Monitoring system as an integrative multiscale statistical platform

Spatial and Environmental Surveys Department

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- Monitoring
- Statistics as a common language
- Monitoring system
- Selected features of monitoring systems
- Integration layers & scales
- Case study

Monitoring

- **Social sciences** – behaviour of social groups, social relations
- **Environmental sciences** – processes, activities, quality, natural resources
- **Psychology** – personal behaviour
- **Medicine** – observation of a disease, condition or medical parameters
- **IT and computing** – web performance, availability of software applications
- **GIS** – spatial relations and processes
- **Business** – clients, prices, financial markets
- **Engineering and technology** - tracking parameters in industrial equipment
- **Policy** – management efficiency, achievement of goals, effectiveness
- **Security** – surveillance, recognition, identification

Monitoring and Evaluation

Process that helps **improve performance** and **achieve results**.

… to improve current and future **management of outputs**, outcomes and impact.

… to assess the **performance of projects**, **institutions** and **programs** …

It establishes links between the past, present and future actions (UNDP)

Monitoring – towards definition

- Continuous assessment
- Providing (early detailed) information
- State or direction of the processes (phenomena, activities)
- Activity's implementation stage
- Timeliness of schedules
- Effects determination
- Planning actions
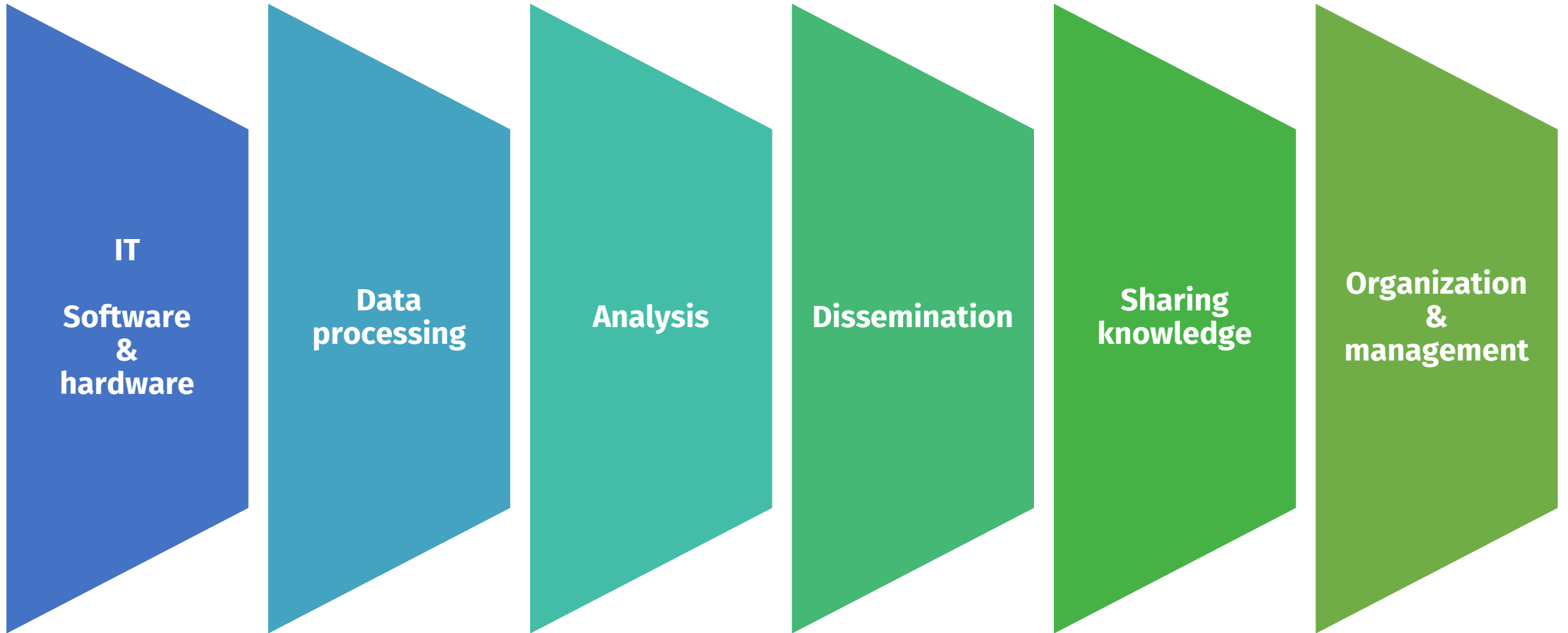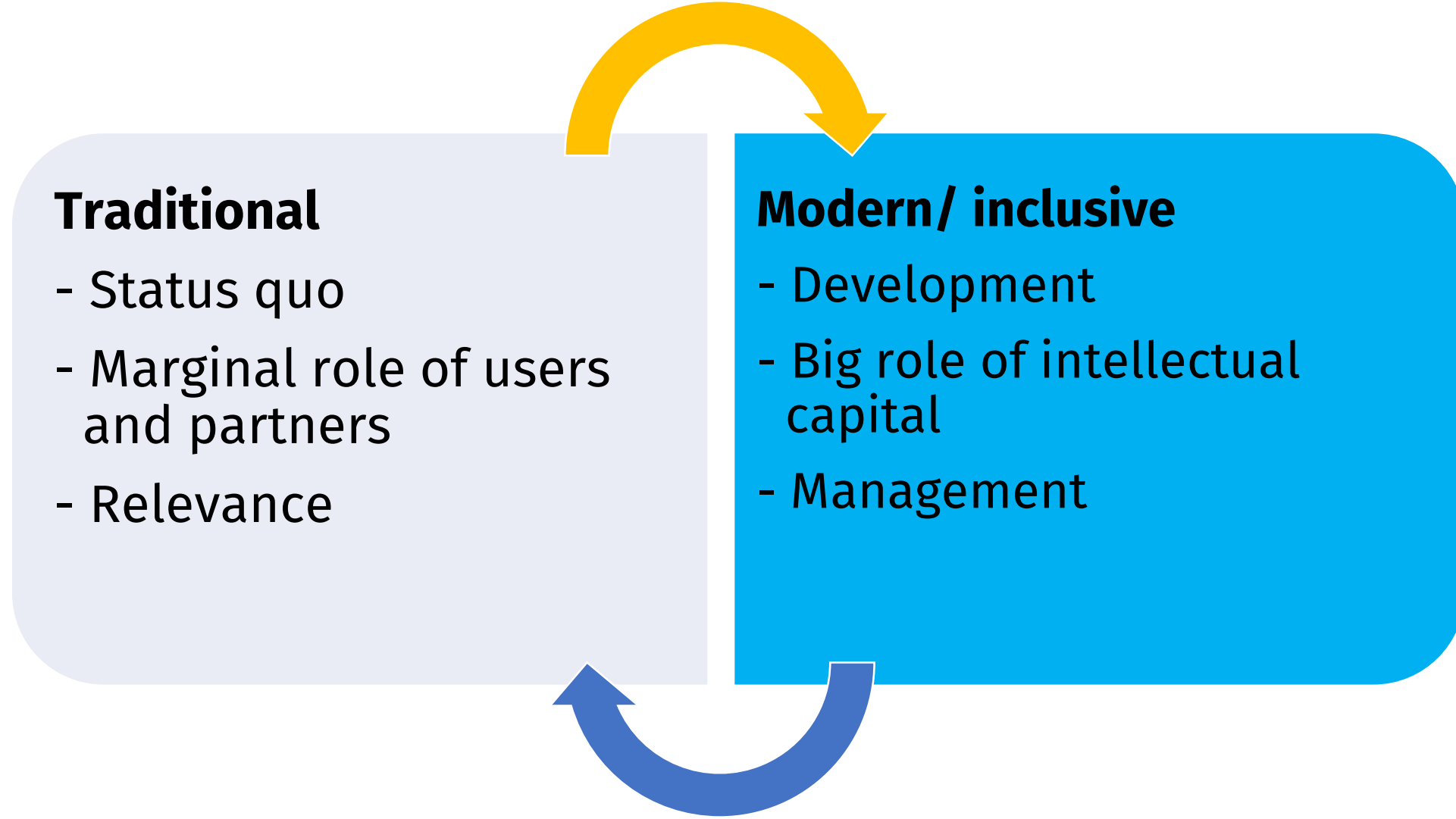
Statistics as a common language

