EC Joint Research Centre
S3 Peer-exchange workshop for
EU Enlargement and Neighbourhood Region
29-30 March 2022
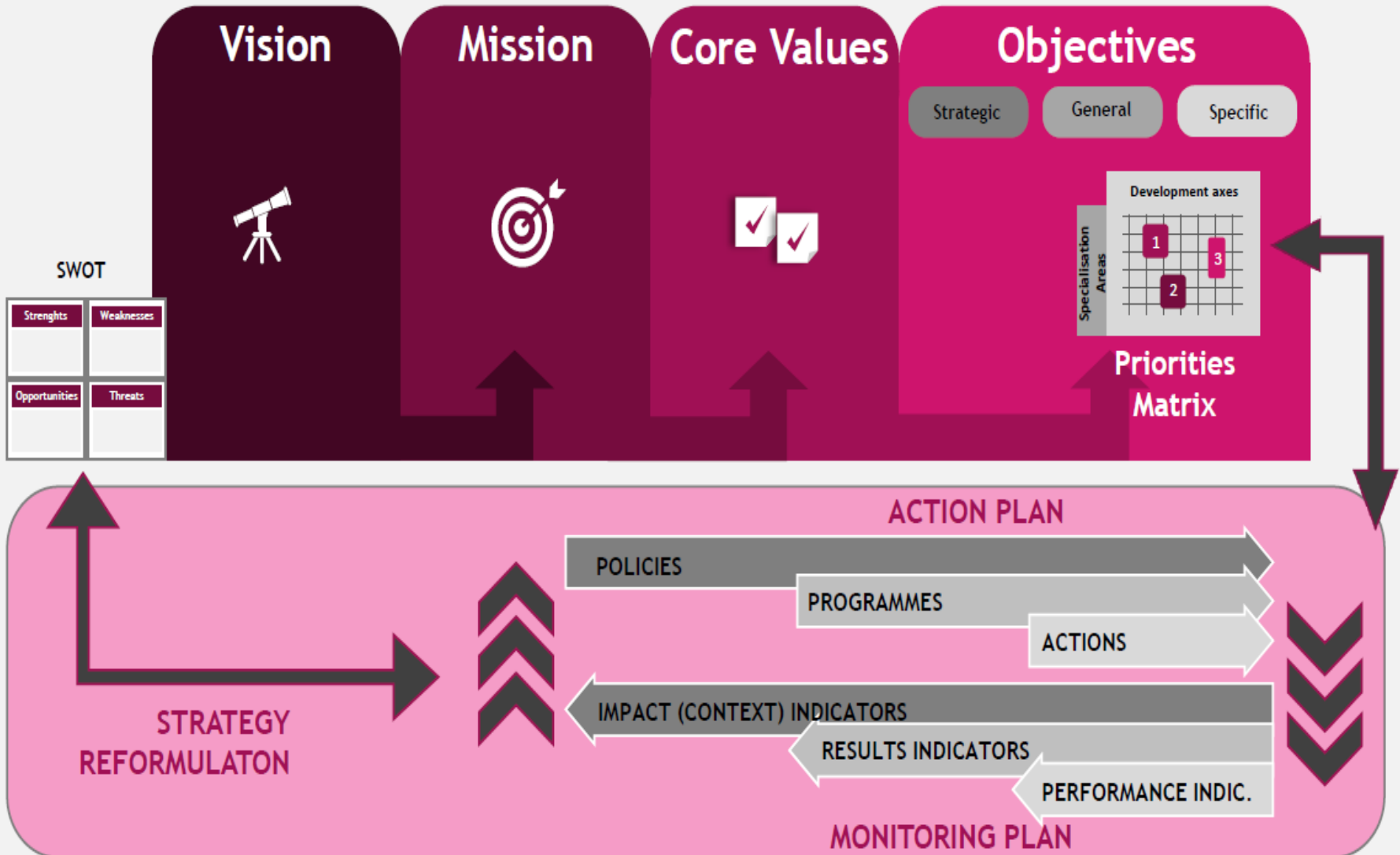
S3 Monitoring and Evaluation

Claire Nauwelaers
Independent policy expert

« One of the great mistakes is to judge policies and programmes by their intentions rather than by their results »

Milton Friedman

The full S3 policy cycle in Valencia

Why a S3 Monitoring system?

