

# State of University- Business Cooperation CROATIA

## Business Perspective

Study on the cooperation between  
higher education institutions and  
public and private organisations



## The State of Croatian University-Business Cooperation: the business perspective

### Partners



**Authors:** Todd Davey, Iva Biondic, Slavica Singer, Marina Ranga, Arno Meerman, Balzhan Orazbayeva, Victoria Galán-Muros and Mihai Melonari.

For further information about the State of European University-Business Cooperation project, national reports or the Global Engagement Monitor, please contact Todd Davey (davey@fh-muenster.de) or Arno Meerman (meerman@uiin.org)



# Executive summary

## Summary

This report seeks to contribute to our understanding of the business perspective on university-business cooperation (UBC) in Croatia. Examining the perceptions of a wide range of businesses provides positive signs for the future, with 100% of businesses that cooperate with universities planning to maintain or increase their cooperation in the future. Yet, much more can be done, for example in supporting businesses with the development of initiatives and activities that can support their cooperation efforts, as well as in developing capabilities, particularly of those businesses not currently engaged in cooperation.

## About the study

The results presented in this report reflect the perceptions of business people in Croatia with respect to cooperation between universities and business. Data was collected by means of an online survey sent out via email to a business database that was developed from publicly available information, leading to a total of 74 Croatian responses. The study measured the perceptions of respondents with respect to their cooperation efforts, barriers, drivers, support mechanisms and perceived capabilities.

## University-Business Cooperation

Croatian businesses show a relatively high engagement in education related cooperation. Thus 60,8% of businesses respondents cooperate with

universities in student mobility and 55,4% do so in lifelong learning as well as curriculum co-delivery. Fewer businesses are involved in the establishment of dual education programmes (47,3%) and in the design of the curriculum (44,6%). While research-related cooperation activities including joint R&D and consulting are practiced by a large number of businesses in the sample (63,5% each), the cooperation in valorisation and management (e.g. academic and student entrepreneurship, shared resources) is limited.

Just like Croatian businesses perceive themselves as the main actors reaching out for collaboration (with 55% of respondents stating that they always or usually initiate such cooperation), they also see individual academics as well as university alumni as proactive initiators of UBC. On the contrary, Croatian representatives identify internal and external intermediaries as well as government as those stakeholders that less often initiate UBC.

## It is them, not us

Primary barriers identified by respondents relate to a lack of people with business knowledge within universities and missing financial support mechanisms from government. Moreover, business respondents point towards the universities, including the universities' limited awareness of opportunities arising from collaborating with their business, differing motivations between two organisations and the universities' high level of bureaucracy.

**NOTE:** This report provides a business perspective on university-business cooperation UBC, drawing on a survey of European higher education institutions, academics and businesses. While acknowledging limitations relating to the generalisability of the results due to the non-random nature of the sample, the results provide positive signs both of the present and for the future, while also providing an indication as to areas that require future development.

### **Relationships matter**

While funding to undertake cooperation emerges as one of the top five facilitators, personal relationship factors are seen to be of a high importance. Thus, the existence of a shared goal appears as the most prominent facilitators. Another relational factor facilitating and driving cooperation is the existence of mutual commitment, complemented with a prior relationship with the university partner. The access to university R&D facilities is considered as another important facilitator. These results confirm that any effort dedicated to enable and increase cooperation between businesses and universities should focus not only on funding as a basis for UBC but on relationship development.

### **Benefits of UBC**

Croatian businesses see for themselves less benefits than for university stakeholders, including students, academics and universities, but more than for government and society.

But what motivates Croatian businesses to cooperate with universities? Apart from the expected outcomes such as access to new discoveries at an early stage and customised solutions, results indicate a positive impact on society as the most highly rated benefit motivating Croatian businesses to cooperate with universities. This is complemented by the willingness to improve the skills of the current employees through training as well as improving the businesses' reputation.

### **Need for more support**

A strong emphasis has been placed on the development of UBC supporting mechanisms by universities. Yet, little is known about such mechanisms in the business realm. Compared to the European average, supporting mechanisms in Croatian HEIs are slightly less developed. This study indicates that the structures or activities dedicated to UBC are the most developed mechanisms, with 30% of respondents indicating the existence of presentations, lectures or mentoring within the university, and 27% reporting that lifelong learning programmes have already been established. The most underdeveloped mechanisms in Croatia include science/technology park precincts, joint laboratories and co-working spaces.

### **More to learn**

Croatian businesses perceive themselves as supportive towards cooperation with universities. In particular, they identified their strengths in the ability to absorb the knowledge and technology coming from HEIs. Furthermore, they are convinced that they have a lot to offer to universities in developing and delivering education and training, whereas universities in turn play a crucial role in innovation efforts. Yet, Croatian businesses believe that they have insufficient university contacts and relations, and that they lack knowledge of what universities want from collaboration.

# Introduction

## About the study

The study focusses on the cooperation between higher education institutions (HEIs) and public and private organisations in the 28 European Union Member States and 5 associated countries.

The State of European university-business cooperation (UBC) study is executed for the DG Education and Culture at the European Commission (EAC/10/2015) by a consortium led by the Science-to-Business Marketing Research Centre (S2BMRC), in Germany from January 2016 until November 2017.

The aim of the study is to get a more profound, comprehensive and up to date understanding of the state of UBC in Europe: what is the state of play of a wide range of UBC activities in the different countries, what are the main drivers and barriers for the different stakeholders and at what levels; what is the regulatory framework and socio-economic conditions and what kind of measures/initiatives exist on a national level to support the development of UBC. The project investigates UBC from the perspective of both university and business.

## Main activities

The main components of the project were a series of expert interviews with 23 recognised UBC experts, 52 good practice case studies, a UBC policy and indicators review as well as a major quantitative survey of stakeholders within both HEIs and business. The survey was translated into 25 languages and sent to all registered European HEIs (numbering over 3,000) in the 33 countries during

October-November 2016. Through this, a final sample of 17,410 representatives from within HEIs and business was achieved. This makes the study the largest international study into cooperation between HEIs and business yet completed.

## Why care about university-business cooperation?

- UBC is considered to be the engine towards knowledge-based societies and economies
- UBC is specially needed in the European context, threatened by increased global competition, with ongoing economic and social problems and high levels of youth unemployment
- UBC helps to create a more connected and functioning relationship between government, business and HEIs, which is at the core of EU funding schemes, such as Horizon 2020 and Erasmus+.
- UBC direct outcomes include:
  - improving the competitiveness of business,
  - increasing the relevance and innovativeness of research and teaching in HEIs,
  - improving the future job prospects of students and graduates,which can in the longer term:
  - create jobs,
  - stimulate economic growth,
  - increase living standards,
  - reduce hindrances to good living.

## Study Objectives

The specific objectives for the study are:

- Chart the current state of play and provide an in-depth analysis of UBC in the countries covered by this study, from the HE and business perspectives
- Deliver 50 case studies of UBC (representative sample, balanced distribution among countries and organisations, balanced distribution of HEI and business led cases);
- Review indicators measuring UBC and propose possible scenarios for the implementations of UBC monitoring in Europe;
- Provide policy conclusions and recommendations for the furthering of UBC and the best approaches to take.



**UNIVERSITY-BUSINESS**  
COOPERATION IN EUROPE

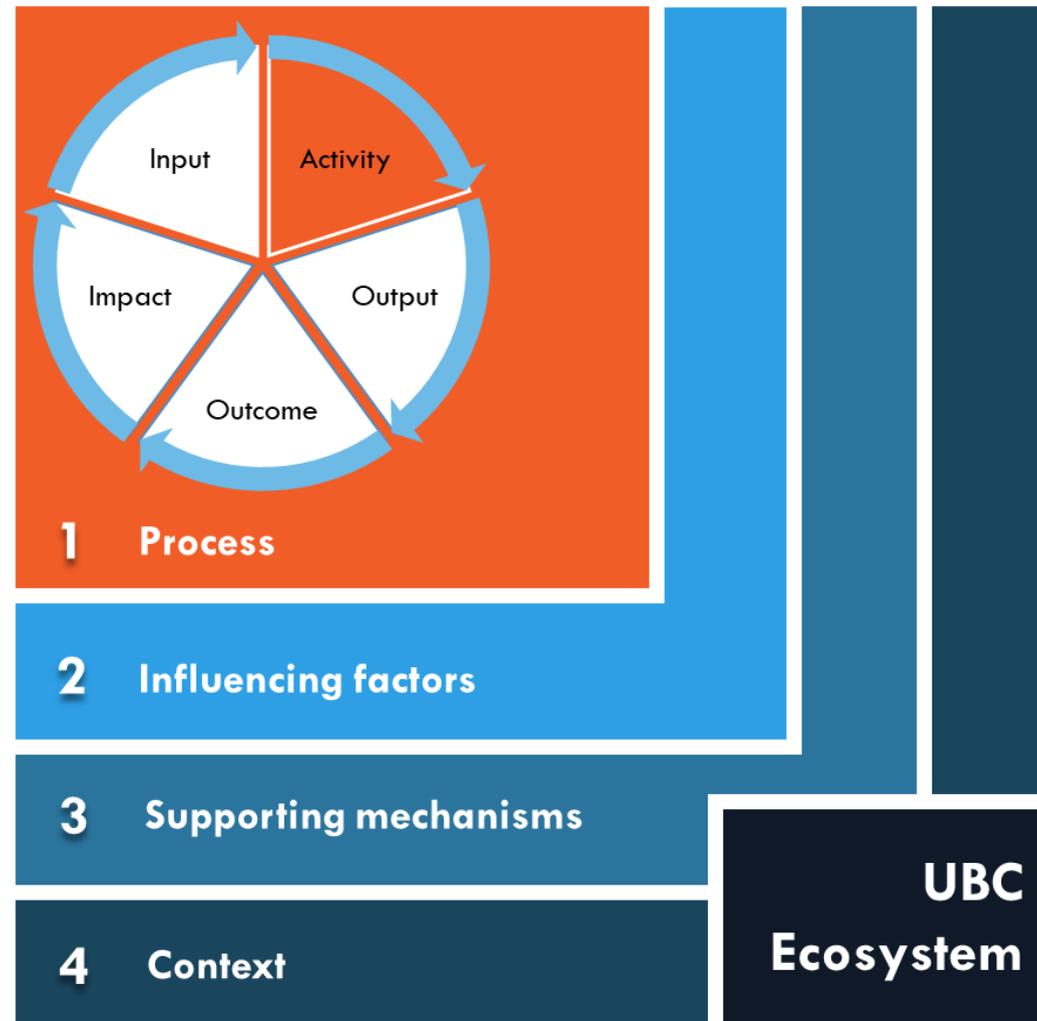
# UBC activities

## UBC Ecosystem Framework™

In order to best organise the project results, a project conceptual framework was chosen.

