

Monitoring Smart Specialisation Strategies

Emilia-Romagna



Bologna, 10 November 2015

Silvano Bertini – Regione Emilia-Romagna

Leda Bogni - ASTER

Which issues would you like to discuss and why?

- Several different indicators have been identified, an effective balance between complexity, completeness and significance is still to be checked.
- Questions for peers to discuss after the presentation:
 1. How to combine the level of specialization with a limited number of significant indicators?
 2. How to connect a specific strategy with some general results?
 3. How to take into consideration the different dynamics of indicators?

Overview of RIS3 - Governance

- The regional authority is responsible for RIS3

The **governance** is based on

- **Horizontal coordination** through the in-house-providing organizations ASTER (Innovation), ERVET (Territorial Development) and LEPIDA (Digital Agenda) and

- High Technology Network for Industrial Research and Technology Transfer

- www.emiliaromagnastartup.it for new innovative entrepreneurship

- Internationalization Lab

- Urban Lab

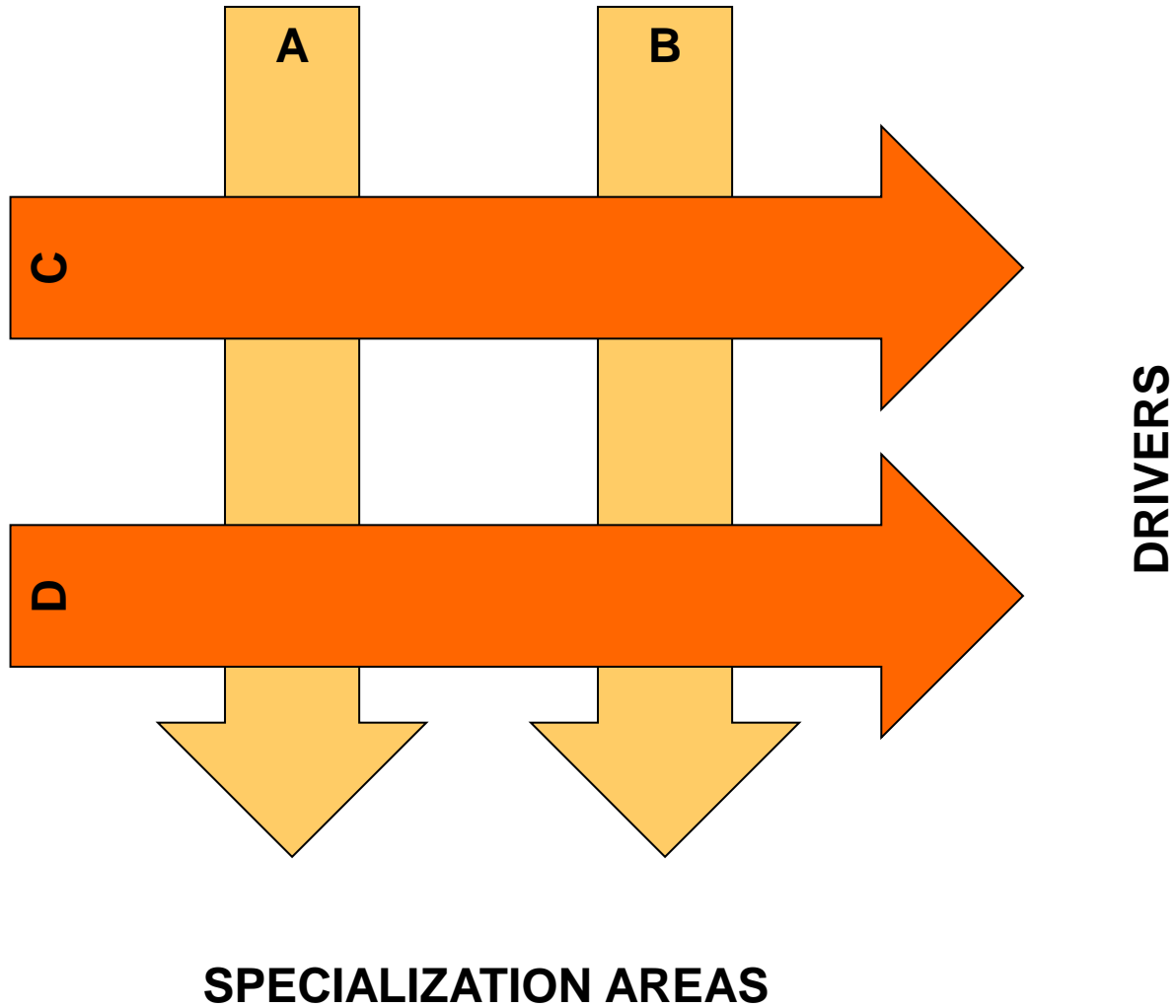
- **Vertical coordination** operated by all regional offices and relevant bodies in the specialization areas

