



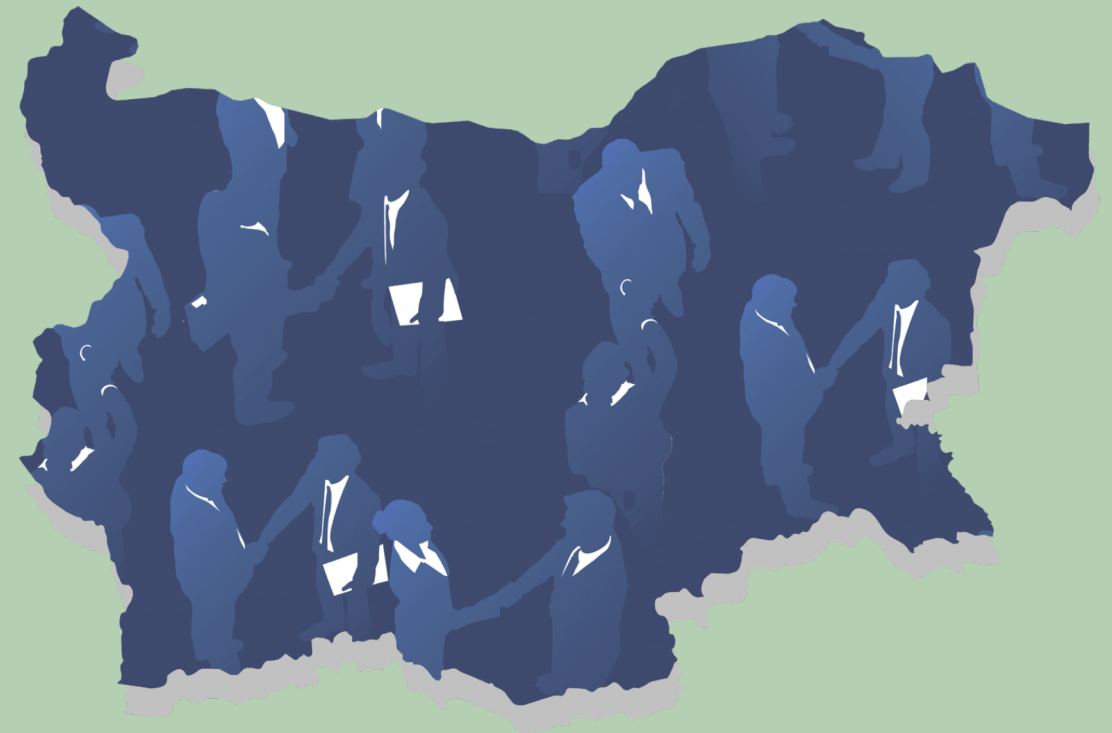
**UNIVERSITY-BUSINESS**  
COOPERATION IN EUROPE

# State of University- Business Cooperation

# BULGARIA

## University Perspective

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



**Science Marketing**  
Science-to-Business Marketing Research Centre

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## The State of Bulgarian University-Business Cooperation: the university perspective

### Partners



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# Executive summary

## Summary

Examining the perceptions of academics, HEI managers and knowledge transfer professionals (KTP) provides positive signs for the future, with 100% of all respondents currently cooperating with businesses planning to maintain or increase their cooperation in the future, which is higher than European average rate of satisfaction of the stakeholders with their current activities. Yet, more can be done, for example, by supporting academics in acquiring relevant skills and knowledge about UBC, and further developing UBC supporting mechanisms on the institutional level.

## About the study

The results presented in this report reflect the perceptions of academics, HEI managers and KTP in Bulgaria with respect to cooperation between HEIs and business. Data was collected by means of an online survey distributed via email to all registered European HEIs in 33 countries during October-November 2016, leading to a total of 168 responses from Bulgarian HEIs. The study measured the perceptions of respondents with respect to their cooperation efforts, barriers, drivers, support mechanisms and perceived capabilities.

## University-Business Cooperation activities

Overall, in Bulgaria education related UBC types such as mobility of students and curriculum co-delivery are the most developed collaboration activities, with respectively 38.5% and 33% of academics reporting them of a medium to a high level. The main driver for the development of

these activities is the availability of EU funding programs (e.g. Horizon2020, ERDF, ESF).

Nonetheless, the results show that over 50% of academics do not undertake any UBC activities in general, especially those connected with valorisation and management. When comparing national and European averages, it can be seen that the extent of UBC differs extremely for both samples, with Bulgarian UBC being underdeveloped.