The UBC Ecosystem Framework possess a number of interrelated elements including the process of undertaking UBC, factors that are influencing UBC, mechanisms supporting UBC and finally the context in which UBC occurs.

The framework ties together the respective project activities, providing a common thread for reporting results and making recommendations.



Source: Galán-Muros, V.; Davey, T. (2017) *The UBC Ecosystem: Putting together a comprehensive framework for university-business cooperation*. *Journal of Technology Transfer*. <https://doi.org/10.1007/s10961-017-9562-3>

# UBC activities

Fourteen UBC activities are recognised, commonly categorised into the areas of education, research, valorisation and management.

Area	Activities
<b>Education</b>	<ol style="list-style-type: none"><li>1. curriculum co-<u>design</u></li><li>2. curriculum co-<u>delivery</u> (e.g. guest lectures)</li><li>3. mobility of students (i.e. student internships/placements)</li><li>4. dual education programmes (i.e. part theory, part practical)</li><li>5. lifelong learning for people from business (e.g. executive education, industry training and professional courses)</li></ol>
<b>Research</b>	<ol style="list-style-type: none"><li>6. joint R&amp;D (incl. joint funded research)</li><li>7. consulting to business (incl. contract research)</li><li>8. mobility of professionals (i.e. temporary mobility of academics to business and vice versa)</li></ol>
<b>Valorisation</b>	<ol style="list-style-type: none"><li>9. commercialisation of R&amp;D results (e.g. licencing/patenting)</li><li>10. academic entrepreneurship (e.g. spin offs)</li><li>11. student entrepreneurship (e.g. start-ups)</li></ol>
<b>Management</b>	<ol style="list-style-type: none"><li>12. governance (e.g. participation of academics on business boards and businesspeople participation in university board)</li><li>13. shared resources (e.g. infrastructure, personnel, equipment)</li><li>14. industry support (e.g. endowments, sponsorship and scholarships)</li></ol>

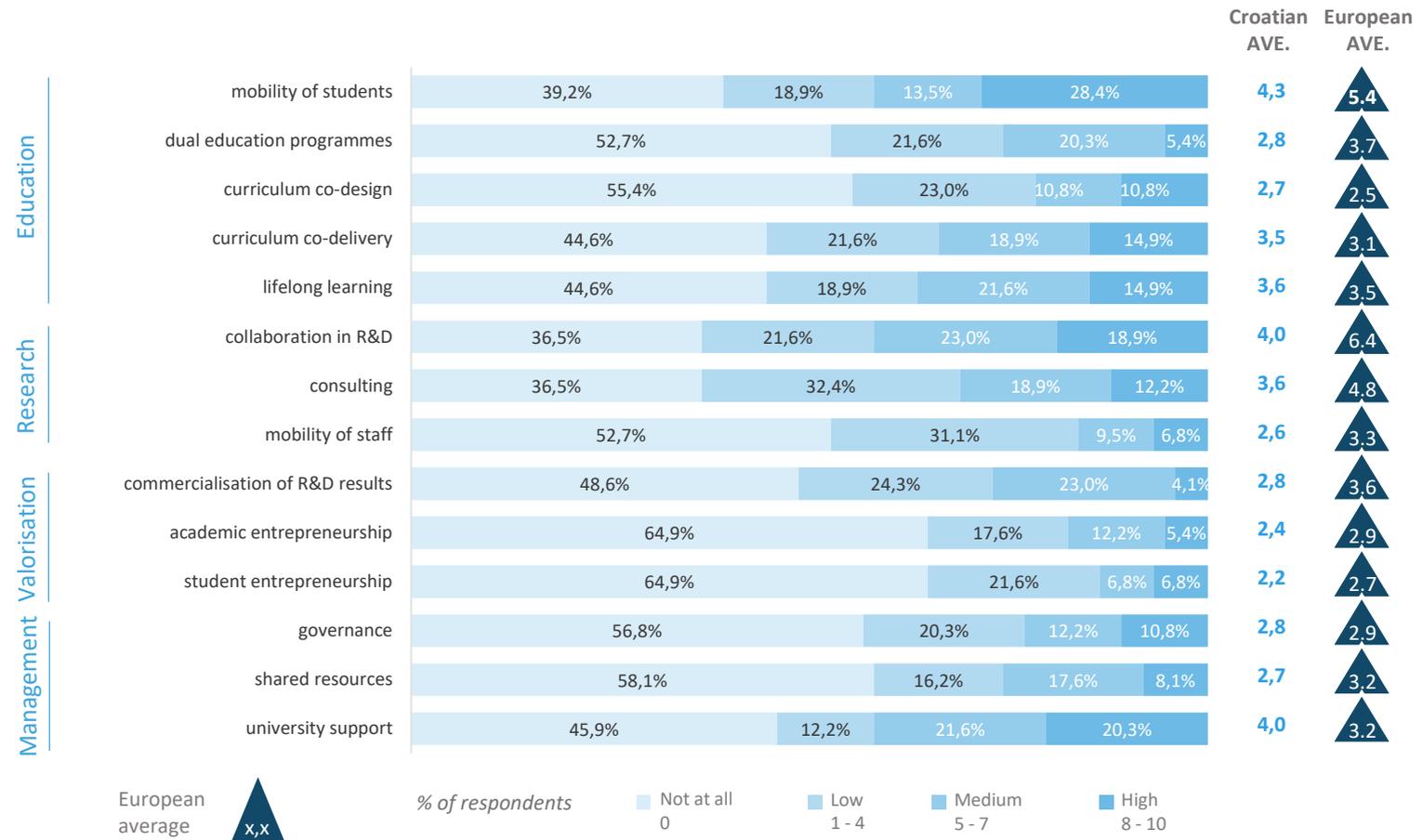
# Development of UBC activities

Croatian businesses engage mainly in mobility of students (4.3), joint R&D (4.0) and industry support (4.0). However, in average 40% of businesses do not engage in these collaborative activities at all. According to the results of the national study conducted in 2016 by VERN' and Croatian Employers' Association, the primary reason for the low business engagement lies in the fact most of Croatian companies never undertake UBC before. Specifically, the state owned companies do not traditionally engage in UBC.

In average 60% of businesses do not engage in most of the valorisation and management UBC activities, with the student and academic entrepreneurship being the most undeveloped collaborative types in Croatia. The national study found that only 10% of Croatian HEIs have established entrepreneurship programmes.

In an national study conducted in 2016 by VERN' and the Croatian Employers' Association, 57% of the businesses cited the primary reason for the lack of UBC activities to be the fact that they had never previously carried such co-operation. In Croatia, the lack of tradition of UBC, especially for most of the state owned universities, could be a reason underpinning low cooperation rates.

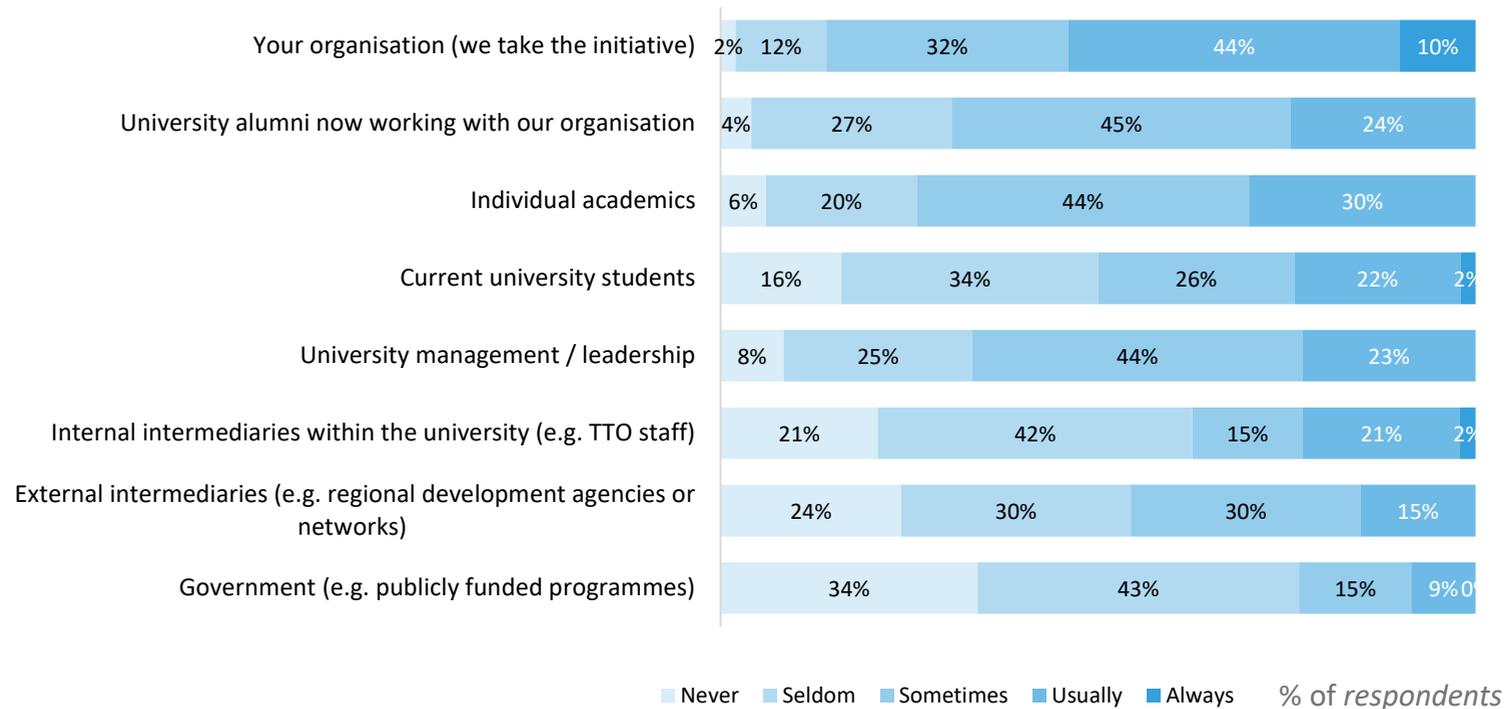
## UBC activities development



# Initiation of UBC

## How UBC is initiated

'How often various stakeholders initiate UBC activities'



Croatian businesses see themselves as the most active initiators of UBC, with 54% of them indicating that they always or usually initiate cooperation.

