Key Challenges for Benchmarking Regions in the Information Society

Results from the BISER project

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Contents of the presentation

1. The project BISER
   - BISER in the context of other indicator development activities
   - Approach and methodology
2. Key challenges for regional benchmarking
   - How BISER dealt with them
   - Results and experiences
   - Recommendations and issues to be discussed
3. The way forward
   - Continuing and extending regional IS benchmarking
   - Towards a European regional IS indicator system

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Indicator development projects at *empirica*

SIBIS

- Nation state level
- 9 Topics (eEurope)
- Pilot surveys 2002/03
- EU15, CH, USA, Candidate Countries

Need for differentiated analysis

BiSER

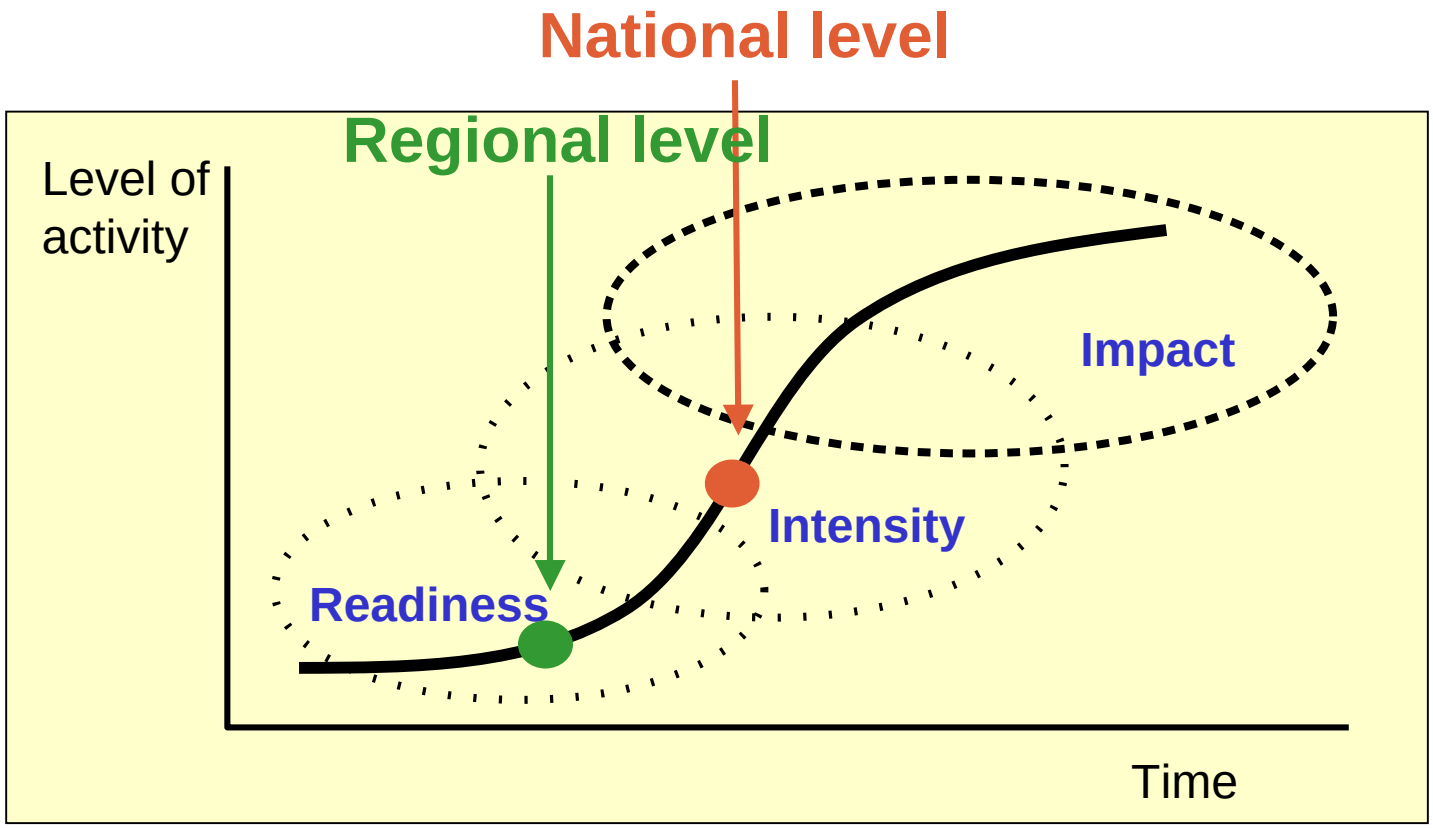
- NUTS 2 level
- 10 Topics (eEurope)
- Pilot surveys 2003
- 28 selected regions