Statistics

Indicators → State → Relations

Explanation

ACTION
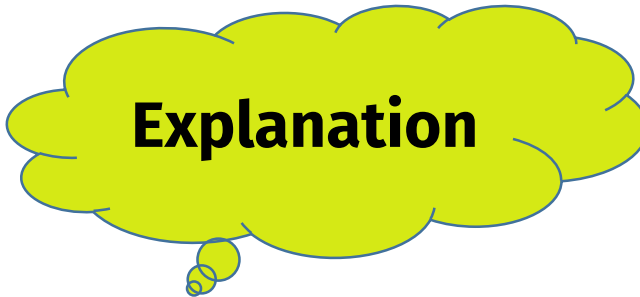
IT integration
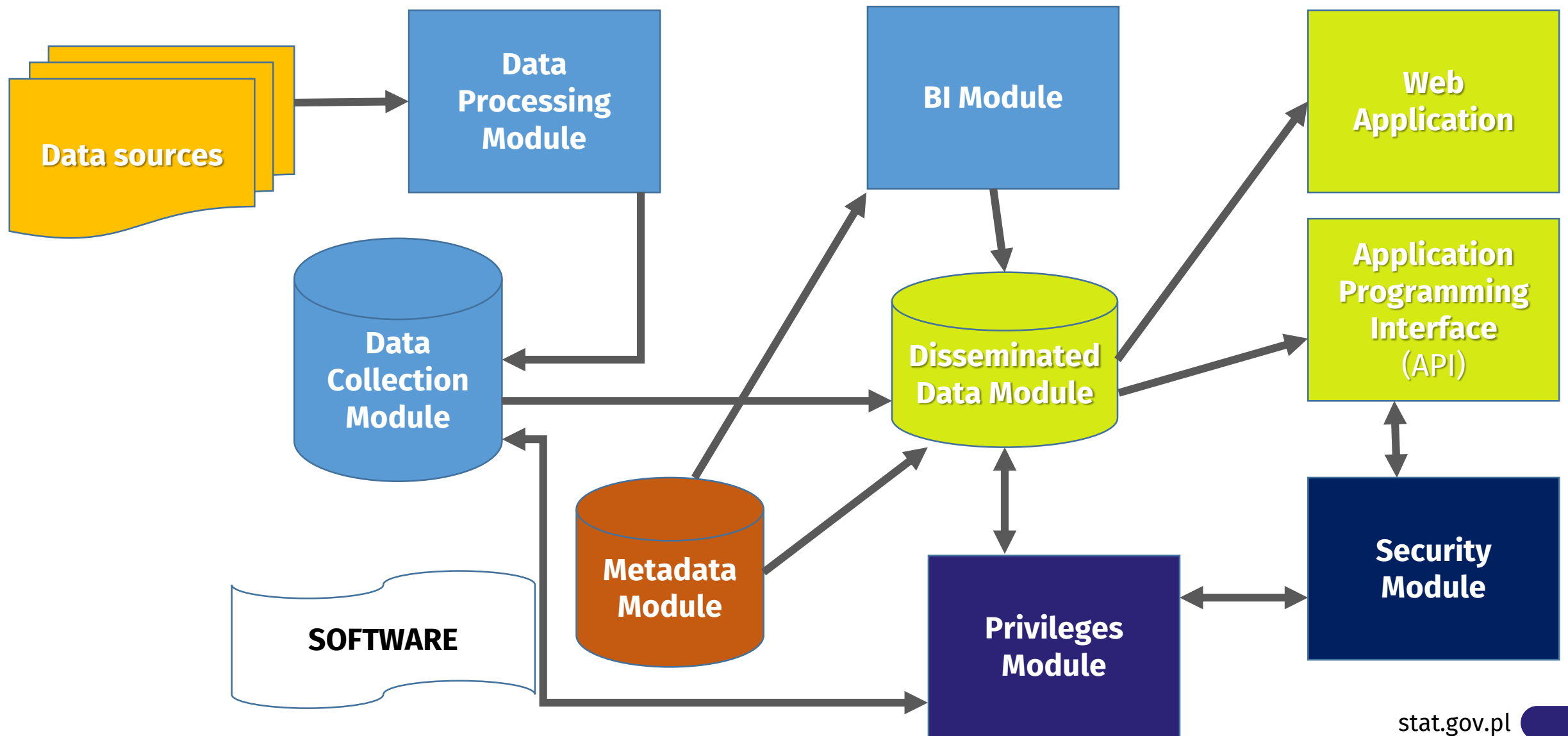
Selected features of monitoring systems

	Traditional	Modern
System form	Database	Work place
System objective	Data delivery	Information delivery
User group	Homogenic	Heterogenic
Needs description	Formal	Inclusive
Main use of data	Download	Processing/ Merging/ Sharing
Data flow mode	Collecting	Data hub
Data cohesion	Varied	High
Main data source	Survey	Administrative data source
Collaboration mode	Official	Result oriented
Relation	Hierarchical	Network
Integration level	IT	Organization