- Fora for the development of the specialization areas

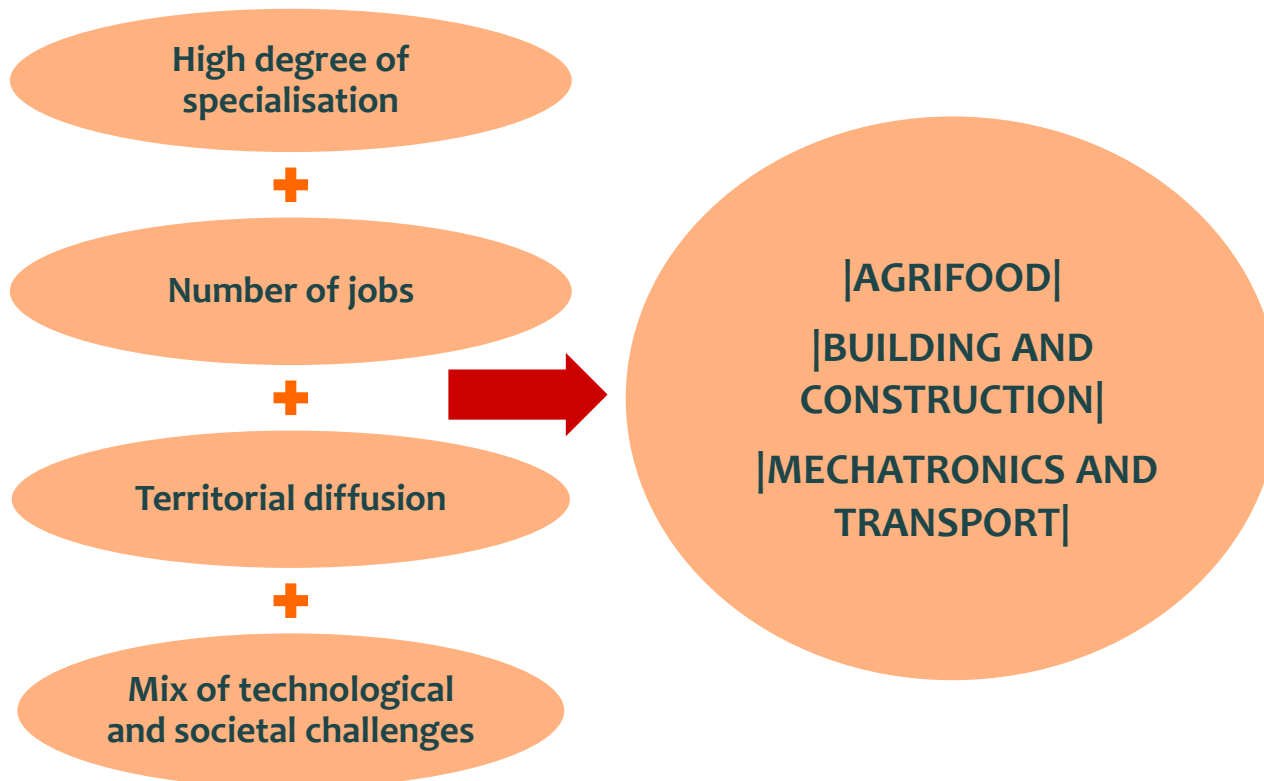
Overview of RIS3 – Current status

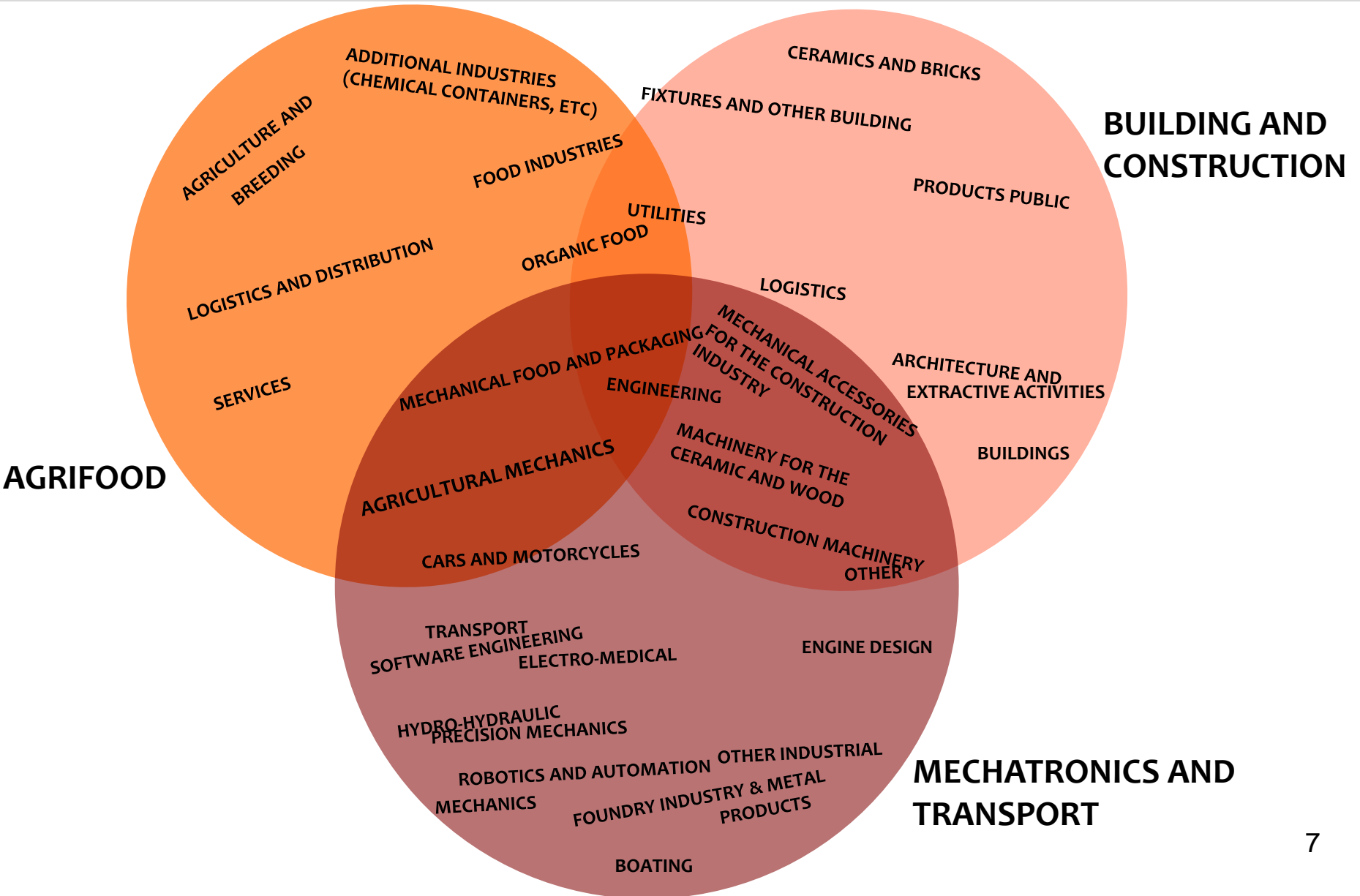
- The implementation is already started, with two measures based on competitive calls, addressing the SA in
 - research labs
 - » 124 proposals submitted,
 - » 150 M€ of investment
 - » 446 companies involved
 - » 466 partners
 - and companies
 - » 316 proposals submitted
 - » 240 M€ of investment
 - » 616 new jobs in R&D