e-business w@tch

- Sectoral sample
- Representative survey 2002/03/04
- EU15, AC

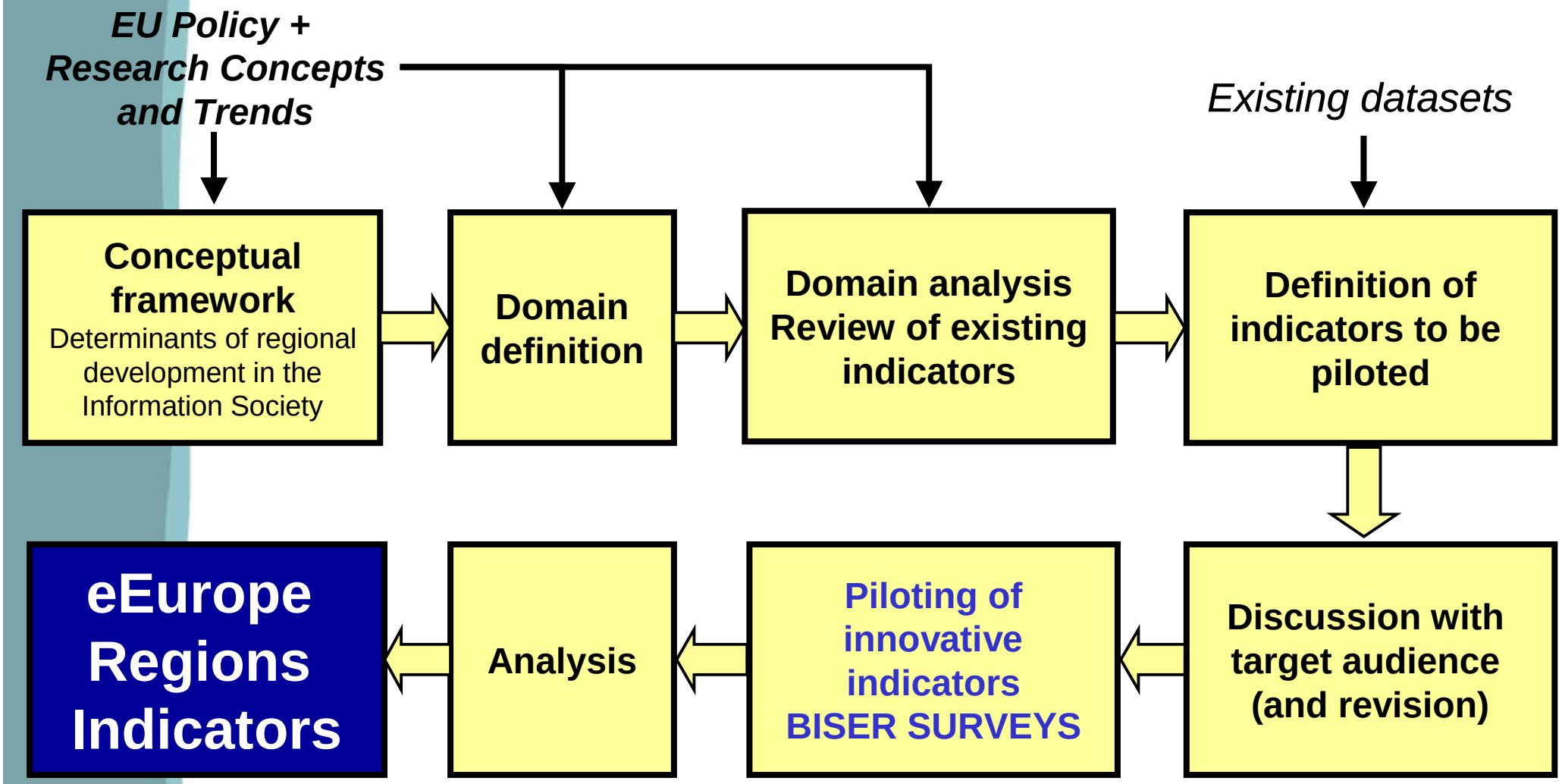
2001-2003 → **2002-2004**

IS indicators: national vs. regional data



Market maturity determines research interest and needs: WPIIS Model for eCommerce indicators
Source: Statistics Canada; OECD Working Party on Indicators of the Information Society

