8.3 billion from advertising

Governance

The way that organizations or countries are managed at the highest level, and the systems for doing this (Cambridge English Dictionary)

The traditions and institutions by which authority is exercised (UNDP, World Bank)

The structures, policies, actors and institutions by which an entity is managed through decisions (Berhanu, 2015)

Good governance

Criteria for good governance:

- Performance
- Responsibility
- Accountability
- Transparency
- Rights and duties
- Policies for guaranteeing results

The effects of good government
The Allegory of good and bad government
Ambrogio Lorenzetti (1339)
Siena

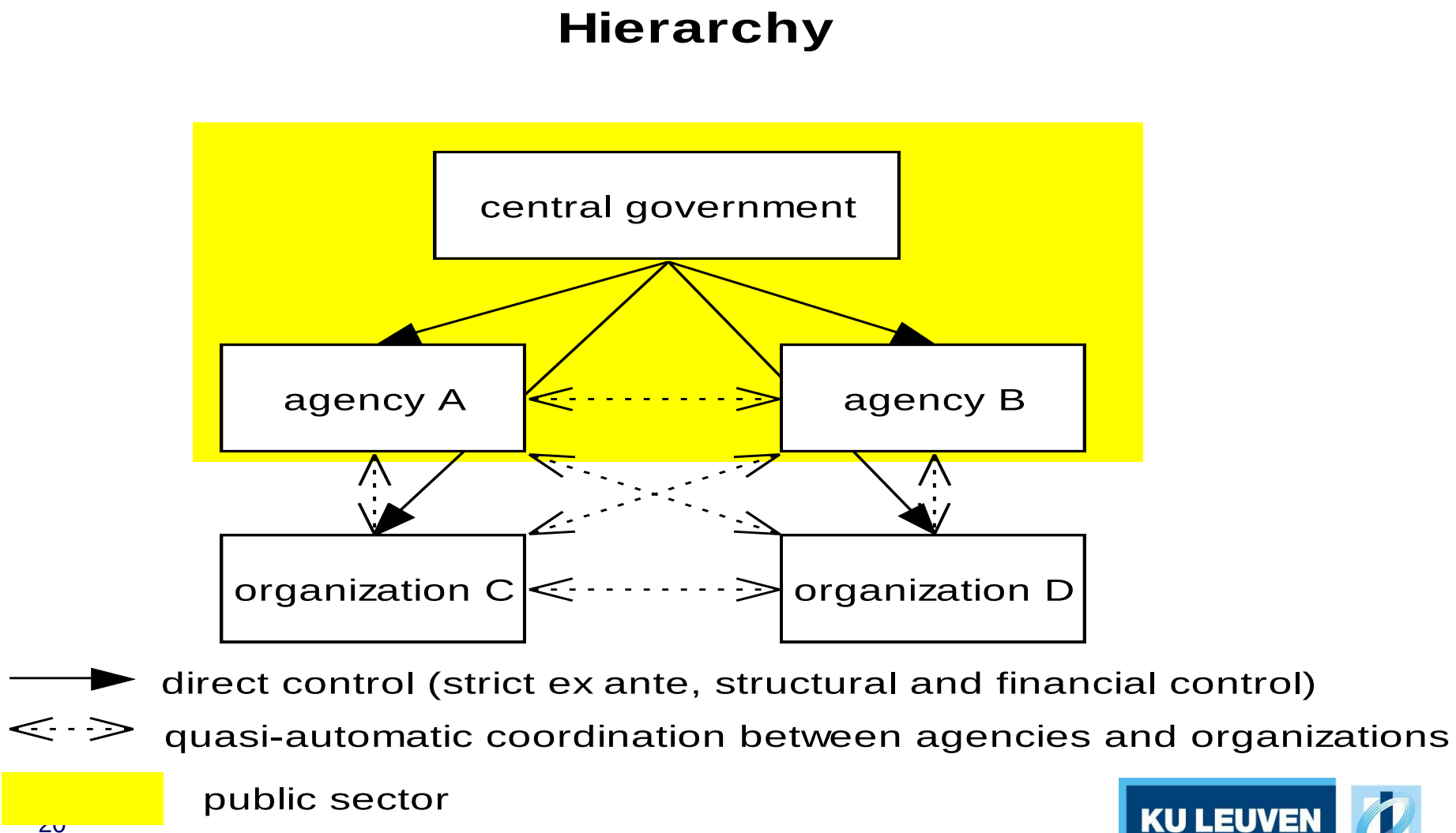
Levels of Good governance

- Corporate Governance: GI Agencies / GI Users / Producers
- Process Governance
- Holding Governance: Territorial/Functional

