

The role of the University system for S3 implementation in Emilia-Romagna



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Emilia-Romagna region and its Universities and research organizations undertook, since the beginning of 2000s, an autonomous process of dialogue and institutional building for the reinforcement of the regional innovation ecosystem, focused on:

- Consortium ASTER (governance, promotion, development)
- Regional Network of Industrial Research Labs (research centers or research spin offs), to be accredited by the Region
- Regional Conference of consultation on research, training and University development policies

The University and research system

University of Bologna “Alma Mater” (6 seats)

University of Modena and Reggio (2 seats)

University of Parma

University of Ferrara

Seats of Milan Politechnic and Catholic University

Seats of National Research organizations: CNR, ENEA, INFN, INAF, INGV

About 6,500 researchers in the universities and public research organizations

The Regional network of research labs

At the moment, in the Regional network there are **82** Research Labs, of which:

39 directly generated by the University and the public research system, **7** of which are autonomous entities (consortia, foundations), located in **10** technopoles all around the region;

43 private or under other forms of public-private partnerships

They are mainly based on the field of application than on the technology discipline.

















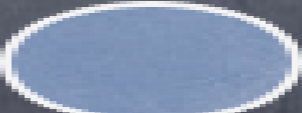




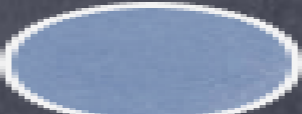


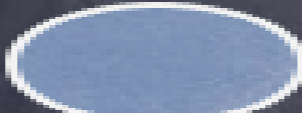
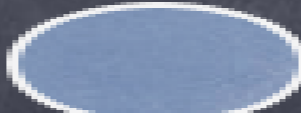
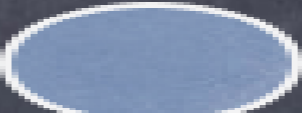
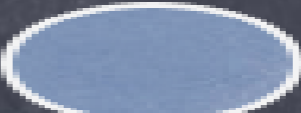
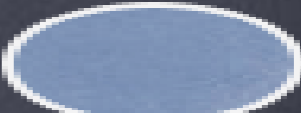
Universities and S3

The framework of the Regional S3 was mainly inspired and designed by the regional level and discussed and shared in the assembly of the industrial research labs, and later presented to all the other relevant public and private organizations, including Universities. The S3 is strongly focused on the areas of strategic industrial impact for the region.

1. Areas of historical specialization and high accumulated knowledge: **Food, Building and Construction, Engineering and Automotive** (more than 1 million jobs).
2. Areas of potential innovative growth: **Health & Wellness, CCIIs**.
3. Horizontal drivers: sustainability, information society, human wellbeing.
4. Service innovation

KETs and S3

The need of technology inputs to reinforce innovation dynamics requiree a interdisciplinary approach:

KETs	FOOD	BUILD	MECH	H&W	CCIs
Industrial biotech					
Nanotech					
Advanced materials					
Advanced processes					
Photonics					
Microelectronics					
Digital technologies					

Technology trends/priorities

The Industrial Research Labs strongly contributed to the definition of the technology innovation priorities in each area, through working groups involving also firms.

FOOD	BUILD	MECH	H&W	CCIS
Precision Farming Safety of food processing Nutraceuticals Green Chemicals	Safety in construction process Sustainable and safe housing Restoration and renovation	Advanced integrated manufacturing Smart manufacturing Ecological solutions	Personalized medicine Active ageing technologies Innovative devices and applications Wellness technologies	Technologies for cultural heritage New business models Digital communication

2 main policy schemes

Strategic projects of industrial research for S3 implementation (“push action”)

- TRL4 to TRL6,
- 3-5 labs jointly
- min. 2 companies in the TRL5 and 6
- IPR agreement
- dissemination activities.