Bulgarian academics also do not see themselves as major UBC initiators. They perceive university management and former students to be those stakeholders who are most proactive in starting the UBC initiatives.

## Lack of funding as a major barrier

The HEIs stakeholders surveyed in this study (HEI representatives, collaborating and non-collaborating academics) indicate similar factors that hinder their collaboration with business. All stakeholders report lack of funding (business/governmental/ university) as the major constraining factor for UBC. Yet, while for collaborating and non-collaborating Bulgarian academics the barriers related to culture, such as differing time horizons and motivation/values between the partners appear to be rather pressing, HEI representatives find the fact that businesses tend to focus on producing practical results as the most significant barrier. All the stakeholders perceive the barriers to be stronger than the European average.

**NOTE:** This report seeks to contribute to our understanding of the higher education institutions' (HEI) perspective of university-business cooperation (UBC) in Bulgaria, 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.

# Executive summary

## **Access to funding and infrastructure drives UBC**

Bulgarian academics and HEI managers agree on that the major factors that encourage UBC are connected with the relationship and funding. Interestingly, while Bulgarian academics find the existence of funding also as the major UBC facilitator, HEI representatives assign slightly less importance to it and indicate prior established relations with the business partner as the main enabler of collaboration. Interest of the university to access business-sector facilities drives the collaboration for both Bulgarian academics and HEI representatives. Notably, the university research infrastructure in Bulgaria was suffering from the lack of both private and public funding for the last two decades. Therefore, the universities are interested in accessing the external infrastructural resources, which can lead to a significant increase of the capacity of Bulgarian scientists for conducting high quality scientific research.

Additionally, both groups recognise the importance of well-established relationships with existence of shared goal and mutual commitment

## **Individual vs. Institutional gains from UBC**

HEI stakeholders in Bulgaria are driven by rather different motivations to engage in UBC. While Bulgarian academics who cooperate strive to improve their own professional profile, the non-cooperating academics put more emphasis on motives related to other stakeholders. They are motivated by the willingness to improve graduate employability and address societal challenges and issues. As for HEI representatives, they are more motivated to aid the university achieve its goals: obtain additional financial resources, use the

university research in practice and gain new insights for future research, as well as contribute to the mission of the university and its reputation.

## **Paper strategy**

Overall, the majority of policy, strategic, structural and operational mechanisms to support UBC are developed to medium level in Bulgarian HEIs. The level of development of some of the mechanisms exceeds the overall European level, such as the majority of supporting mechanisms and paper strategy, or some structural mechanisms such as careers offices and alumni networks creations. They also happen to be the most developed UBC supporting mechanisms in Bulgaria. Some networking activities to support the meeting sessions between academics and people from the business sector or external communication activities are among most practiced operational UBC supporting mechanisms.

However, notably, the development of infrastructure and stable networks as instruments to support UBC still lags behind.

## **Positive attitude**

Bulgarian academics show a positive attitude towards UBC and agree that it is their personal and their universities' role to collaborate with businesses in research and education. They perceive their capabilities to undertake UBC as strong, yet also notice the lack of specific skills, knowledge and support for UBC. Bulgarian academics' willingness to recommend UBC to their peers exceeds the European average almost twofold in research and 2.5 times in education, which shows a positive sign for the growth of UBC going forward.

# Introduction

## About the study

The study focuses 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.