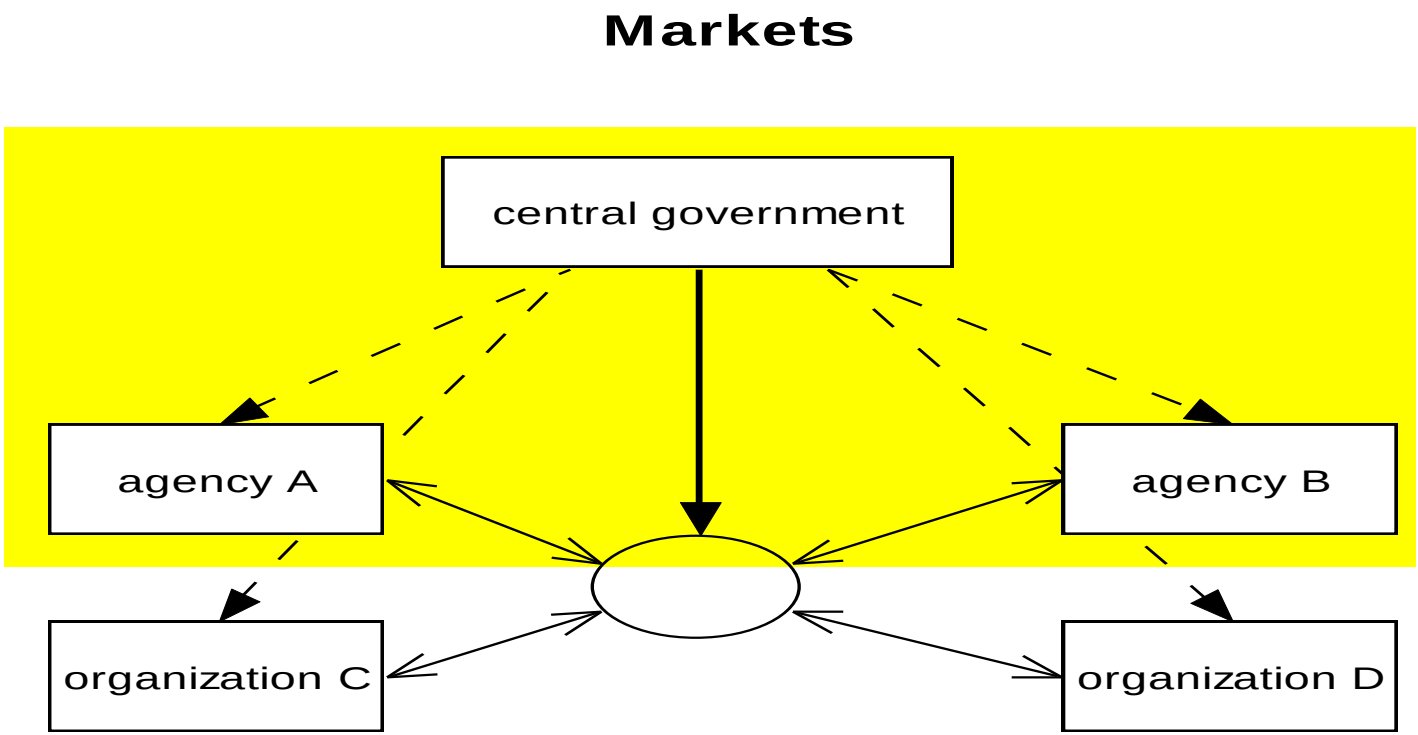
Governance recommendations for a smart world

1. Balancing governance approaches
2. Provide right answers to right questions: demand driven supply
3. Managing data clouds with individuals
4. Focus on Solutions to Solutions
5. Invest in Interdisciplinarity