While both internal and external intermediaries are also perceived as UBC initiators, their contribution is rather limited with respectively 63% and 54% of the businesses reporting that they never or seldom undertake any first actions towards UBC initiation. Government is perceived as the most passive initiator of UBC in Croatia.

Until recently there were few platforms or initiatives, to connect UBC actors or to promote and present good practices of UBC. This lack of an enabling environment for initiation of UBC activities has inhibited UBC in Croatia.

# Geographical location still matters

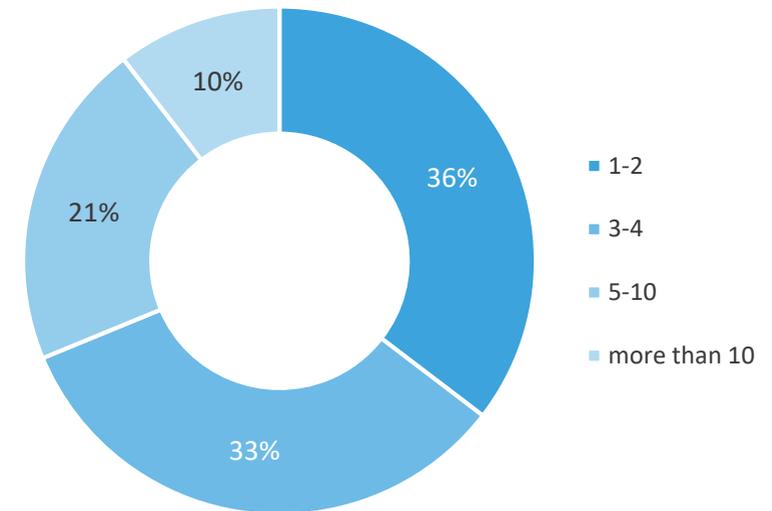
## Location of university partners

Percentage of cooperating businesses with...	
universities in their region	89%
universities in their country	96%
universities outside their country	57%

While most of Croatian businesses cooperate with Croatian universities (98.5%), there is a high percentage of universities from the region (89%). International universities are represented with only 57% as there are barriers for collaboration including language, market needs, costs and distance.

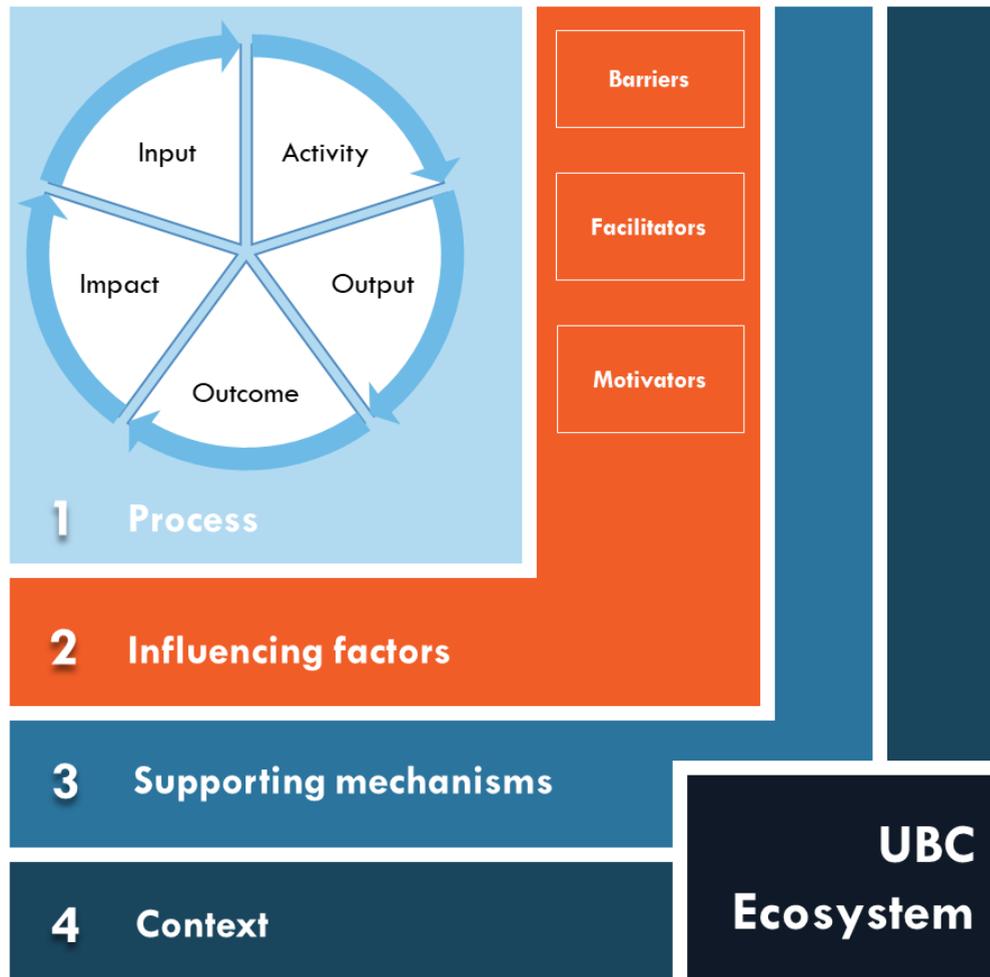
It is supposed that barriers for Croatian businesses to cooperation with international HEIs are connected with language barriers, market needs, cost and distance.

## Number of university partners



Two thirds of businesses cooperate with only 1 to 4 HEIs (69%). While 21% of businesses cooperate with 5 to 10 partners, only 10% have established relations with more than 10 universities.

# Factors influencing UBC



This section outlines the extent to which various factors affect UBC.

Generally, a barrier provides a hindrance or obstacle to do something. Drivers comprise facilitators, which enable or ease the process, and the motivators, which triggers the starting of an activity and are often related to the expected outcome(s).

At the European level, this study has found that removing a barrier does not necessarily create UBC but rather it makes UBC possible. Instead, it is the facilitators and motivators (drivers) that initiate UBC.

For example, even when a lack of funds is often named as a major barrier to cooperation, the presence of funds may not be enough for cooperation to happen if the perceived facilitators or motivators are not sufficient.

# Barriers hindering UBC

For Croatian business respondents the top five barriers relate to resources, lacking communication and administrative issues.

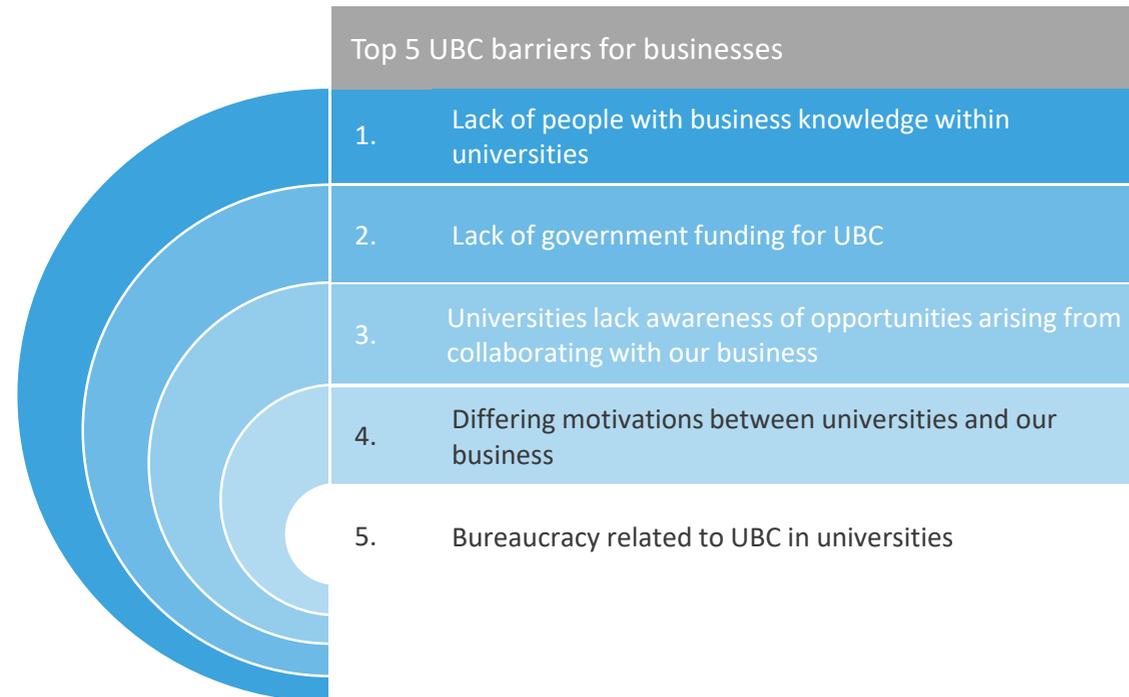
Thus lack of people with business knowledge within universities and lack of government funding for UBC are the biggest barriers. The national study conducted by VERN' and the Croatian Employers' Association found that the most prominent hindrances for UBC on the national, regional and local level are related to inadequate support systems, non-coordinated national strategies, non-stimulated legal regulations, and absence of projects and affirmative mechanisms. Government is held responsible for not supporting UBC in all respects, with funding not being the most problematic one.