4 Priorities

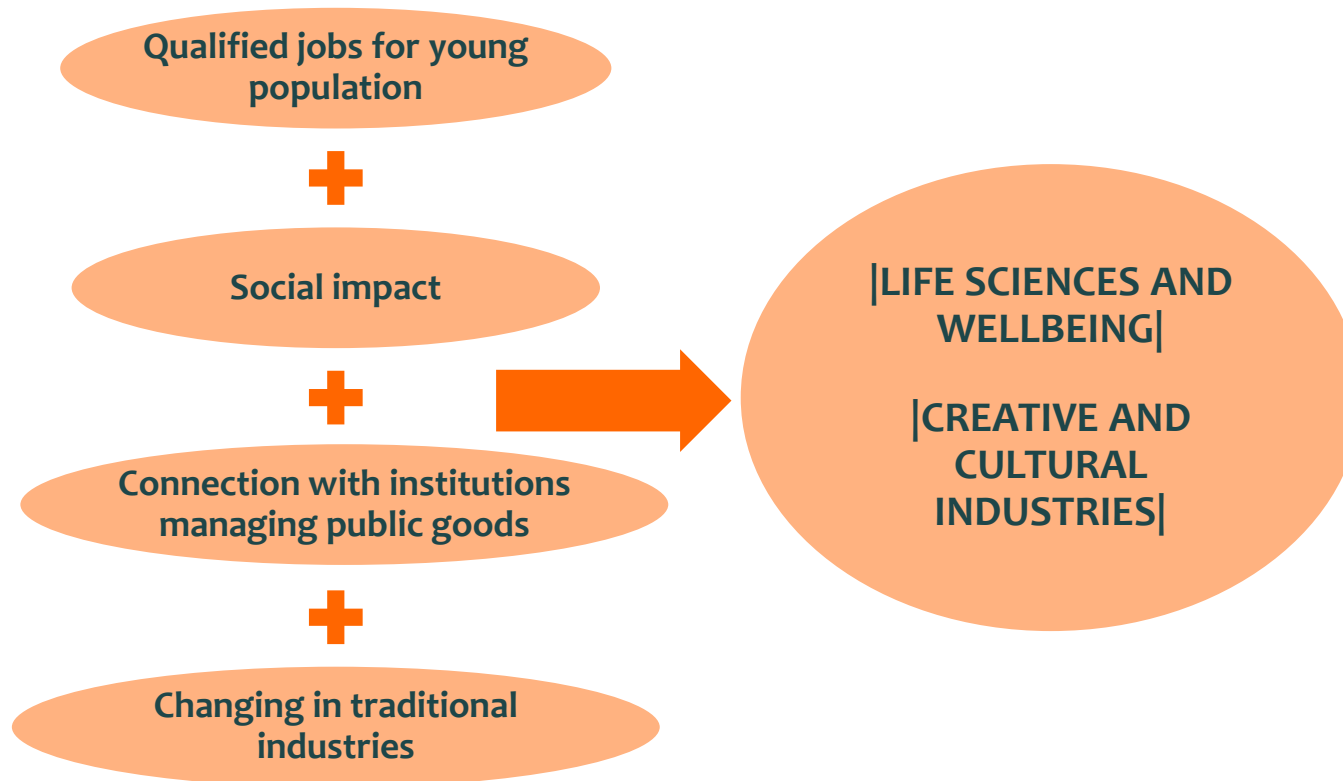


**REINFORCE THE INDUSTRIAL SYSTEMS STRATEGIC
FOR REGIONAL SPECIALIZATION**

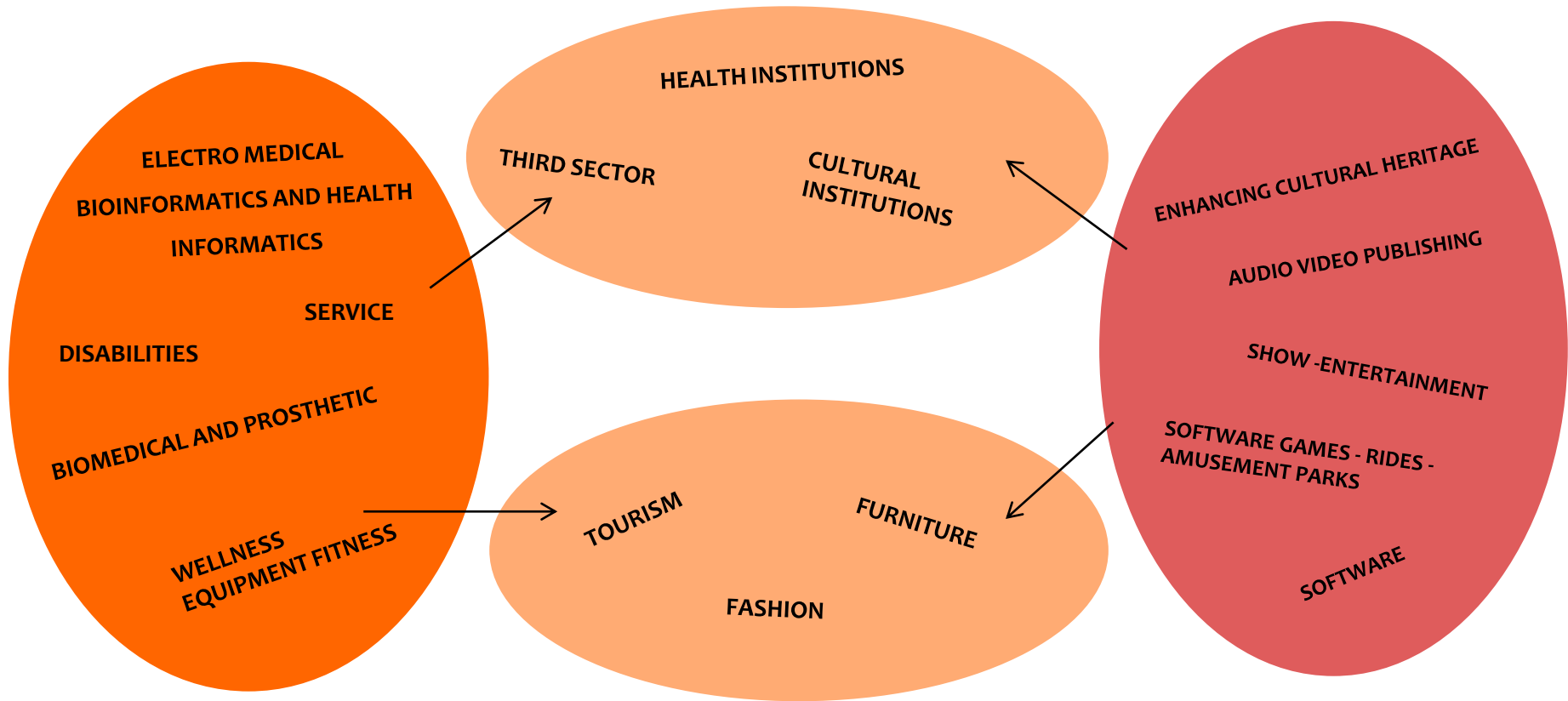




REINFORCE THE INDUSTRIAL SYSTEMS WITH HIGH GROWTH AND SOCIAL INCLUSION POTENTIAL

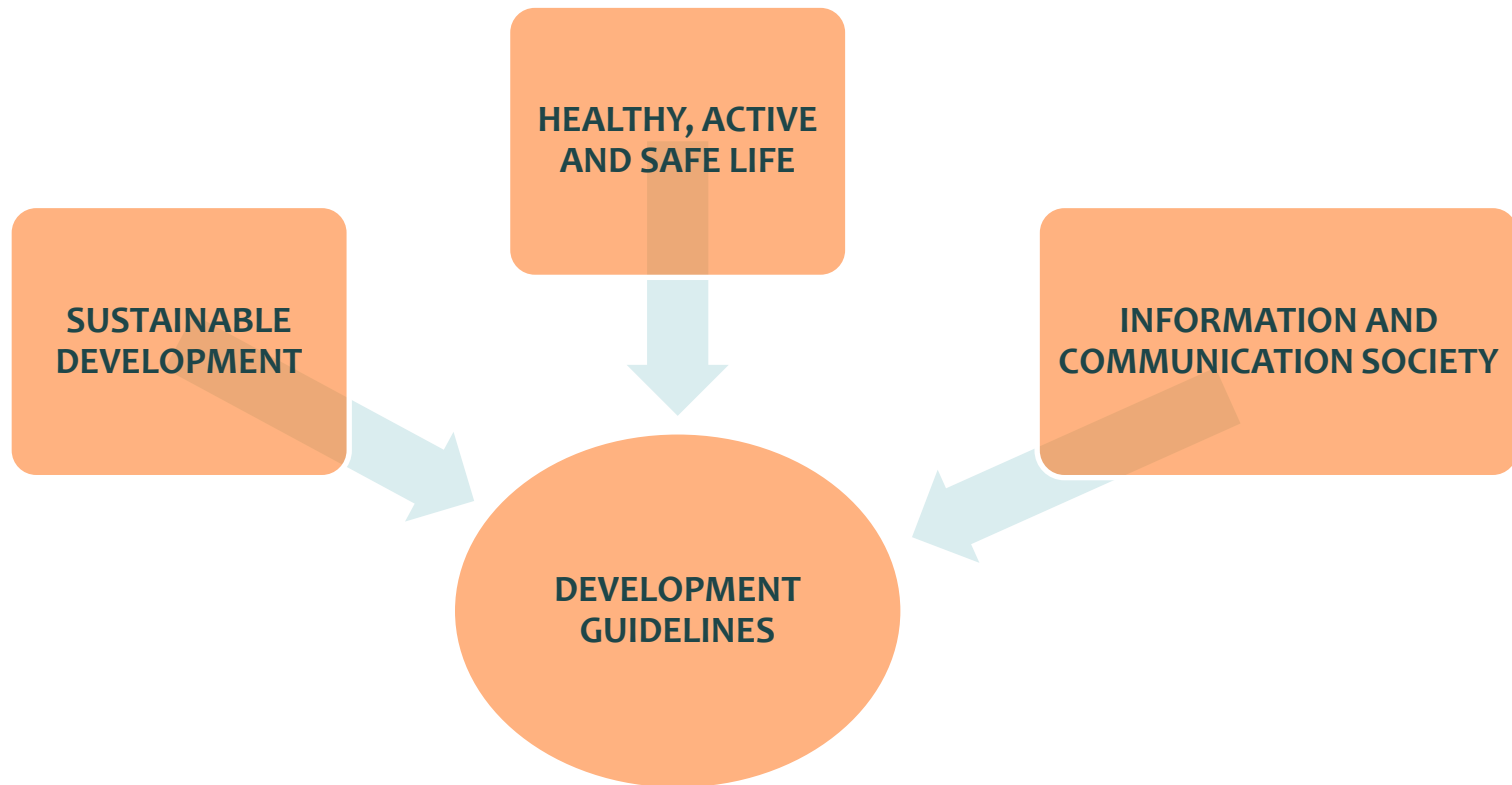