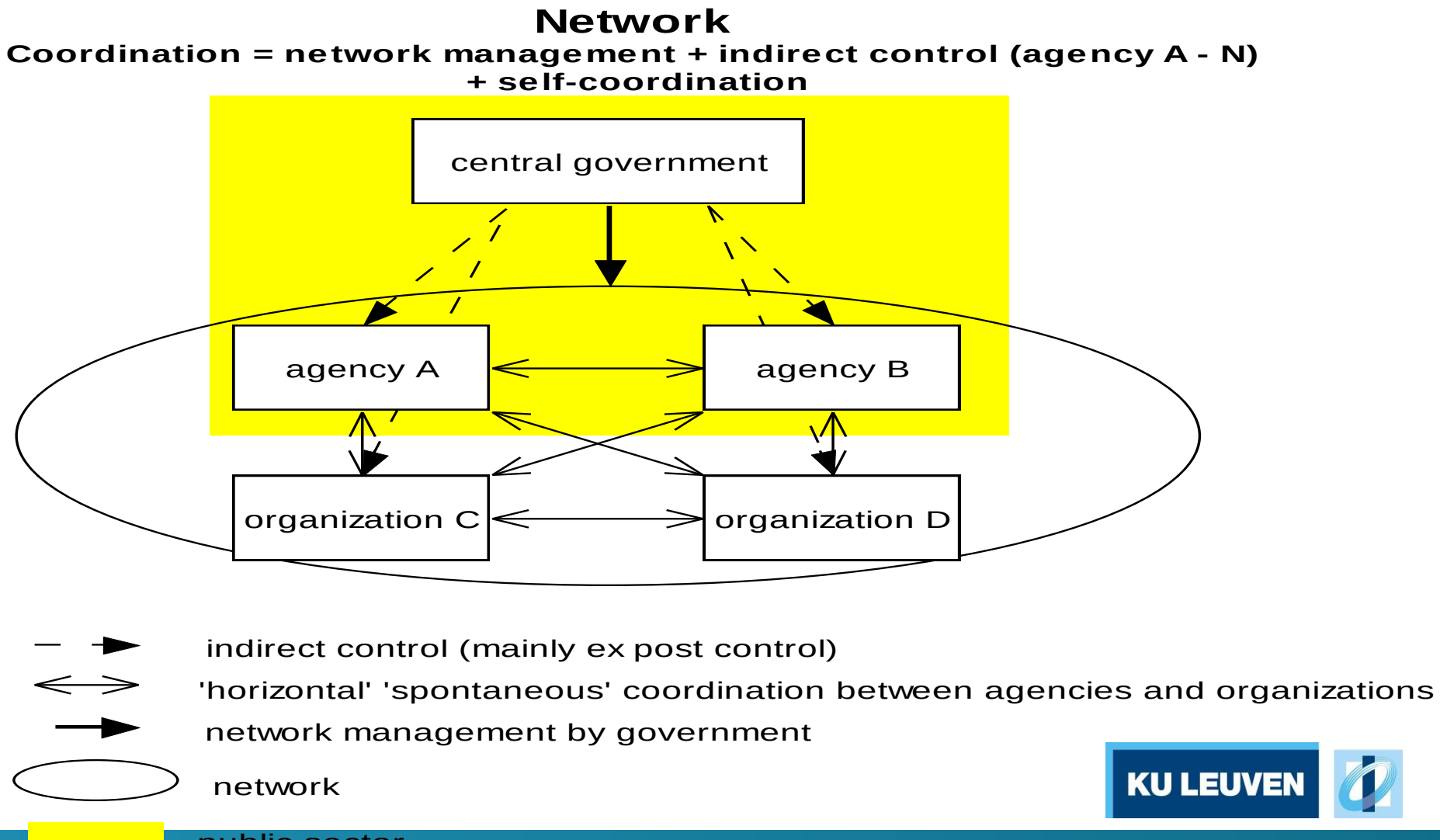
Balancing Governance approaches



Balancing Governance approaches



Balancing Governance approaches



Proposition 1

IN ORDER TO SUCCESSFULLY DEVELOP A SMART WORLD, THERE IS A STRONG NEED FOR:

❶ CLEAR RULES, LAWS, AND WORKING STRUCTURES

❷ COMPETITION AND MARKET

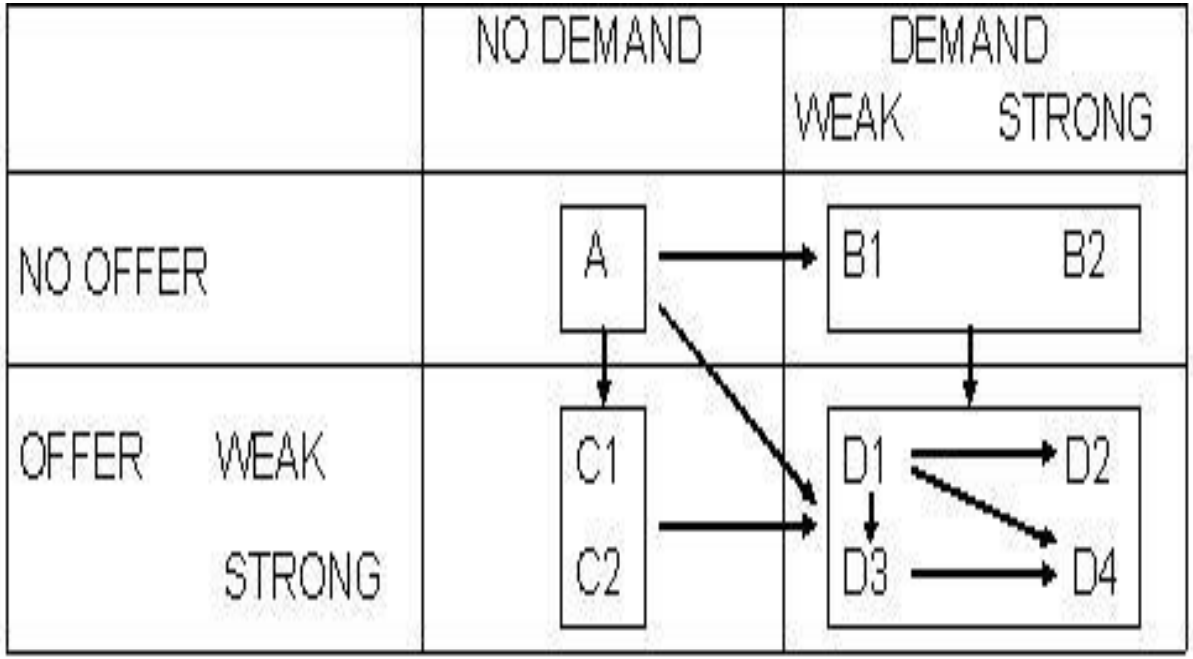
❸ PROFOUND COOPERATION

Balancing Governance approaches

Good Governance Recommendation 1

Aim for a well-balanced implementation of the 3 different governance approaches -> Sustainability

Right answers to Right questions



Bouckaert & Halligan (2008) **Managing Performance, International Comparisons**. Routledge, London, p. 113.

