Ministry of
Education and Science
Republic of Latvia

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Latvian Anticipation of Horizon Europe Programme and Previous Results in the Framework Programme

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18.06.2021

Key Facts About Research in Latvia

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Smart Specialisation areas

- Knowledge intensive bio-economy
- Biomedicine, medical technologies and biotechnology
- Smart materials, technology and engineering
- Advanced ICT
- Smart Energy

Finance

In 2019, **195 million EUR** was invested in R&D – 0.64% GDP

25 % of companies are active in innovations

Research environment

64 research institutions (22 state funded research institutions)

12 500 research personnel (5900 in FTE), 15 % work in the industry (2019)

Our Research Strengths

Excellence

Compact, modern and effective R&D ecosystem

Home to **64** research institutions, **22** of which are state-funded

High research quality

Medical and Health Sciences, Engineering and Technology, Natural Sciences

High number of publications

Natural Sciences, Engineering and Technology

High relative research activity

Agricultural Sciences, Engineering and Technology

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Where are we now?

3 Governance & organization

Focus on larger, more impactful research groups

More time is needed for stabilization of mergers, blending cultures and organizational functionality

Strategic communication to and dialogue with society

Unbalanced funding allocation and distribution

Closed and self-survival centered mindset in HE institutions

2 Engagement, influence, impact

Relatively weak links with industry

Target indicators and KPI's are still rather formal

R&D systems are still passive and re-active in steering socio-economical impact

Insufficient integrity of academic and scientific career

1 Knowledge and intellectual abilities

Average performance: islands of excellence

Human capital renewal is hindered by inefficient career system and PhD training

Despite gradual improvements, LV still has closed research system

Weak international and intersectoral cooperation

4 Personal effectiveness

Great performance and productivity in context of R&D investments

High degree of uncertainty that impairs motivation

Unsupportive environment for dedicated personal growth

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Main policy priorities in R&D for 2021-2027

1

1.5% R&D % of GDP

Sufficient public support, emerging private R&D investments

2

At least 8000 research personnel (in FTE)

Sustainable growth of R&D human capital needed to foster economic transformations

3

Diverse and competitive research system

Success on the international stage (e.g. Horizon Europe)

Supporting the **mobility of researchers** has a direct impact on an increase of international collaboration & science excellence

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Structural changes for smart growth

Currently too large focus on short-term activities with less priority on structural changes and investments in development activities.

It is urgent to introduce reforms which will foster modernization of higher education system and necessity for governing councils.

Councils will be responsible for strategic development plans, budgeting and appointment of the rector and the management team.

New HEI's internal governance model

New academic career model (cooperation with EC&WB, 2020-2022)	New doctoral training framework	Upgraded funding model
Cyclical institutional assessment of HEIs and RI's		Consolidation and mergers

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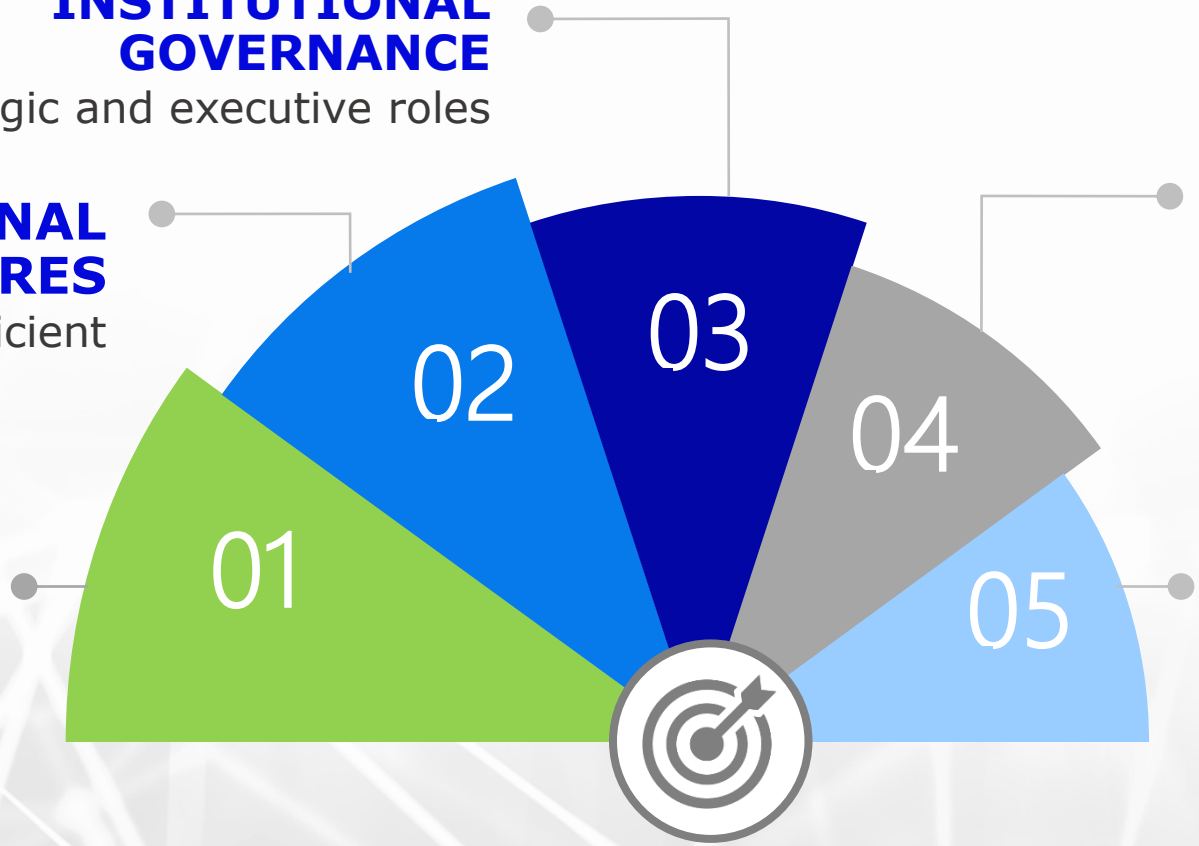
New HEI's internal governance model:

Empowering external stakeholders in strategic decision making

INSTITUTIONAL GOVERNANCE
Strategic and executive roles

ORGANIZATIONAL STRUCTURES
Appropriate and efficient

COUNCILS
The highest decision making body (strategy, budget, attracting funding and income diversification etc.)