BISER - The process



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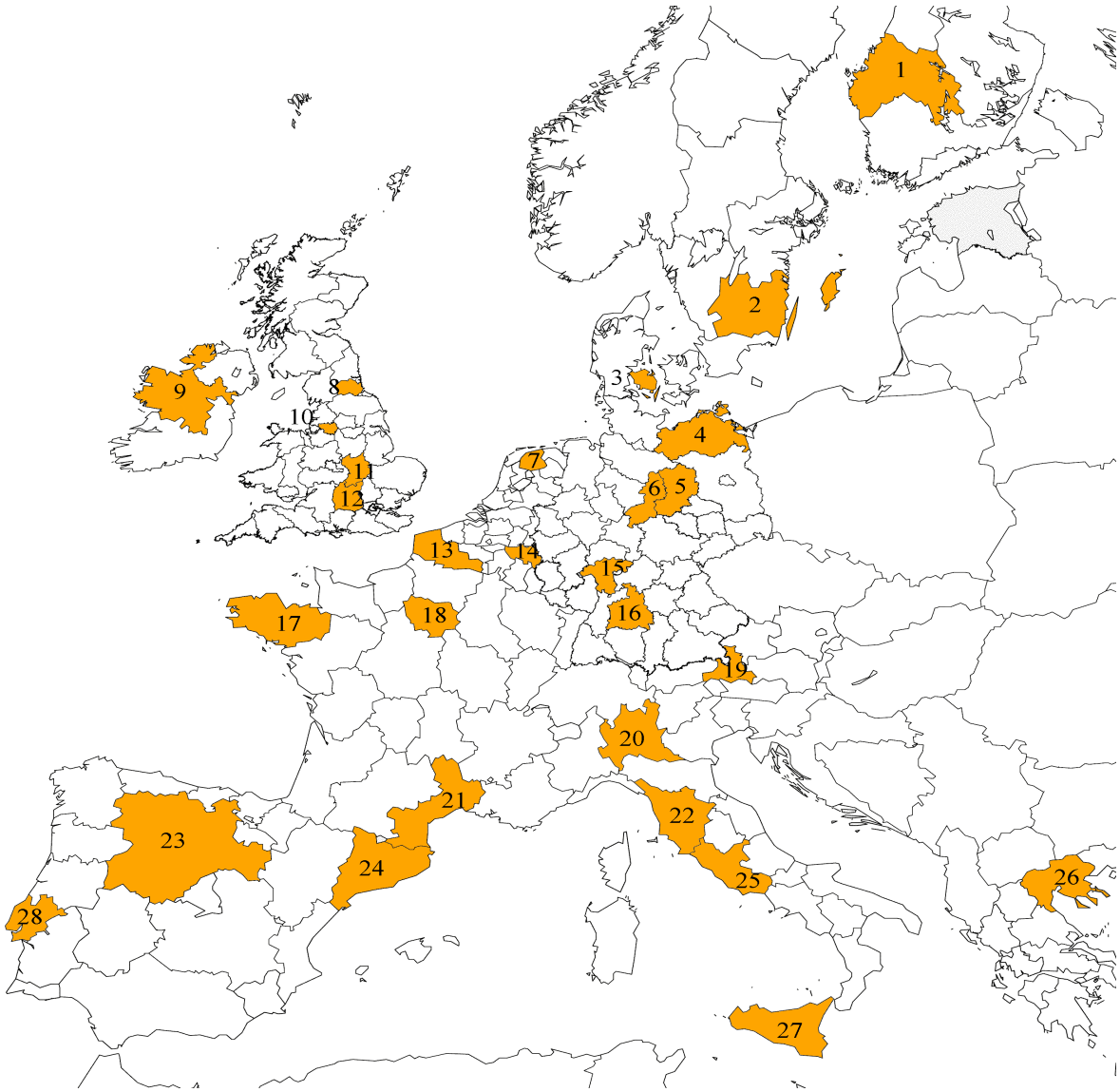
Selection of regions