➢ To provide robust evidence **for policy learning**

➢ To provide robust **data for evaluations**

➢ Moving towards **outcome-based** policy-making

➢ Creating **shared expectations and a common understanding** of S3 through stakeholders' engagement

➢ Preparing for **revised S3** in the future

- What has been achieved with the instruments in place ?
- Are the instruments delivering according to their mission?
- Who are the beneficiaries?
- Which instruments contribute to which goals? What are the others doing?
- Are there gaps or overlaps across instruments?
- Do data point towards changes in picture?
- ….

Good evidence-based descriptions may tell inconvenient truth and challenge [4]

How does a S3 Monitoring system look like?

S3 Objective	Detailed objective	Policy instrument	Owner	Input indicator	Output indicator	Result indicator	Context indicator
Strategic Objective 1	Sub-objective 1.1	Instrument A	Ministry X	Definition, source, frequency	Definition, source, frequency	Definition, source, frequency	At level of strategic objective
		Instrument B					
	Sub-objective 1.2	Instrument C	Ministry Y				
Strategic Objective 2	Sub-objective 2.1	Instrument D	Ministry Z				At level of strategic objective and sub-objective
		Instrument A	Ministry X				
		Instrument E	Ministry Z				
	Sub-objective 2.2	Instrument F					
		Instrument G					
	Sub-objective 2.3		Ministry X				
Strategic Objective 3	Sub-objective 3.1	Instrument E	Agency X				At level of sub-objective
	Sub-objective 3.2	Instrument B	Ministry V				At level of sub-objective
		Instrument H					At level of sub-objective

BY S3 Domain

Year 1
Year 3
Year 5

Indicators for S3 monitoring

➢ **Inputs**

Public money invested in each instrument

➢ **Outputs**

Specific deliverables of the instrument – Short term – Focus on beneficiaries

➢ **Results**

Wider effects of the instrument - contribution to S3 objectives– medium term

➢ **Context**

Macro evolution of relevant national/regional features (Scoreboard)