Integration layers

IT
Software & hardware

Data processing

Analysis

Dissemination

Sharing knowledge

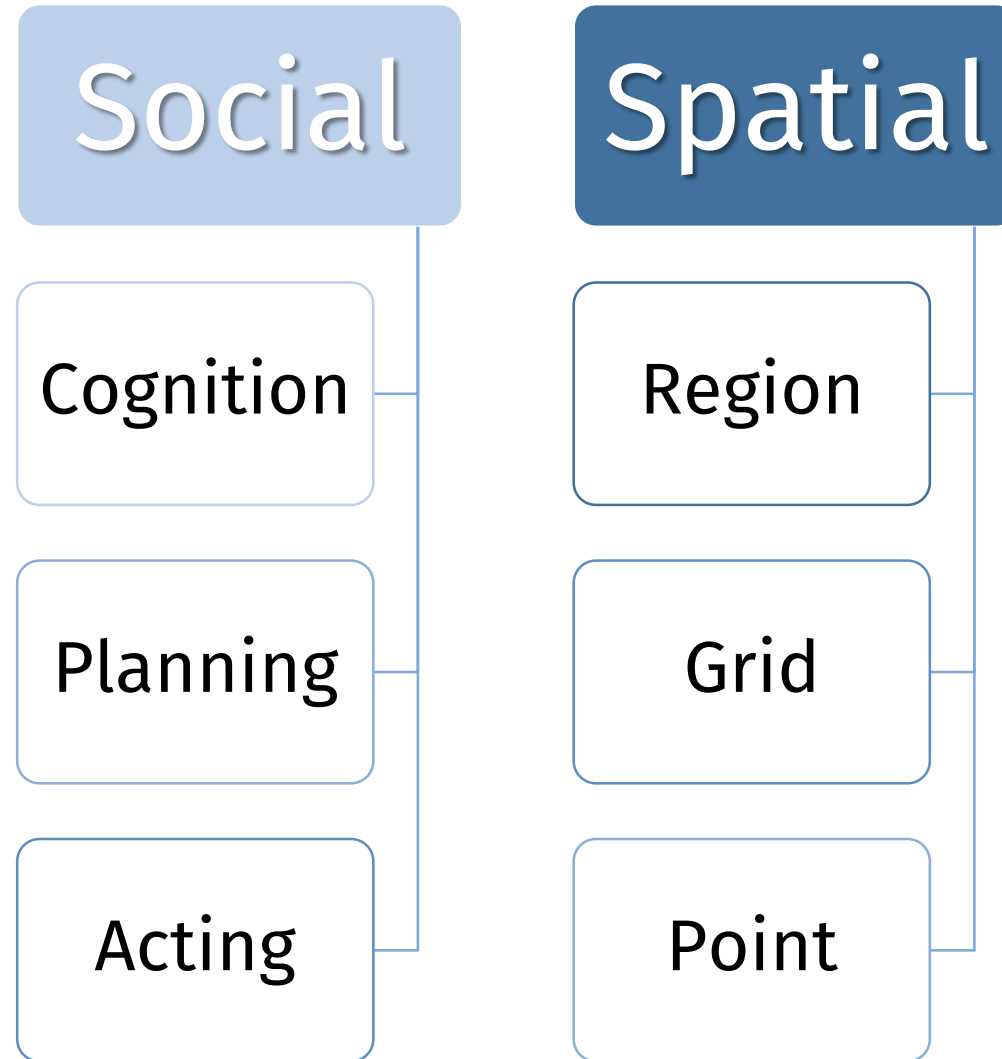Organization & management

Challenges

Traditional

- Status quo

- Marginal role of users and partners

- Relevance

Modern/ inclusive

- Development

- Big role of intellectual capital

- Management

Scale

Monitoring system as a...

or

System = elements + relations

Technology is not enough

System = elements + relations

Stakeholders	Administration	Decision makers

Management Board

NEEDS

DATABASE + SOFTWARE + WEB

National Statistical Organization

SOLUTIONS

Entities/ Data owners

POSSIBILITIES

Case study

Public Services Monitoring System

Background