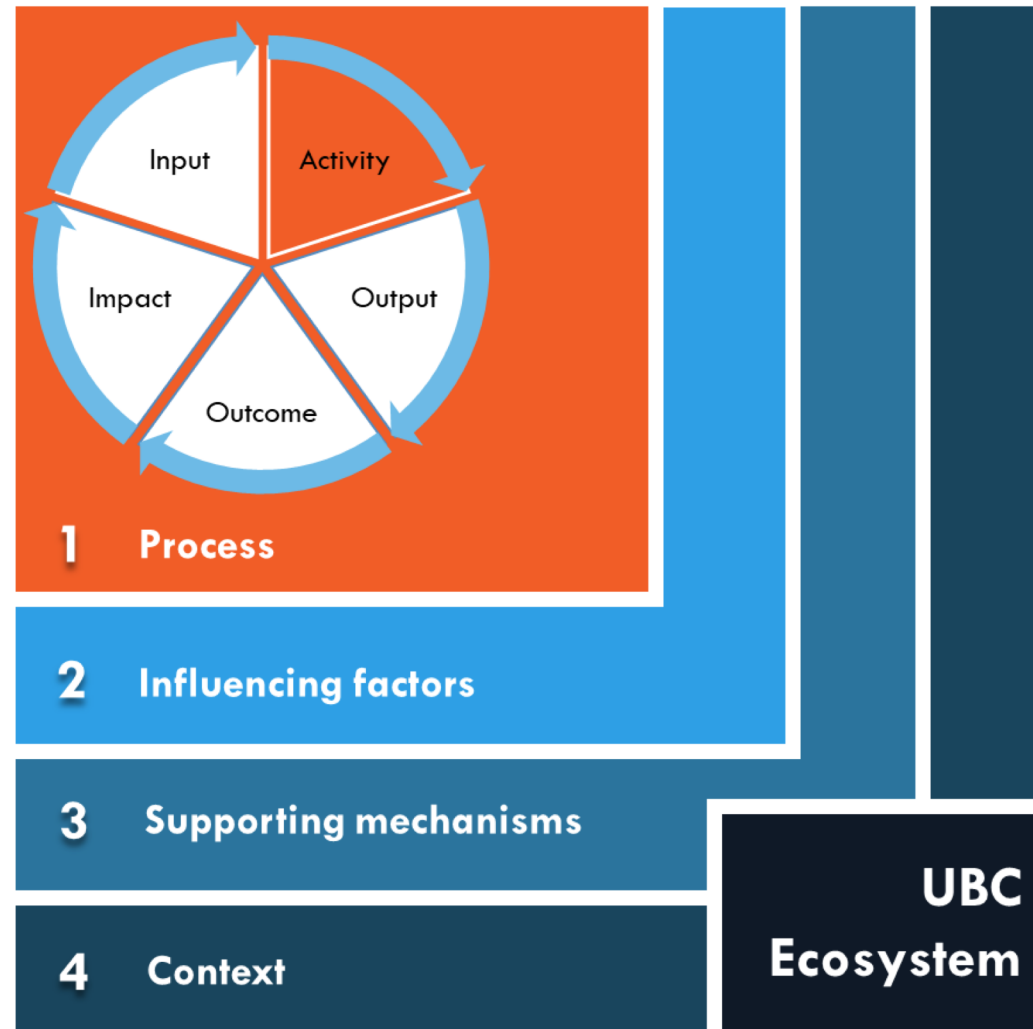
# UBC activities

## 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 and categorised into the areas of education, research, valorisation and management.

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

# Development of UBC activities

The extent of UBC is presented in a range of cooperation activities, on four levels of development: None, Low, Medium and High.

