SMART SPECIALISATION PLATFORM

Ljubljana (SI), 15-16 May 2014

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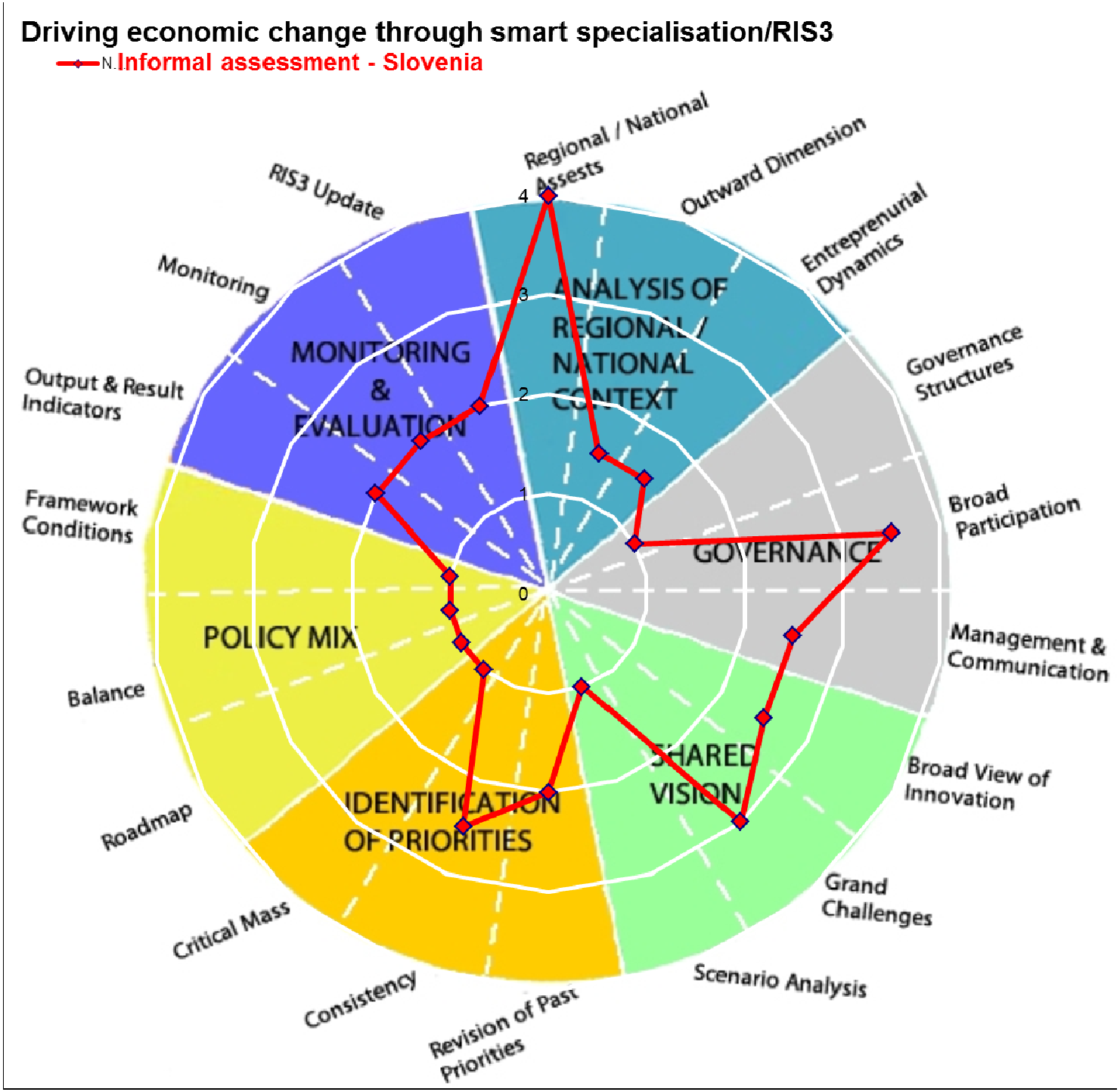
Slovenia: Prioritisation, Entrepreneurial Discovery and Policy mix in the RIS3 process

Brief overview of your country's work on S3

- **S3 Process:**
  - 2/2 2012 & 1/2 2013: preparatory work – analysis and RIS3 framework
  - May 2013 – July 2013: discussions with stakeholders & first complete RIS3 (Chamber of Commerce)
  - August – Sept 2013: public consultation & update by the ministry
  - November 2013: EC comments:
    - Leadership & ownership
    - Priorities too broad
    - Policy-mix
  - Dec 13 – Jan 14: lively public discussion