- Lack of coherent method to monitor public services

- Lack of the set of indicators allowing to characterise the services in various dimensions

- Information gaps

- Ineffective data chains

Background

- **Access to public information** and **reuse of public sector information**

- **Support** Regional and Urban Policy

- Improvement of **management culture** in public administration

- Change in **organisation of data collection**

- **Legal changes** in the field of public services

Public service

activity comprising the provision of tangible and intangible goods for which public authorities are responsible

Target groups

Science

Society

Business

Public administration
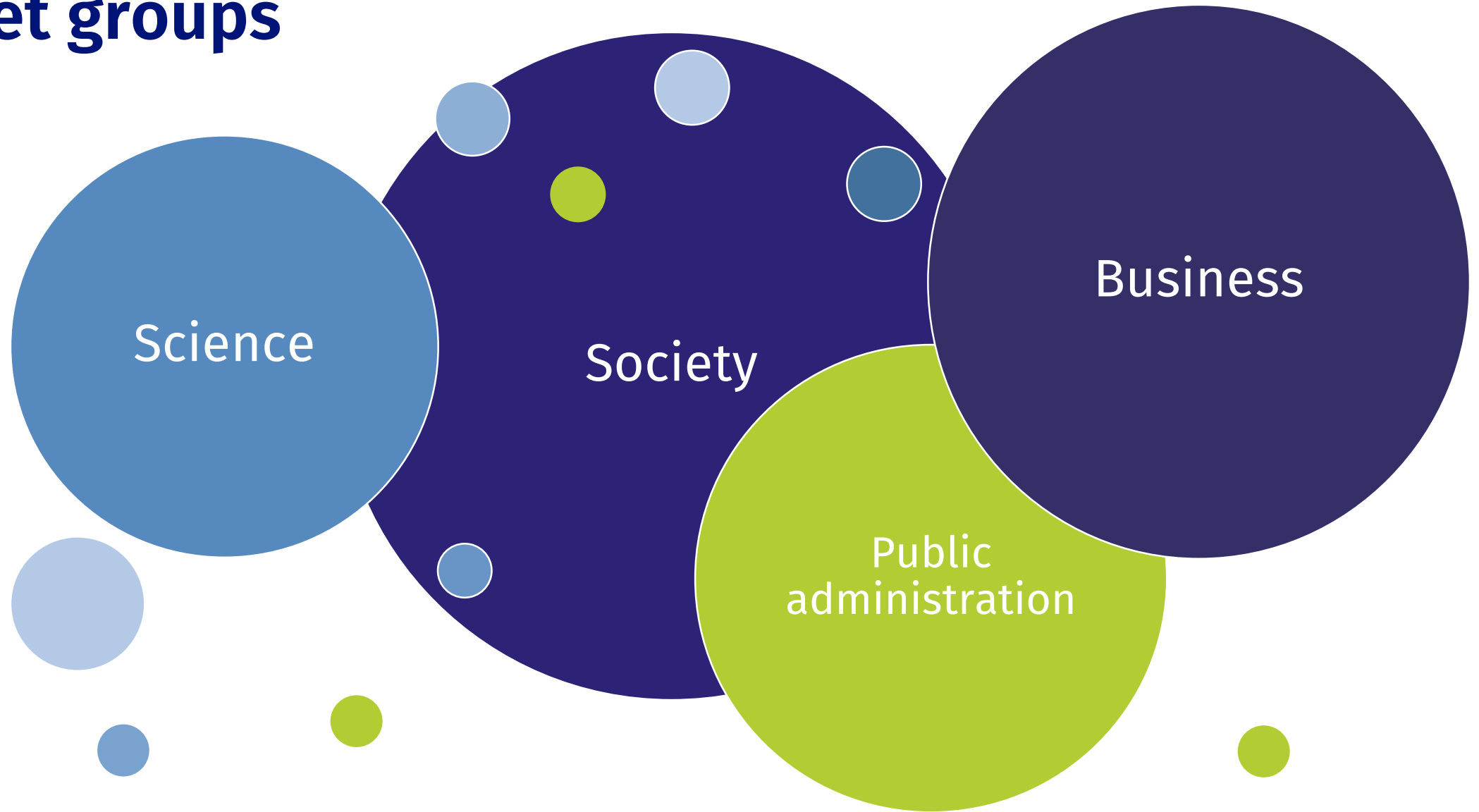
Public services areas