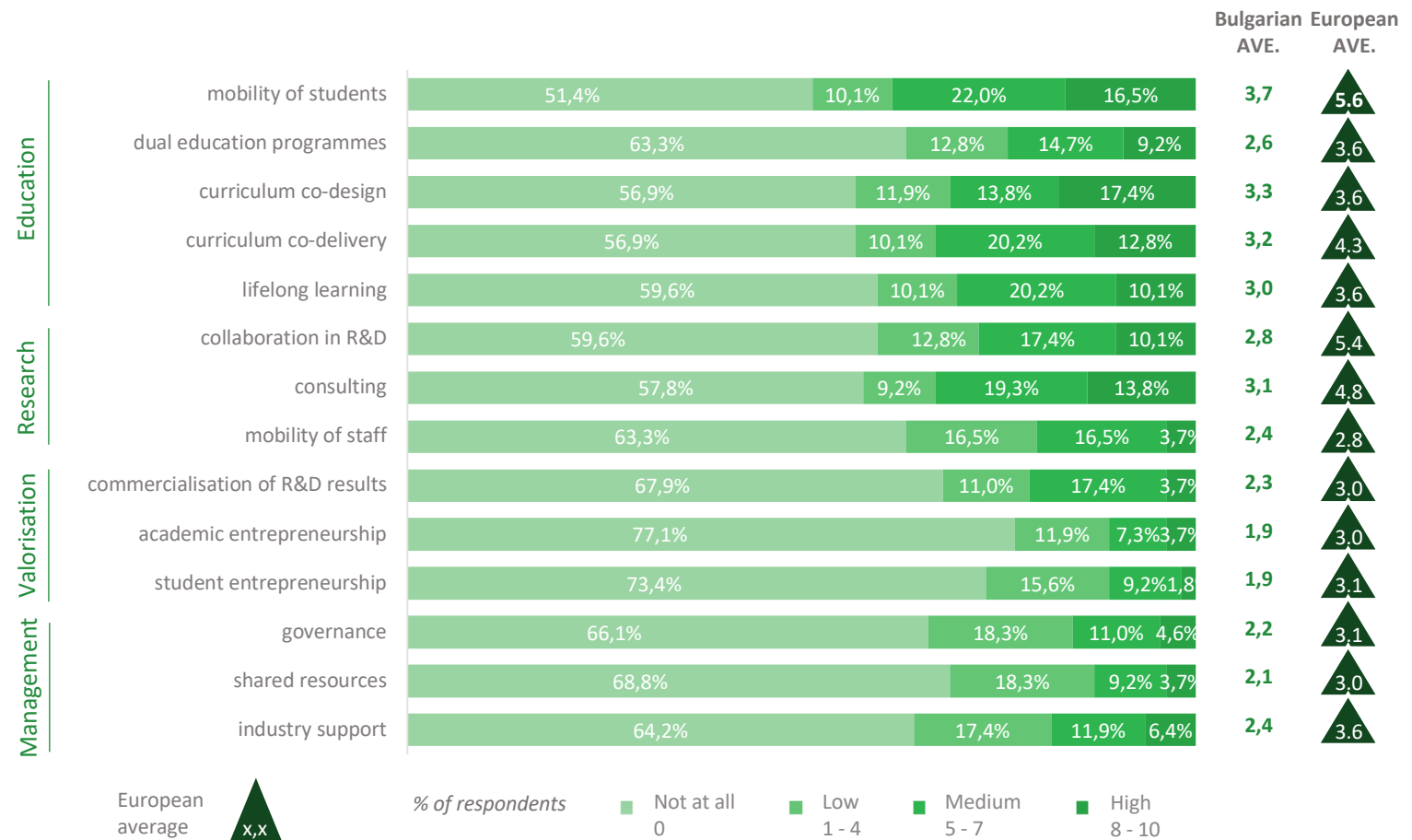
In Bulgaria education related UBC types such as mobility of students and curriculum co-delivery are the most developed collaboration activities. 38,5% and 33% of academics (respectively) report development of such activities to a medium or a high level. Main driver for the development of such activities is availability of EU funding programmes.

On the other end of the scale, the results show that over 50% of academics do not undertake any UBC activities. The academics see their role and functions to conduct fundamental research and to prepare highly qualified specialists, but not so much connected with the business demands.<sup>1</sup>

When comparing national and European averages, it can be seen that the extent of UBC extremely differs for both samples, with Bulgarian UBC being underdeveloped.

## The extent of development of UBC activities

*'Which UBC activities do you collaborate with businesses in?' – as answered by academics*