Universities' lack of awareness on opportunities arising from collaborating with businesses and differing motivations between universities and business are further barriers. Bureaucracy related to UBC in universities also emerges to be one of the strongest factors inhibiting UBC.

Most Croatian HEIs are state owned ones which could help to explain bureaucracy being a hindrance.

## Barriers

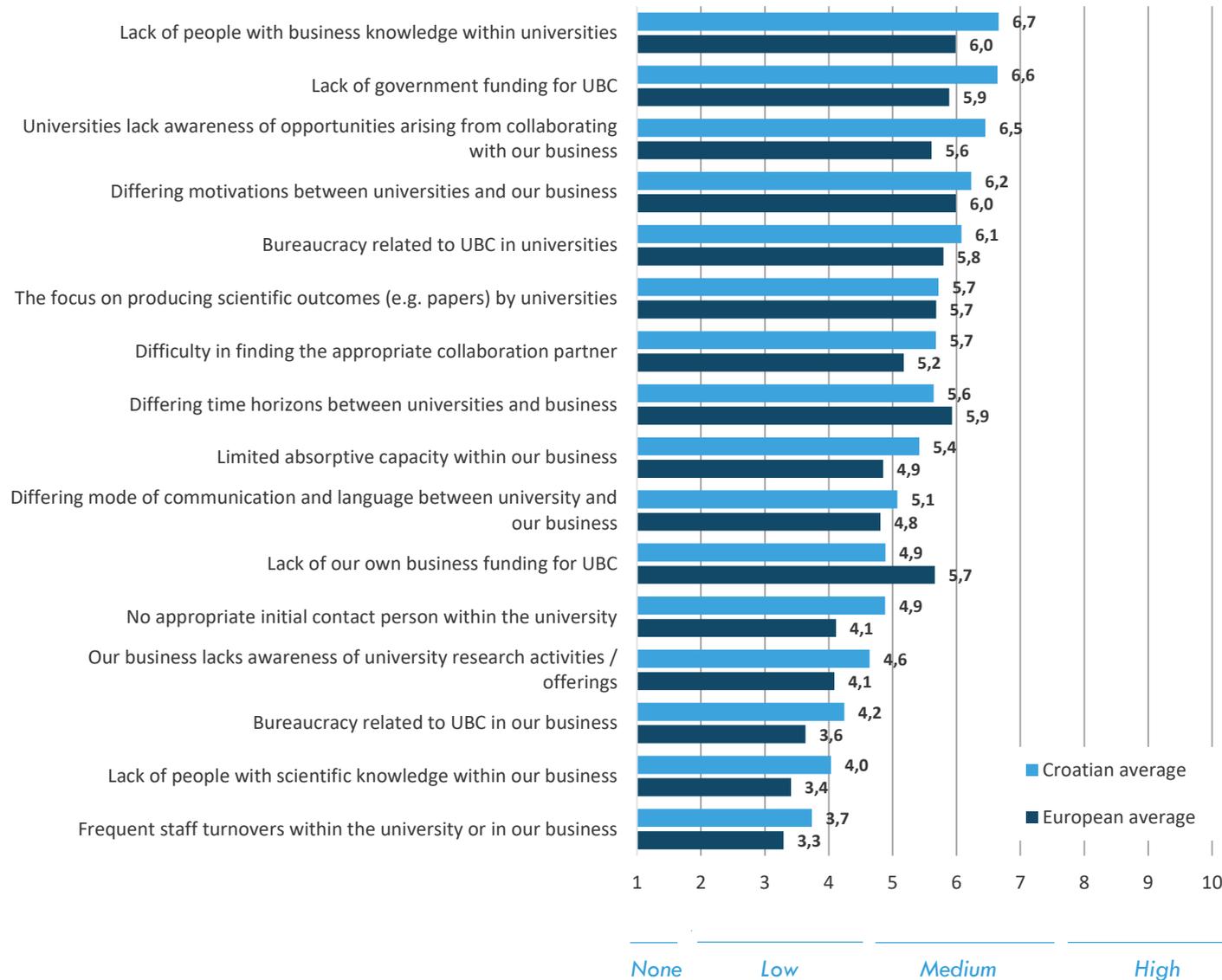
*'What is inhibiting your cooperation with universities?'*



# Barriers hindering UBC

## Barriers

'What is inhibiting your cooperation with universities?'



Croatian and European perspectives align in respect to barriers. However, Croatian businesses perceive most of the barriers slightly stronger.

For both, Croatian and European businesses, lack of people with business knowledge within universities (6.7) and lack of government funding are the biggest barriers. Besides the limited government funding being a barrier, there is a lack of supportive or enabling mechanisms (e.g. supportive tax systems, labour and safety law) to stimulate cooperation in Croatia.

The weakest barriers include lack of people with scientific knowledge in the companies and frequent staff turnovers within the university of business.

# Drivers stimulating UBC

The top five UBC facilitators for Croatian businesses include factors relationship and resources related factors.

Thus the existence of shared goal is the strongest driver, followed by funding to undertake the cooperation and existence of mutual trust.

Prior relation with university partner and access to university R&D facilities are further UBC facilitators for Croatian businesses.

*Drivers* are those factors that encourage businesses, academics or HEIs to engage in UBC. Drivers of UBC are divided into two factors:

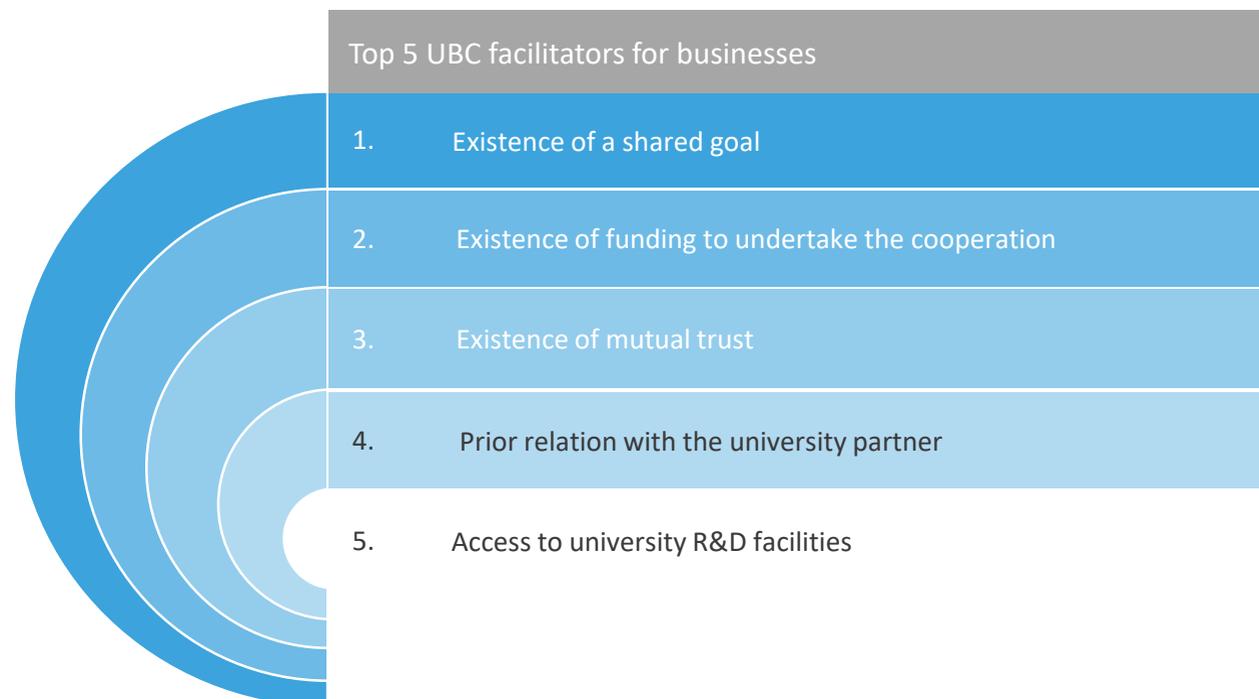
1. **Facilitators** – factors that enable or ease cooperation
2. **Motivators** – incentives or benefits that the respective stakeholders would like from the cooperation

Together, these two factors provide a comprehensive picture of what compels businesses to cooperate.

The 2010-11 State of European UBC study showed that for European universities the existence of strong UBC drivers can overcome the presence of barriers to UBC.