LIFE SCIENCES AND WELLBEING



CULTURAL AND CREATIVE INDUSTRIES

DRIVERS CONCERNING SOCIO-ECONOMIC TRENDS AND CHANGING

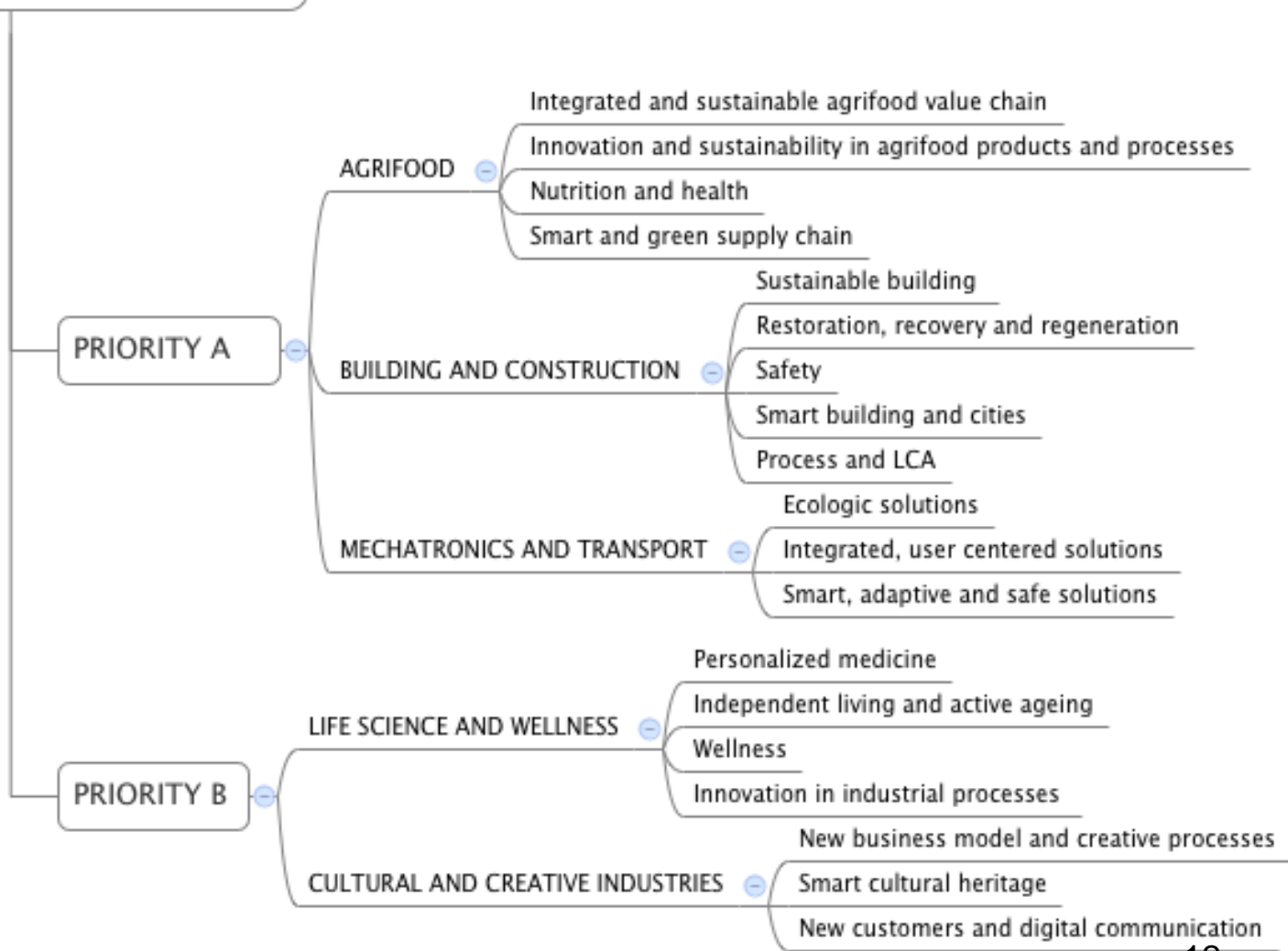


INNOVATION IN SERVICES

- **Innovation in the whole value chain (beyond the production)**
 - **E-commerce**
 - **Logistics**
 - **Post-sale services**
 -
 -