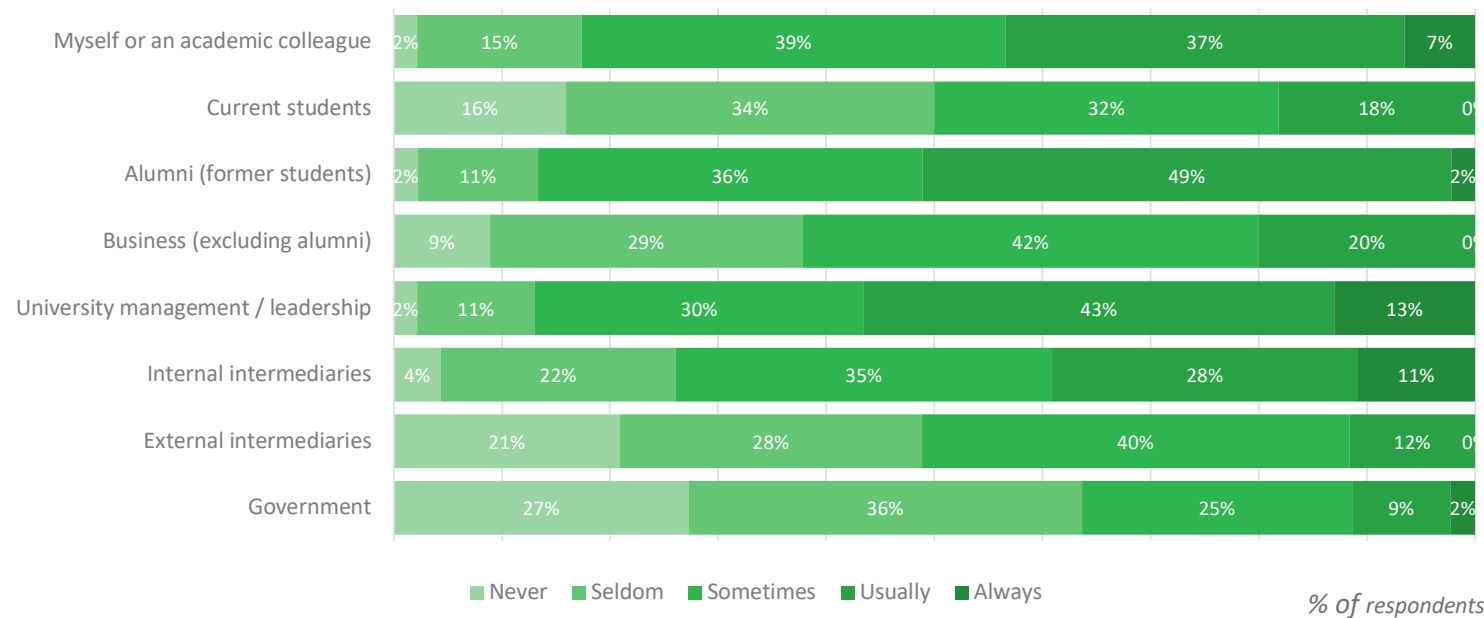


<sup>1</sup> Conclusions of Project "Science and Business" (2015). "Applied Practices in Academic Entrepreneurship", Sofia, Bulgaria

# Initiation of UBC

## How UBC is initiated

*'How often various stakeholders initiate UBC activities' – as answered by academics*



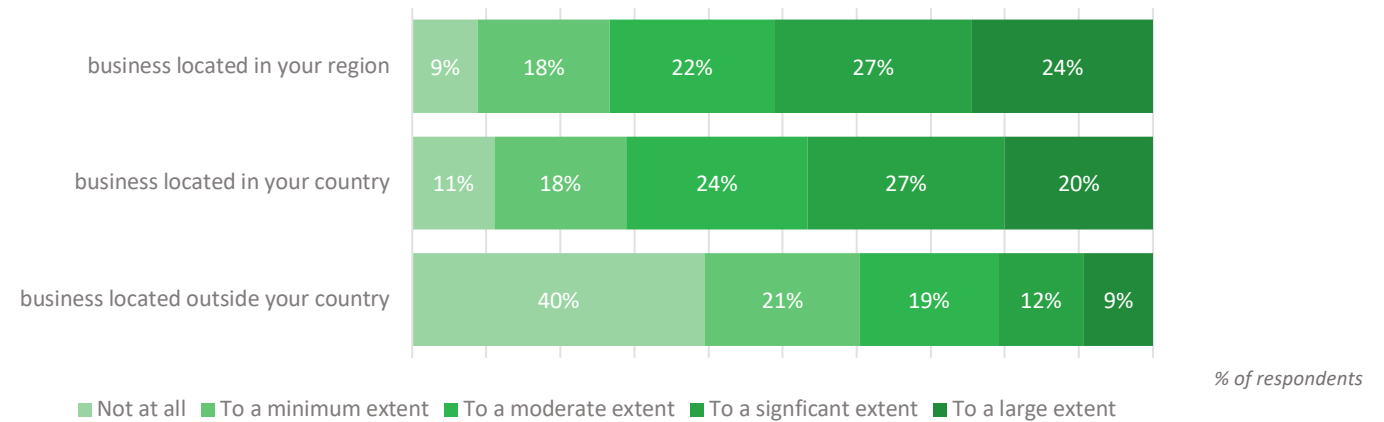
University management and former students are the stakeholders who usually or always initiate collaborative activities (56% and 51% respectively). Bulgarian academics see themselves as the third most active UBC initiator (44%).

While government is generally seen as a UBC initiator, its contribution in Bulgaria is very limited, with 63% of academics reporting that government never or seldom engages itself in starting UBC.

Businesses are not active in UBC initiation in Bulgaria as well. While internal intermediaries take more active role in starting cooperation (39% as 'always' and usually'), external intermediaries have more passive position in respect to UBC initiation.

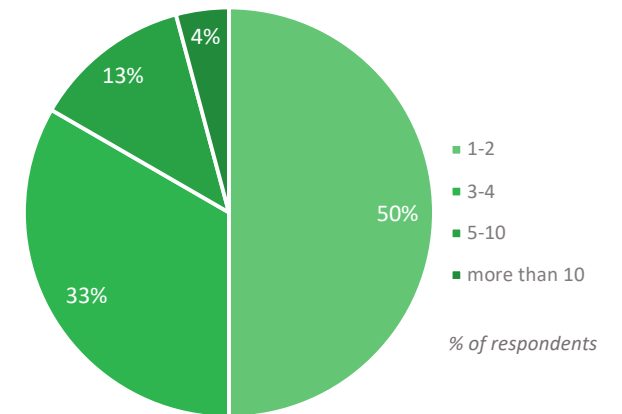
# Location of cooperating partners

## Location of business partners



Bulgarian academics have cooperation of a 'significant' and 'large extent' with businesses from Bulgaria and the region with 51% and 47% respectively. The cooperation with international business partners lags considerably behind (21%).