Right answers to Right questions

GeoData	No Demand	Demand
No Supply / Offer	1. Ignorance	3.User-Frustration
Supply / Offer	2.Geo-Provider-Frustration	4. Degrees of Matching Satisfaction

Right answers to Right questions

Right answers to wrong questions:

-Supply driven approach to Demand

-Frustration zones

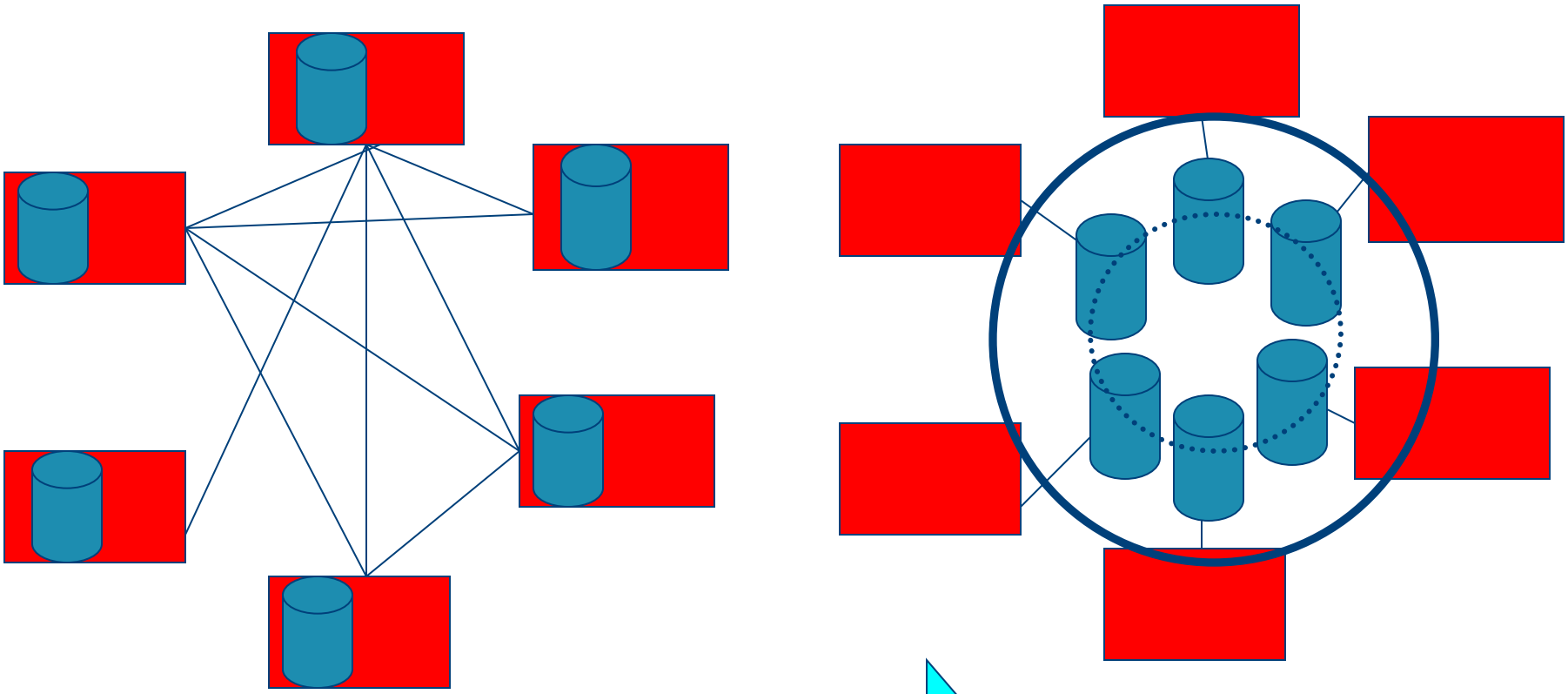
Good Governance Recommendation 2

-Demand driven approach to Supply