Monitoring versus evaluation

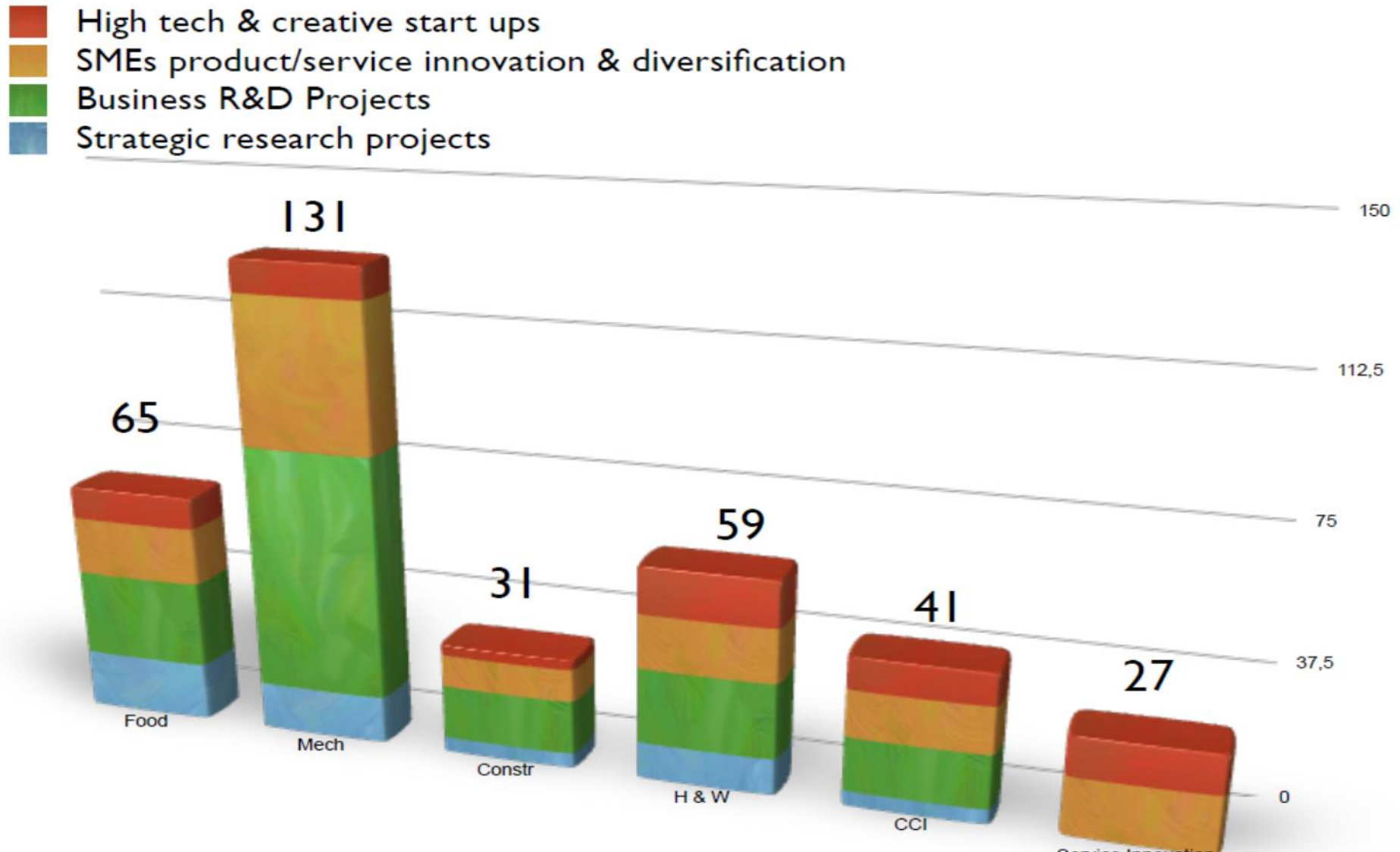➢ **Impacts**

Can only be retrieved from evaluations

- **Carried out by independent party**
- **Using counterfactual methods to determine causality**
- **Based on adequate data (from monitoring system)**

BUT

- **Attribution problem…**
- **Time-lag problem…**

Examples of Output Indicators

Projects approved Emilia Romagna

High tech & creative start ups
SMEs product/service innovation & diversification
Business R&D Projects
Strategic research projects

Food 65 · Mech 131 · Constr 31 · H & W 59 · CCI 41 · 27

150 · 112,5 · 75 · 37,5 · 0

Examples of Result Indicators

Centers of Research Excellence performing excellent science

- Number of Scientific publications （y1, y3, y5);
- Attraction of further R&D funding (EU) (y5);
- Attraction of further R&D funding (private) (y5);
- Cooperation among PRO institutions at national level (y5);
- Cooperation among PRO institutions at international level (y5)

Fostering development of new products/services resulting from R&D activities

- Sales of new to the market and new to the firm innovation
- Private funding of R&D projects after the end of funded project;
- Number of job positions created by RDI projects after the end of projects;
- Number of company-company collaborations created from RDI projects;
- Number of company-PRO collaborations created from RDI projects;
- Number of start-ups/spin-offs/spin-outs originating from projects;
- Number of companies involved in university-industry projects;

Properties of Indicators

1. **SMART**

Specific (simple, sensible, significant)

Measurable (meaningful, motivating)

Achievable (agreed, attainable), at reasonable costs

Relevant (reasonable, realistic and resourced, results-based)

Time bound (time-based, timely, time-sensitive). Y+1, Y+3, Y+5

2. **Clear and shared definition**

Involving stakeholders, programme owners, beneficiaries

3. **Fine-grained, business oriented, focus on S3 areas**

Available data rarely match needs. Need for data on business evolutions, follow up of funded projects. Integrate reporting in funding schemes to companies

4. **Policy oriented, policy-relevant**

Clear link with programmes/policy action

5. **Number**

Not too many, not too few. Manageable, translated into figures, charts…

Key indicators and secondary indicators

Steps for setting up S3 Monitoring system

1. Design: governance and content

Involving policy-makers and policy owners (all relevant domains!), working towards acceptability. Link to S3 governance – defining owner