## Number of business partners

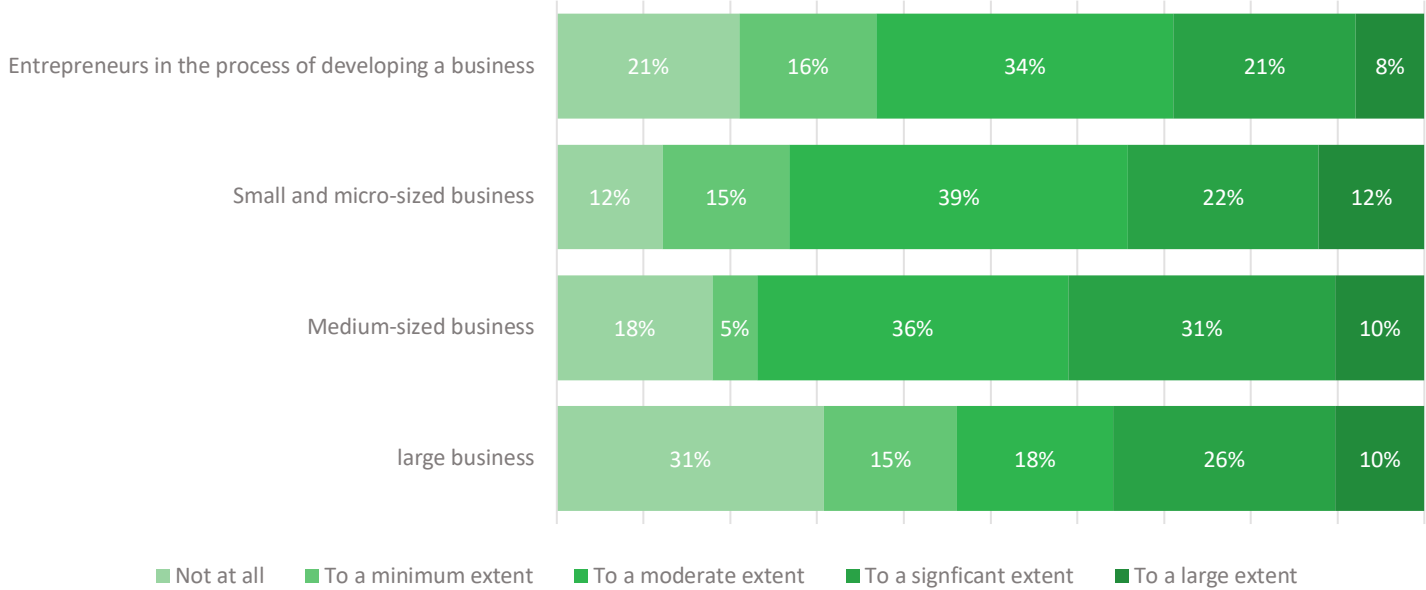


Bulgarian academic respondents cooperate mostly with smaller number of companies (1 to 4 - 83%), whilst only 17% have partner relations with 5 or more companies.

# Size of cooperating partners

## Size of cooperating partner

*'With whom do you collaborate?' – as answered by academics*



Bulgarian academics undertake UBC with businesses of varying size. Academics mostly cooperate with medium-sized companies, with 41% of the academics reporting to collaborate with them to a 'large' and 'significant' extent.

Smaller companies represented by small/micro-sized businesses and entrepreneurs in the process of developing a business are less frequent collaboration partners for Bulgarian academics undertaking UBC with them to a 'significant' and 'large extent' (34% and 29% respectively).

31% of Bulgarian academics do not engage in any UBC activities with larger businesses.