Priorities

S3 EMILIA-ROMAGNA 📄





AGRIFOOD SYSTEM

INTEGRATED AND SUSTAINABLE FOOD CHAIN

MANAGEMENT OF WATER RESOURCE IN THE FOOD CHAIN

SUSTAINABLE AND INTEGRATED AGRICULTURE IN THE SUPPLY CHAIN

VALORISATION OF BY PRODUCTS AND WASTER OF THE FOOD CHANGE

NUTRITION AND HEALTH

FUNCTIONAL FOODS, NUTRITION AND HEALTH

INNOATIVE INDUSTRIAL TECHNOLOGIES AND BIOTECHNOLOGY FOR THE FOOD INDUSTRY

INNOVATION AND SUSTAINABLE IN PROCESS AND FOOD PRODUCTS

SUNSTAINABLE PROCESSES FOR THE FOOD INDUSTRY

FOOD INDUSTRY MACHINES AND PLANTS

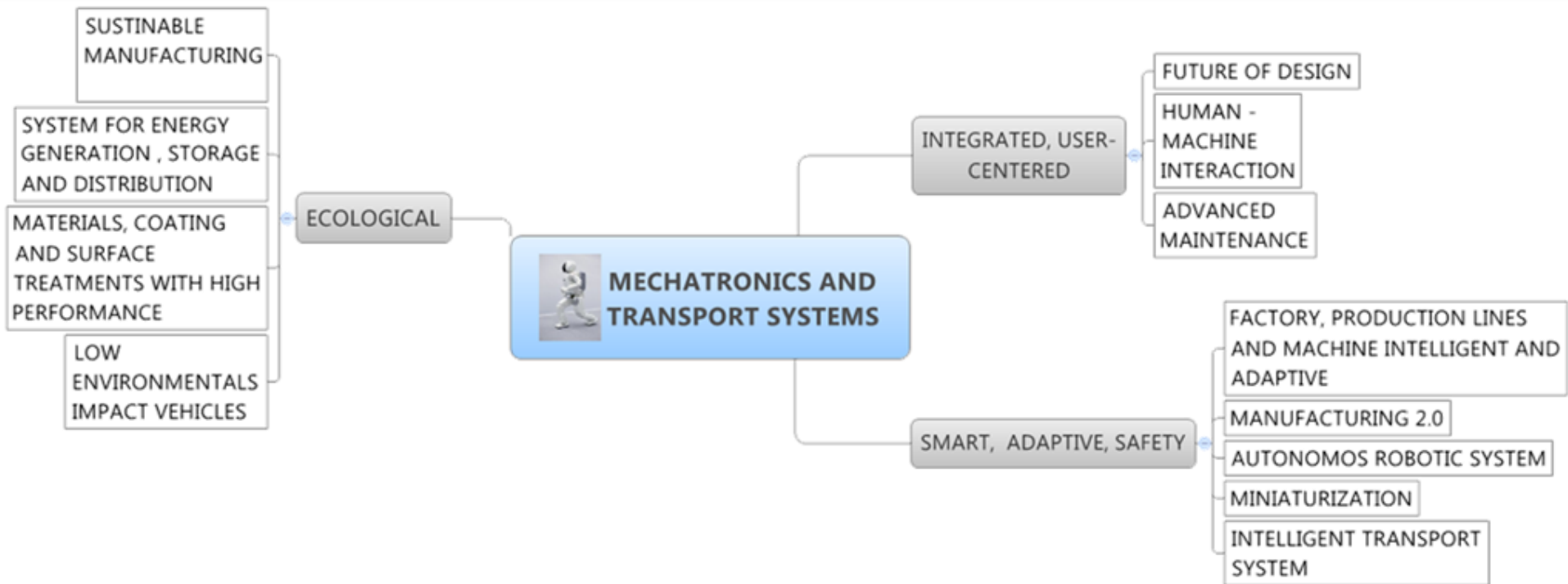
QUALITY IN SAFETY

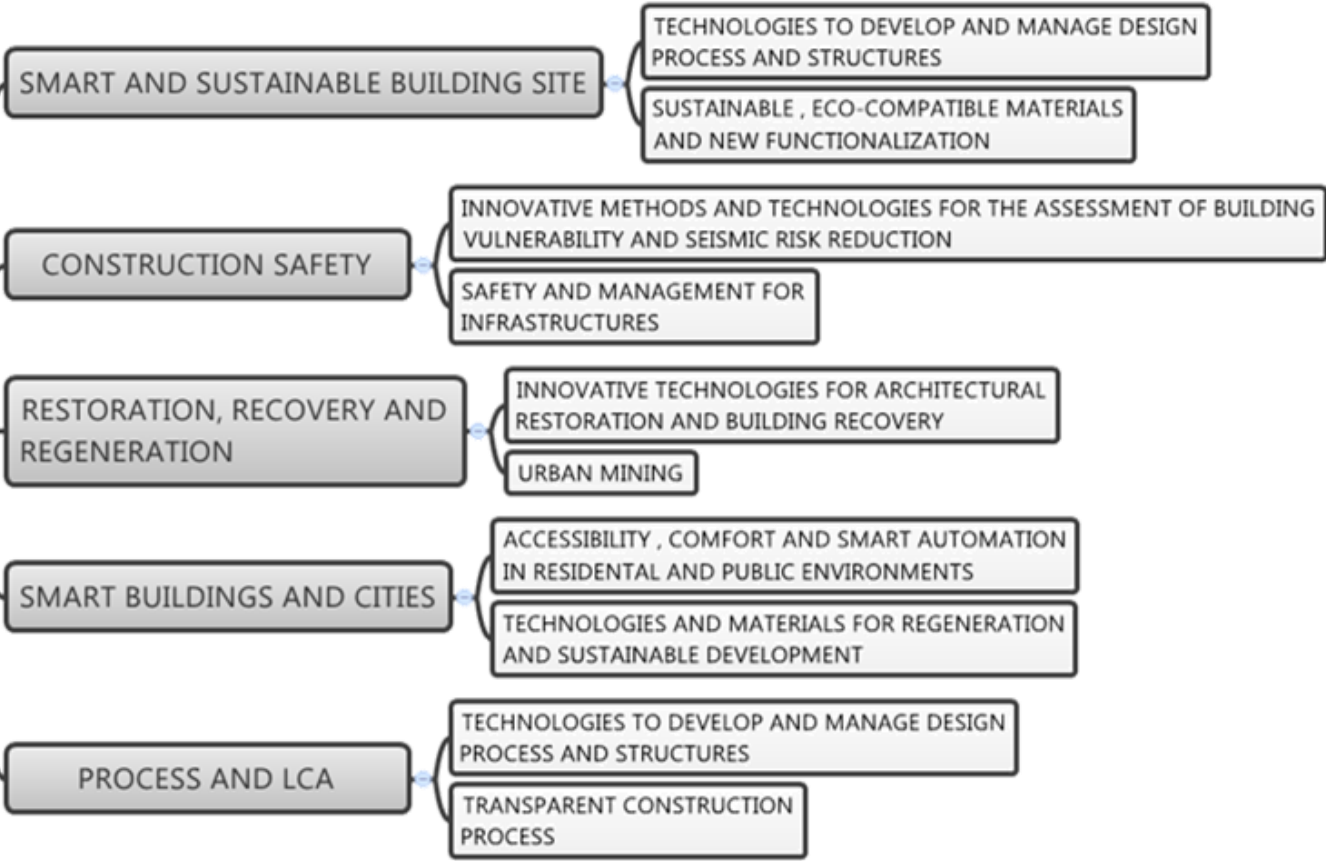
INNOVATIVE AND SUSTAINABLE PACKAGING

SMART AND GREEN SUPPLY CHAIN

MANAGEMENT OF THE SUPPLY CHAIN IN FOOD SECTOR

SMART AGROINDUSTRY





LIFE SCIENCE AND WELLBEING

TAYLORED HEALTH

EARLY DIAGNOSIS AND IN VIVO
IN VITRO DIAGNOSTICS

NEW TREATMENTS AND INNOVATIVE
MEDICINE

RIGENERATIVE MEDICINE

BIOMATERIALS FOR DIAGNOSTICS AND
MEDICAL APPLICATIONS

INDIPENDENT LIVING AND ACTIVE AGEING

PROTHESIS AND REHABILITATION SYSTEM

TELEMEDICINE AND THIRD SECTOR INTEGRATION

INNOVATION IN INDUSTRIAL PROCESSES AND HEALTHCARE

BIG DATA IN THE HEALTHCARE

NEW THERAPEUTICAL APPLICATIONS
OF TRADITIONAL MEDICAL DEVICES

INDUSTRIAL MANUFACTURING
INNOVATION IN HEALTHCARE

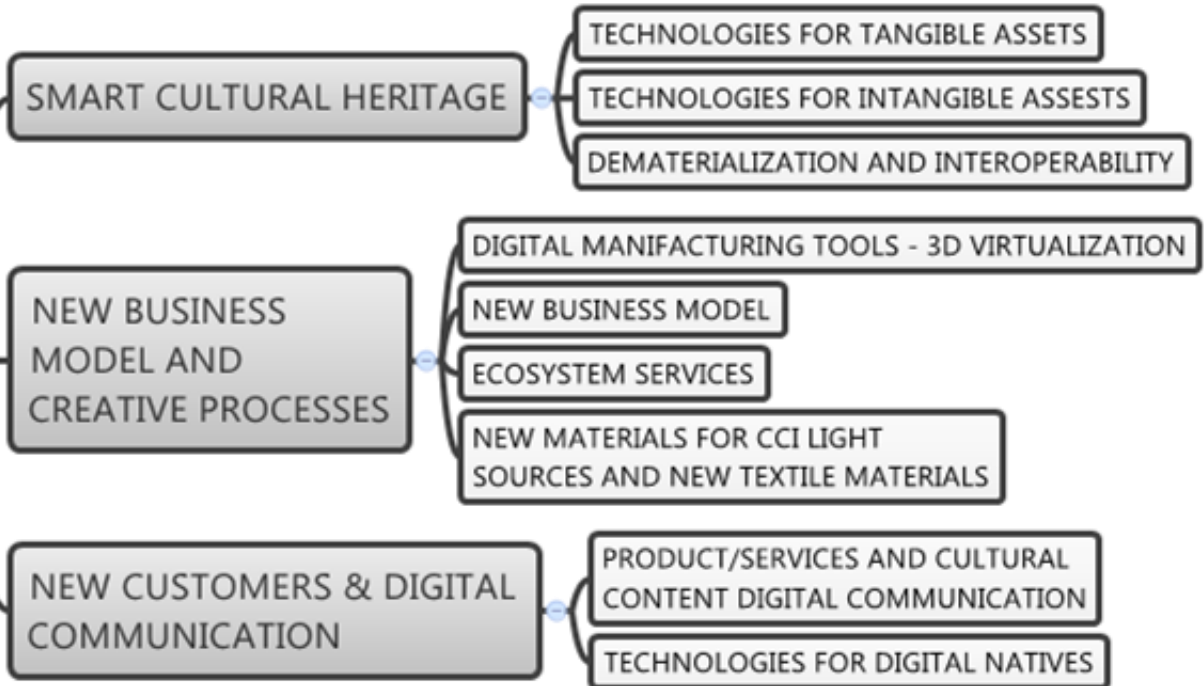
LOGISTIC LAST-MILE

WELLNESS

SAFETY IN
WELLNESS AND
HEALTHCARE
INFRASTRUCTURES



CULTURAL AND CREATIVE INDUSTRIES



Priorities