## Facilitators enabling UBC

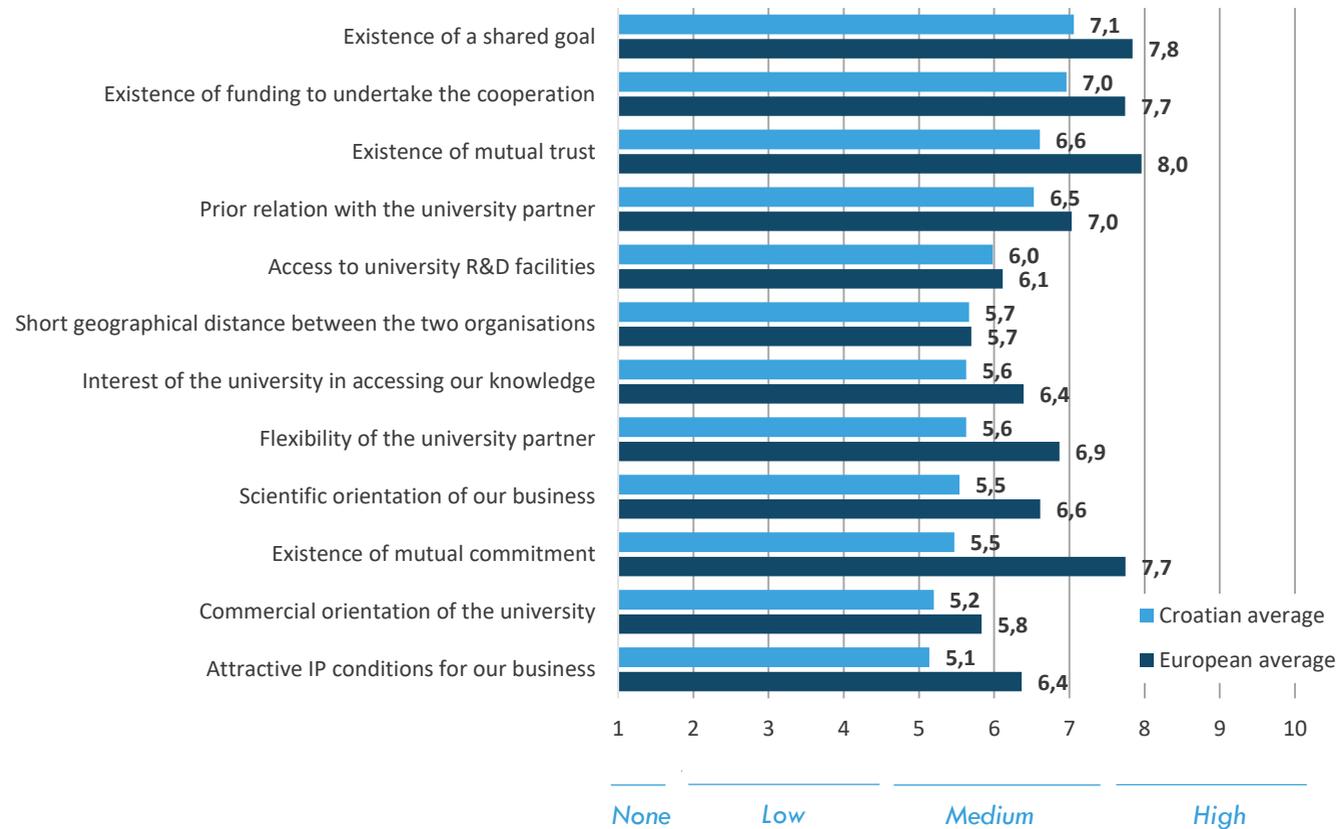
*'What is facilitating your cooperation with universities?'*



# Drivers stimulating UBC

## Facilitators

*'What is facilitating your cooperation with universities?'*



While some relationship facilitators bear considerable importance in the development of UBC in Croatia, a number of the resources related factors also emerge as facilitators. Specifically, existence of funding to undertake the cooperation and access to the university R&D facilities emerge as relevant.

Overall, the Croatian and European business perspectives differ in respect to facilitators, with European business having a stronger perception of drivers.

Interestingly, while mutual commitment plays a very important role for UBC in Europe (7.7), Croatian respondents perceive it to a lower extent (5.5).

The factors related to commercial orientation of the university (5.2) and attractive IP conditions for our business (5.1) are the weakest facilitators of cooperation, although still of medium importance. The lack of development of IP laws might be one of the reasons. Furthermore, not all universities in Croatia have an office for technology transfer. This reflects that state universities are still resisting any kind of collaboration that could be attributed as 'commercial'.

# Drivers stimulating UBC

Notably, Croatian businesses are highly motivated by the willingness to positively impact society when engaging in UBC.

Furthermore, they cooperate with universities primarily, because they strive to improve their competitive advantage, with further three motivators being related to improvement of the skills of the employees through training, access to new discoveries at an early stage and customised solution for the business.

The willingness to improve the reputation is also one of the highest motivations driving businesses towards UBC.

*Motivations for UBC* are the reasons why businesses collaborate with university.

They provide key information about the outcomes that the businesses seek from their collaborative activities relating to education, research, valorisation and management.

The ability of the collaboration to achieve these outcomes will have a substantial influence on the businesses' assessment of the success of their collaboration.

## Motivators

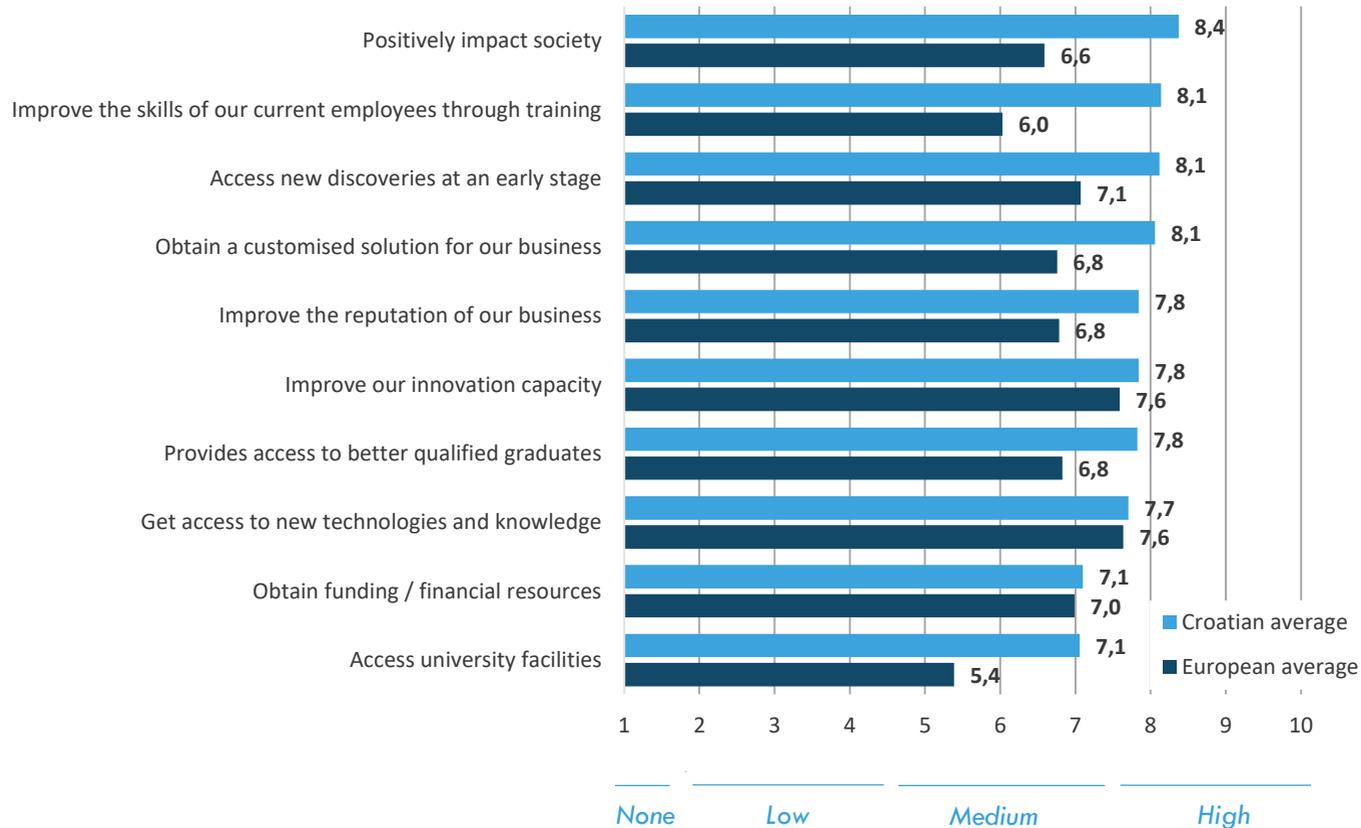
*'What motivates you to cooperate with universities?'*



# Drivers stimulating UBC

## Motivators

'What motivates you to cooperate with universities?'



Croatian and European businesses have considerably different views on motives driving them towards UBC.

Thus, while European businesses are clearly driven by innovation related reasons, the top motivators for Croatian businesses include impacting society, improving employee skills and developing a competitive advantage. On the other hand this potentially says something about Croatian companies (not) having an innovation-centred strategies.

Notably, while the willingness to positively impact society (8.4) is scored as the highest motivation, for their European counterparts it is considerably less important (6.6).

On the other end, access university facilities emerge as the least relevant motivator for businesses both in Croatia and Europe. However, this may be due to the fact that not many universities in Croatia have state of the art R&D facilities that would be of interest to business.

# Benefits of UBC

Both, Croatian and European businesses perceive students as the main UBC beneficiaries. However, European and Croatian perspectives differ in respect to the benefits received by various stakeholders.

Croatian businesses perceive themselves also as lesser beneficiaries of UBC than for university stakeholders. They also see less benefits for government and society.

Since UBC in Croatia is not well developed, HEIs lack a market focus and is lacking appropriate supporting mechanisms, the involved stakeholders are not yet able to see the benefits of UBC on a wider scale.

*Benefits* are the perceived positive outcomes (financial and non-financial) from undertaking UBC as relevant for the different stakeholder groups that can potentially participate in UBC.

The perception regarding who benefits from such cooperation can influence the decision to increase or decrease their participation or

the involvement of other groups. For example, if academics perceive their own benefits to be low, they may refrain from engaging in UBC. Yet, if they perceive benefits for students to be high, they might undertake actions that contribute to students' involvement in UBC.