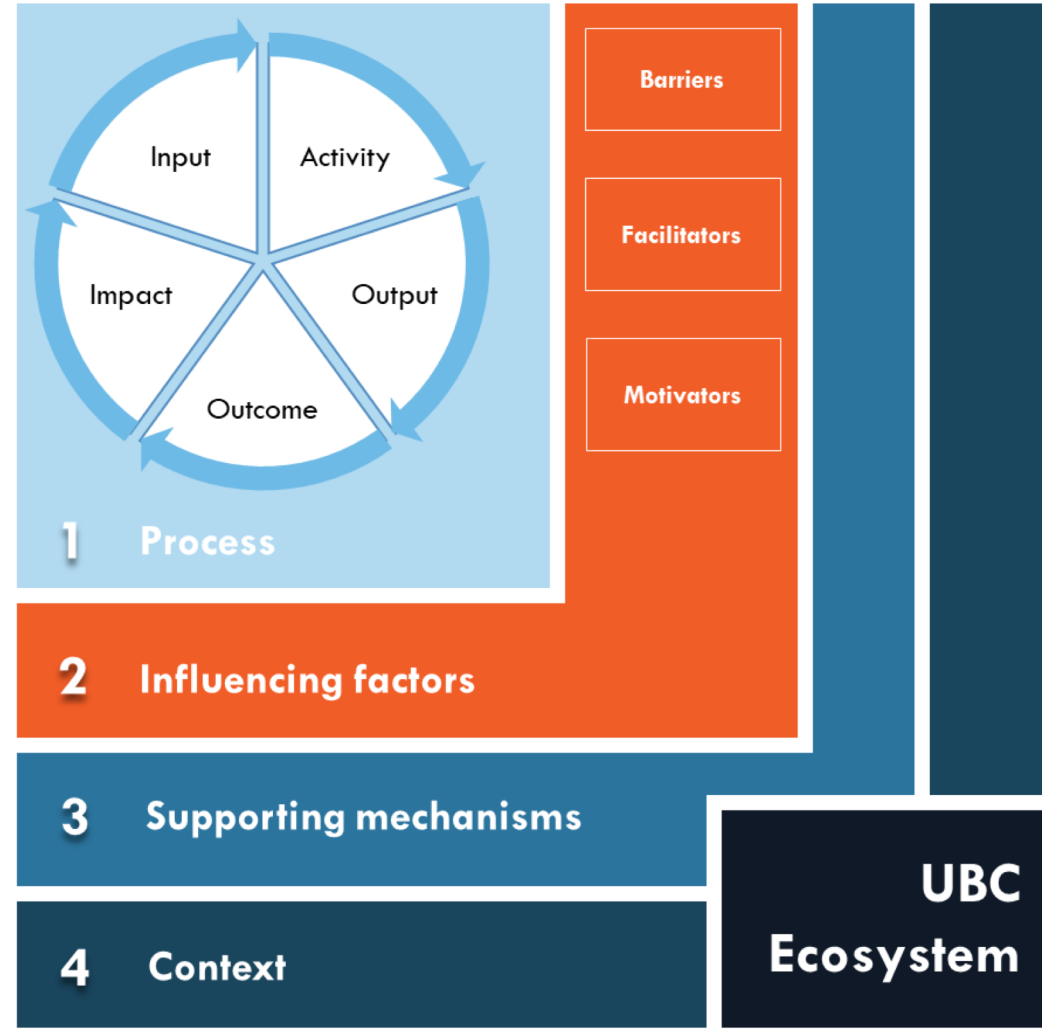
# Factors influencing UBC

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

## Barriers

*What is inhibiting your cooperation with business?' – as answered by academics*

	Academics collaborating with business	Academics not collaborating with business
1.	Lack of business funding for UBC	Lack of government funding for UBC
2.	Bureaucracy related to UBC	Differing motivation / values between university and business
3.	Differing time horizons between university and business	Lack of university funding for UBC
4.	Lack of people with scientific knowledge within business	Lack of business funding for UBC
5.	Limited resources of SMEs	Bureaucracy related to UBC
<i>Lowest</i>	Frequent staff turnovers within my university or the business	Frequent staff turnovers within my university or the business

While comparing the top five barriers to UBC named by Bulgarian academics active in UBC and those who do not engage in a collaboration with business, both similarities and discrepancies can be seen between their perceptions.

For cooperating academics the largely present factors inhibiting UBC relate to various issues, such as lack of resources and bureaucracy. On the other hand, three out of the top five barriers for non-cooperation academics are exclusively connected to funding issues.

Notably, while the lack of business funding is the most wide-spread barrier for academics involved in UBC, their non-cooperating counterparts see the lack of the government funding as more of a challenge.