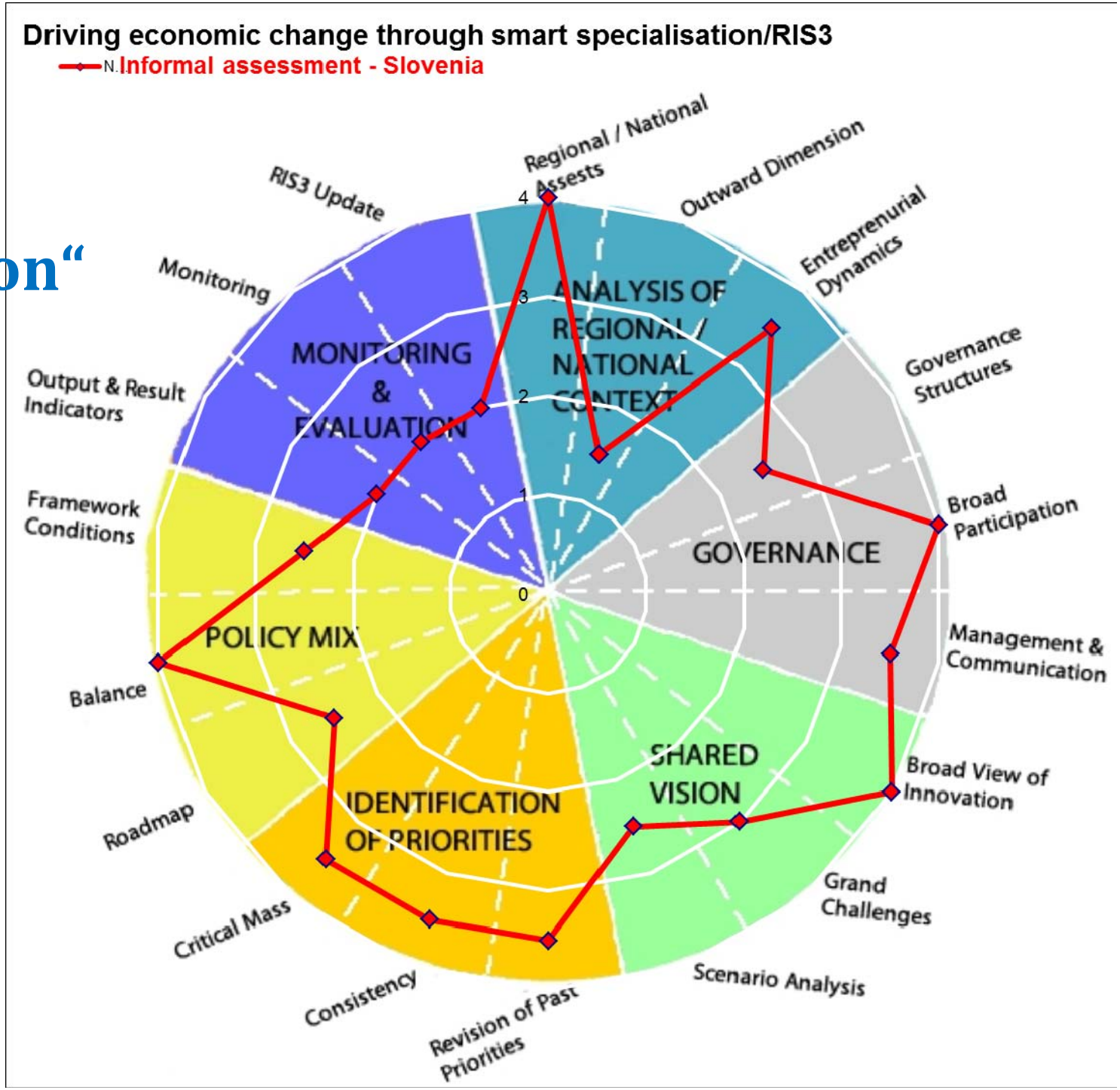
End 2013
The Wheel



Brief overview of your country's work on S3

- **S3 process (cont):**
  - Feb 14: Decision taken to set up a new Government Office for Development and European Cohesion Policy:
    - Responsibility both for RIS3 design and implementation
  - Feb - March 2014: new empirical analysis prepared & new concept developed
  - April – May 2014: another round of public discussions
  - June 2014: approval of the RIS3

The Wheel „under construction“



„Mid-term assessment“ of the process thus far

- Main **bottlenecks** in RIS3 development and implementation:
  - Institutional positioning & leadership
  - Attitude towards previous policy initiatives and related difficulties in setting the priorities
  - Challenge with setting the policy-mix and related monitoring system

- Main **successes** achieved so far in RIS3 development and implementation:
  - RIS3: innovation put back on the top of policy priorities
  - RIS3 as a platform for definition and implementation of comprehensive innovation policy
  - RIS3 as a mobiliser of stakeholders
  - RIS3 understood as a process (and not as a document or ex-ante conditionality)