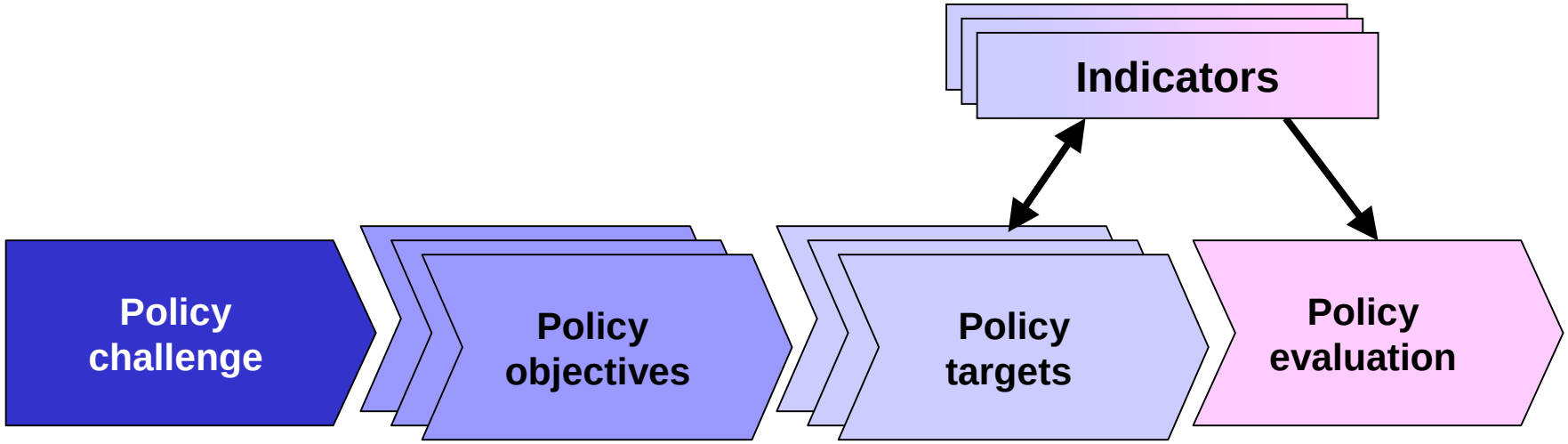


(1) Väli-Suomi
(2) Smaaland med Oearna
(3) Fyns Amt
(4) Mecklenburg-Vorpommern
(5) Magdeburg
(6) Braunschweig
(7) Friesland
(8) Tees Valley and Durham
(9) Border, Midland and Western
(10) Greater Manchester
(11) Leicestershire, Rutland and N.
(12) Berkshire, Buckinghamshire, O.
(13) Nord-Pas-de-Calais
(14) Prov. Liège
(15) Darmstadt
(16) Stuttgart
(17) Bretagne
(18) Île de France
(19) Salzburg
(20) Lombardia
(21) Languedoc-Roussillon
(22) Toscana
(23) Castilla y León
(24) Cataluña
(25) Lazio
(26) Kentriki Makedonia
(27) Sicilia
(28) Lisboa e Vale do Tejo

Challenge No. 1:
Justifying benchmarking

- What do we need benchmarking for?
  - EU policy-makers' viewpoint
  - Regional policy-makers' viewpoint
  - Other stakeholders' viewpoint
- Basic objectives
  - Identifying the best performers ...
  - ... in order to learn from them
  - Framework in which success/failure of different policy or management approaches can be tracked over time
  - Understanding factors of success
- Benchmarking is not an end in itself!
  - Policy: Only valuable as one tool in a system of tools for supporting policy formulation (etc. "Benchlearning")
  - Analysis: Needs to be supplemented by qualitative analysis

Benchmarking as a policy tool



- The "**mission statement**"
- **Broad area** for activity and investigation
- Too broad to be directly measured

- Translate challenges into more concrete **concerns**
- Basis for specification of **policy actions**

- The **measurable** output and outcome of policy actions
- **Benchmarking: What is the current situation?**

- **Benchmarking: Have targets been met?**
- In case of failure, assessment of reasons
- Conclusions