PROFFESSIONALISM OF ALL STAFF
Academic and non-academic, open competition

STRONG LEADERSHIP
Ecosystem drivers, strategic specialization

R&D Human Capital: Renewal is critical for further development

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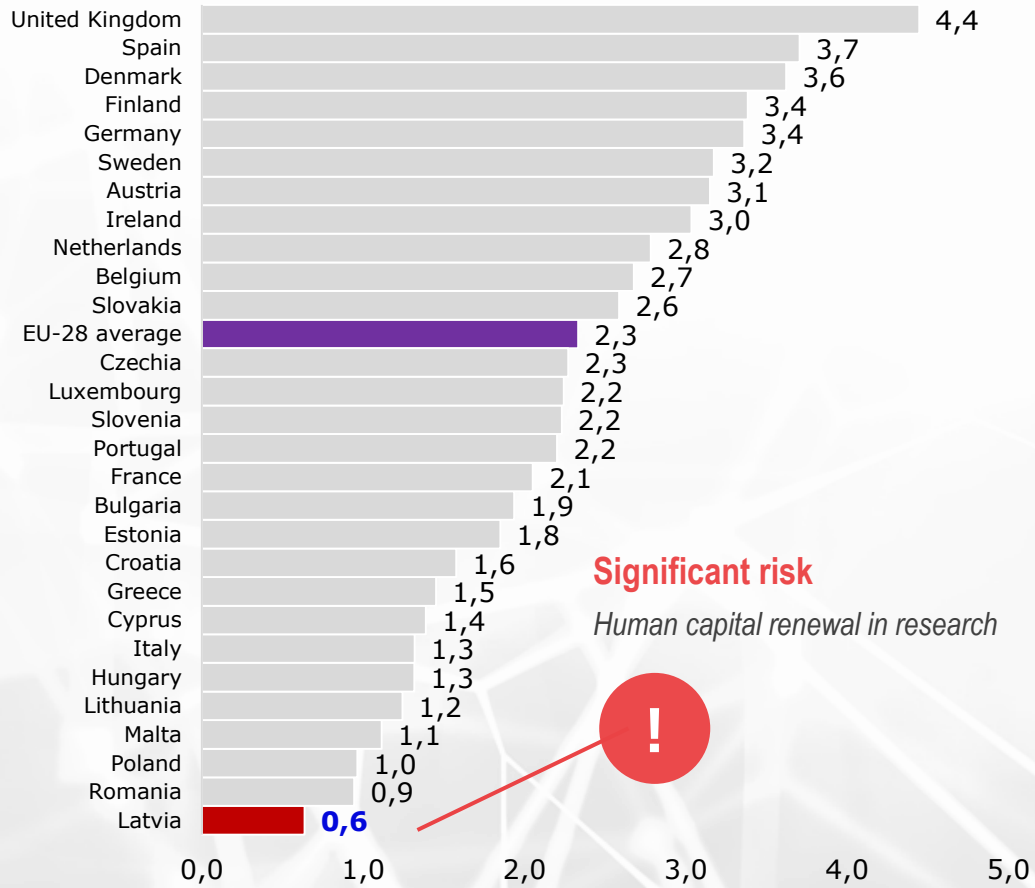
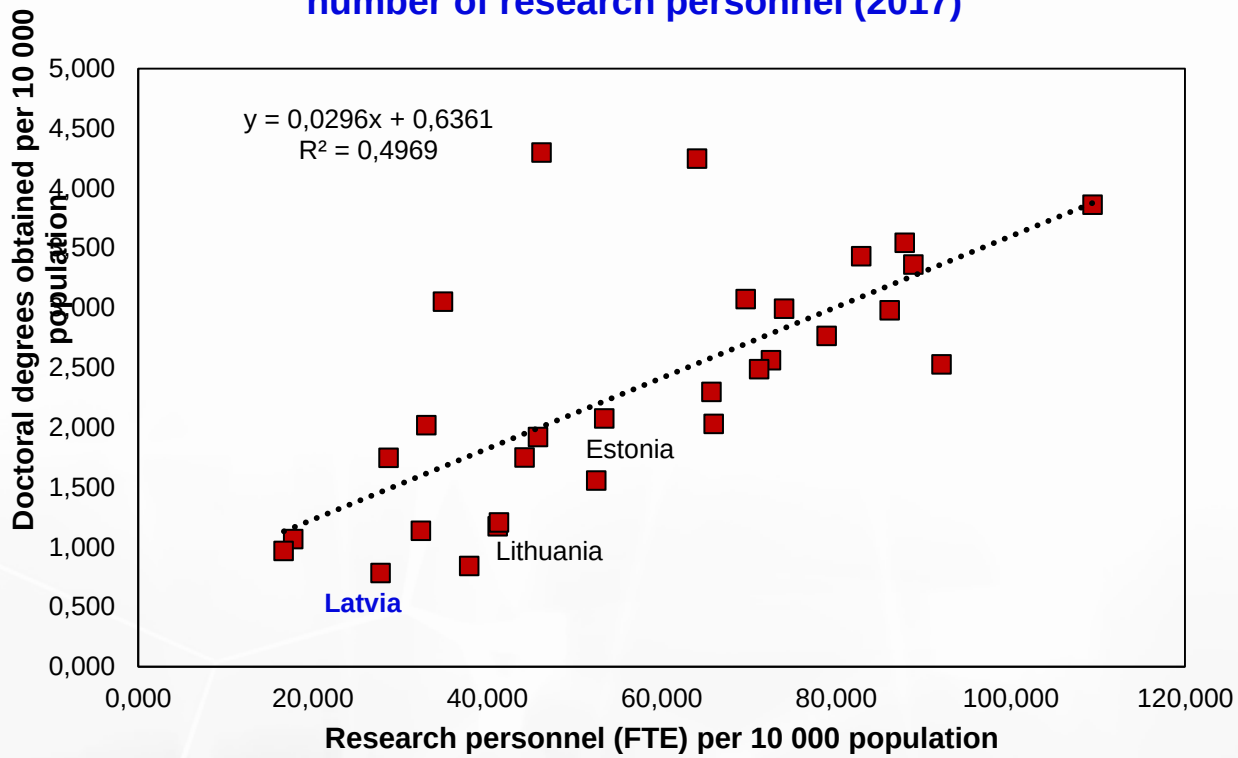
Doctoral degrees obtained per 10 000 population (2018)



Correlation between doctoral degrees obtained and the number of research personnel (2017)



Currently - high drop-out rate in doctoral studies and an insufficient number of doctoral degree holders to ensure the renewal of scientists