Local taxes and fees

Real estate management

Roads and transportation

Environmental Protection

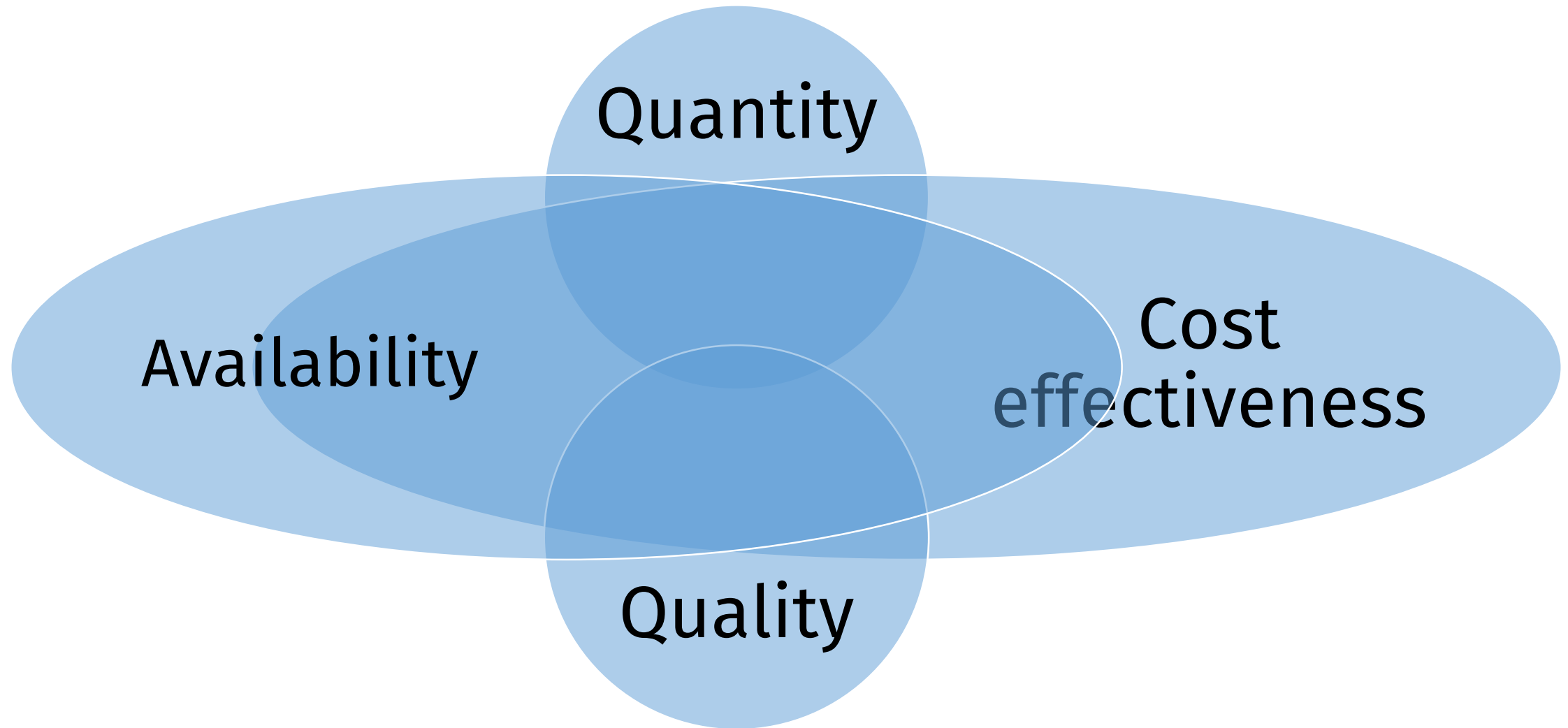Investments and construction

Geodesy and Cartography

Education

Healthcare

Social assistance and family support

Culture and recreation

Public safety and justice

Indicators

Quantity

Availability

Cost effectiveness

Quality

Example

Public service area
- Environment protection

Service
- Water supply

Indicators
- Water consumption (quantity)
- Number of water supply network failures (quality)
- Cost of water production (cost effectiveness)
- Number of water supply connections (availability)

Data sources

Statistics Poland
- Official statistics' information systems

Central Government Administration
- Administrative registers
- Information systems