The RIS3 concept

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INNOVATION

Knowledge transfer

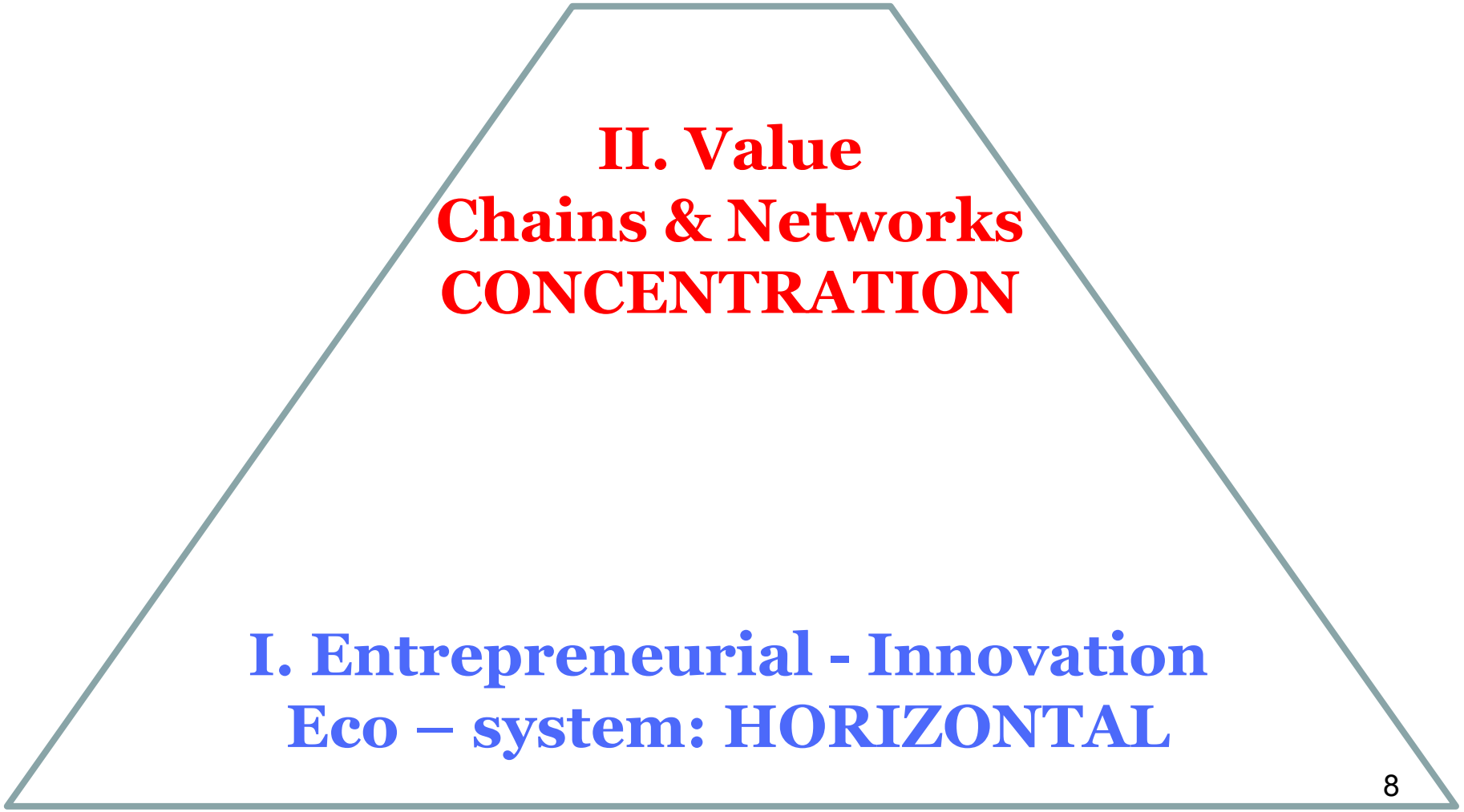
Entrepreneurship, creativity & talent

Internationalisation

(outward & inward)

COMPREHENSIVE APPROACH

2 PILLARS


II. Value
Chains & Networks
CONCENTRATION
I. Entrepreneurial - Innovation
Eco – system: HORIZONTAL

How do the priorities impact the various policy instruments across policy domains?

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Human Resources	Financing Innovation	**Entrepreneurship**
International Relations	Innovation Performance	Business 'Firms Innovation
Research	Educational policies	**Competitiveness & industrial policy**

The RIS3 concept (cont.)

- Mainstream vs. Pilot projects

- National vs. Regional approach:
  - SI: 2 cohesion regions
  - RIS3 builds on the national approach – due to critical mass and complementarities:
  - … but with regional dimensions, where relevant (e.g. regional entrepreneurship initiatives) and
  - … minding both for urban and rural areas!

- Ambition: to make a short, tangible document

I. Entrepreneurial Innovation Eco-system

- Structured by:
  a. National programmes: for high growth companies with global potential:
     - Start-up & TT (technology transfer) Slovenia
     - Design Slovenia
  b. Regional entrepreneurship programmes
  c. Social innovation

- … through company life cycle: seed, start-up, growth, expansion

- … providing twins: coaching with finance in tandem ➔ eco-system

I. Entrepreneurial Innovation Eco-system (cont.)

- **Entrepreneurial culture**: By raising awareness and building the necessary skills, at all education levels, a new generation of entrepreneurially-minded people can be encouraged to create new jobs. We will use several instruments: Entrepreneur training, Investor training, school motivational projects, design thinking,…

- Comprehensive **business environment** that will support the needs of enterprises**:** Business angel networks, Incubators, Accelerators, Online investment tools and crowdfunding. **+ TT services**

- **Financing instruments:** Grants, loans and guarantee schemes and Equity financing.

II. Value Chains

- Making the next step:
  - Building on existing strategies & policy instruments
  - Going from „priorities“ to „priority areas of application“

- Both „economy“ as well as „science“ as ambassadors of slovenian competitiveness

- Priority areas & policy mix to be set based on:
  1. Characteristics and potentials of the Slovenian economy
  2. On the internationalisation potential of the Slovenian science

Priority setting: empirical bases - methodology

A. Revealed technological specialization
   i. International comparison of industry-level R&R intensity
   ii. Participation in FP7 by industries and priority areas

B. Revealed comparative advantage
   i. WITS data (3-digit NACE2)
   ii. OECD BTDIxE data (2-digit NACE1; intermediate vs. Final goods)

Methodology (cont.)

C. Inward FDI stock by host industry
D. Identification of growing industries
   i. Positive productivity growth (2008-12)
   ii. Positive export growth (2008-12)
E. Identification of significant firms within identified prospective 3-digit industries

+

I. Assessment of industry innovation potential based on benchmarking of export values, with market leaders ➔ Eurostat Trade Database at 4 digit product group