## Benefits of UBC

*'Who receives the benefits of UBC?'*

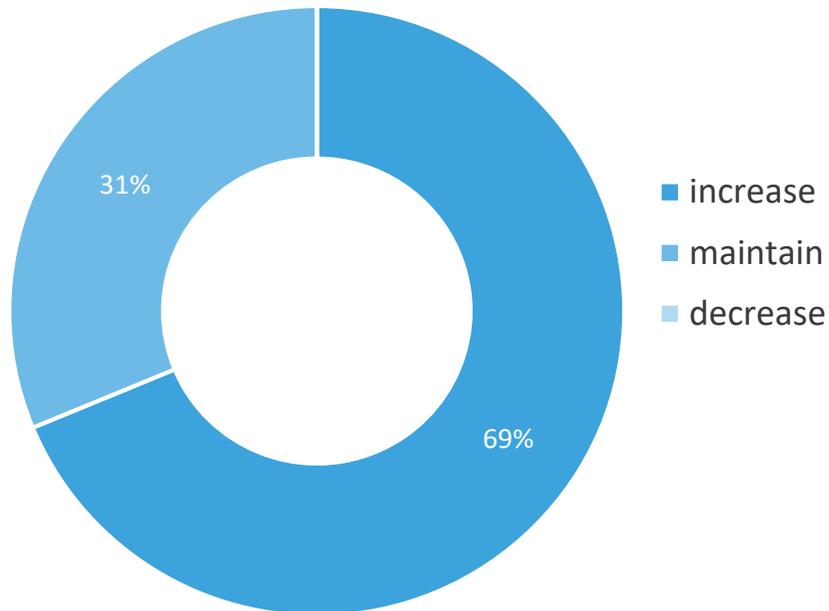


	Croatian businesses	European businesses
1.	Students	Students
2.	Academics	Universities
3.	Universities	Businesses
4.	Businesses	Academics
5.	Government/public authorities	Society
6.	Society	Government/ public authorities

# Future intentions

## Future UBC intentions – Croatia

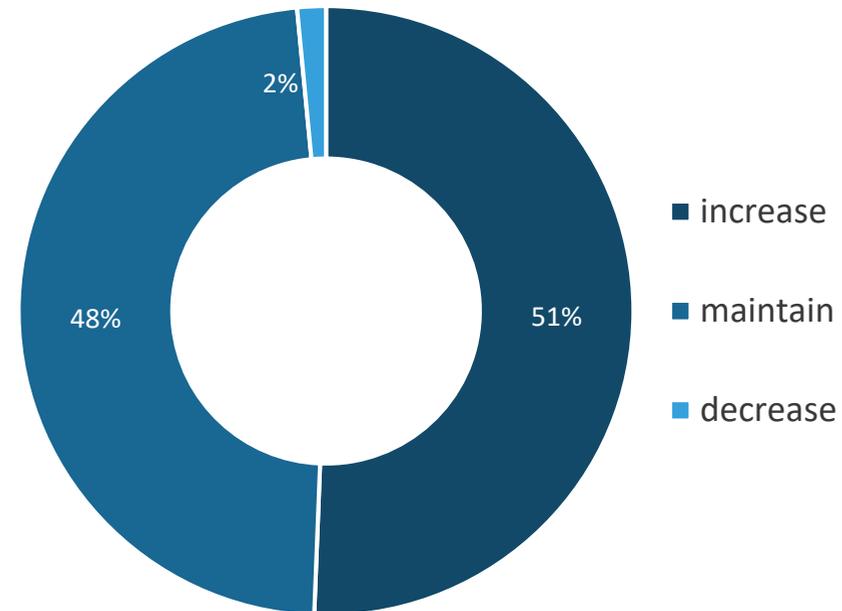
*As answered by Croatian businesses*



100% of businesses in the Croatian businesses that cooperate with universities intend to maintain the cooperation with universities, with 69% of respondents planning to increase it.

## Future UBC intentions – EUROPE

*As answered by European businesses*



European businesses seem to be less confident in terms of their future intention towards UBC as it can be observed through a lower percentage of business respondents (51%) that plan to increase cooperation activities.

# Willingness to recommend UBC

The willingness of Croatian cooperating businesses to recommend to a colleague to engage in UBC does not vary much depending on whether this cooperation is in research or in education. They express readiness to recommend UBC with respect to both R&D and E&T with NPS scores of 20% and 31% respectively.

Around half of the businesses nominate themselves as UBC promoters for both education and research. This compares very favourably with the European ratings, especially higher in the willingness to recommend UBC in education.

There is a more longstanding tradition of UBC in education in Croatia, which could account for this significantly better NPS for UBC in education.

Respondents were asked how likely it would be that they recommend to a business colleague to engage in UBC in the areas of R&D and

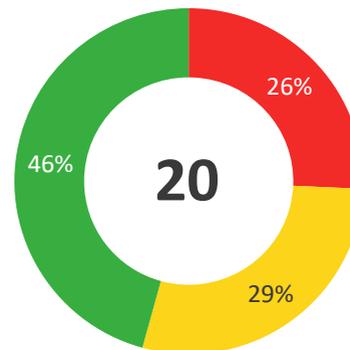
education and training (E&T). The *Net Promoter Score* metric offers a proxy for customer satisfaction.

## Willingness to recommend cooperation with universities in R&D or E&T

	Detractors	Passives	Promoters	Net promoter score
Business cooperating with universities in R&D	26%	29%	46%	20
Business cooperating with universities in E&T	21%	28%	51%	31

## Satisfaction with cooperation with universities (net promoter score)

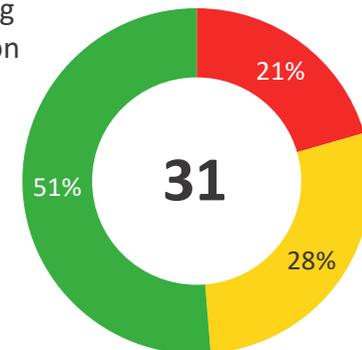
Business cooperating in research



■ Detractors ■ Passives ■ Promoters

European business NPS result: 28.2

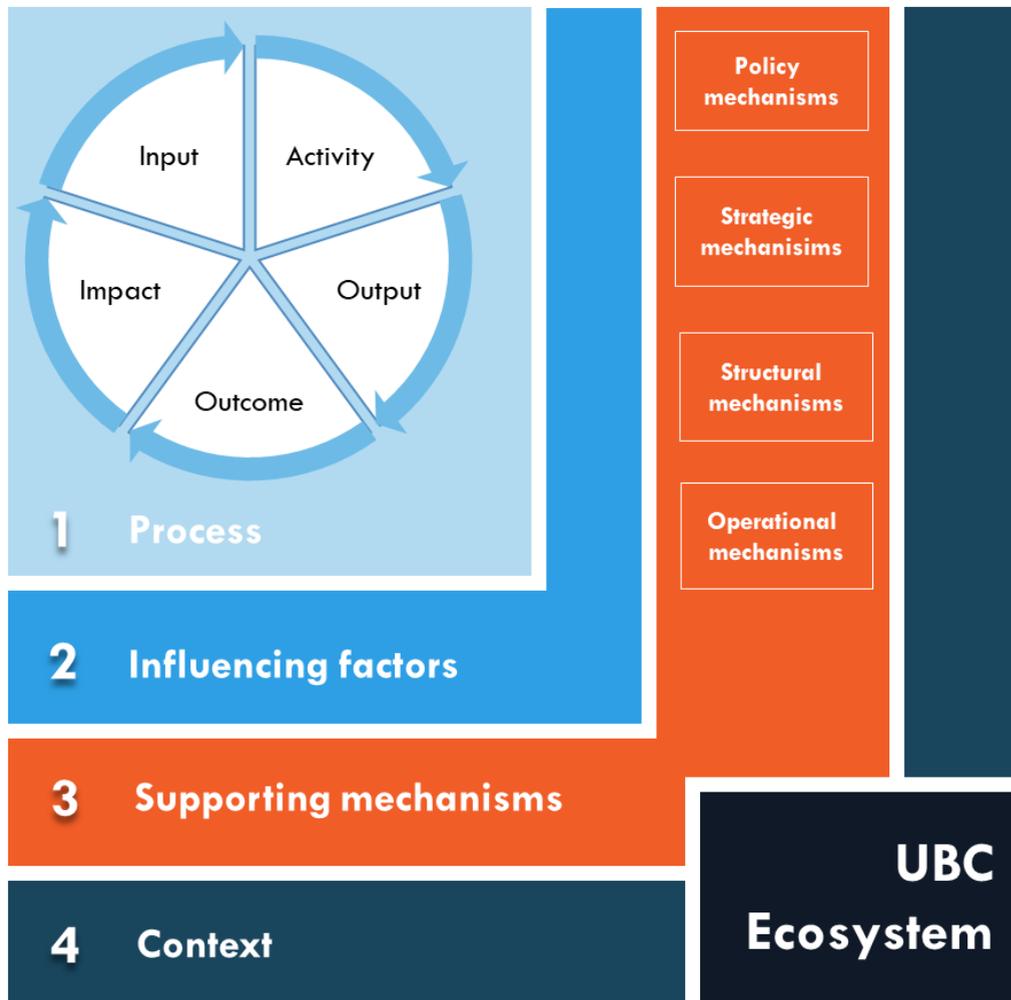
Business cooperating in education



■ Detractors ■ Passives ■ Promoters

European business NPS result: -2.1

# Supporting mechanisms for UBC



Supporting mechanisms are interventions designed to support the development of cooperation between HEIs and business.

There are four types of supporting mechanisms:

- Policy
- Strategic
- Structural
- Operational

This section outlines the extent to which UBC supporting mechanisms are developed in this sample from the HEI perspective.

At the European level, the extent of development of all these mechanisms significantly influences the extent of cooperation.

# Supporting mechanisms for UBC

Supporting mechanisms related to education are the most developed for Croatian businesses, with presentations, lectures or mentoring, lifelong learning and student projects with business being the top three.