		Priority A Areas which are the pillars of the regional economy			Priority B Areas with high growth potential	
		Agrifood	Building and construction	Mechatronics and transport system	Life Science and wellbeing	Cultural and creative industries
Priority C Innovative paths towards social and economic change	Sustainable Development	<ul style="list-style-type: none"> • Integrated and sustainable agrifood value chain • Innovation and sustainability in agrifood products and processes 	<ul style="list-style-type: none"> • Sustainable building • Restoration, recovery and regeneration 	<ul style="list-style-type: none"> • Ecologic solutions 		<ul style="list-style-type: none"> • New business model and creative processes
	Healthy and active life	<ul style="list-style-type: none"> • Nutrition and health 	<ul style="list-style-type: none"> • Safety 	<ul style="list-style-type: none"> • Integrated, user centered solutions 	<ul style="list-style-type: none"> • Personalized medicine • Independent living and active ageing • Wellness 	
	Information Society	<ul style="list-style-type: none"> • Smart and green supply chain 	<ul style="list-style-type: none"> • Smart building and cities • Process and LCA 	<ul style="list-style-type: none"> • Smart, adaptive and safe solutions 	<ul style="list-style-type: none"> • Innovation in industrial processes 	<ul style="list-style-type: none"> • Smart cultural heritage • New customers and digital communication
Priority D Strengthening the role of innovation in services to enhance the ability of companies to manage value chains						