2. Data collection

Robustness and reliability – Feasibility and cost effectiveness
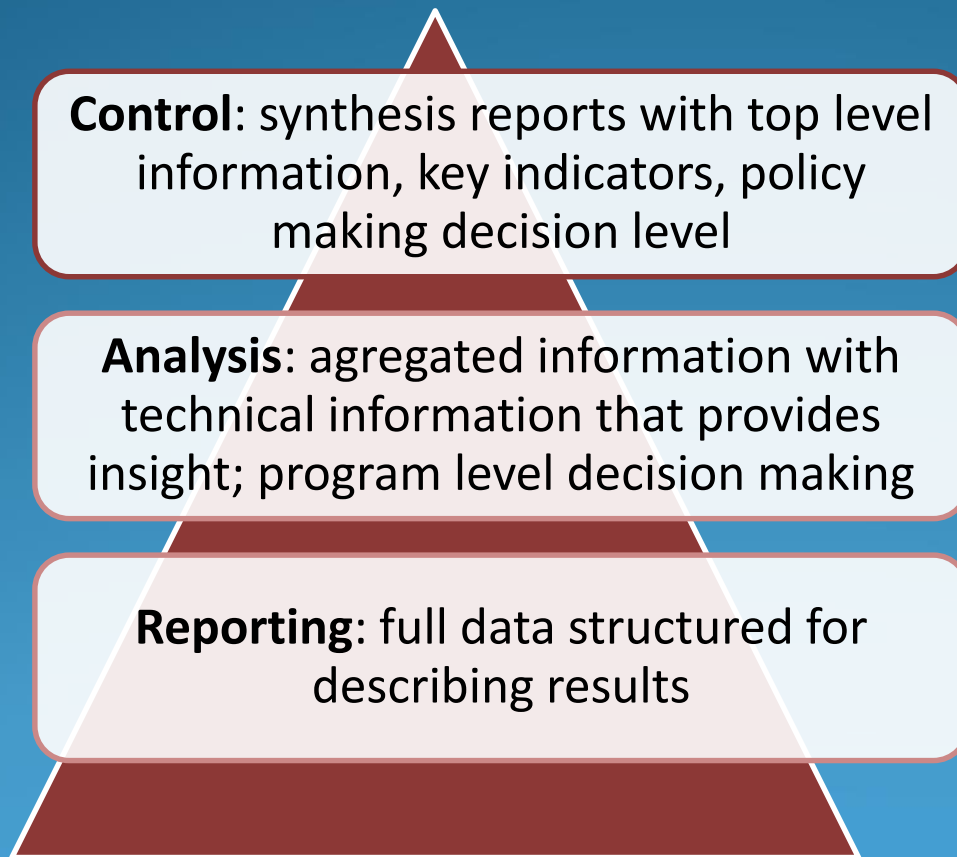
3. Data harmonisation–alignment

By central body

4. Data analysis

Sense making and stakeholders' participation

5. Diffusion and integration in policy cycle

Works when the system and indicators are policy-relevant
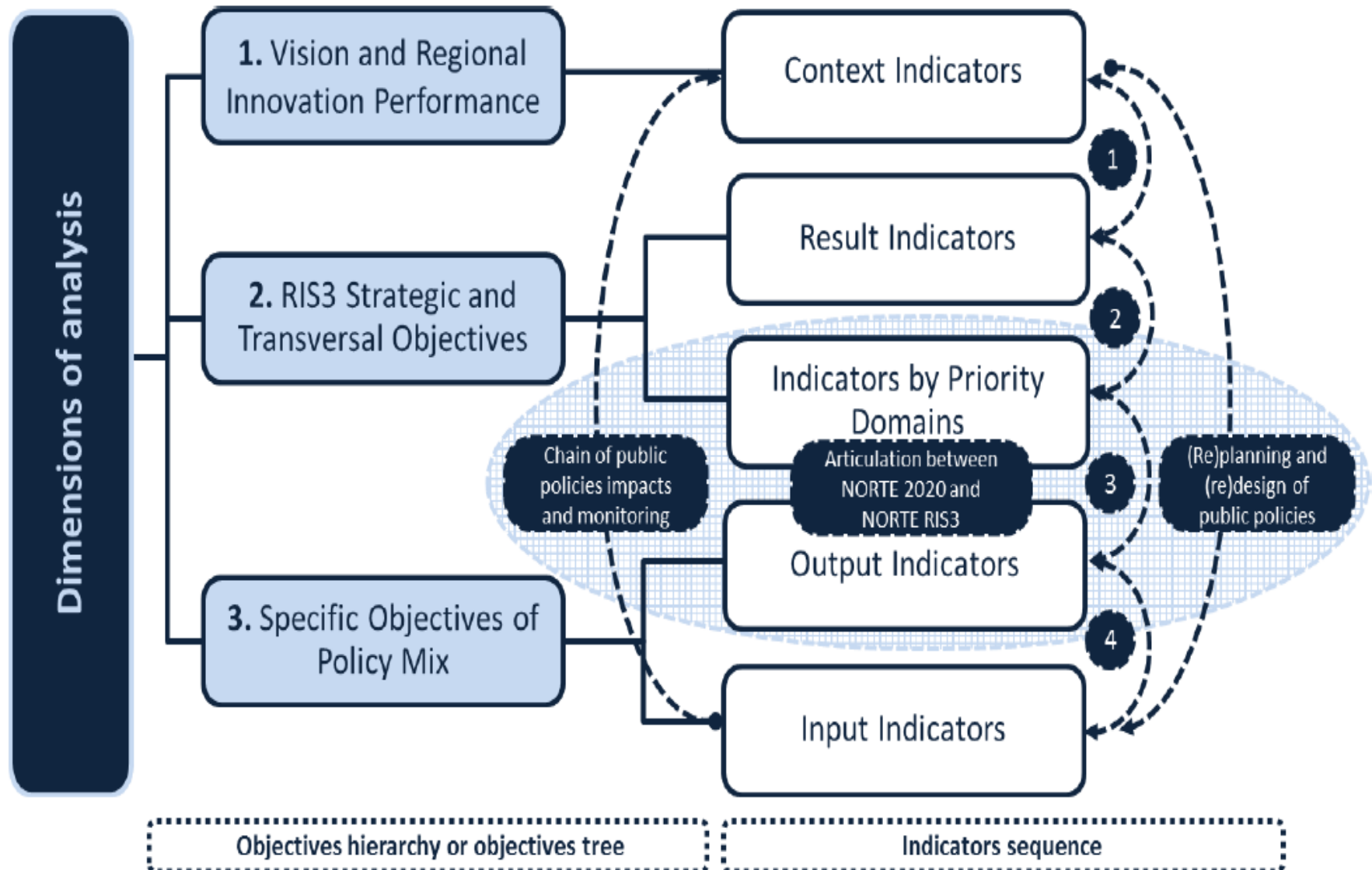
11