Benchmarking: Shortcomings and problems

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- Overall ranking of performance not helpful
  - Tends to induce defensive reactions from “laggards”
  - Does not take into account that preconditions differ between regions
- Quality of indicators and statistical analysis
  - Numerous examples of wrong interpretations of statistics
- Goal conflict
  - Showing that and where regional performance is different
  - Understanding why regional performance is different
- Policy evaluation
  - Causal relationship between IS policies and regional development very hard to prove

BISER approach

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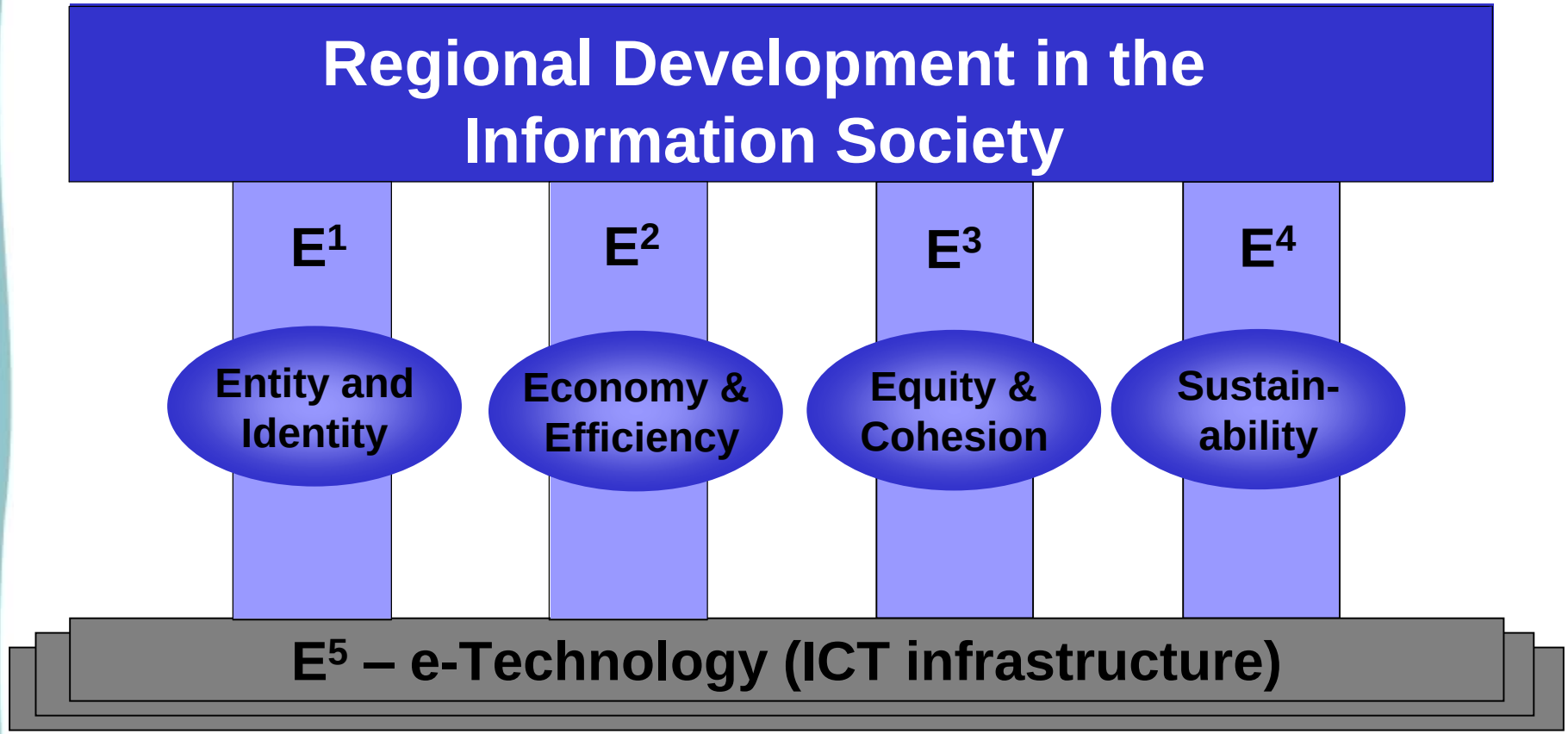
- Select statistical indicators based on conceptual framework (regional development in the Information Society)
- Test these indicators through surveys of the population and establishments
- Identify indicators which have the highest expressive power for region-specific differences
- Key objective: As few indicators as possible (only those with high added value for benchmarking)