Monitoring system (1)

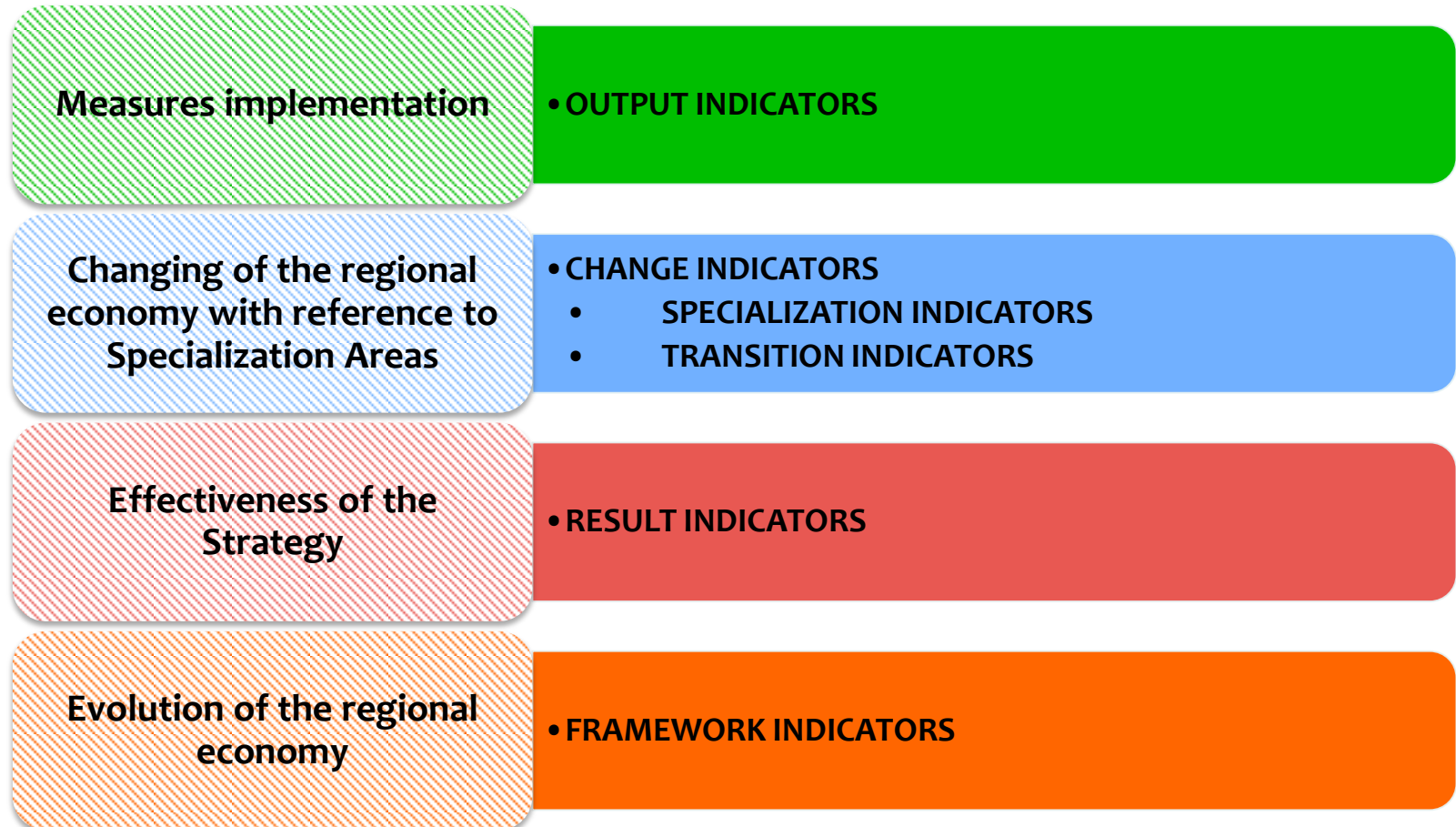
- Current status of RIS3 monitoring

The steps of the Action Plan on Monitoring:

- ✓ Organization of a working group
- ✓ Definition of indicators, sources of data, baseline and target
- ✓ Implementation of an online information system (31.12.2015)
- ✓ Approval of an updated version of S3 (31.03.2016)

Monitoring system (2)

- Monitoring strategic objectives/vision



OUTPUT INDICATORS

1. Measures identification

- Regional ESIF (ERDF, ESF, EAFRD)
- National (Research, competitiveness)
- European (H2020)

2. Measures classification

- Specialization area (mandatory, one choice)
- Theme (recommended, one choice)
- Innovation driver (optional, multiple choices)
- KET (optional, multiple choices)

3. Indicators selection

- 12 OI selected

O01

- N. Projects approved

O02

- N. Companies financed

O03

- N. Companies involved

O04

- N. Research laboratories financed

O05

- N. Research laboratories involved

O06

- N. New companies

O07

- N. Patents

O08

- Total investment

O09

- Total contribution

O10

- N. Researchers employed

O11

- N. New jobs in R&D

O12

- N. New jobs in R&D for researchers

CHANGE INDICATORS

1. Is the regional economy moving towards the specialization areas?

- Agrifood
- Building and constructions
- Mechatronics and transport system
- Life science and wellbeing
- Cultural and creative industries

SPECIALIZATION

2. How the regional economy is moving along the selected innovative drivers?

- Sustainable development
- Healty and active life
- Information society
- Innovation services

TRANSITION

CHANGE INDICATORS - SPECIALIZATION

ID	Expected change	Specialization indicator	Unit	Reference year	Baseline	Source
Co1s	Growth of regional innovative potential	Patents per AS	N.	2013	tbd	EPO
Co2s		Patents in the selected OT per AS	%	2013	tbd	EPO
Co3s	Growth of R&I in public research system	Research grants in regional universities per AS	N.	2013	tbd	MIUR-CINECA
Co4s		Research grants in regional universities in the selected OT, per AS	%	2013	tbd	MIUR-CINECA
Co5s	Reinforcement of research-business relations	Number/value of research-business contracts per AS/OT	N./k€	2016	tbd	Research dashboard ASTER
Co6s		Percentage on total of Number/value of research-business contracts per AS/OT	%	2016	tbd	Research dashboard ASTER
Co7s	Innovative regional entrepreneurship	Innovative startups per AS	N.	2013	143	Registro imprese
Co8s		Percentage on total of innovative startups in the selected OT per AS	%	2013	tbd	Registro imprese
Co9s		Number of innovative SMEs per AS	N.	2015	Na(*)	Registro imprese
Co10s		Percentage on total of innovative startups in the selected OT, per AS	%	2015	Na(*)	Registro imprese

(*) National law 33/2015

CHANGE INDICATORS - TRANSITION

	Agrifood	Building and construction	Mechatronics and transport
Sustainable development	Energy from biomass	Certification LEED® Leadership in Energy and Environmental Design	Intensity of climate alterant emission in manufacturing
	Certifications EMAS/ISO 14001	Number of energetic certification (ACE)	Producers of machines with sustainable quality label
	Energetic intensity in agrifood companies		
	Percentage of organic production		
	Organic producers		
Healthy and active life	Companies active in dietary food		
	Number of dietary foods		
Information society		Buildings connected via ultra-wideband	Robots produced and installed yearly

?