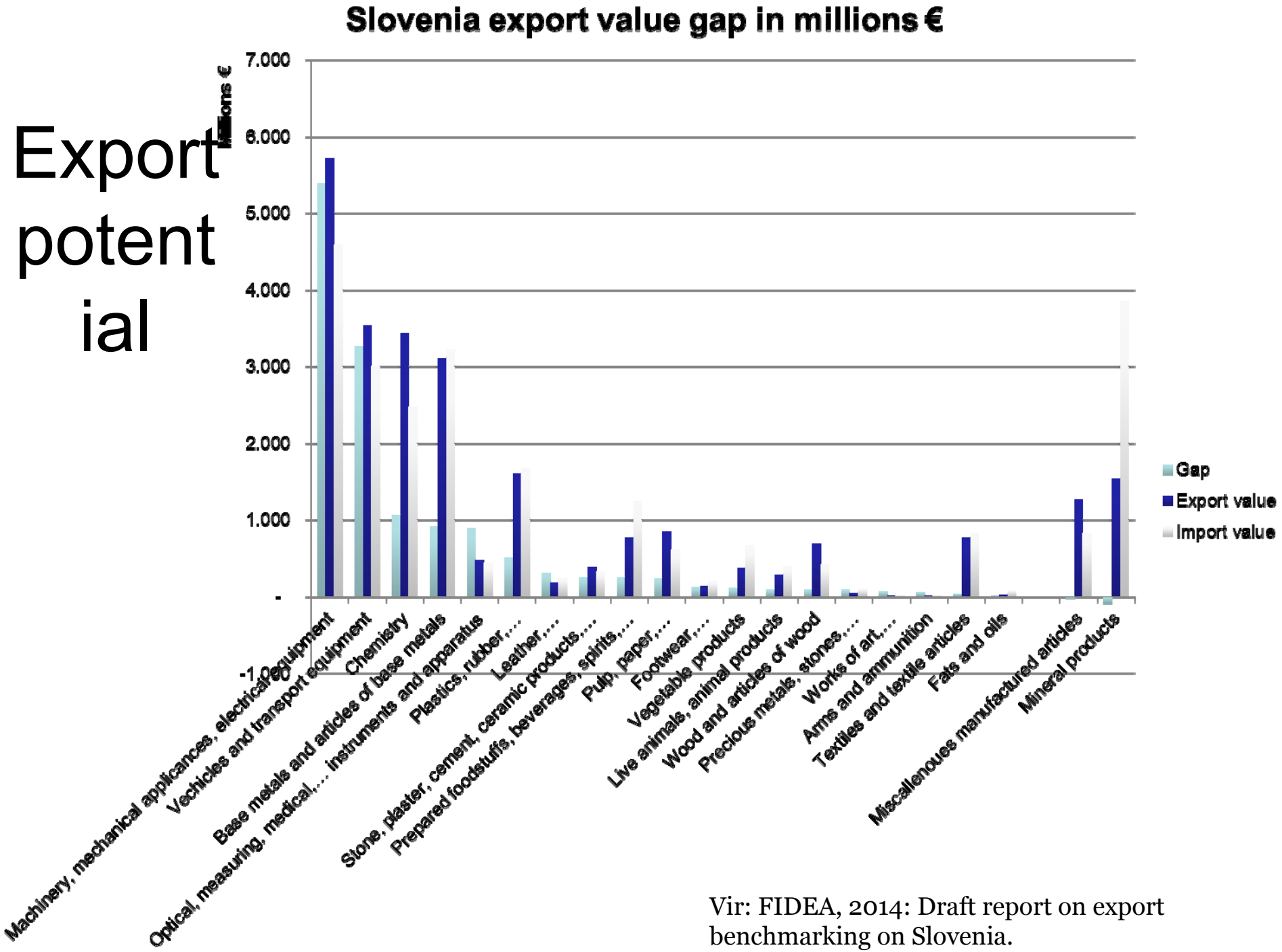
II. Most intensive cooperation areas of science with the economy

Multidimansional analysis

Vir: Burger, Kotnik, 2014

NACE 2 koda in deskriptor	R&R int.	RCA (WITS)	RCA vmesni proizvodi	RCA končni proizvodi
C13 - Manufacture of textiles	2.83	0.46	0.73	0.68
C16 - Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	1.92	2.08	3.31	0.93
C20 - Manufacture of chemicals and chemical products	0.46	0.75	0.76	3.11
C21 - Manufacture of basic pharmaceutical products and pharmaceutical preparations	1.33	2.56	0.76	3.11
C24 - Manufacture of basic metals	0.91	1.16	1.16	0.00
C24_FER - Manufacture of basic iron and steel and of ferro-alloys; of tubes, pipes, hollow profiles, related fittings and other products of first processing of steel; casting of iron and steel	1.03	0.30	N.A.	N.A.
C24_NFER - Manufacture of basic precious and other non-ferrous metals; casting of light metals and other non-ferrous metals	0.94	1.16	N.A.	N.A.
C25 - Manufacture of fabricated metal products, except machinery and equipment	1.07	1.39	2.47	1.36
C263 - Manufacture of communication equipment	1.73	1.52	0.13	0.36
C27 - Manufacture of electrical equipment	0.60	1.76	2.14	1.03
C28 - Manufacture of machinery and equipment n.e.c.	0.78	1.26	1.72	1.36
C29 - Manufacture of motor vehicles, trailers and semi-trailers	0.59	2.54	1.02	1.87
C30 - Manufacture of other transport equipment	N.A.	1.50	0.47	0.15
C301 - Building of ships and boats	8.68	1.35	N.A.	N.A.
C31 - Manufacture of furniture	1.52	2.44	3.31	0.93
C325 - Manufacture of medical and dental instruments and supplies	0.90	1.86	0.39	0.56
C33 - Repair and installation of machinery and equipment	0.87	1.29	N.A.	N.A.

Export potential



Vir: FIDEA, 2014: Draft report on export benchmarking on Slovenia.

Export potential by product group

- Industries relying on *mechanical engineering* and related knowledge fields already provide more than half of exports by value and indicates huge growth potential – more than 80% from total.

- *Medical and chemistry sector* shows high unit value in export, that indicates relative high sophistication of industry.

- Long tail of high export unit value product groups related to fashion industry indicates potential in set of *creative industries*. Long tail of product codes with high export unit value indicates that probably there is space for improvement of employment.