Conceptual framework for developing e-Indicators for European Regions: The 5 Es



Challenge No. 2:
Identifying the right indicators

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- Good indicators are not only a technical issue, but also a political
  - Consensus building process necessary
  - Many indicators do not take account of the real objectives of policy-making
  - Risk of sending wrong messages to “emulators”
- Policy-led indicator development (short/medium-term) versus generic indicator development (medium/long-term)

Two layers of Information Society indicators

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- Basic layer of long-term statistics
  - ... on key social indicators (addressing impact of IS), and
  - ... on key factors determining competitiveness of the economy (addressing impact of IS)
  - Time series data must be available
  - Concepts used must be based on consensus among all major stakeholder groups, and on in-depth research proving the quality of the indicators and the underlying data collection systems.
- Second layer of more short-term statistics
  - Time-series data less relevant ...
  - ... but quick on-demand production of statistics
  - Second-layer indicators should – wherever possible – use the same concepts as first layer statistics (enrichment of basic indicators rather than replacements/substitutes)

Criteria for selecting key indicators

Assessment of 132 indicators tested in BISER using these criteria:

- Relevance
  - Completeness
  - Political relevance
  - Target audience relevance
  - Long-term relevance
  - Relevance of regional level
- Validity and comparability
  - Reliability and freedom from cultural bias
  - External validity
- Costs
- Non-correlation

BISER Key Indicators (establishment side)

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- Broadband Internet access (establishments)
- Establishments with an internal computer network
- Business e-government users
- Establishments with a website
- Establishments with at least 10% of sales conducted online
- Participation in electronically integrated supply chains
- IP-supported process and product innovation
- Establishments providing ICT training for their staff
- More than 25% of staff need Internet skills

BISER Key Indicators (population side)

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- Broadband access to the Internet (population)
- Internet users (population)
- Private e-government users
- Share of employment in ICT occupations
- ICT-based multi-locational work
- E-learning for work-related training
- Users of transport related information on the Internet
- Online communication with doctor/clinic
- Use of the Internet for regional purposes
- Ratio of Internet use – lower and higher incomes
- Internet affordability insufficiency

Comparison with eEurope 2005 indicators

- Additional indicators not covered in BISER but recommended for collection:
  - Cost of Internet access
  - Number of basic public services fully available online
  - Number of available basic public on-line services with integrated digital back offices processes
  - Public procurement processes that are fully carried out online (electronically integrated) in % (by value) of overall public procurement
  - Percentage of public administrations with broadband access
  - Number of pupils per computer with Internet connection (broadband/non-broadband).