Local Government Administration
- Administrative registers
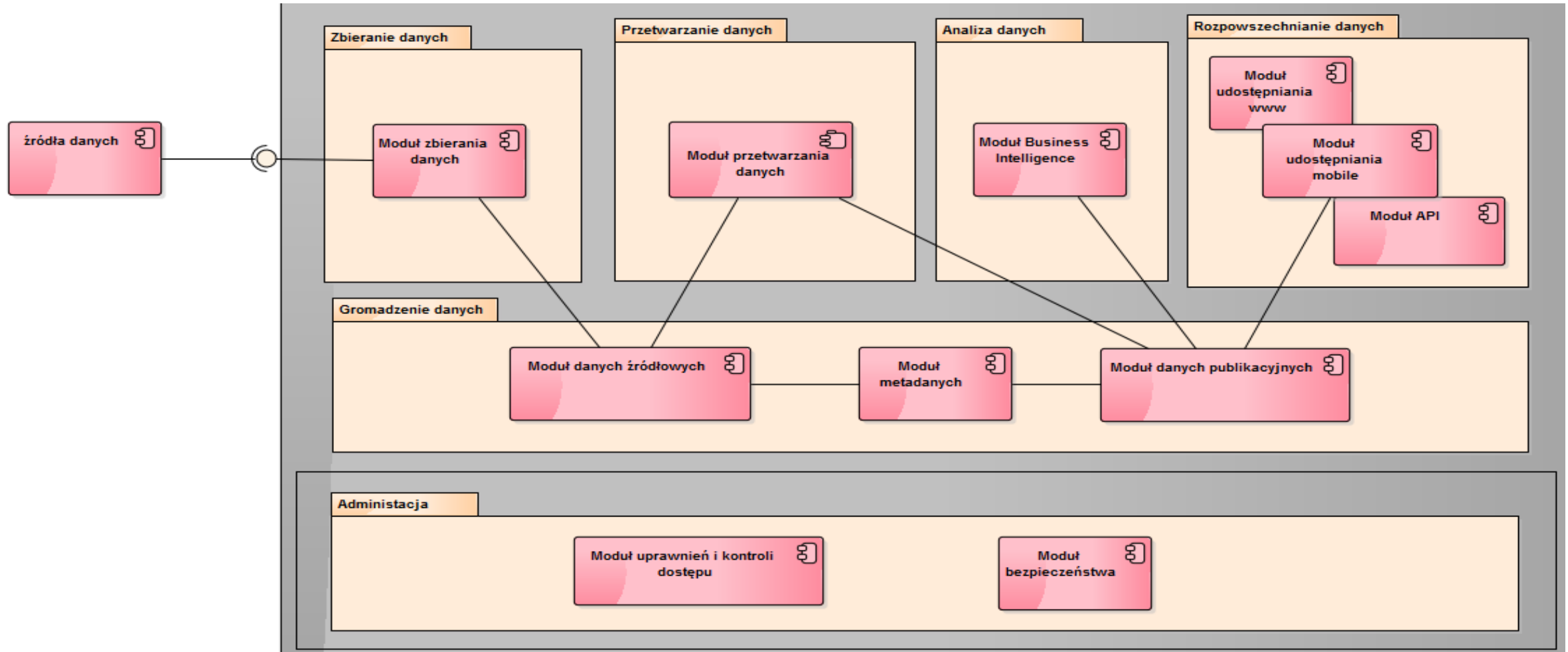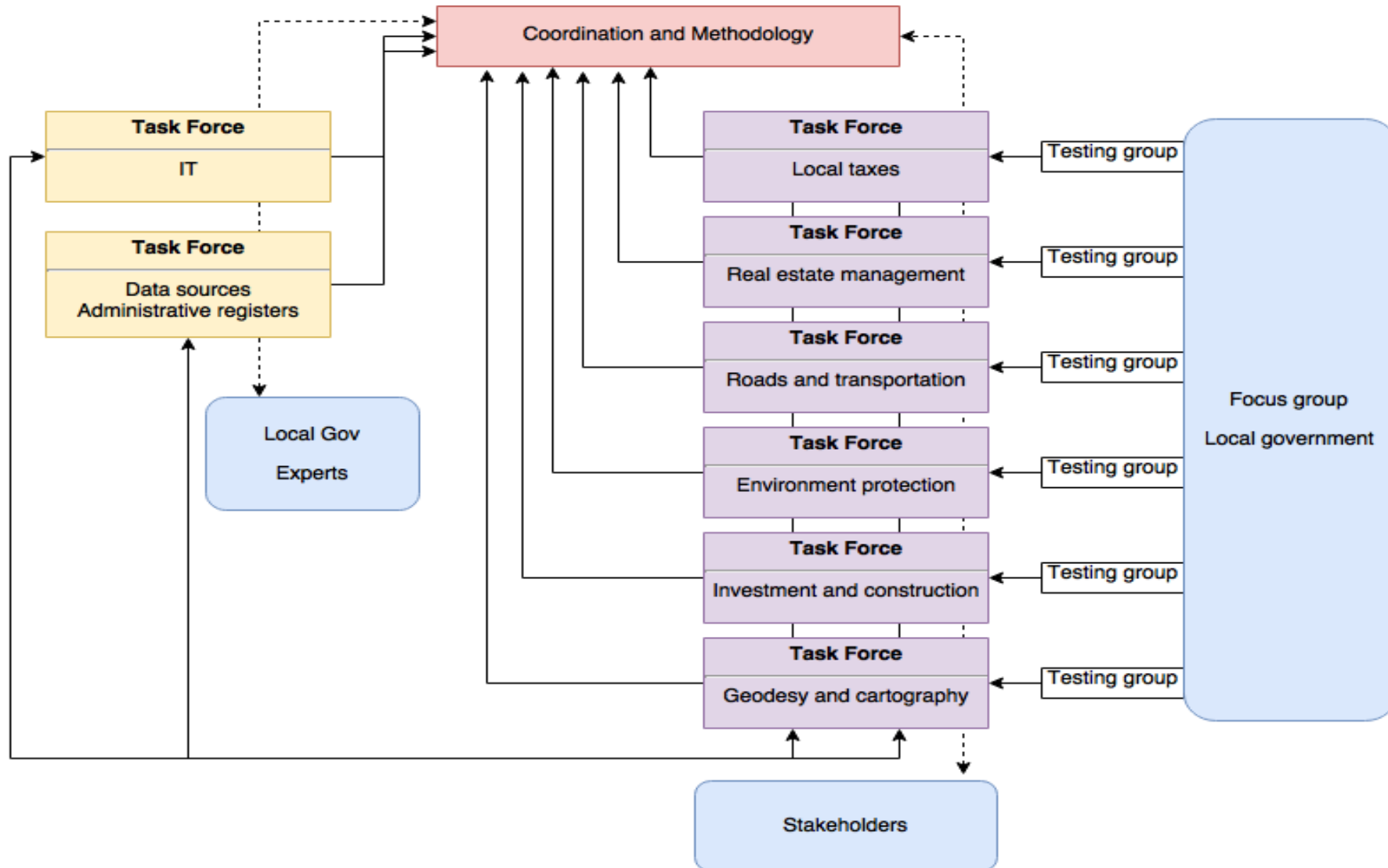- Information systems