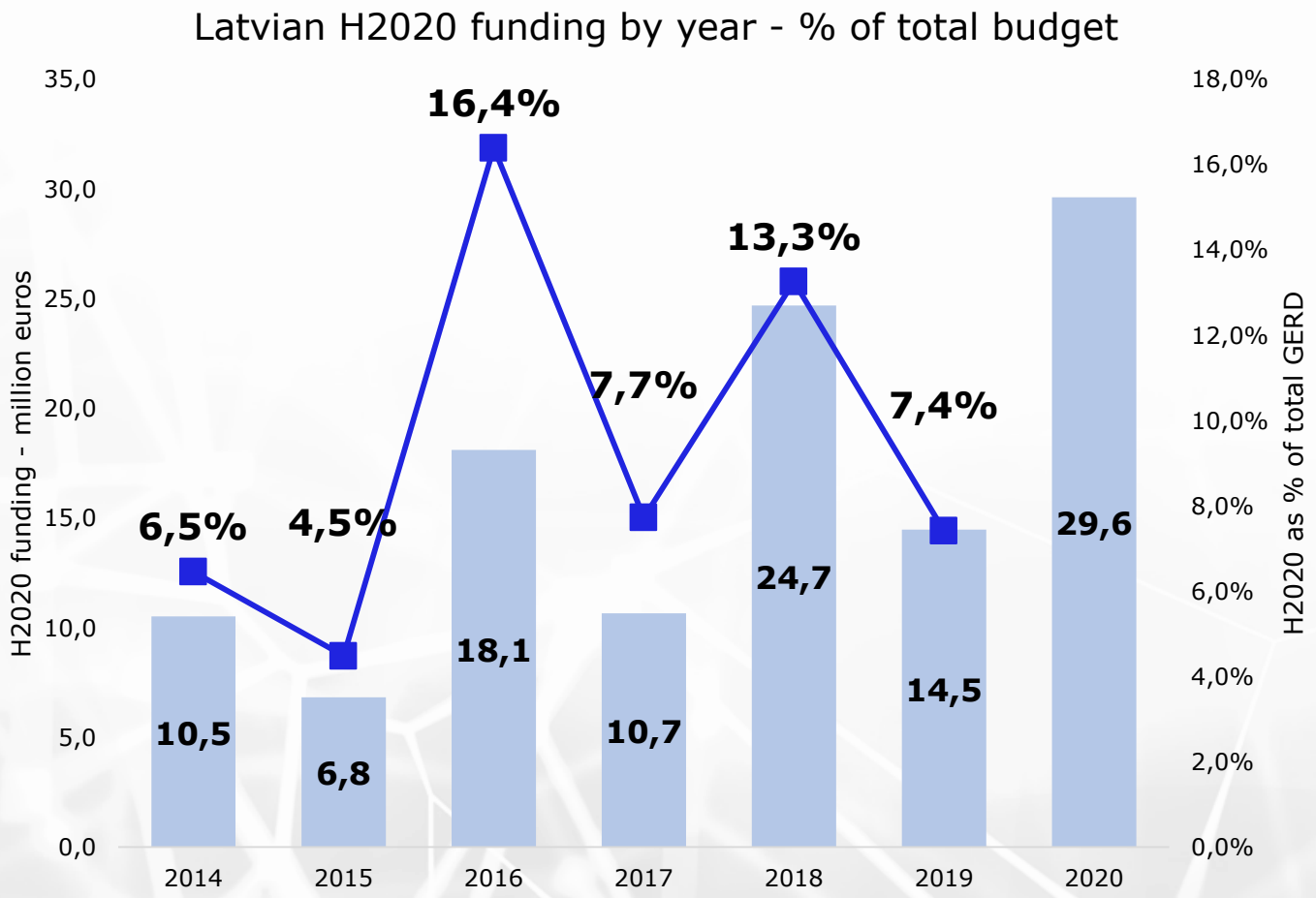
H2020 impact on Latvian R&I system

	FP 5 (1999-2002)	FP 6 (2002-2006)	FP 7 (2007-2013)	Horizon 2020 (2014-2020)*
Total project proposals	**667**	**1027**	**1127**	**2809**
Total project participation proposals	776	1206	1424	3427
Supported projects	**178**	**217**	**240**	**411**
Participations in supported projects	204	258	337	511
Coordinated projects	**2**	**11**	**30**	**49**
Success rate	26.7 %	21.1 %	21.3 %	14.5%
Total EC funding (million EUR)	**14.6**	**21.6**	**49.04**	**114.2**

! Latvia in H2020 achieved more funding than in other 3 previous framework programmes combined **– 114 million euros**

** eCORDA data - May 2021*

H2020 impact on Latvian R&I system



** eCORDA data – June 2021*

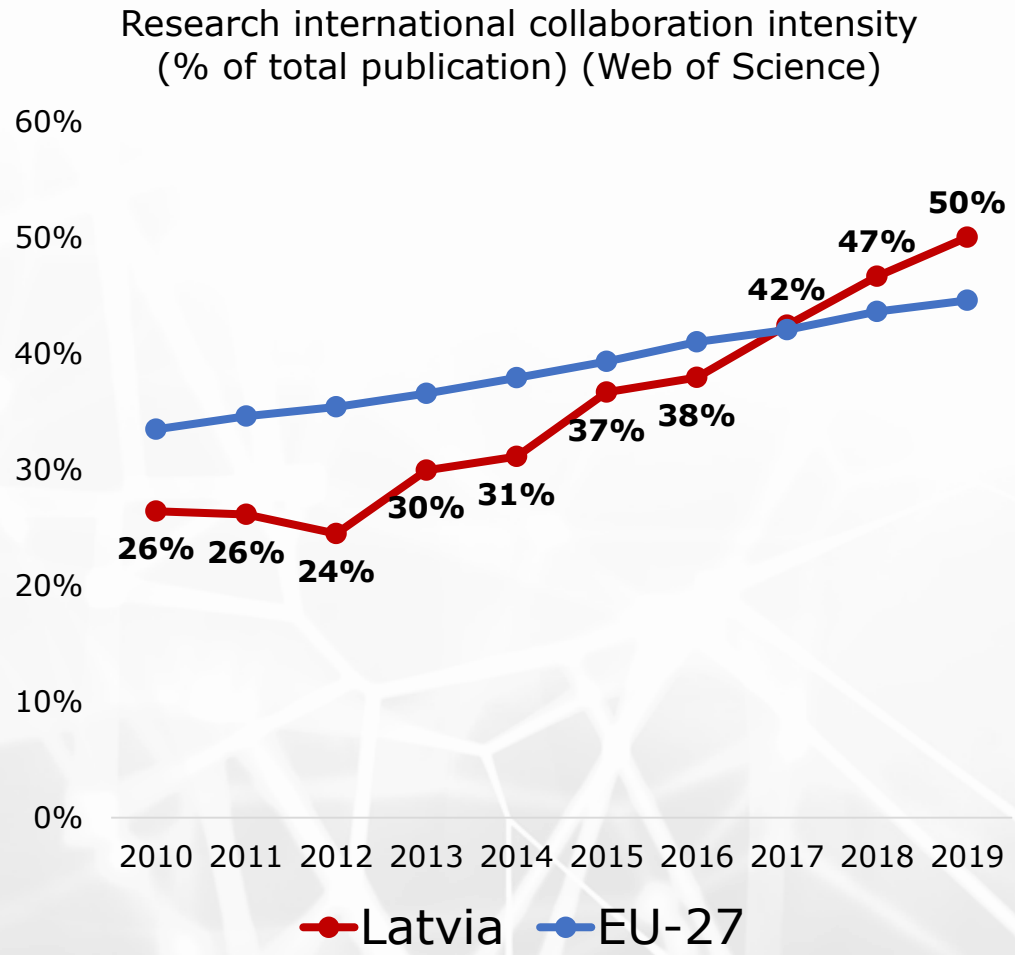
H2020 results had progress between 2014 - 2020

H2020 is ~ 10 % of total Latvian R&D funding.

H2020 role in Latvian R&D system is 2nd highest within EU countries (only behind Cyprus)

Noticable fluctuation by year – because of large projects (e.g. Teaming)

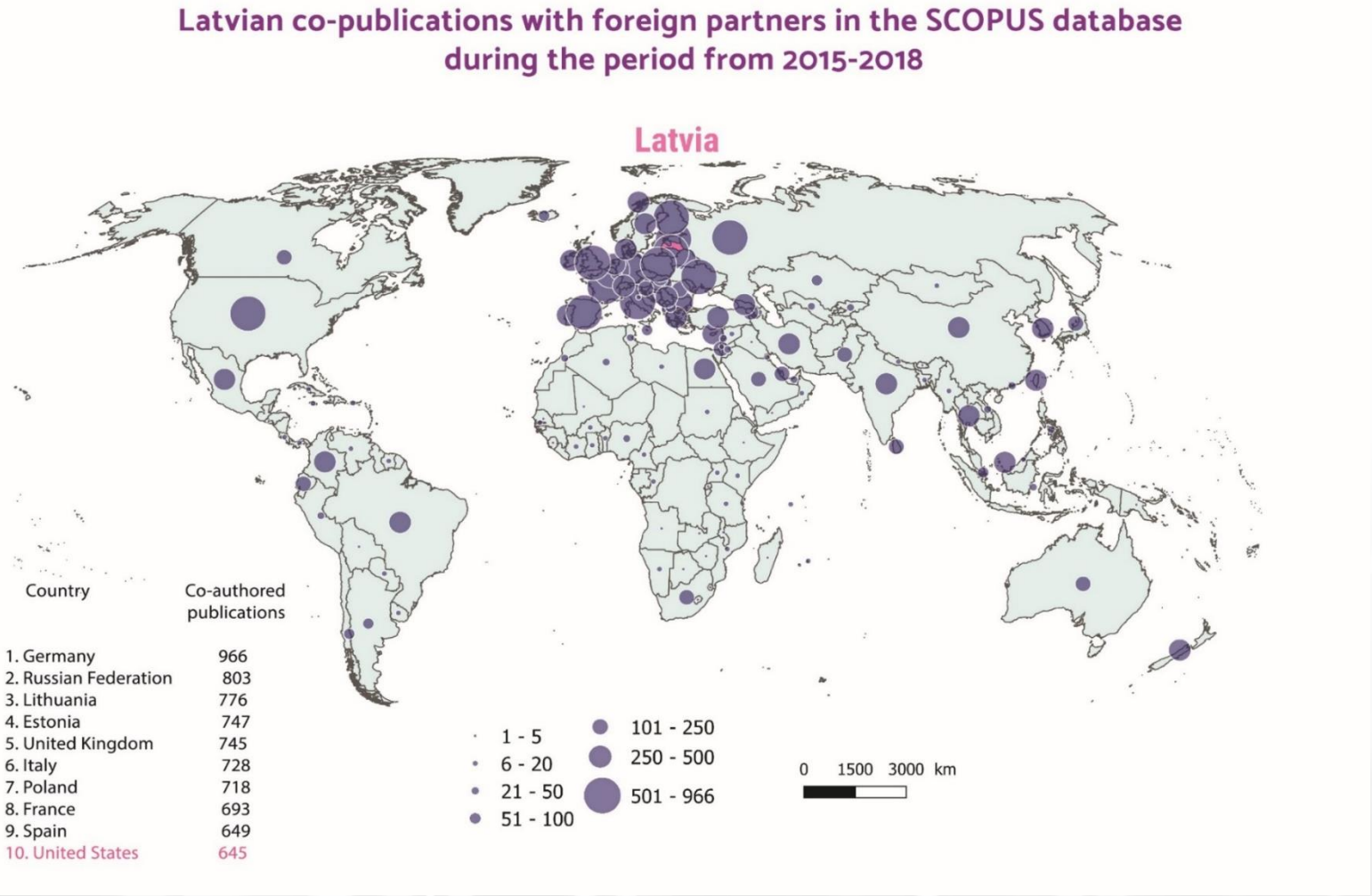
Increased integration and collaboration with international partners