Challenge No. 3:
Data gathering

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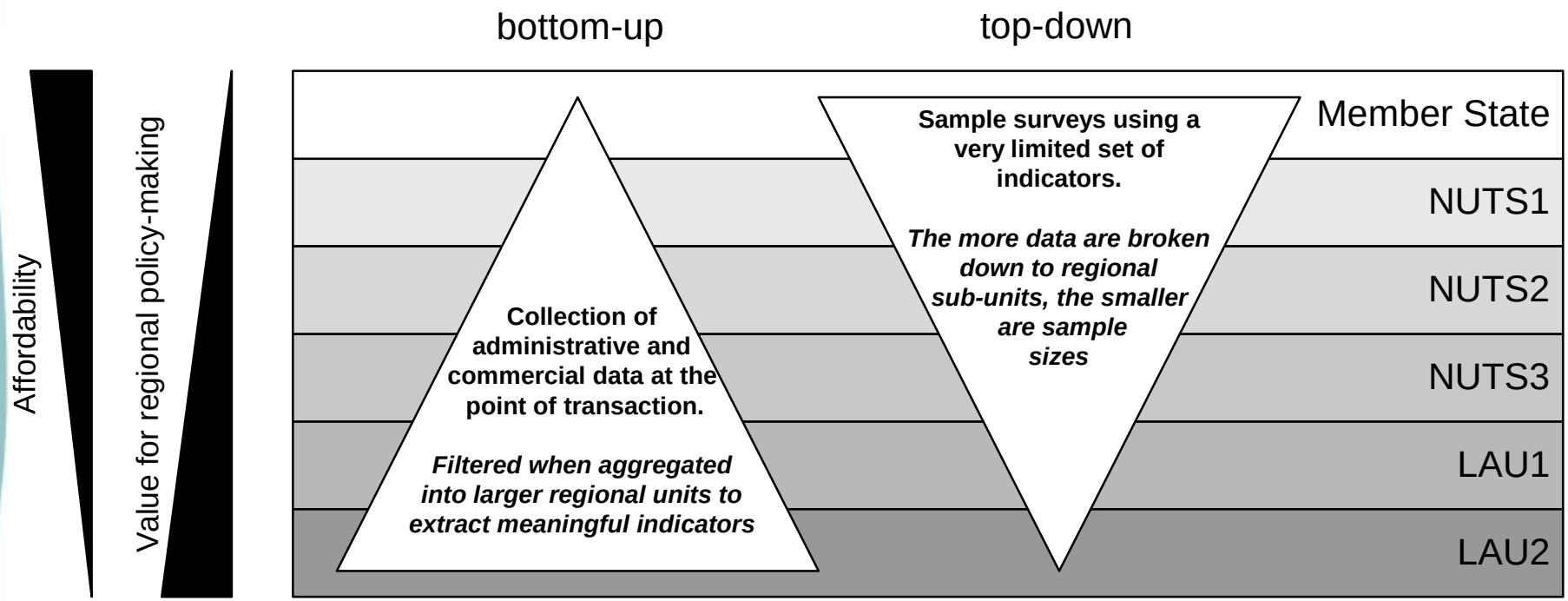
- Official data collection through National Statistical Institutes
  - preferable but very slow
- Population surveys
  - comparatively easy to handle
- Business surveys
  - Lack of good sampling frames (especially small SMEs, micro-enterprises)
  - Target person (respondent in company)
  - Stratification and weighting of results

Basic approaches towards data collection: Bottom-up vs Top-down



Challenge No. 4:
Appropriate geographical reference unit

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- EU standard (NUTS) is based on geographical units which were defined for political reasons
- Very different from functional regions (but functional regions are not available at EU level)
- Risk of wrong conclusions as a result of aggregation
- NUTS3 better than NUTS2?

An example

100	10	5	10	5	10	5
20	10	20	10	20	10	20
10	20	10	400	10	20	10
20	40	20	40	20	40	300

Number of cars (x1000)

200	20	10	20	10	20	10
20	10	20	10	20	10	20
10	20	10	400	10	20	10
10	20	10	20	10	20	150

Number of households (x1000)

Number of cars per household

0.5	0.5	0.5	0.5	0.5	0.5	0.5
1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
2.0	2.0	2.0	2.0	2.0	2.0	2.0

a. NUTS3

Aggregation

0.74	1.04	1.6

b. NUTS2

A pragmatic proposal

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- Choose NUTS3 wherever possible (1,091 regions)
- NUTS2 is sufficient if NUTS3 does not correspond with any adminstrative level (“non-administrative regions”)
- Combination of NUTS2 and NUTS3 (911 regions)
- Extension to the New Member States (73 regions)

Challenge No. 5:
Contextualise data on ICT usage

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- The diffusion of ICT is partly determined by income (GDP/capita) and other independent variables
- Most benchmarking exercises do not consider this
- Contextualisation necessary!