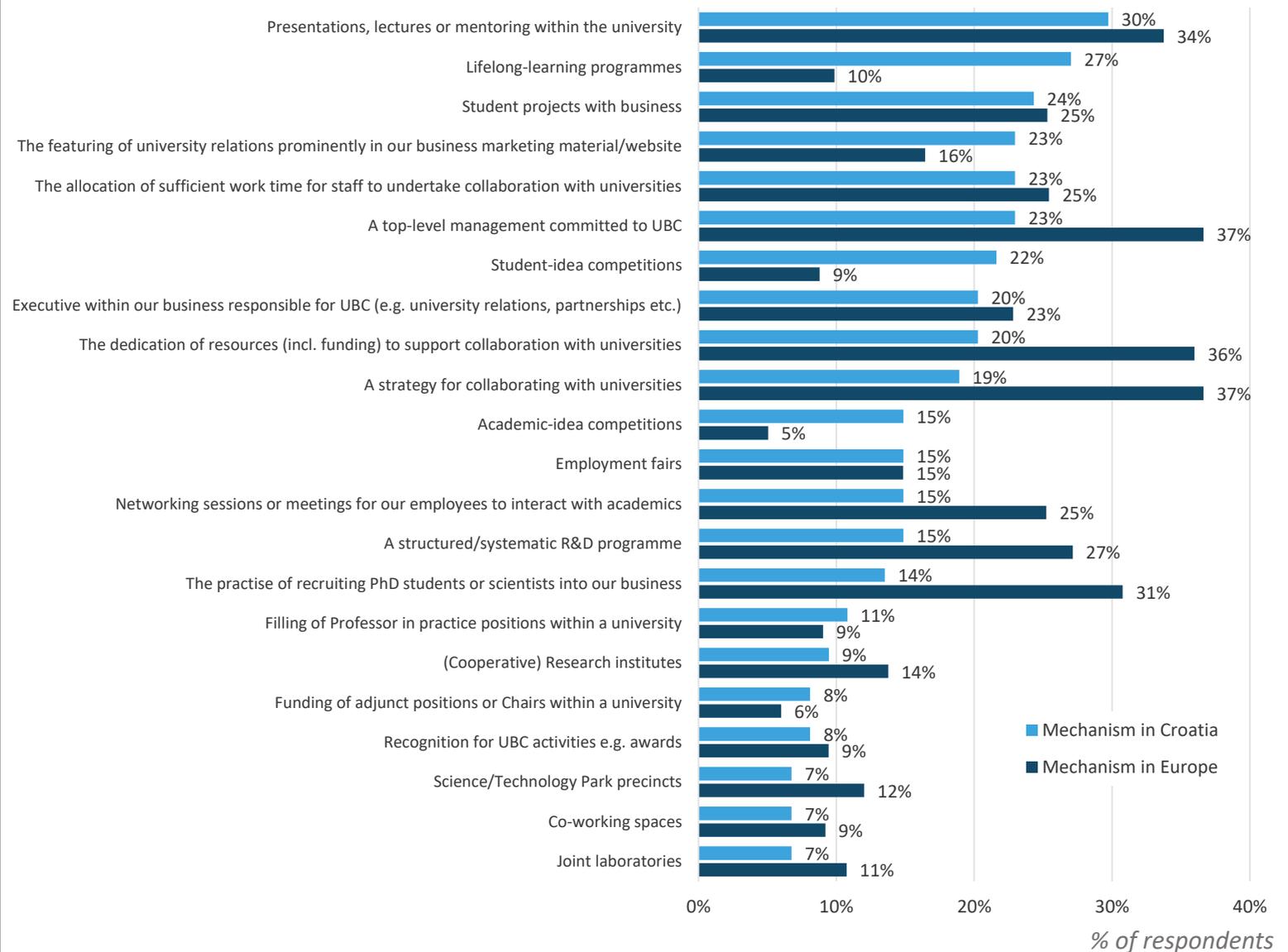
Mechanisms related to facilities including science/technology parks, co-working spaces and joint laboratories are the most underdeveloped. These type of facilities are almost non-existent in Croatia.

Overall, the level of development of supporting mechanisms in Croatia considerably differs from European average. It appears that the management of Croatian businesses is significantly less devoted to UBC and dedicates less resources than companies do in Europe.

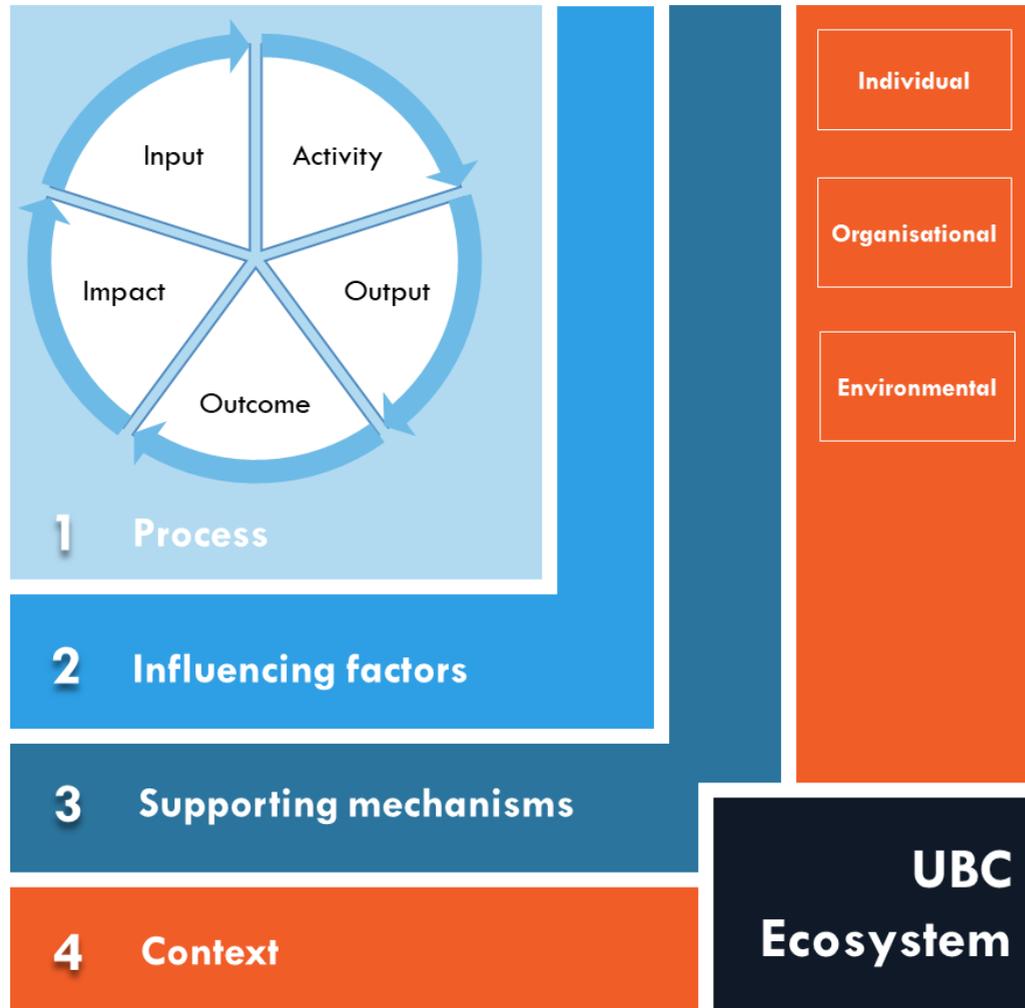
The national study completed by VERN and Croatian Employers' Association found that hindrances on the national, regional and local level are the most prominent ones in respect to inadequate support systems, non-co-ordinated national strategies, non-UBC stimulating legal regulations and an absence of projects and affirmative mechanisms on UBC. This suggests that change to address the systemic issue of a lack of supporting UBC environment may need to start at the policy level.

## Mechanisms supporting UBC

*'Do these supporting mechanisms for UBC exist in your business?'*



# Context



The degree to which UBC takes place is influenced by a set of elements present in the context of the organisation that cannot be changed in short term.

These include the characteristics of individual actors involved, the institutional factors relating to the university and business, as well as by a set of broader environmental factors (political, economic, social, technological, etc.).

This section outlines how some contextual factors influence UBC in the country.

# Context

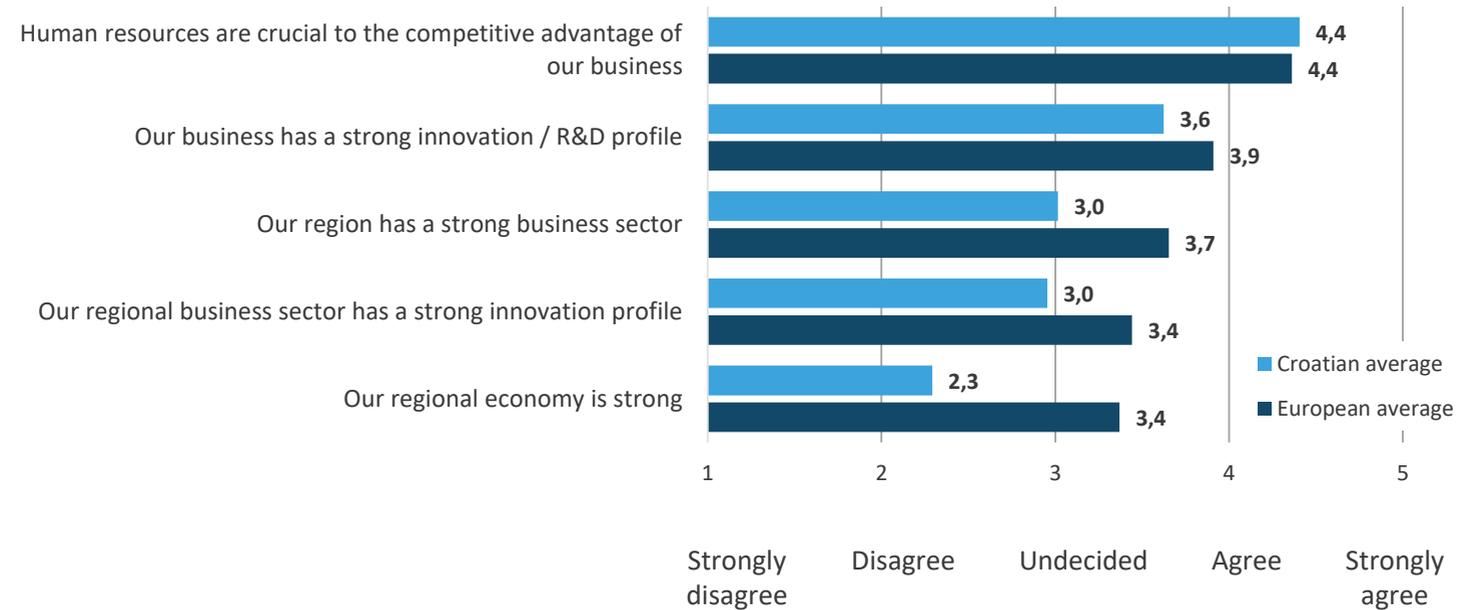
Croatian business cooperating with universities perceive their context less positively than their European counterparts.

For Croatian businesses, human resources are crucial to their competitive advantage.

Although they see themselves as strong in innovation and R&D, a lower perception emerges regarding the characteristics of the regional business sector.