Participation in international consortiums, projects and other activities

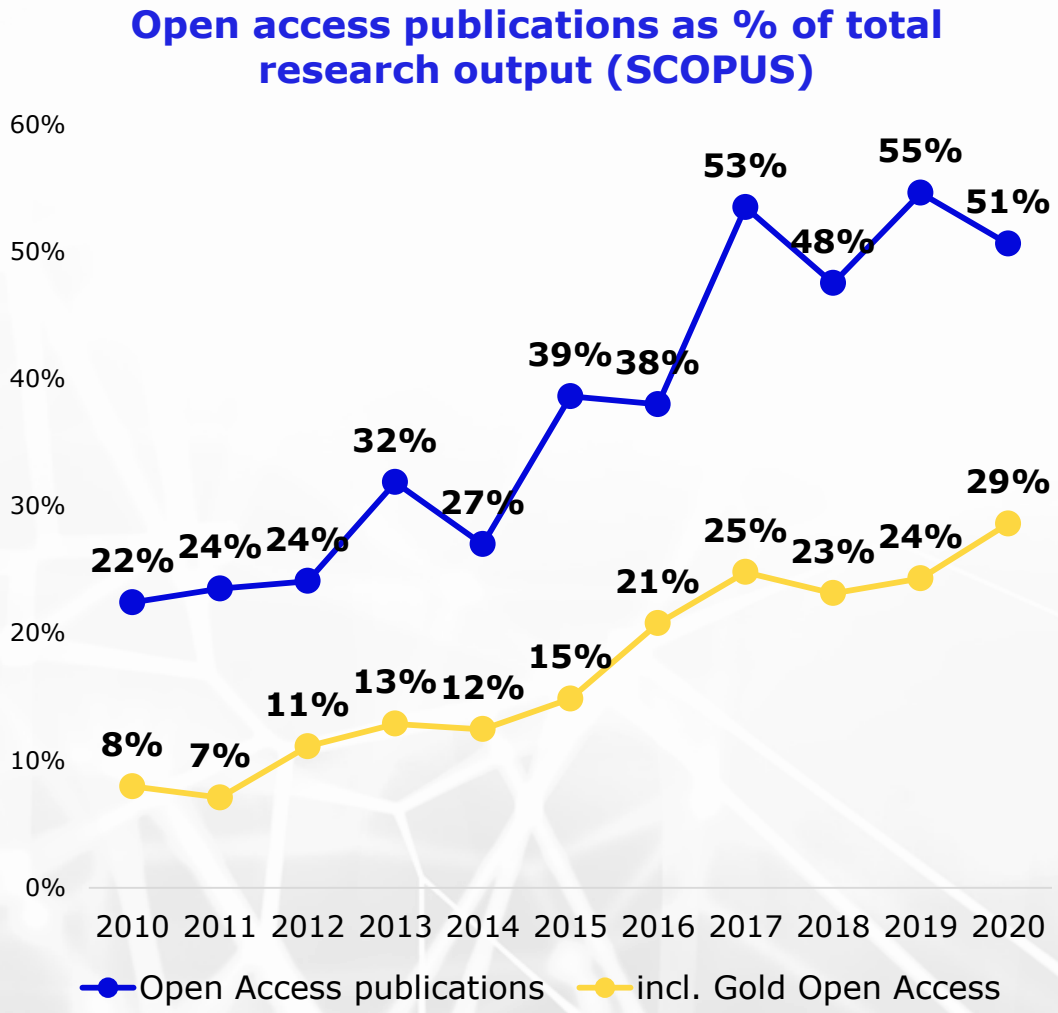
Intensive H2020 participation

Changing patterns of international collaboration



- Overall research output growth corresponds with a larger global collaboration network.
- H2020 accelerated spatial collaboration shift away from former USSR towards Europe (and especially Western Europe)

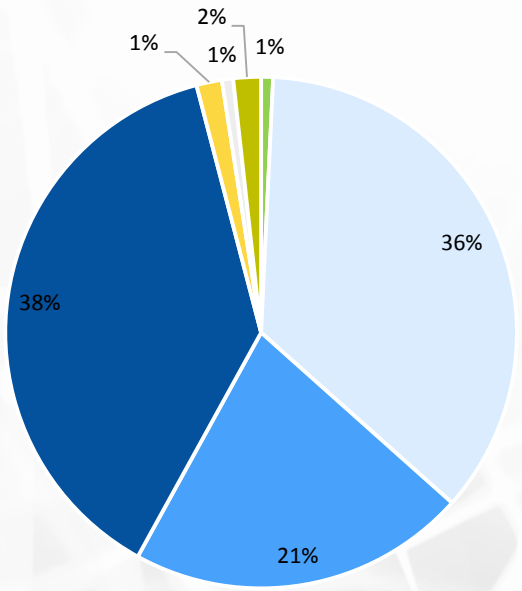
Progress in Open Science



- **Open Access publications has increased in recent years** (half of total resarch output)
- Open Science strategy for 2021-2027 is currently being developed with emphasis on successful participation in **European Open Science Cloud activities**

H2020 results by thematic objective

Total for H2020



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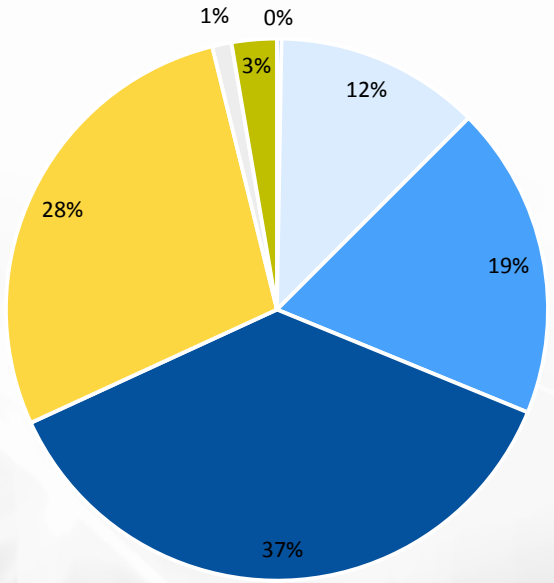


- Cross-Theme
- Excellent Science
- Industrial Leadership
- Societal Challenges
- Spreading Excellence & Widening Participation
- Science With And For Society
- Euroatom