Vir: FIDEA, 2014

Services

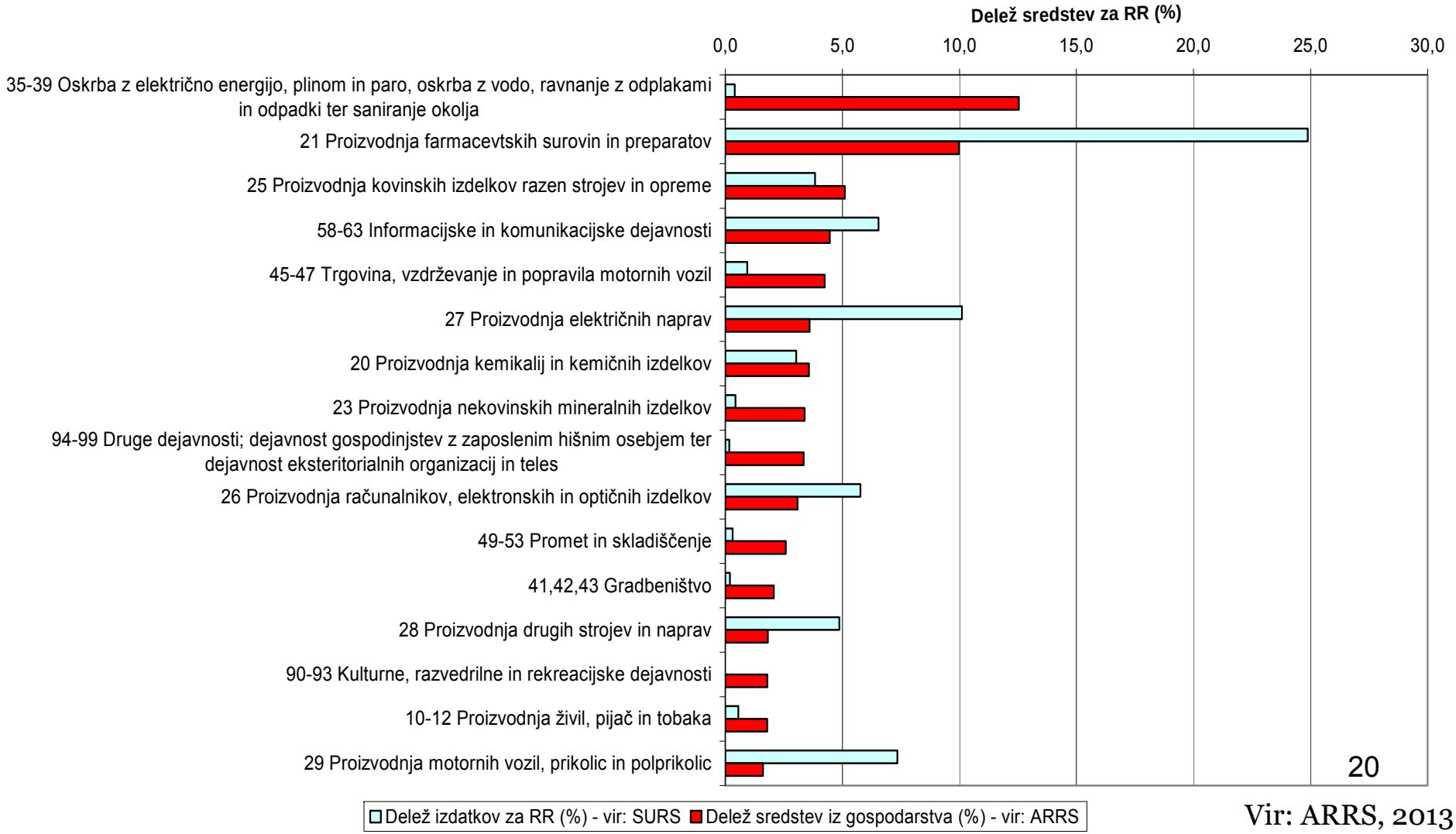
Vir: Burger, Kotnik, 2014

SERVICES NACE 2 code and descriptor	(1) R&R int.	(2) % in total inward FDI stock	(3) 3-digit industries with positive product. and export growth
D35_E36 - Electricity, gas, steam and air conditioning supply; water collection, treatment and supp.	0.65	2.6%	351
E37-E39 - Sewerage, waste management, remediation activities	0.00	N.A.	390
F - Construction	0.33	0.4%	
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	0.19	15.6%	464, 477, 479, 492
G465 - Wholesale of information and communication equipment	0.41	N.A.	
H - Transportation and storage	1.24	1.3%	
H49 - Land transport and transport via pipelines	**1.15**	**0.2%**	**492**
H50 - Water transport		0.2%	
H51 - Air transport		0.02%	512
H52 - Warehousing and support activities for transportation	**2.25**	**N.A.**	**521, 522**
H53 - Postal and courier activities	**21.4**	**1.3%**	**532**
I - Accommodation and food service activities		0,3%	
J - Information and communication	0.73	N.A.	611
J58 - Publishing activities	0.70	N.A.	582
J581 - Publishing of books, periodicals and other publishing activities	2.13	N.A.	
J582 - Software publishing	**3.04**	**N.A.**	**582**
J59 - Motion picture, video and television programme production, sound rec. and music pub. act.	0.17	N.A.	
J62 - Computer programming, consultancy and related activities	0.78	0.6%	
J63 - Information service activities	1.56	N.A.	
J631 - Data processing, hosting and related activities; web portals	2.85	N.A.	
J639 - Other information service activities		N.A.	
M - Professional, scientific and technical activities	**0.94**	**N.A.**	**721, 732**
M72 - Scientific research and development	0.81	0.1%	721
	0.07	N.A.	773, 801, 803, 812, 822
		0.2%	773
		N.A.	
d activities		N.A.	
		N.A.	801, 803
		N.A.	812
pport activities	0.16	4.4%	822

+ Tourism:

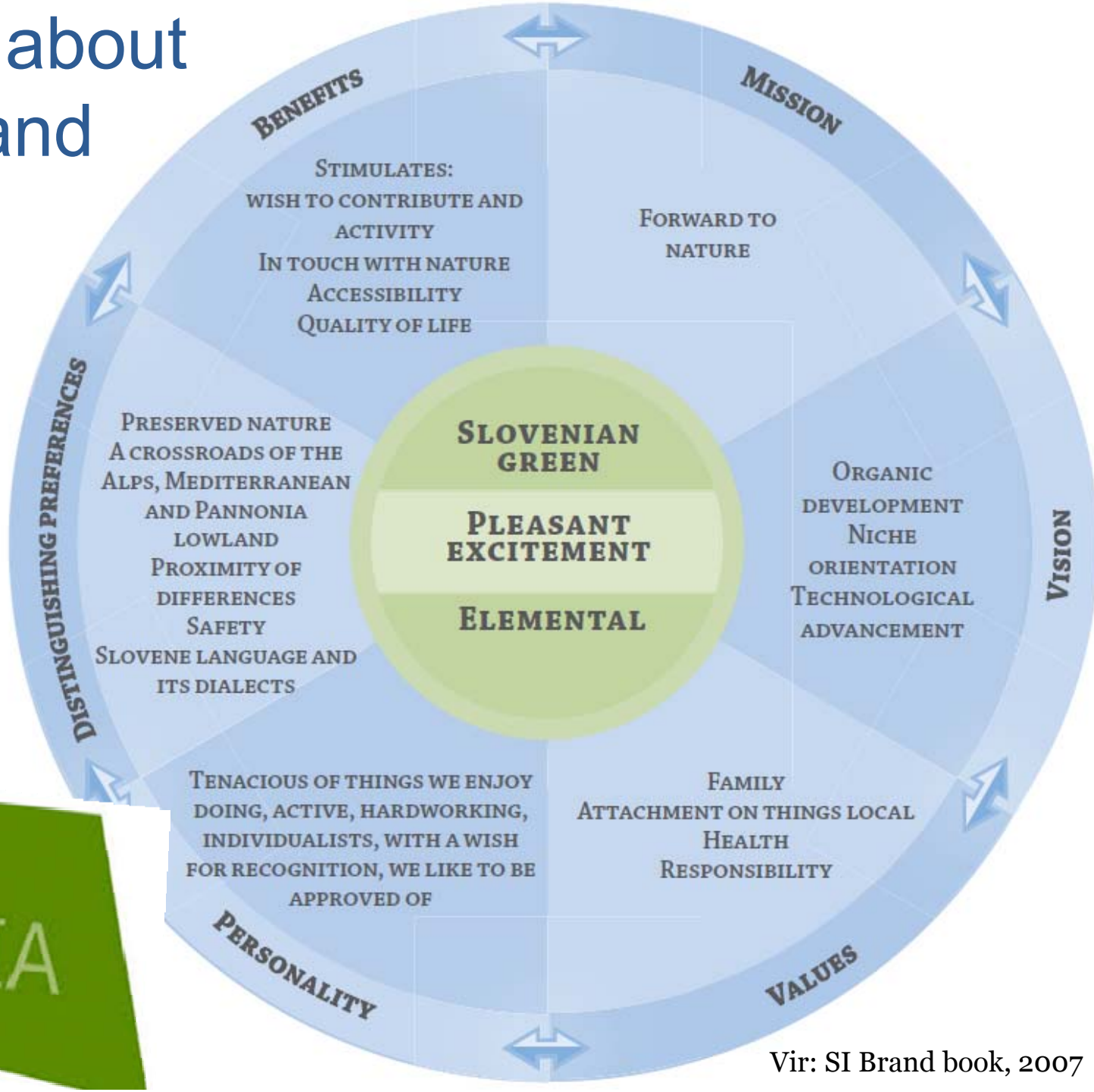
- 3,5% of GDP directly
- 12,8% of GDP indirectly
- 8% of total exports