S3 Monitoring system outputs

Control: synthesis reports with top level information, key indicators, policy making decision level

Analysis: agregated information with technical information that provides insight; program level decision making

Reporting: full data structured for describing results

Monitoring system in Galicia

SCOREBOARD			
INDICATORS	PERFORMANCE Indicators (outputs)	RESULT Indicators	CONTEXT Indicators
	Monitoring of indicators associated to each INSTRUMENT	Monitoring of indicators associated to each PRIORITY	Monitoring of indicators associated to CHALLENGES & VISION
EXAMPLES OF INDICATORS	• Nº of R+D+I Projects promoted in prioritized areas • Nº beneficiary organizations (enterprises, research centers, etc.) in prioritized areas • % Public budget executed by sector • % Private budget captured by sector	• Scientific Specialisation Indicators (Research Groups, scientific production) • Technological Specialisation Indicators (patents; International R&D&I Projects, Technology-Based enterprises) • Economic Specialisation Indicators (Gross Added Value)	INPUTS indicators: • Education • Investment in R&D&I OUTPUTS indicators: • Scientific • Technological • Economic ECONOMIC IMPACT indicators: • Employment • Added Value • Business Innovation
TARGET VALUES	Target Value (2016; 2018; 2020)	Initial Value (2013) — Target Value (2016; 2018; 2020)	Initial Value (2013) — Target Value (2016; 2018; 2020)
MONITORING TOOLS	Innovation Platform	Innovation Platform	Innovation Platform

Monitoring system in Norte Portugal

Monitoring S3 reveals problems

1. Inconsistencies in Strategic Objectives

2. Synergies between instruments not understood

3. Multiple uncoordinated initiatives

4. Lack of sustainability of structures and efforts

5. Missing pieces in policy mix

   Start-ups ? Scale-ups? Social innovation? Better use of   publicly-funded R&D infrastructure?...

etc.

Conclusion:
Success conditions for S3 monitoring system

1. Managing **expectations** –getting consensus on purpose

2. Getting **commitment** and **ownership** at start + openness to change

3. Clear **intervention logic** and shape of policy mix

4. Adequate **human resources** in body in charge (data collection, analytical skills, evaluation, communication,…): building capacity

5. Adequate **financial** resources

6. Continuous **political ownership** need for S3 "champion"

7. Creation of ONE system for **multiple sources** of financing (different ministries, agencies…)

8. Outcome of monitoring: wide **diffusion**, story telling on results

9. Outcome of monitoring: clearly **linked to policy mix** … and funding streams

16

Questions?
Ideas? Worries?

c.nauwelaers@gmail.com