-Strategies to reduce frustrations

-Strategies to increase matching satisfaction

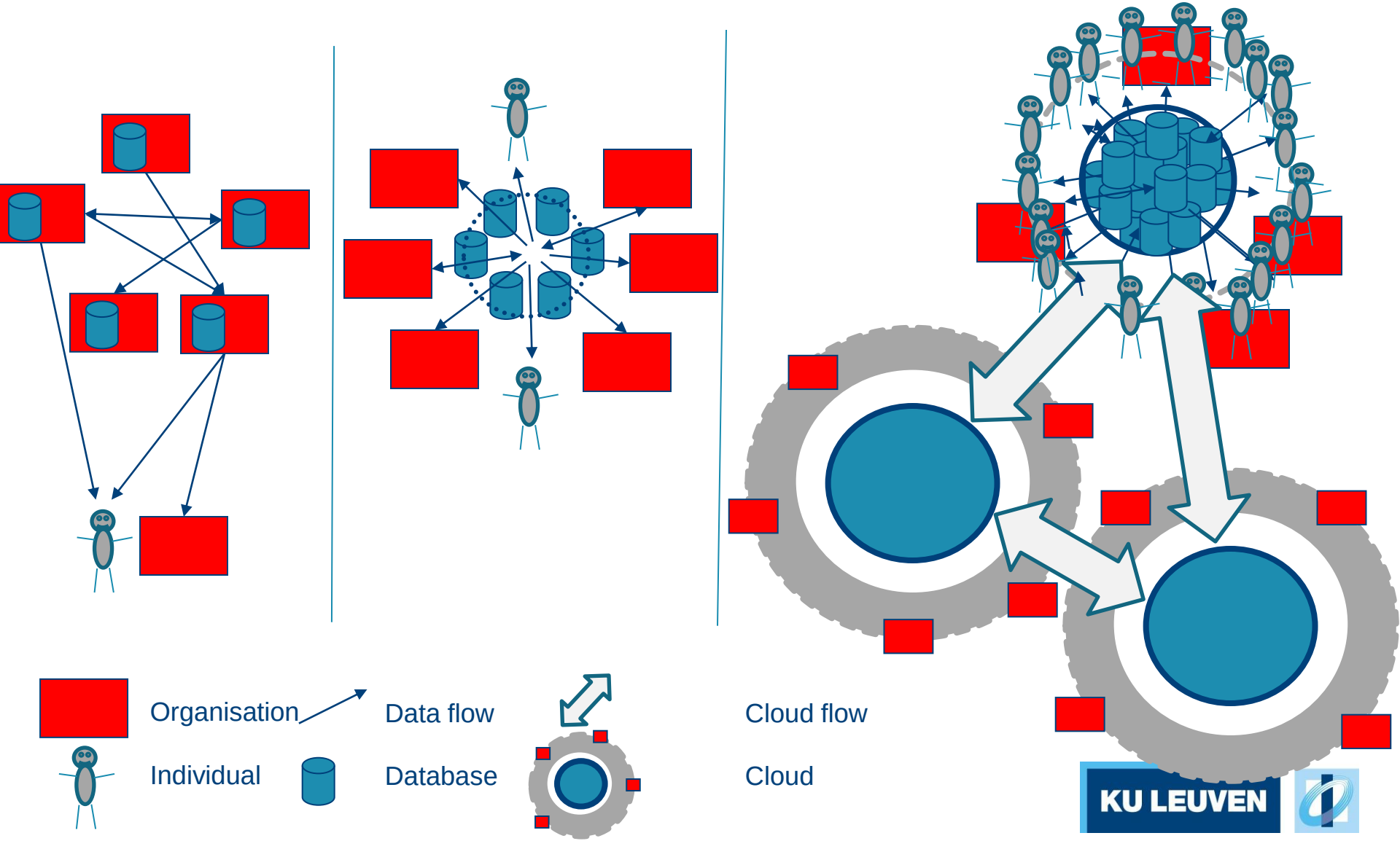
Managing data clouds with individuals



Organisations with Databases

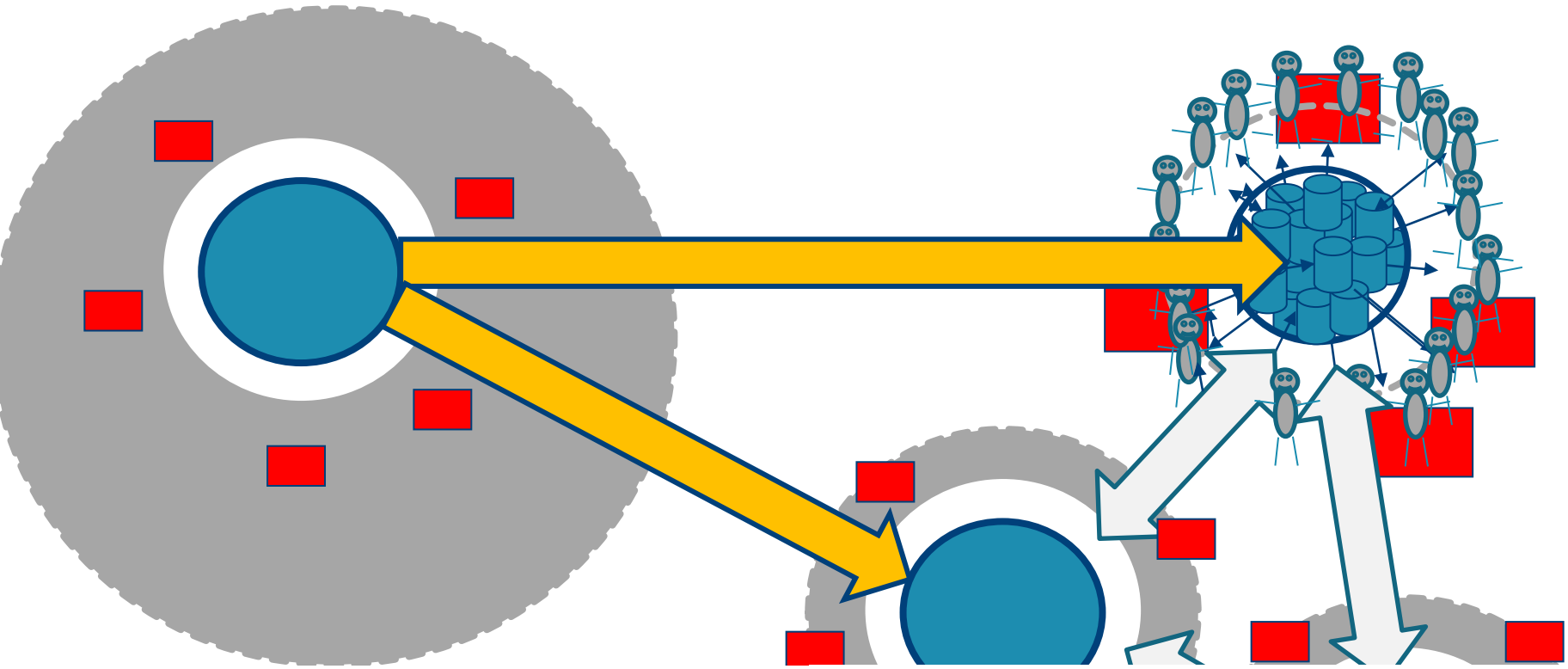
Databases with Organisations

Managing data clouds with individuals



Managing data clouds with individuals

Public Cloud | **Common Cloud**



Limited core data and services