Science: priority areas of cooperation with the private sector



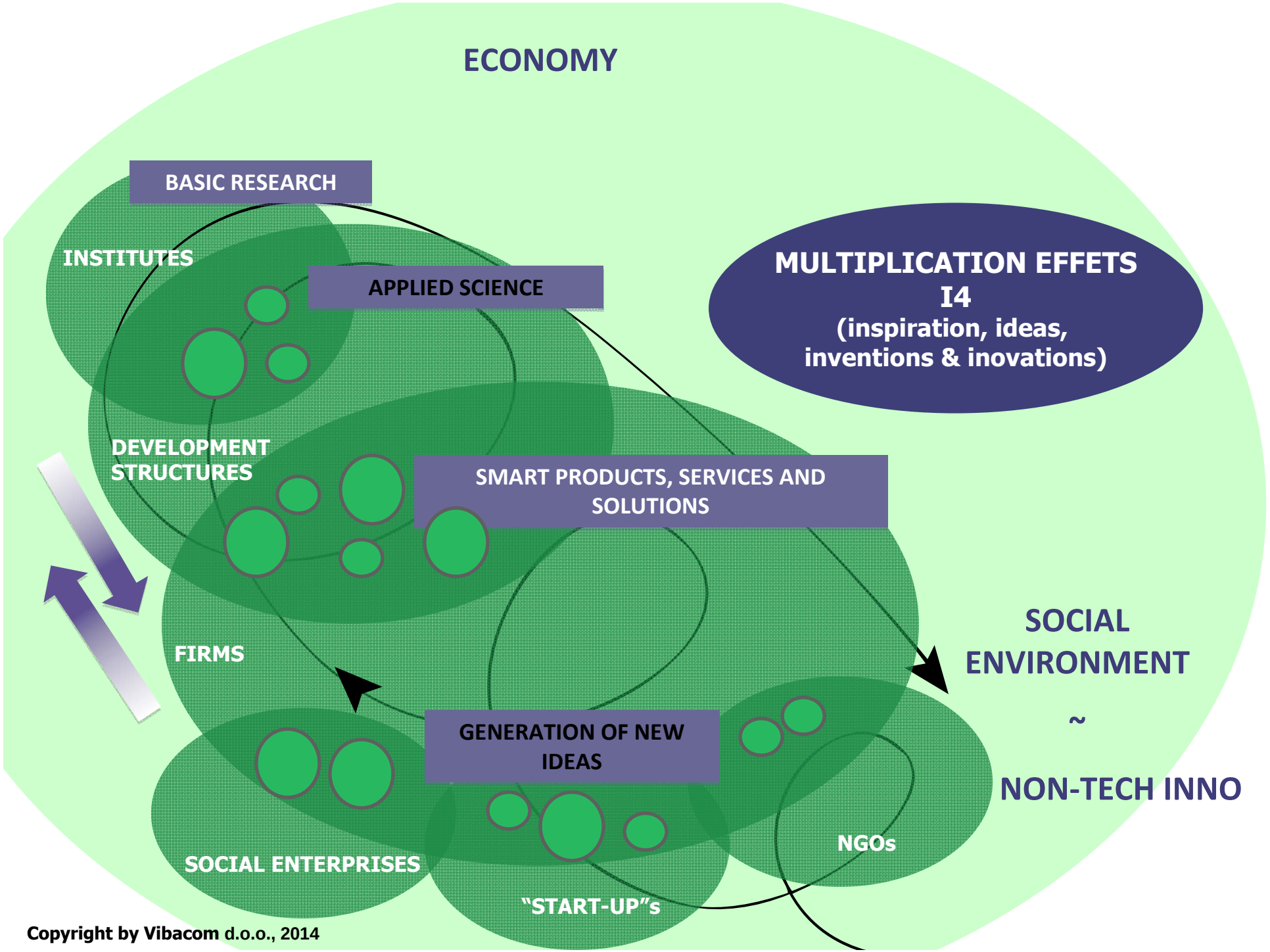
Vir: ARRS, 2013

S3 is also about branding and identity



I FEEL SLOVENIA

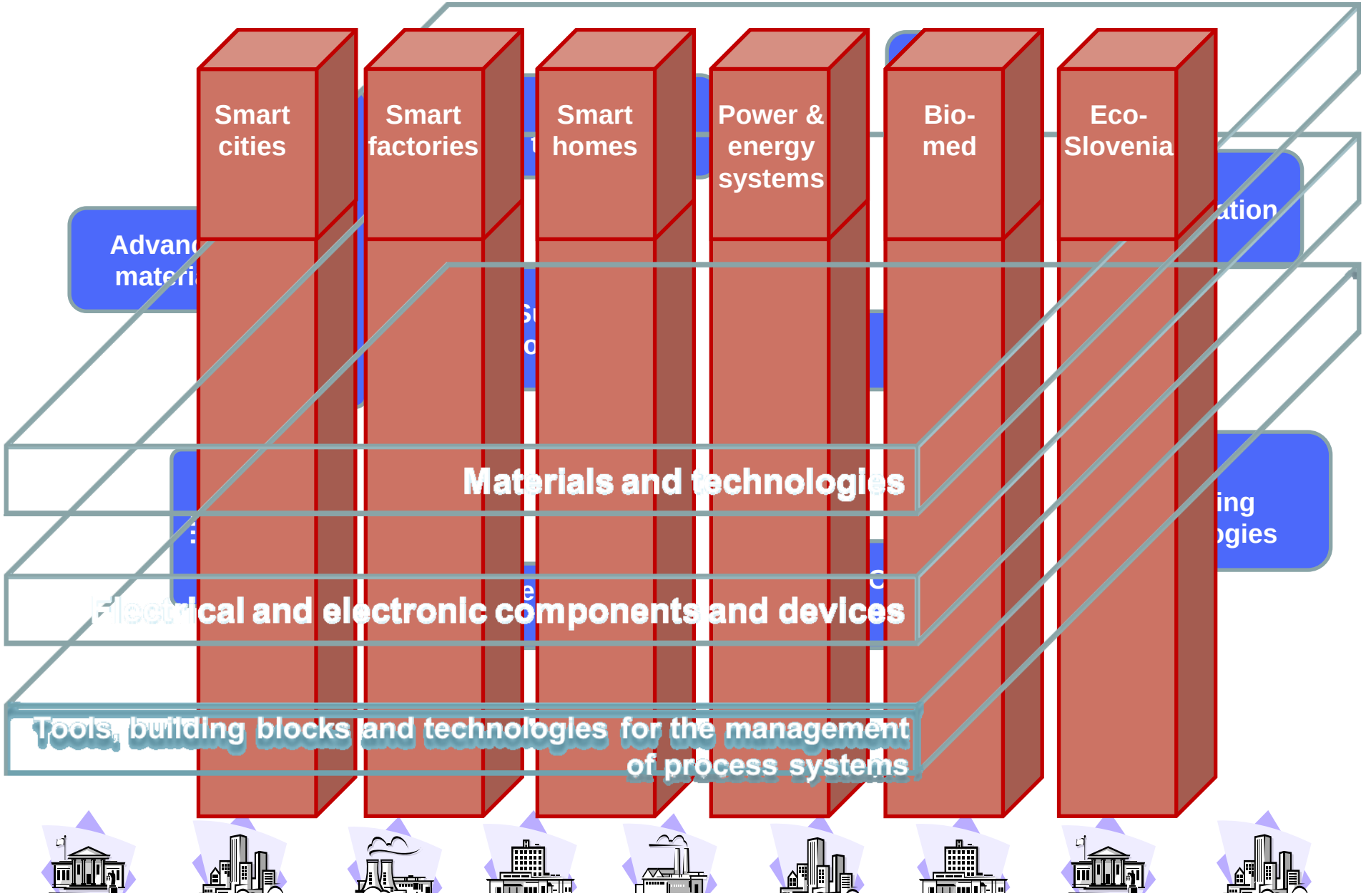
Vir: SI Brand book, 2007



Entrepreneurial discovery

- Discovery being build on:
  - The role of intermediaries: clusters, networks, centres…
  - Empirical analysis – to the level of indivudual firm … particular lessons, learning
  - The case of University of maribor, chamber of commerce,…
- Discussions through 2013
- + new round of 2014 ….
- 34 written initiatives