H2020 results differ in Latvia for the programme structure

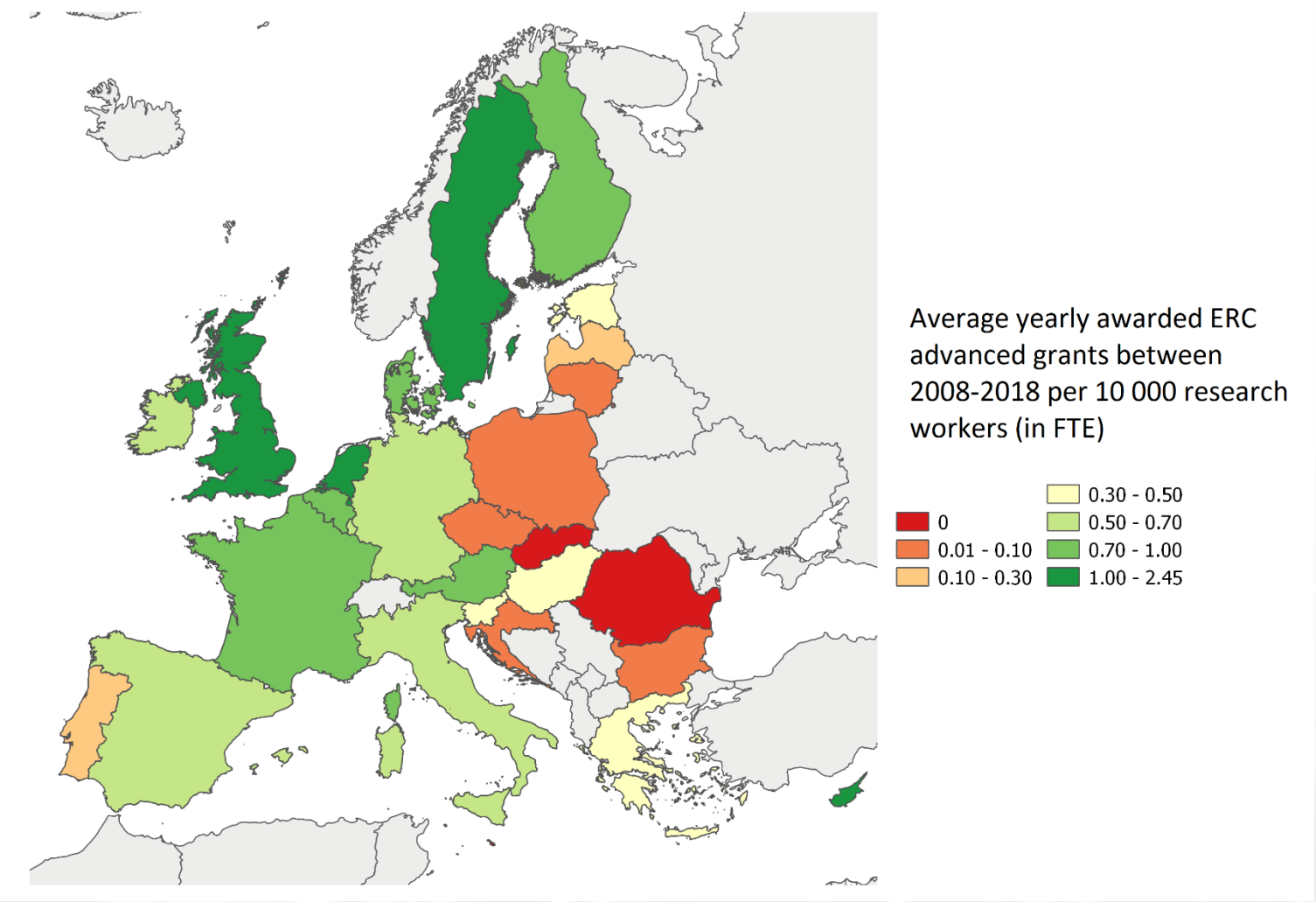
Limited capacity to fully participate in Excellent Science

Industrial leadership and Societal challenges – 60 % of Latvian results with considerable variation between different themes

Widening part – one of main pillars of Latvian results, despite small overall role in H2020

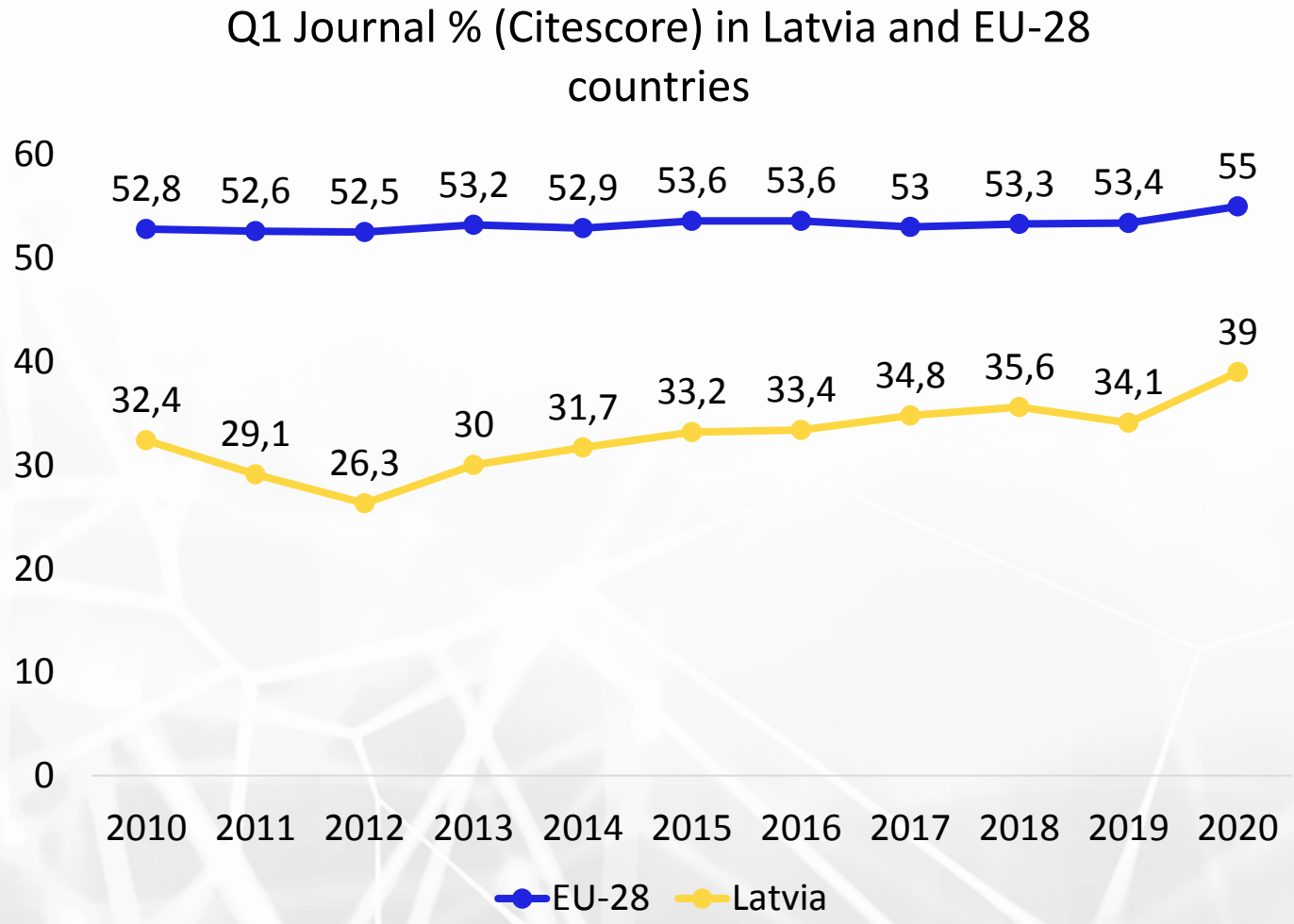
** eCORDA data – January 2021*

Research excellence – challange for Latvia together with EU-13



- Latvia has excellence islands, but still lags behind in excellence based R&D activities (e.g. in H2020 ERC grants).
- Research excellence is one of our main policy priorities and our R&D investment programs will foster the necessary capacity development.
- This gap can be reduced by a significant policy shift towards increasing our R&D excellence.