Business R&D projects (“pull action”)

- collaboration with one research lab (at least)
- employ at least a new graduated in technology for R&D
- definition of a plan of action for results exploitation

Results (Strategic Research projects – First call)

	Projects	Investment (M €)	Labs partners	Researchers (New)	Firms
Food	16	19.0	63	894 (254)	61
Build	6	7.1	30	268 (78)	29
Mech	14	18.1	53	540 (153)	54
H&W	11	13.7	46	438 (130)	39
CCIs	5	6.1	15	182 (55)	14
En&Env	7	4.6	23	155 (45)	22
TOTAL	59	68.6	230	2477 (715)	219

Organization of tech clusters

FoodTech

BuildTech

MechTech

Create

HealthTech

Innovate

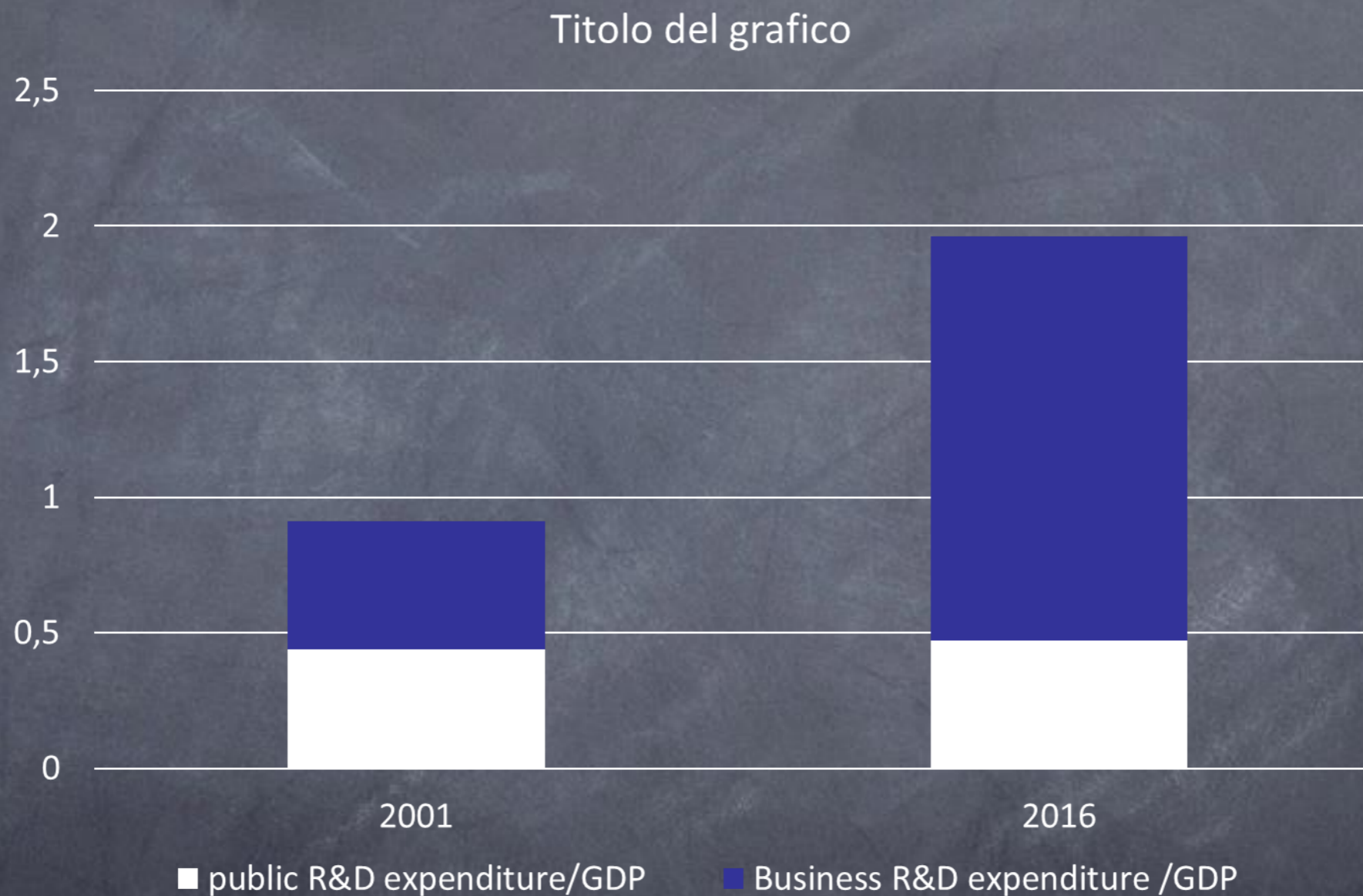
GreenTech

Labs are the founding members of clusters

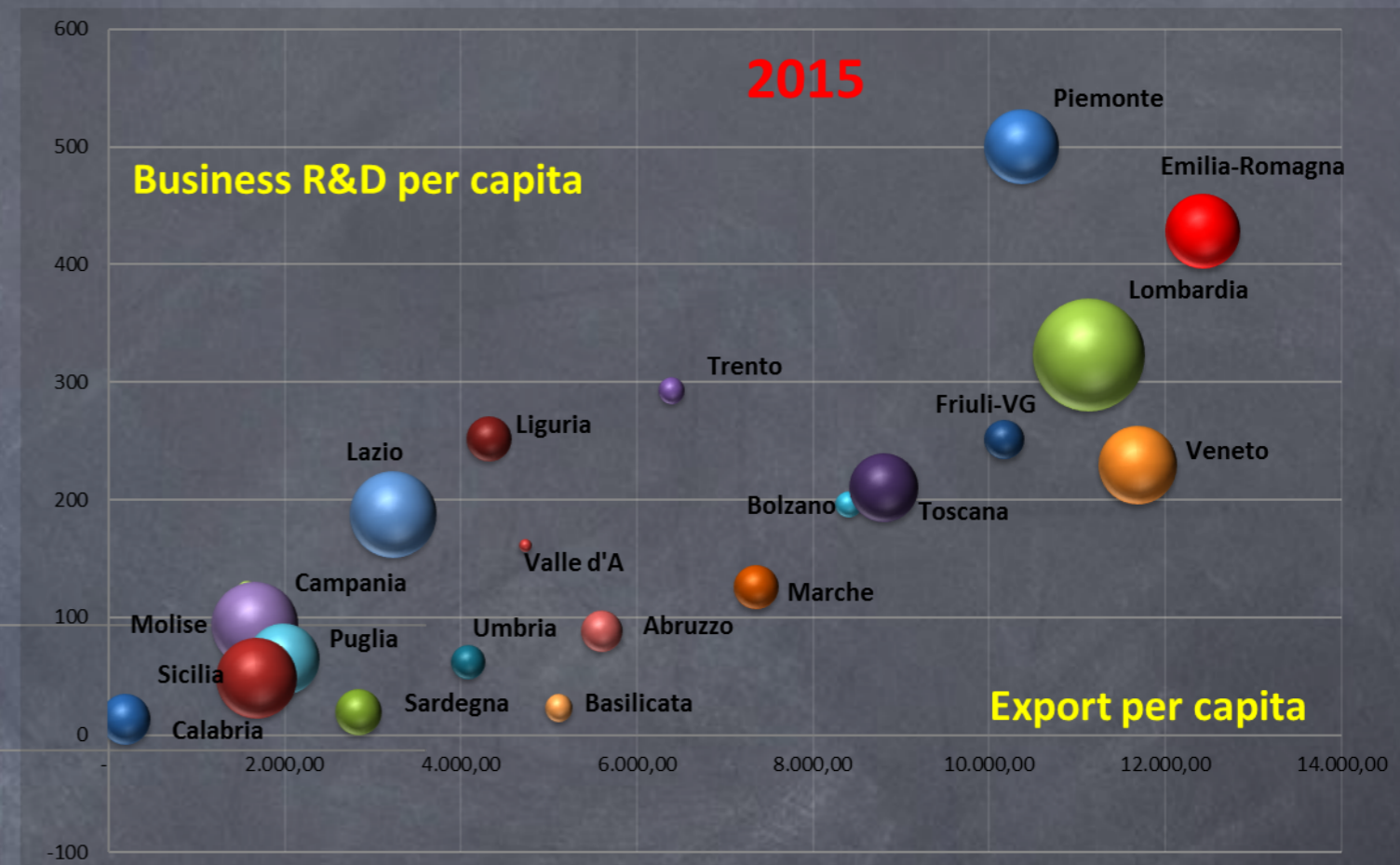
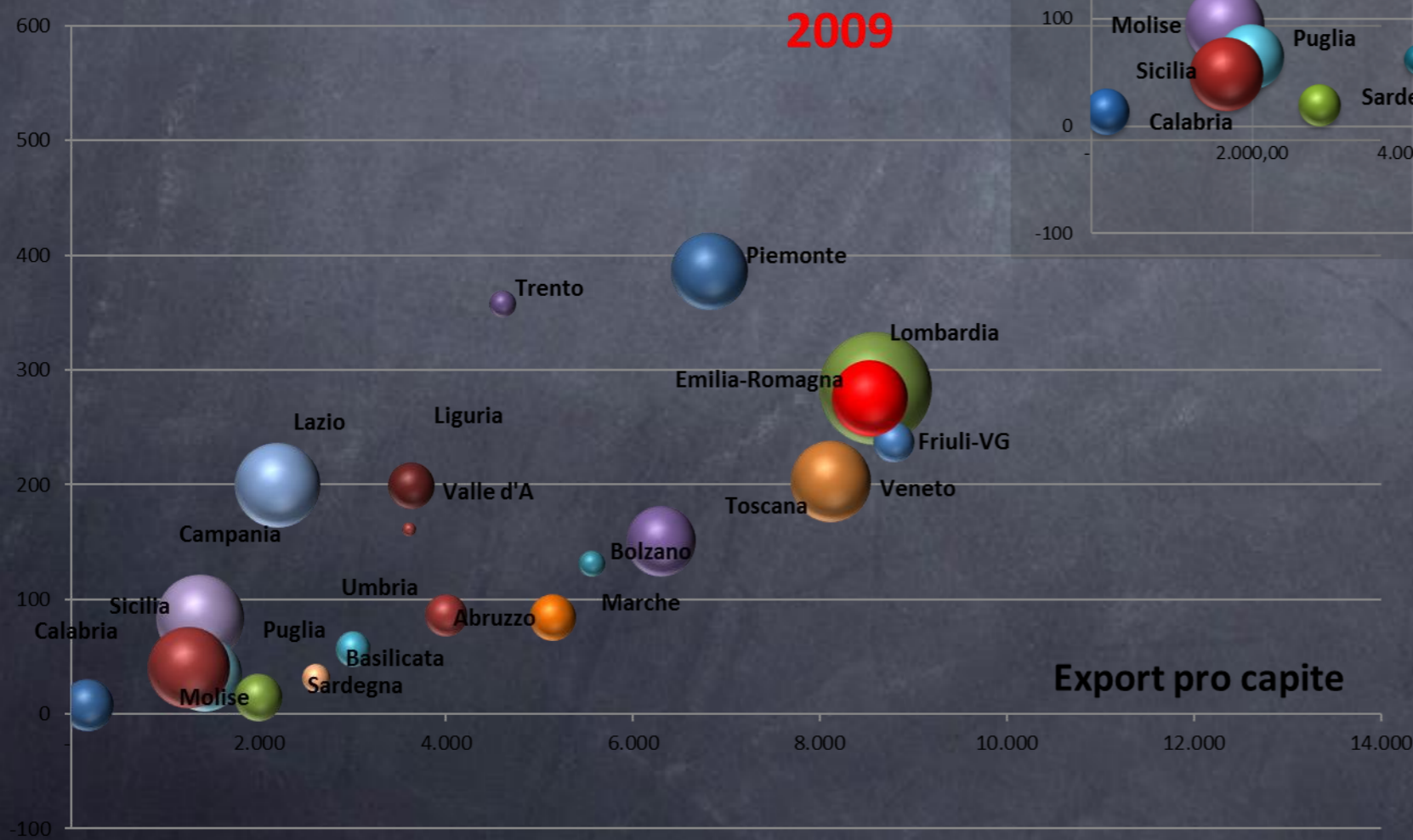
Role of clusters

- Identification of more relevant trends in industries
- Definition of strategic technological priorities for competitiveness, at the base of the new calls
- Identification of critical training needs
- Suggestion for better regulations
- Participation to international promotion initiatives

What happened in the last years (R&D expenditure/GDP)



Business R&D and competitiveness



Conclusions

Companies are increasing their investment in R&D;

Regional Universities and their centers and research groups are increasingly motivated to collaborate with industry;

Still, often remains a problem of communication and dialogue;

The national legal and institutional framework in Italy for University is static and not yet favorable to the reinforcement of the “Third mission”, with consequences on internal governance and bureaucratic rules.

Thanks !!!

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