Key registries
Public use
Facilitate Common clouds
Numerous stakeholders

Community driven
Membership (Governance) rules

Transport, Education, Smart Cities, 3D Cadastres

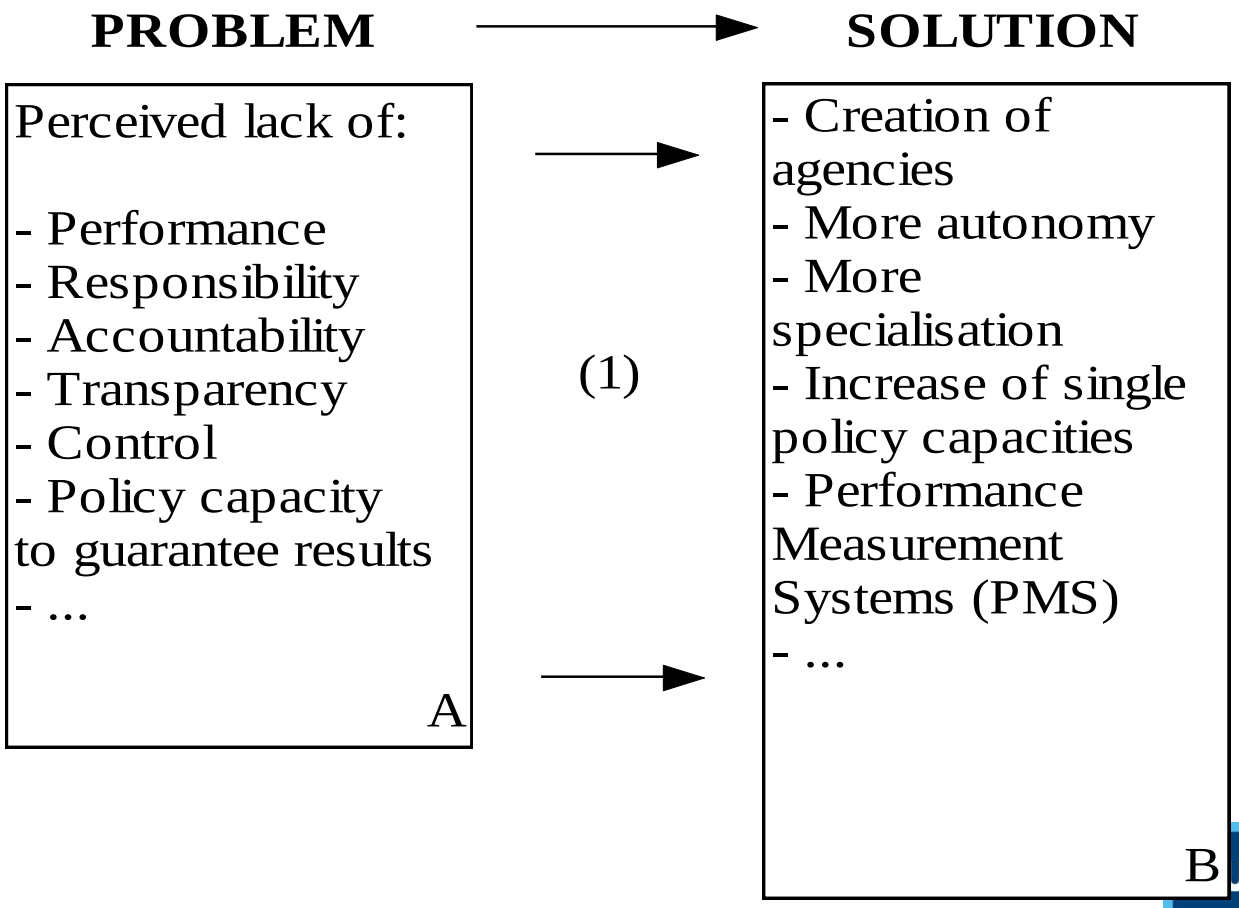
Managing data clouds with individuals

Good governance recommendation 3

- Managing data clouds with individuals (+ organisations)
- Invest in key registries
- Invest in Cloud Governance mechanisms