From 2D to 3D


Smart cities
Smart factories
Smart homes
Power & energy systems
Bio-med
Eco-Slovenia
Materials and technologies
Tools, building blocks and technologies for the management of process systems

II. Priority areas of application:

1. **Smart cities:** smart grids, energy systems, mobility and logistics, smart public services with open data

2. **Smart factories:** tool-making, energy efficiency, flexibility and mobility, micro grids

3. **Smart home of the future:** sustainable construction, new design, specialised markets (taking into account changed demand due to ageing,…), smart materials (including textiles and wood), appliances, micro grids

II. Priority areas of application:

4. Power and energy systems:
   mechatronics, vehicle components, electroenergetics

5. BioMed: pharmacy, medical equipment, health tourism, wellness & (anti-) ageing

6. EcoSlovenia: towards ecological and experience based destination branding and product development – related to tourism and beyond, e.g. ecological food supply chains

II. Key enabling technologies and approaches underpinning priority areas of application

- ICT
- Processing technologies
- Advanced materials, including bio-based
- Green technologies
- Niche, customised and design based global market solutions
- ….

Towards a strategic policy-mix to support S3 priorities: pillar II

- **Horizontal measures:**
  - HR:
- Competence centres
- Knowledge and skills of people for R&D+I
- Young Researchers programme
  - Internationalisation
  - Design and business processes
  - Tax incentives for R&D
  - TRL: 1-4 (national resources)

Towards a strategic policy-mix to support S3 priorities: pillar II

- **Targetted:**
  - Market oriented applied research (preindustrial phase):
- TRL 4: also smaller projects: applied research, commercialisation
- TRL 4-8: From centres to markets and projects; critical mass

  - TRL 9 (industrialisation phase): Go Global / internationalisation with bundeled set of support

  - Research infrastructure, including teaming,…

  - Internationalisation through european instruments: JTI & EIT ➔ bringing in industrial partners from abroad

  - Demonstration projects (demand side)
  - Other special dedicated measures

Towards a strategic policy-mix to support S3 priorities: total

- **S3 budget**

- In terms of cohesion policy funding €560 million euros directly related to RIS3, indirectly €1.2 billion ~ 36% of the total

- National level still to be discussed given the new circumstances

- Attraction and leaverage of private R&D+I is an absolute priority

Towards a strategic governance to support S3 priorities

- **Coordination mechanisms**

- With the establishment of Government office responsible for development coordinating role was clearly established at the level of the government.

- Full manadate allowed development of more open and trustful relationship with the relevant stakeholders, thus minimising the problem of „planning fatigue“

- Work on international dimension already under preparation: international projects, networks, OECD,…

Measuring and assessing RIS3

- **Mechanisms**

- Government Office for Growth and European Cohesion Policy as coordinator at the government level
- Council for Science and Technology

- **Indicators**

- Strategic level: good basis from the existing strategies; to be adapted to the RIS3 focus
- Challange: monitoring on a more detailed level

- **Follow up**

- The RIS3 is now generally perceived as a process and not as a document.
- Modalities of the possible revision still to be decided.

Summary and next steps

- **Questions you would like peers to discuss:**

1. Entrepreneurial Innovation eco-system policy-mix
2. Value chains: priorities for Slovenia and their ourward dimension
3. Value chains: Policy mix
4. Implementation; conflict of interest management

Issues to be discussed
1 . Entrepreneurial Innovation eco-system policy-mix

Referring to the bottleneck »Attitude towards previous policy initiatives and related difficulties in setting the priorities«

Coherency and complementarity of instruments and involved institutions was not sufficiently assured.

The constant reorganization of agencie(s) responsible for technological development did not provide for necessary human resource capacity neither contribute to stable and predictable enabling eco-system.

What support schemes with regard to start-up, technology transfer and social innovation would you recommend as a best practice?

Issues to be discussed

2. Value chains/ networks: priorities for Slovenia and their outward dimension

Evidence based analysis seem to provide sufficient grounds for decisions on priorities as well as for the clusteringg exercise.

However, some areas (i.e. tourism, agriculture, related need for mass innovation) can hardly be presented in a comparable way to technology-driven areas (Research Intensity, RCA, Export indices). Some difficulties occur framing narrative including horizontal , crosscutting domains and vertical values-chains.

1.Proposed priority areas of application, do they seem consistent, a they clear, what other dimension would you suggest we should consider?

2.Priorities vs. Cross-cutting issues – how do you see that work in you case – what would you recommend?

3.International dimension: where do we have similar strategic orientation in order to identify synergies and / or overlaps?

Issues to be discussed
3. Value chains & Networks: Policy mix

The evidence on impact of support instruments (mid term and post-ante evaluations) are only available in a distant time scale.

The design of criteria for instruments targeting the increase of the TRL index is therefore a challenge.

The devil is in the detail!

What support would you recommend as a best practice?

Issues to be discussed
4. Implementation; conflict of interest management

- Corruption and conflicts of-interests related to state aid and national policies
- R&R sphere is not immune to interwoven human resource network involving public agencies, line ministries, state-owed institutions, universities, state-owed companies etc.
- Due to a limited number of experts in a small country, the conflict of interest grows in even higher dimensions compared to in larger economies. This is why Slovenia has to and wishes to implement exemplary CIM scheme for the implementation of SSS.
- Conflicts of Interest Management At The Earliest Possible stage of SPS preparation and implementation,

How to design the implementation system to be as open and flexible as possible, while ensuring objectivity and transparancy at the same time? How much room for manouvre should in your experience the government / implementing agencies have in selecting the projects?