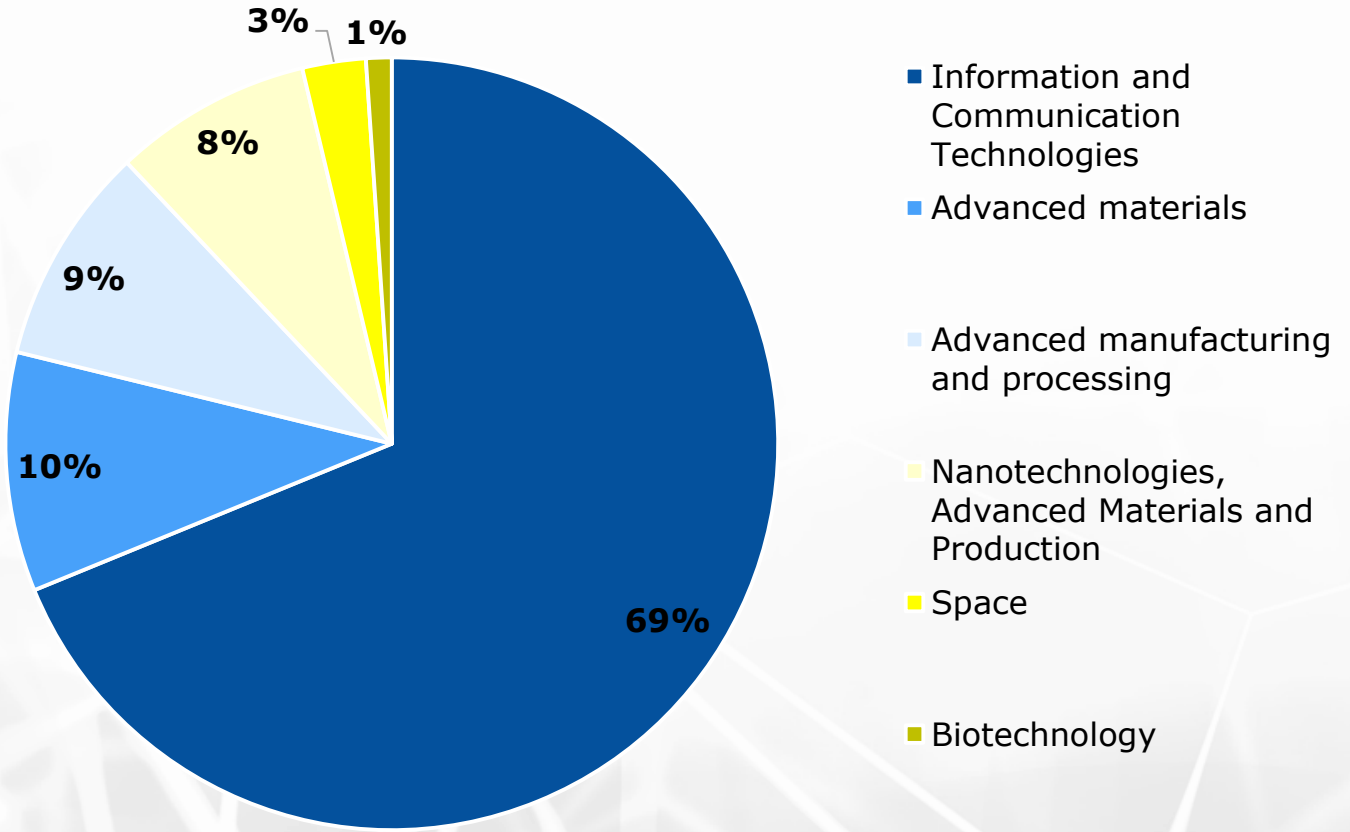
Research quality challanges



- Research average quality has slow cohesion with average EU performance
- Defined among priority targets in 2021-2027

Leadership in enabling and industrial technologies (LEIT)

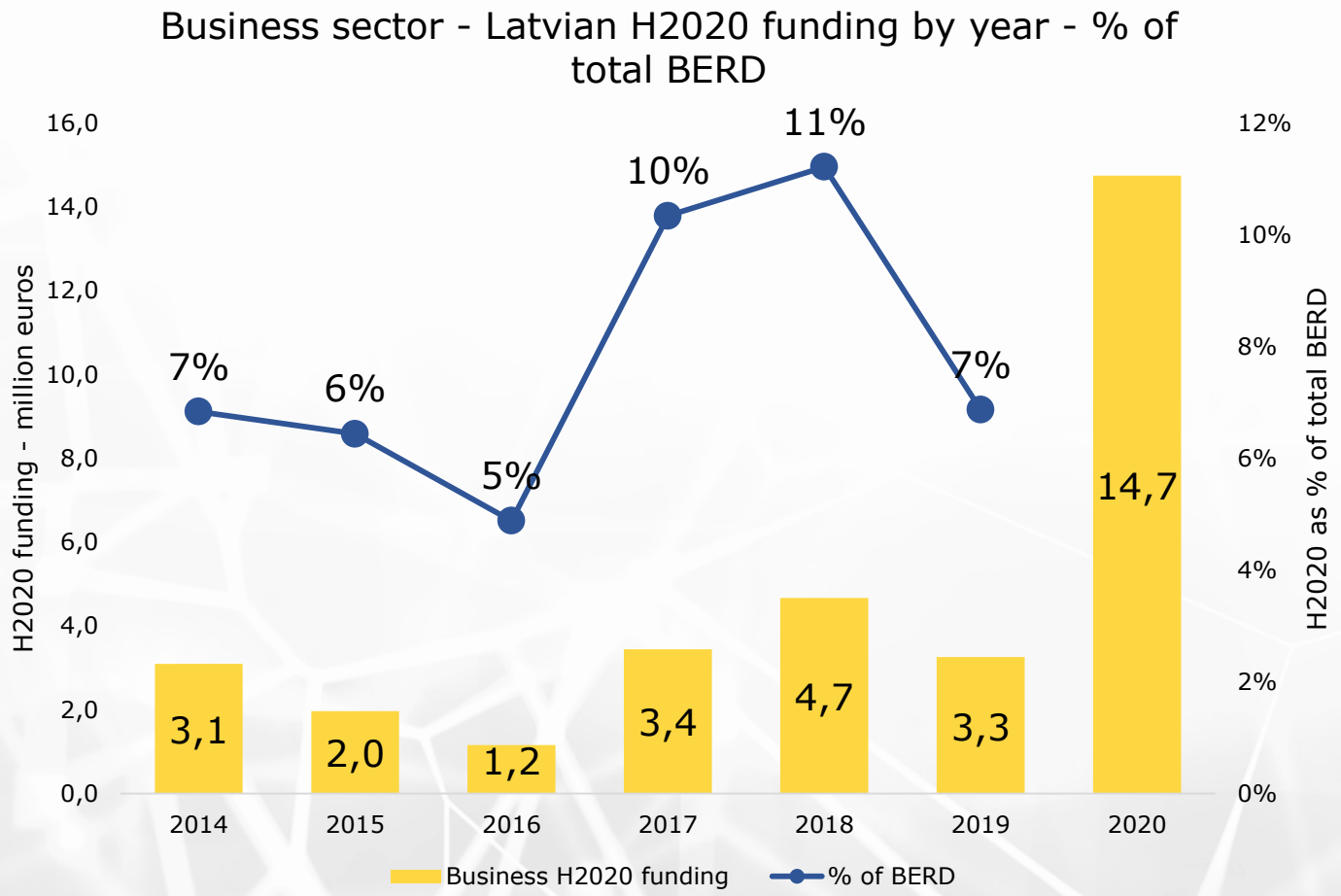
Latvian H2020 results in LEIT theme **– 16 million euros**



- In industrial leadership theme – 69 % of all funding is in ICT
- Best results for: TILDE SIA, University of Latvia, Institute of Electronics and Computer Science, Riga Technical University, LETA SIA

** eCORDA data – January 2021*

Latvian business sector success in H2020



- Business sector success rate in H2020 reflects business R&D role in Latvia (10 % of total BERD from H2020)
- 2020 was exceptional with almost as many projects as in previous years

** eCORDA data – June 2021*

Latvian investment development agency - RIS3 innovation ecosystems

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3 active pilots for value chain ecosystems:

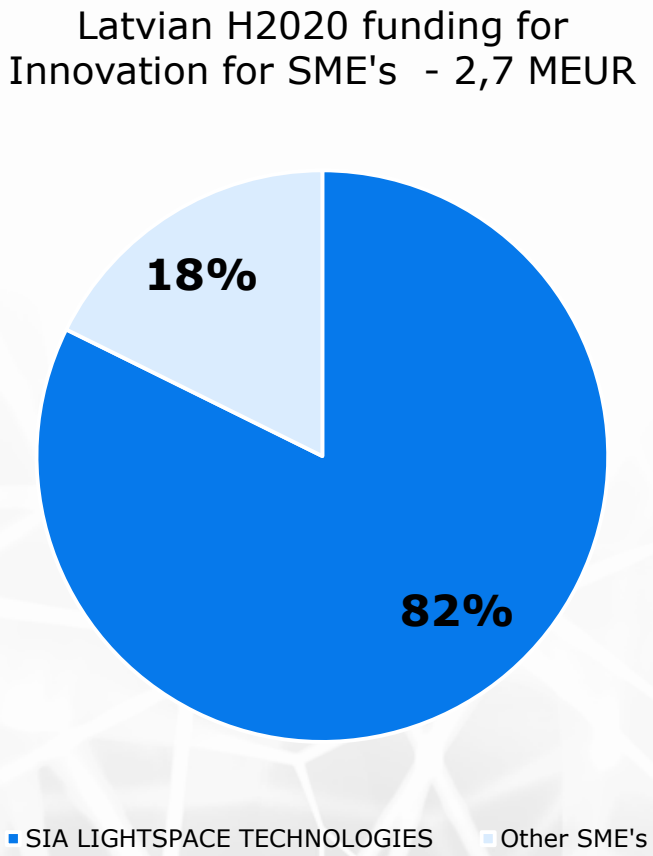
Smart cities

Photonics and Smart materials

Biomedicine

** eCORDA data – June 2021*

Innovation in SME's

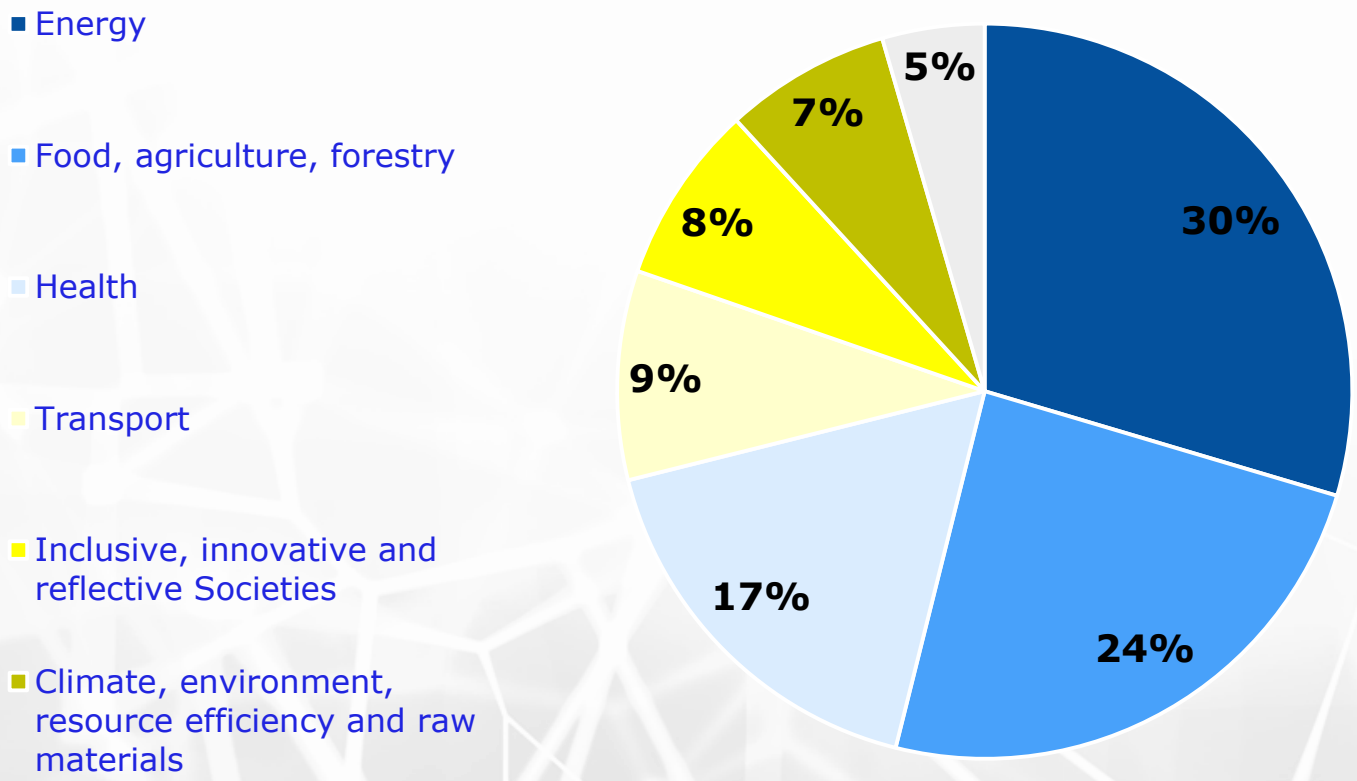


- Overall - decent results, thanks to one 2nd stage project
- Low success rate – out of 254 eligible projects only **17 % above treshold** and **4 % funded**.
- Success rate increase heavily linked with number of proposals each individual SME's submits

** eCORDA data – January 2021*

Societal challenges

Latvian H2020 results in Societal Challenges –
37 million euros

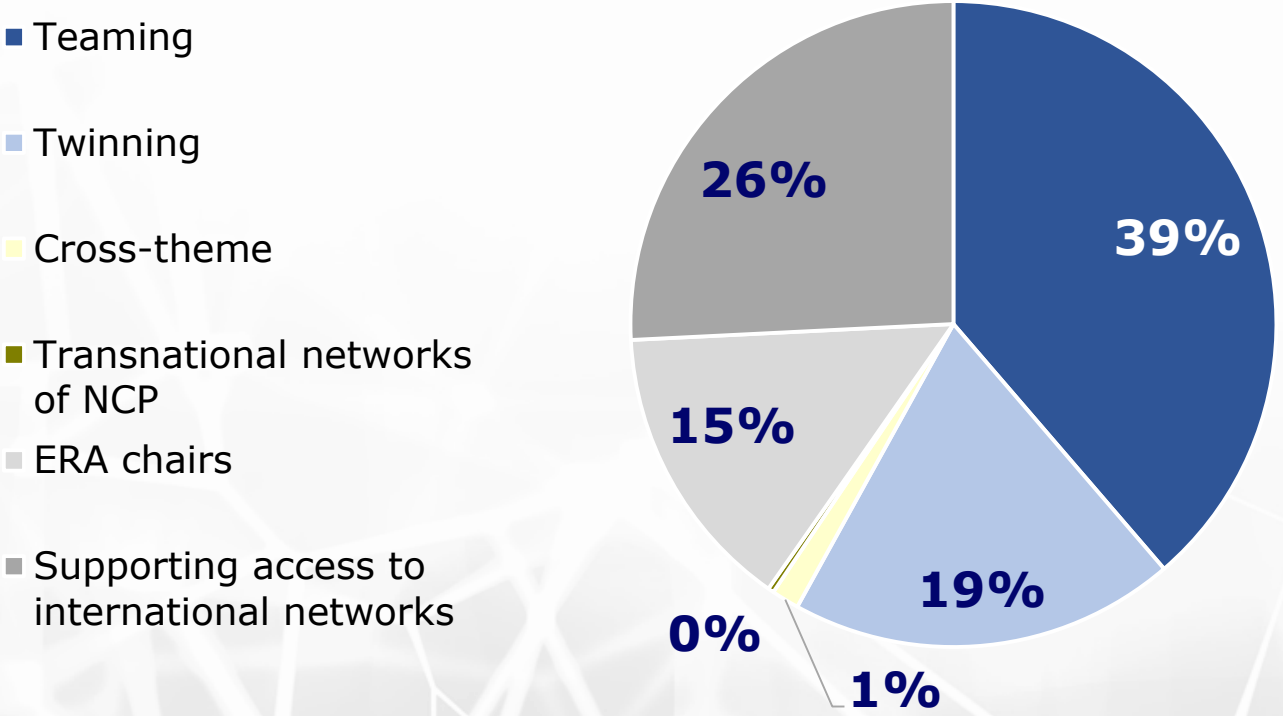


- Balanced results with 2/3 in energy, food and agriculture and health
- **Best results for:** SEDA, Riga Technical University, Baltic Studies Centre, Riga Stradins University, University of Latvia, Institute of Organic Synthesis