Focus on solutions to solutions

Trajectories of Reforming Governance



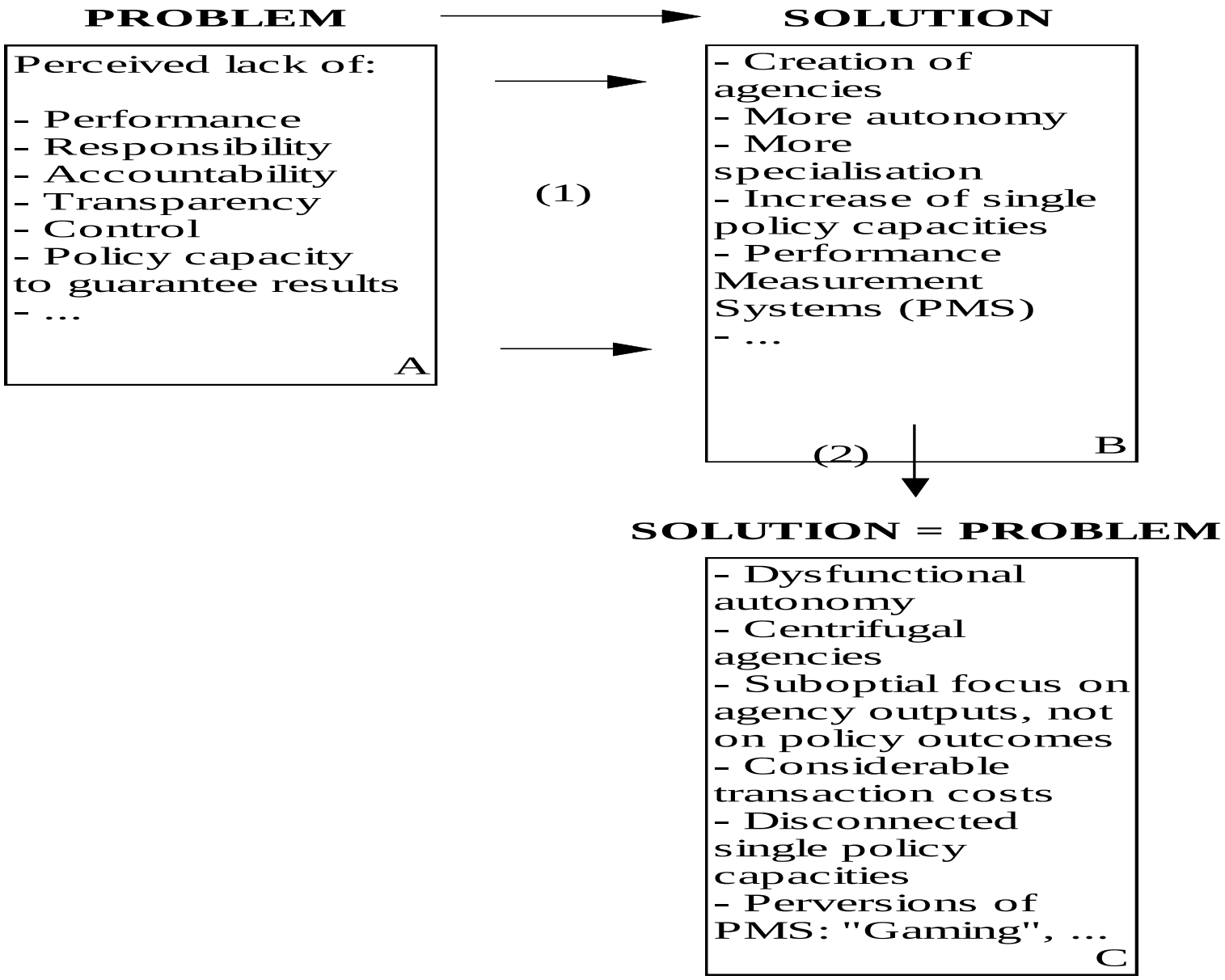
Focus on solutions to solutions

From Solutions to Problems

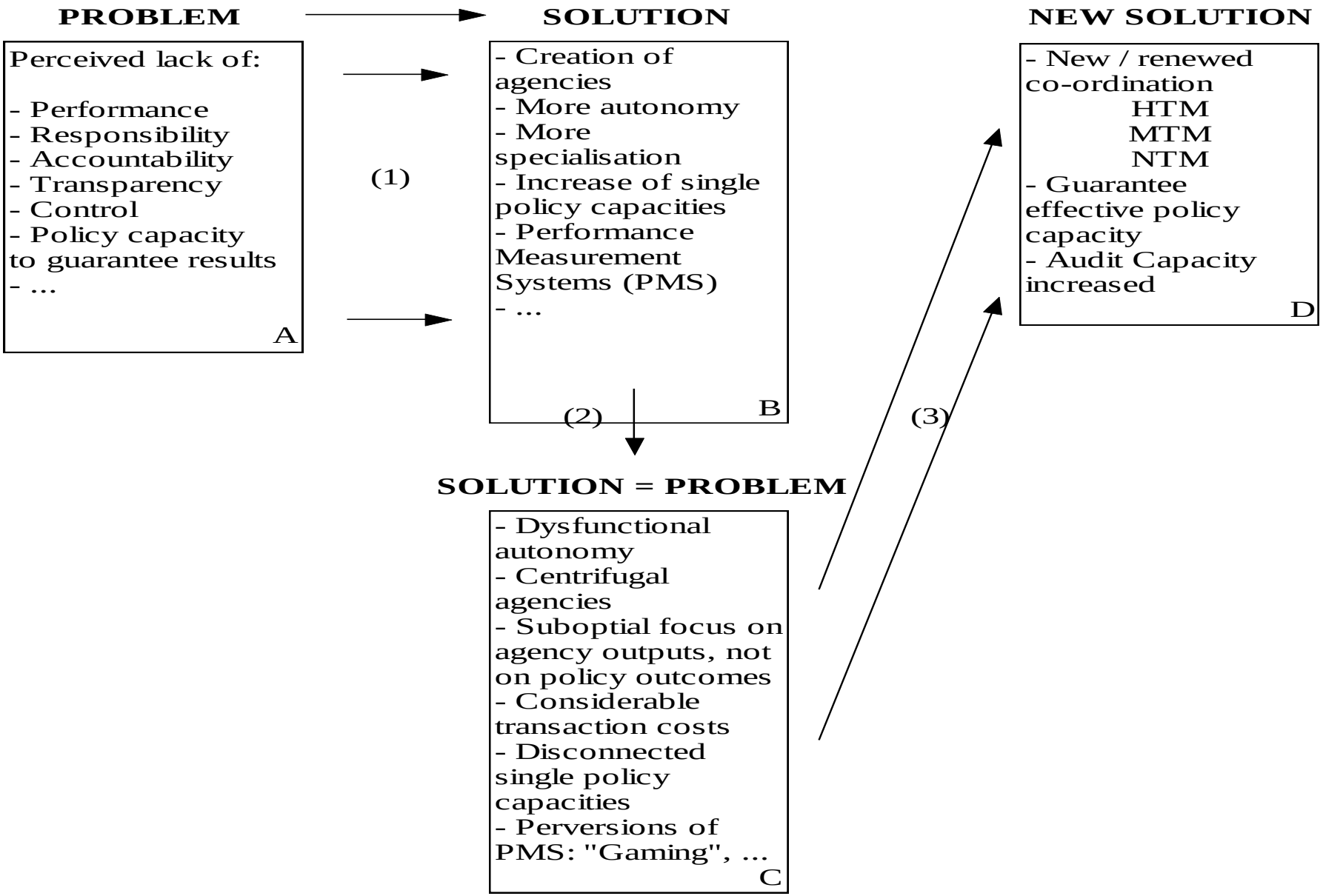
Solutions create new problems:

1. Wrong solutions for right problems
2. Right solutions but bad implementation
3. Right solutions, correct implementation, but solutions disconnect from problems

Focus on solutions to solutions



Focus on solutions to solutions



Focus on solutions to solutions

Good governance recommendation 4

- Focus from solutions to solutions
- Be aware of the Problem -> Solution -> Problem –> Solution process
- Focus on the right and relevant solutions together with stakeholders
- Focus on the correct implementation

Invest in Interdisciplinarity

From sequential to parallel/simultaneous dynamics

Sequential

Technology -> Legislation -> Finance -> Organisation -> Service delivery

Parallel/Simultaneous

Technology

Legal Frameworks

Finances: Financing and Fees

Organisation/