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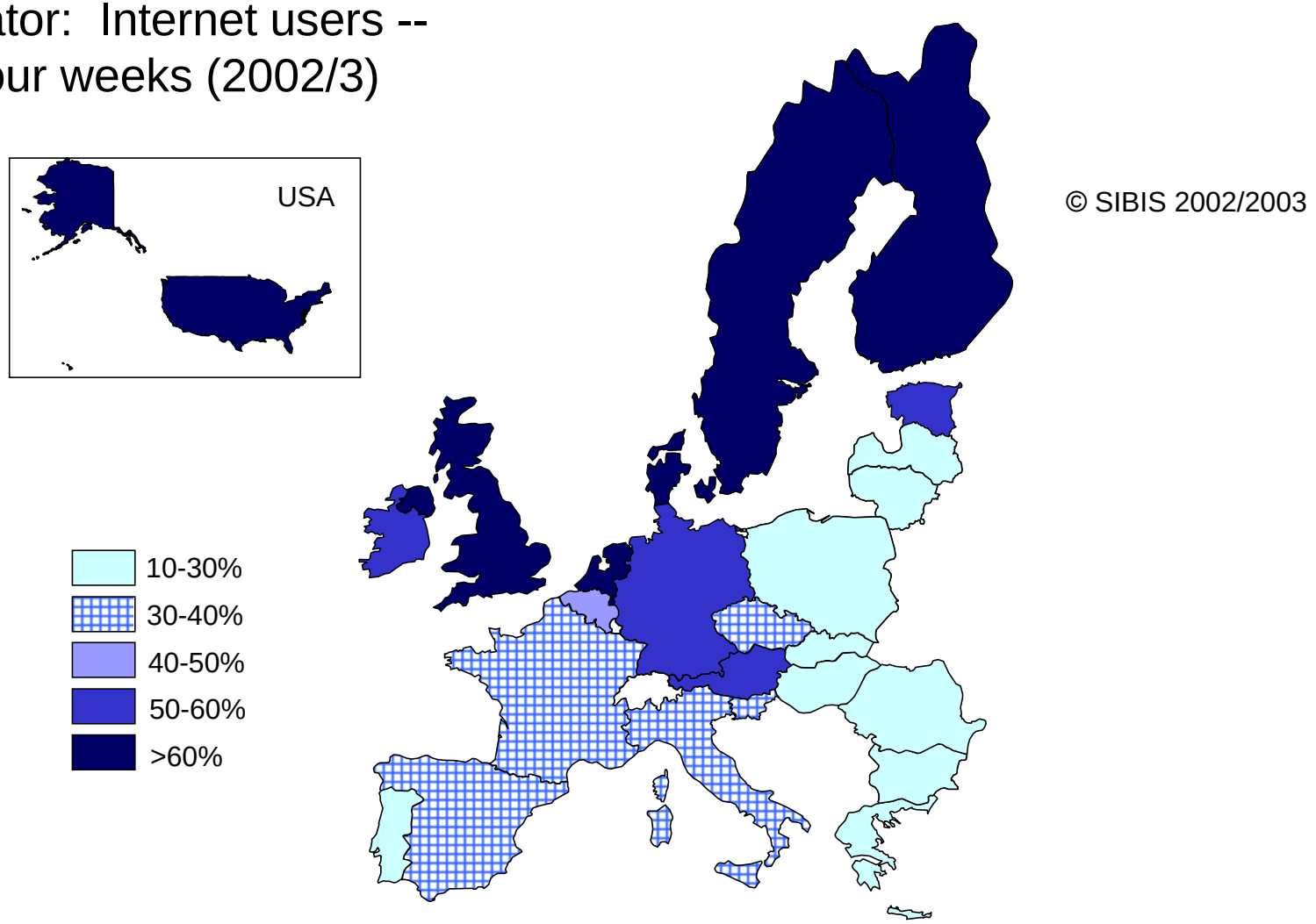
Contextualise data on ICT usage

Indicator: Internet users -- last four weeks (2002/3)



The way ahead (I)

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- Establishment of a European regional Information Society indicator system
- Next steps to be taken:
  - Regions which already have Information Society observatories up and running to join together (Regional IST, UNDERSTAND)
  - Agree on a very small number of key indicators, taking account of eEurope 2005 indicators
  - Definition of common methodological guidelines and standards in order to maximise comparability of indicator values between regions
  - Agreement on selection of indicators and methodology to be sought from the NSIs and Eurostat (as much as possible)

The way ahead (II)

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- Set up an institution which would transfer survey expertise to regions which lack the resources to conduct surveys by themselves
- Further streamlining list of indicators
- Testing of more cost-efficient methods of data collection
- Attract additional regions to the System with a view towards complete coverage in the long term
- Use system for ERDF/ESF programme evaluation
- Explore possibilities for financial assistance to regions

BISER Project output

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- Domain reports
- Benchmarking reports
- Handbook of indicator design
- Primary data for 28 NUTS 2 regions on ca 20 key indicators plus supplementary statistics
- Data presentation using Web interface

Please visit: www.biser-eu.com

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Thank you for your attention!

More information:

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