Service providers
- Collected data
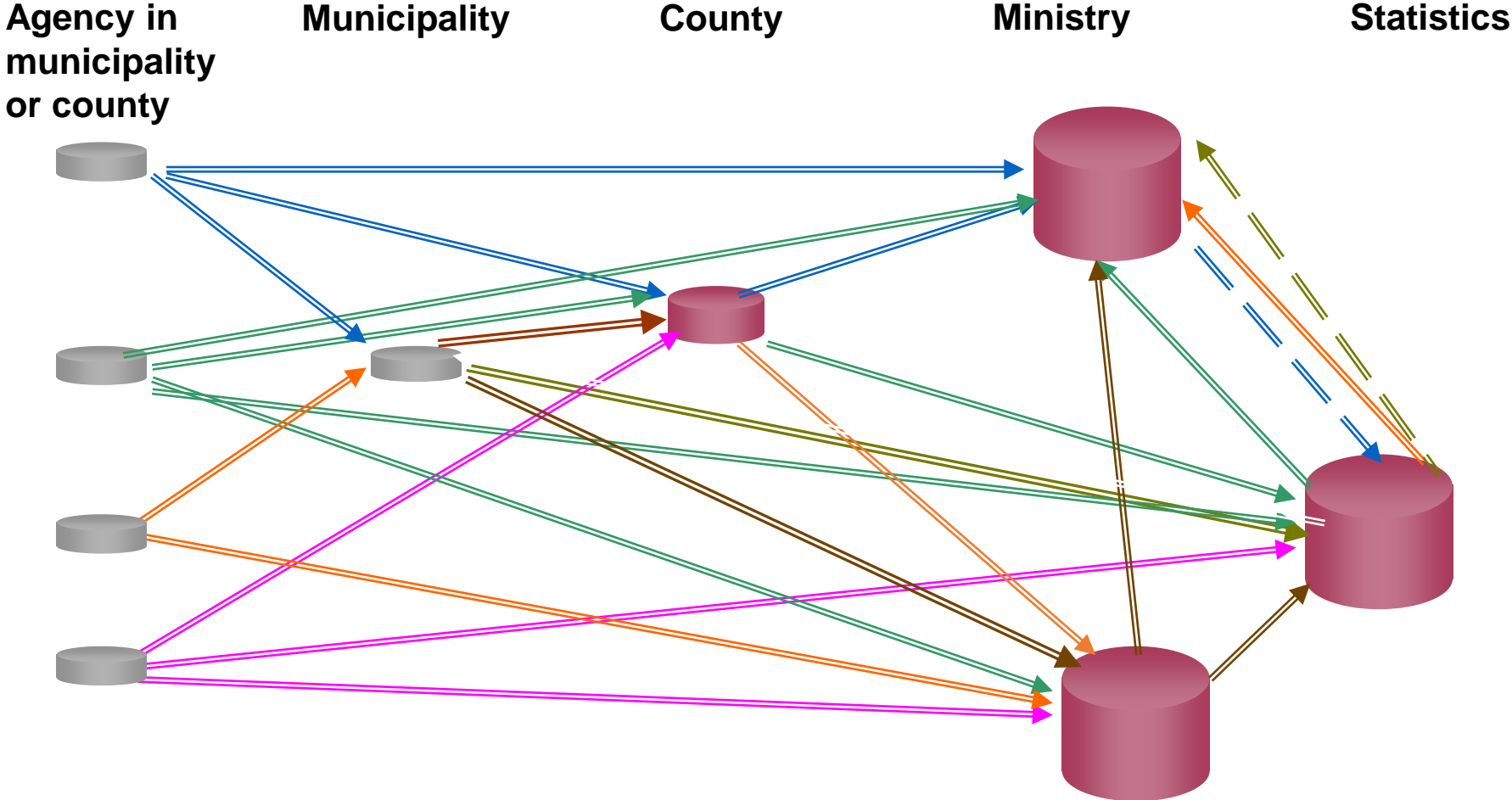
Other
- Big data
- Sensors IoT