## Contextual factors affecting UBC

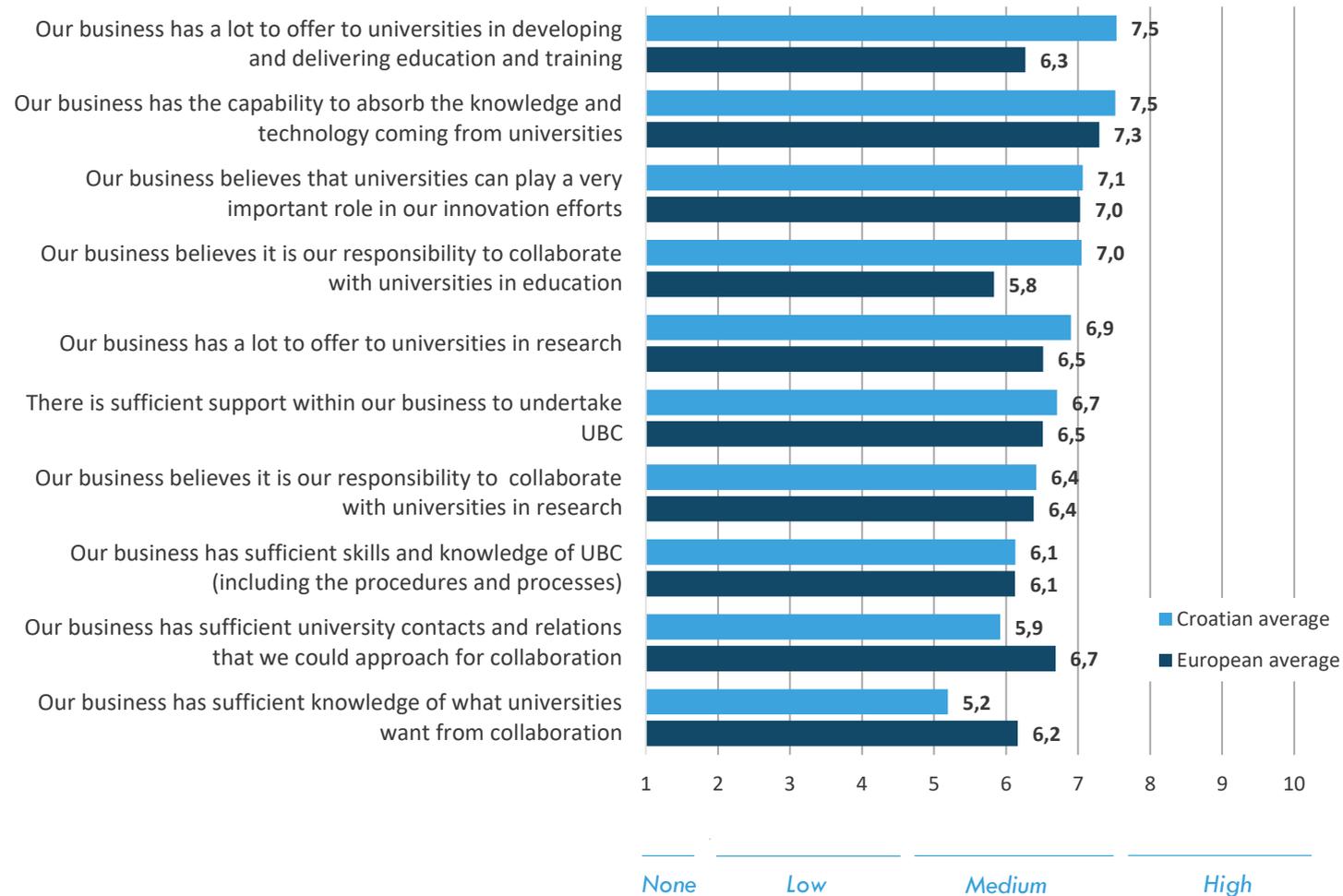
*'To what extent do you agree with the following statements?'*



# UBC capabilities and beliefs

## Supportive UBC environment

*How supportive are your organisation and environment for UBC?'*



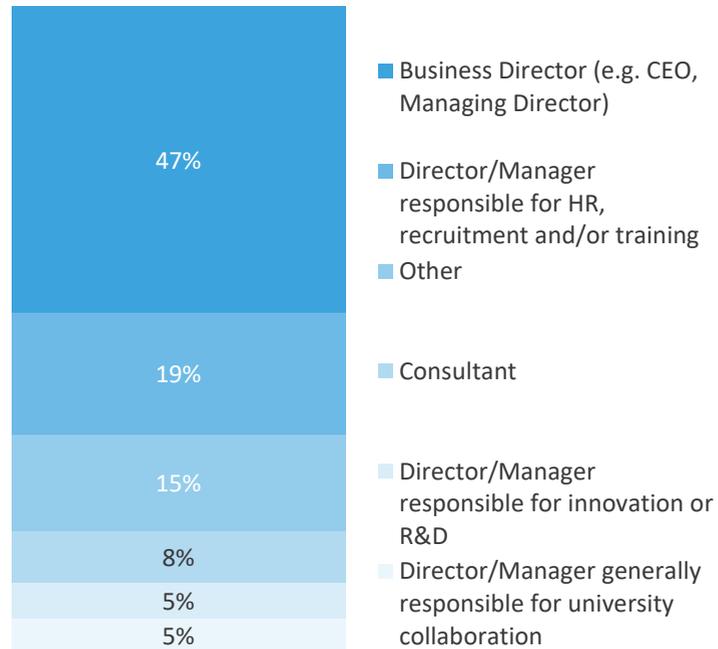
Overall, UBC capabilities in Croatia are developed to a medium extent. Croatian and European perspectives differ with respect to UBC environment.

Croatian businesses perceive themselves to be supportive towards UBC. Thus they have a lot to offer to universities in education (7.5) and they are capable of absorbing knowledge and technology coming from universities (7.5).

Yet, the businesses lack sufficient university contacts (5.9) and do not have sufficient knowledge of what universities want from collaboration (5.2).

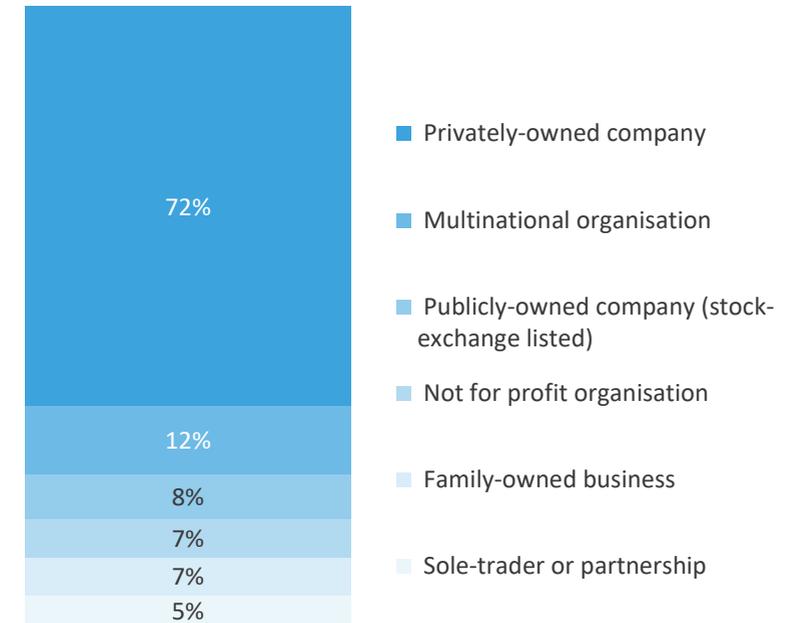
# Respondents profile

## Position of respondent



'Business directors' represent the largest group of Croatian respondents (47%), followed by 'directors/managers responsible for HR'. The remaining respondents identified themselves as 'consultants' (8%), and 'directors/managers responsible for innovation' (5%) and 'directors/managers responsible for university collaboration' (5%).

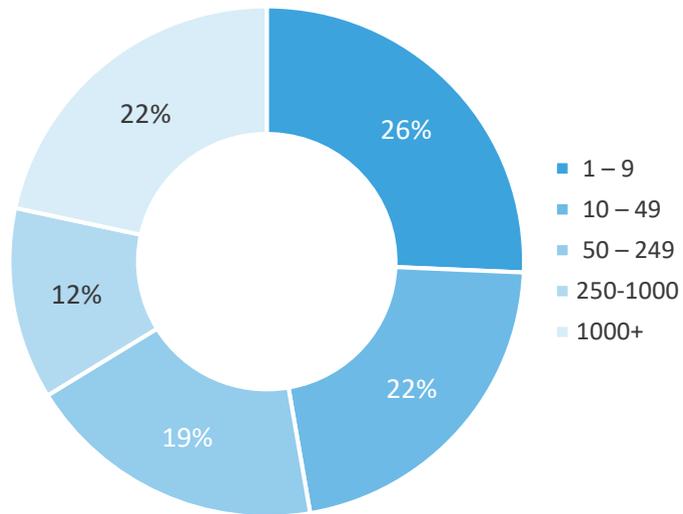
## Type of business



'Privately-owned companies' formed the largest group in the Croatian sample (72%), followed by 'multinational organisations' (12%). The type of businesses with less than 10% representation included 'publicly-owned companies', 'not for profit organisations', 'family-owned businesses', and 'sole-traders or partnerships'.

# Respondents profile

## Business size



Sample Size	
Croatian business representatives	n = 74
European business representatives	n = 3.113

Almost a half of the Croatian sample is comprised by small firms with less than 50 employees. Respondents indicating that they work for companies with 250 to 1000 accounted for 12%. Large companies with more 1000 employees are represented with 22%.

# Contact us

Todd Davey - [davey@uiin.org](mailto:davey@uiin.org)

Arno Meerman - [meerman@uiin.org](mailto:meerman@uiin.org)

This report is part of the DG Education and Culture study on the University-Business Cooperation in Europe: drivers, challenges and opportunities in Europe EAC/10/2015. Further information can be found at [www.ub-cooperation.eu](http://www.ub-cooperation.eu)

This report is also part of the Global University-Business Monitor initiative, a global study into university engagement and cooperation between university and business. Further information can be found at [www.uni-engagement.com](http://www.uni-engagement.com)