Service delivery

Invest in Interdisciplinarity

Recommendation 5

- Establish multidisciplinary task force(s)
- Operate simultaneously, complementary and not sequentially
- Invest in Semantic interoperability

Summary

Governance recommendations for migrating to a smart world

1. Balancing governance approaches
2. Provide right answers to right questions: demand driven supply
3. Managing data clouds with individuals
4. Focus on Solutions to Solutions
5. Invest in Interdisciplinarity

PROPOSITIONS

Proposition 1

IN ORDER TO SUCCESSFULLY DEVELOP A SMART WORLD, THERE IS A STRONG NEED FOR:

❶ CLEAR RULES, LAWS, AND WORKING STRUCTURES

❷ COMPETITION AND MARKET

❸ PROFOUND COOPERATION

Proposition 2

THE MAIN BENEFICIARY OF A SMART WORLD IS:

❶ PUBLIC SECTOR

❷ PRIVATE SECTOR

❸ ACADEMIA

❹ NGOs

❺ CITIZENS

Proposition 3

THE MAIN BOTTLENECK FOR THE DEVELOPMENT OF A SMART WORLD IS:

1. TECHNOLOGICAL
2. POLITICAL
3. LEGAL
4. FINANCIAL
5. HUMAN COMPETENCES
6. CULTURAL

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