IT organization scheme

Team structure

Data reporting chain – current state in Poland

Agency in municipality or county • Municipality • County • Ministry • Statistics

by Statistics Norway (with changes)

Data reporting chain – Statistics as an information hub

Agency in municipality or county   Municipality   County   Ministry   Statistics
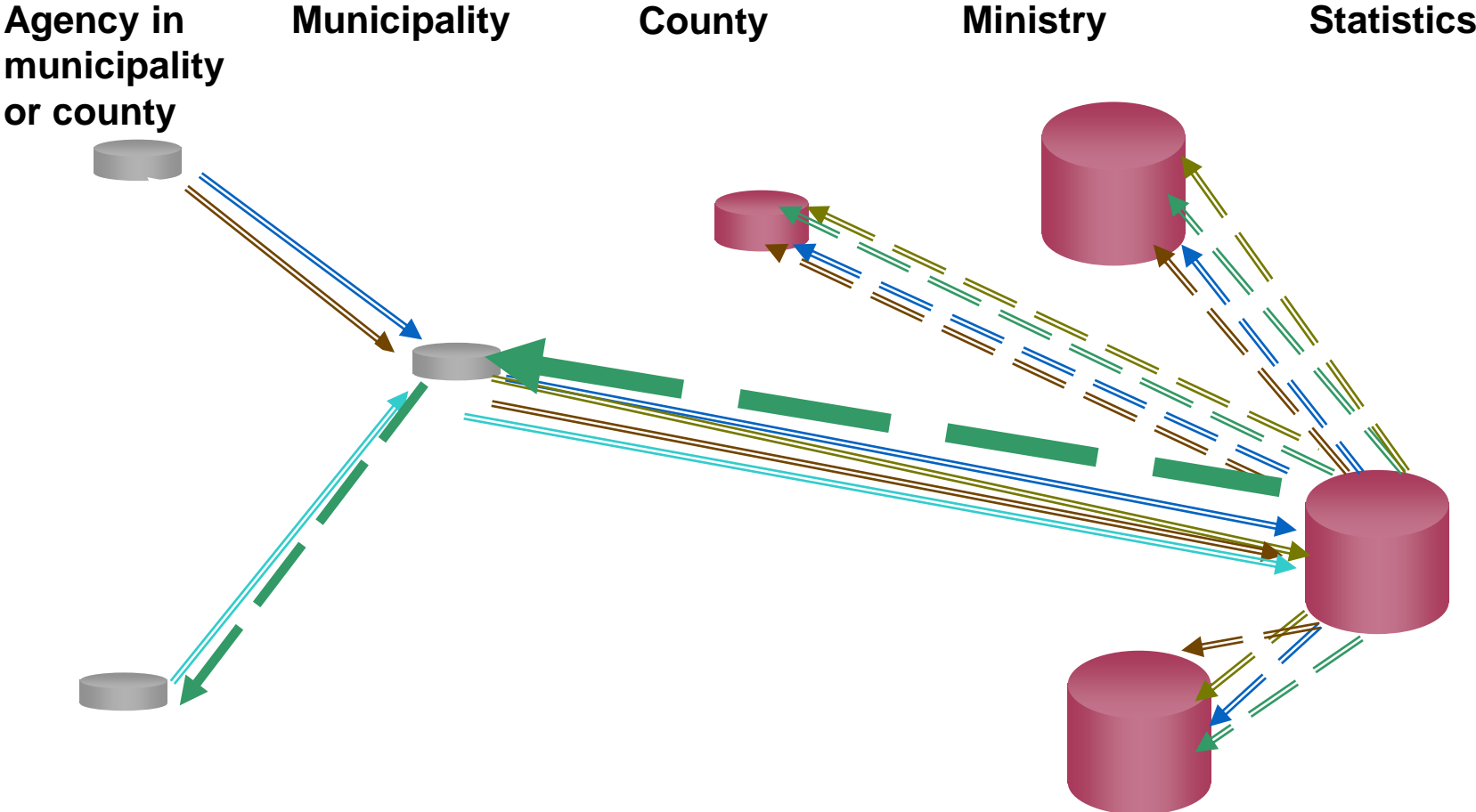
by Statistics Norway (with changes)

Conclusion

- Statistics can be a common language
- Statistics help to understand processes and phenomena, but...
- Statistics should meet the needs of users
- Monitoring system can be an integrative platform
  ...although it is not easy

![Statistics Poland logo with 100 lat GUS emblem]

Thank you for attention

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Expert

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