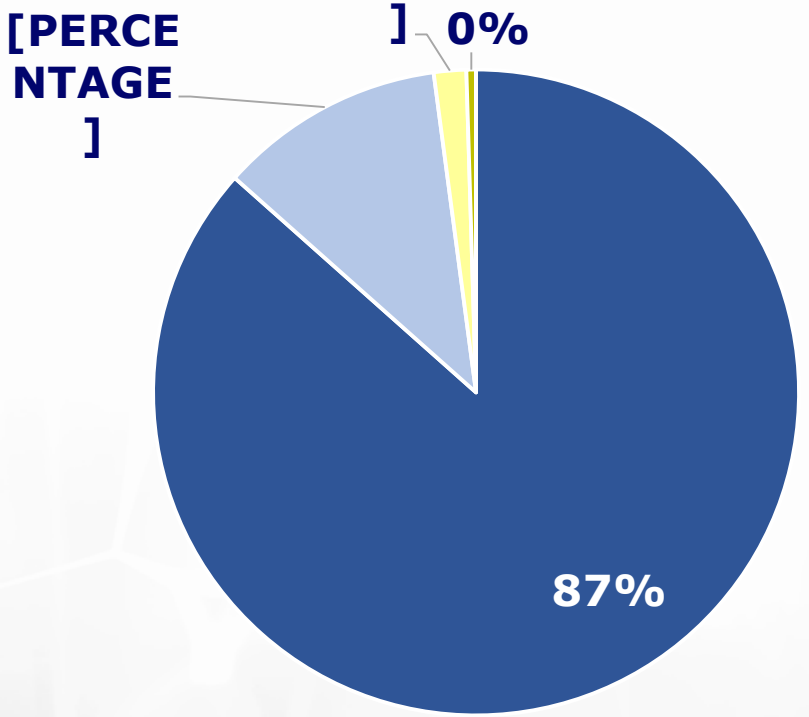
** eCORDA data – January 2021*

Spreading excellence and widening participation

Overall structure of Widening Participation part- 1 billion euros



Latvian H2020 results in Widening Participation part – 28 million euros

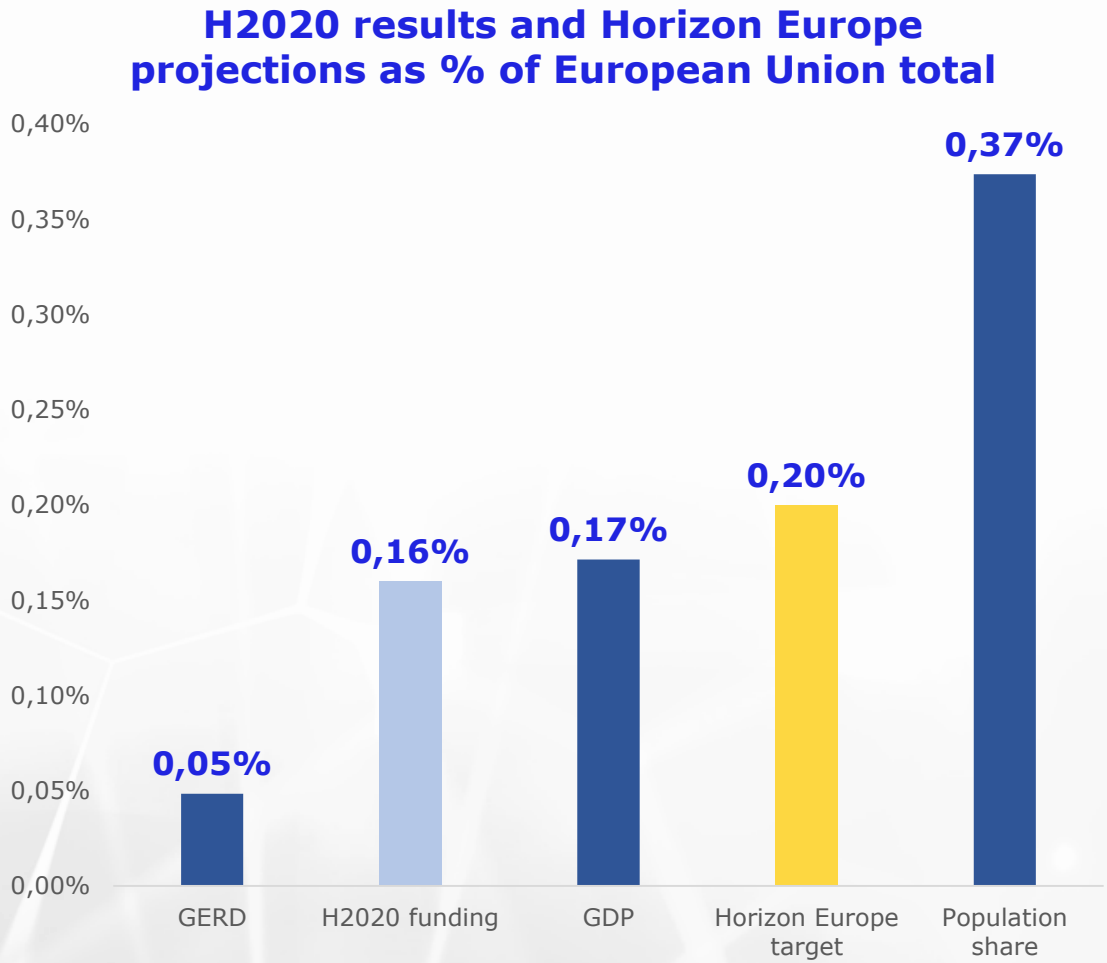


✓ Majority of Latvian SEWP results come from Teaming projects.

* *eCORDA data – January 2021*

National R&D targets for Horizon Europe

- National target is for Latvia to receive 0.2 % of total Horizon Europe funding.
- This level is a slight increase of H2020 and is similar our GDP share within Europe.
- Currently overall R&D expenditure lags behind and for 2021-2027 Latvia needs to increase:
  - *Government R&D investment*
  - *Business R&D investment and capacity*



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National R&D programmes and their links with Horizon Europe

Direct Support

EU funding for supporting Horizon Europe participation

Government Funding for European Partnerships

Open Science Support (EU funds)

Horizon Europe

EXCELLENT SCIENCE

GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS

INNOVATIVE EUROPE

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

EURATOM

Indirect Support

Government programmes
- Basic research funding
- Fundamental and Applied research grants
- State Research programmes
- Market oriented research grants

EU Funds
- Practical oriented research grants
- RIS3 centers of excellence
- Post-doctoral research grants
- Research governance support
- Research mobility support

RRF

HE and research governance and excellence

Open Science support

Digital High Tech skills

Ministry of Economics innovation support programmes

Next steps for succesful Latvian participation in Horizon Europe

1. Timely development of 2021-2027 R&D investment programmes
2. Adjusted national legistlation regarding Horizon Europe
3. Public funding increase, based on national targets (0.4 % government R&D funding from GDP)
4. Participation if European Partnerships based on national priorities and available funding
5. Intensified business R&D investment (from 0.2 % now to 0.6 % of GDP)
6. Reforms in higher education and research governance and strengtened R&I analytical capacity and National Contact Points

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