(draft synoptic)

CHANGE INDICATORS - TRANSITION

MECHATRONICS AND TRANSPORT

ID	Driver	Expected change	Transition indicator	Unit	Reference year	Baseline	Source
C23t	SUSTAINABLE DEVELOPMENT	Growth of sustainable productions	Intensity of climate alterant emission in manufacturing	Tons CO ₂ /year per M€	2010, 2012	373,12	ARPAE-R, ISTAT
C24t			Producers of machines with sustainable quality label	n.	2013	8	UCIM U
C25t	INFORMATION SOCIETY	Growth of ICT based manufacturing systems	Robots produced and installed yearly	n.	2013	tbd	UCIM U

?

RESULT INDICATORS

ID	Result Indicator	Unit	Year	Baseline	Target 2023	Source
Ro1	Companies collaborating with research organizations	%	na	na	na*	National Statistics, ISTAT, R&D survey
Ro2	Researchers working in enterprises in the total number of employees	%	2011	0,35	0,76	National Statistics, ISTAT, R&D survey
Ro3	Companies running R&D activities with external subjects	%	2012	29,35	35,0	National Statistics, ISTAT, R&D survey
Ro4	R&D public share on GDP	%	2011	0,49	0,55	National Statistics, ISTAT, R&D survey
Ro5	R&D share on GDP	%	2011	1,43	1,96	National Statistics, ISTAT, R&D survey
Ro6	Innovation rate	%	2010	37,73	41,4	National Statistics
Ro7	Index of cultural demand of state assets	Visitors	2013	26,18	29,5	National Statistics, National Ministry for culture
Ro8	Index of cultural demand of state and non state assets	Visitors	2011	19,39	11,75	National Statistics, National Ministry for culture

?

FRAMEWORK R&D INDICATORS

- R&D expenditure in % on GDP by sector
- R&D employees by sector
- % of researchers in the total of employees by sector
- % of graduates in the total of employees by sector
- graduates in technical and scientific disciplines
- population (30-34 years) with a university degree
- patents registered with the European Patent Office (EPO)
- export by sector
- n. of employees in high and medium / high technology manufacturing
- n. of employees in the field of knowledge-intensive services
- companies with at least 10 employees that have introduced innovations in product and process
- companies that have carried out R & D in collaboration with external parties
- specialization in the production of knowledge-intensive sectors (total, male, female)
- regional average expenditure for innovation per employee in the total population of enterprises
- n. of Start Up or innovative companies
- Birth rate of enterprises in the high knowledge intensity
- three-year survival rate of companies in the high knowledge intensity
- Technology Balance
- Attractiveness Index of Universities
- companies that use broadband connectivity
- companies with more than 10 workers in the industry and services that have a web site

FRAMEWORK STRUCTURAL INDICATORS (per SA)

- new companies
- n. of jobs
- Competitiveness
- Export
- added value
- internationalization
-
-

Monitoring system – indicators visualisation

1. Online information system available for innovation stakeholders and citizens
2. Data visualisation technology
3. Open data when applicable



Monitoring system – indicators visualisation



3
Strategie d'innovazione - flessibili e dinamiche - concepite a livello regionale

Il concetto di Smart Specialisation Strategy (SSS) è stato elaborato a livello europeo e indica strategie d'innovazione - flessibili e dinamiche - concepite a livello regionale ma valutate e messe a sistema a livello nazionale con l'obiettivo di:

evitare la frammentazione degli interventi e mettere a sistema le politiche di ricerca e innovazione sviluppare strategie d'innovazione regionali che valorizzino gli ambiti produttivi di eccellenza tenendo conto del posizionamento strategico territoriale e delle prospettive di sviluppo in un quadro economico globale.

- Aree di specializzazione intelligente**
- > AGROALIMENTARE
 - > EDILIZIA E COSTRUZIONI
 - > MECCATRONICA E MOTORISTICA
 - > INDUSTRIE DELLA SALUTE E DEL BENESSERE
 - > INDUSTRIE CULTURALI E CREATIVE

- Gli obiettivi del monitoraggio**
1. Misurare il livello di implementazione delle politiche e delle relative misure messe in campo;
 2. Misurare i cambiamenti in atto nei sistemi produttivi rispetto agli obiettivi della S3;
 3. Fornire un quadro evolutivo e di competitività del sistema economico regionale, riferito ai temi del



Smart Specialization Strategy

Sistema: **AGROALIMENTARE**

Aggiornato di recente

Aggiornato di recente

Scegli l'indicatore: Nutrizione e salute

Clicca sugli indicatori per maggiori dettagli

<p>SET 2015</p> <p>Imprese che producono alimenti particolari</p> <p>56</p> <p>↑ AGGIORNAMENTO ANNUALE 15%</p>	<p>SET 2015</p> <p>Numero di prodotti funzionali</p> <p>150</p> <p>↑ AGGIORNAMENTO ANNUALE 10%</p>	<p>SET 2015</p> <p>Incidenza dell'agricoltura biologica</p> <p>45</p> <p>↓ AGGIORNAMENTO ANNUALE 15%</p>
---	---	---

Monitoring system

- **Role of the monitoring system**

To be a decision support method for strategy evaluation, results analysis and policy adaptation and refinement

- **Responsibilities**

ASTER is responsible for RIS3 monitoring

- **Stakeholders**

In the RIS3 implementation some permanent Forums will be organized. They will be involved in the monitoring process and evolution, and will be required to analyse the indicators, discuss them and/or suggest adjustments

Monitoring system

- **Using the monitoring evidence**

 - Verify the steps of implementation of the policy tools

 - Verify the in-process degree of achievement of indicators

 - Supply information to impact evaluation

- **RIS3 revision**

 - A RIS3 revision is planned for 2017-2018

Summary & next steps



for more info

monitoraggios3@aster.it

leda.bologni@aster.it

Question 1: How to combine the level of specialization with a limited number of significant indicators?



Question 2: How to connect a specific strategy with some general results?



Question 3: How to take into consideration the different dynamics of indicators?