# Barriers hindering UBC

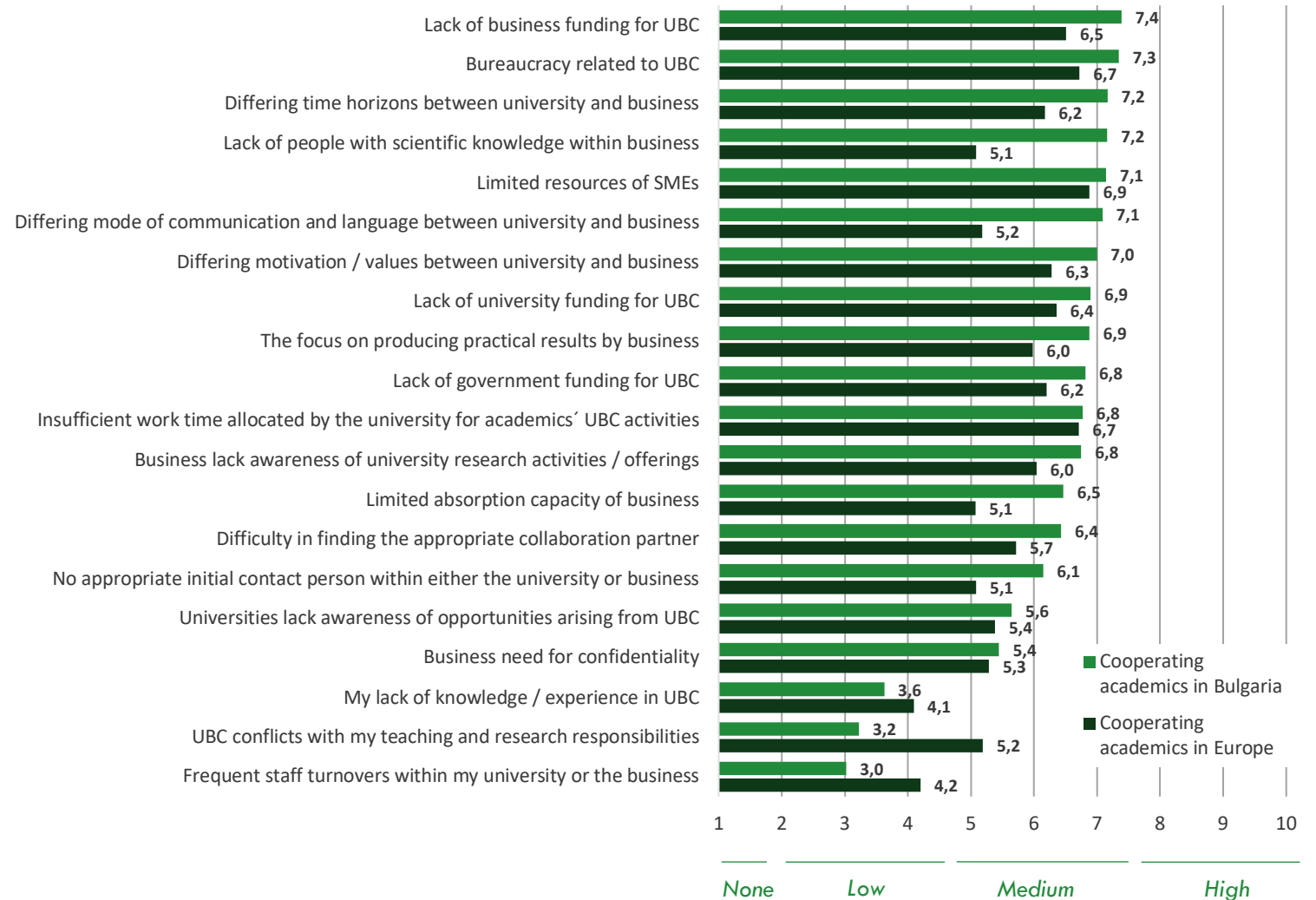
Bulgarian and European academics engaged in UBC have different perspectives in respect to barriers hindering cooperation.

Bulgarian academics perceive the majority of barriers stronger than their European counterparts. Thus, their views differ to a relatively large extent in relation to the factors such as 'lack of people with scientific knowledge within business' (gap of 2.1 on a 10-point scale), 'UBC conflict with my teaching and research responsibilities' (gap of 2.0) and 'differing mode of communication and language between university and business' (gap of 1.9).

While for Bulgarian academics the lack of business funding for UBC is the strongest barrier, for their European counterparts it is connected with limited resources of SMEs.

## Barriers

*'What is inhibiting your cooperation with business?' – as answered by academics*

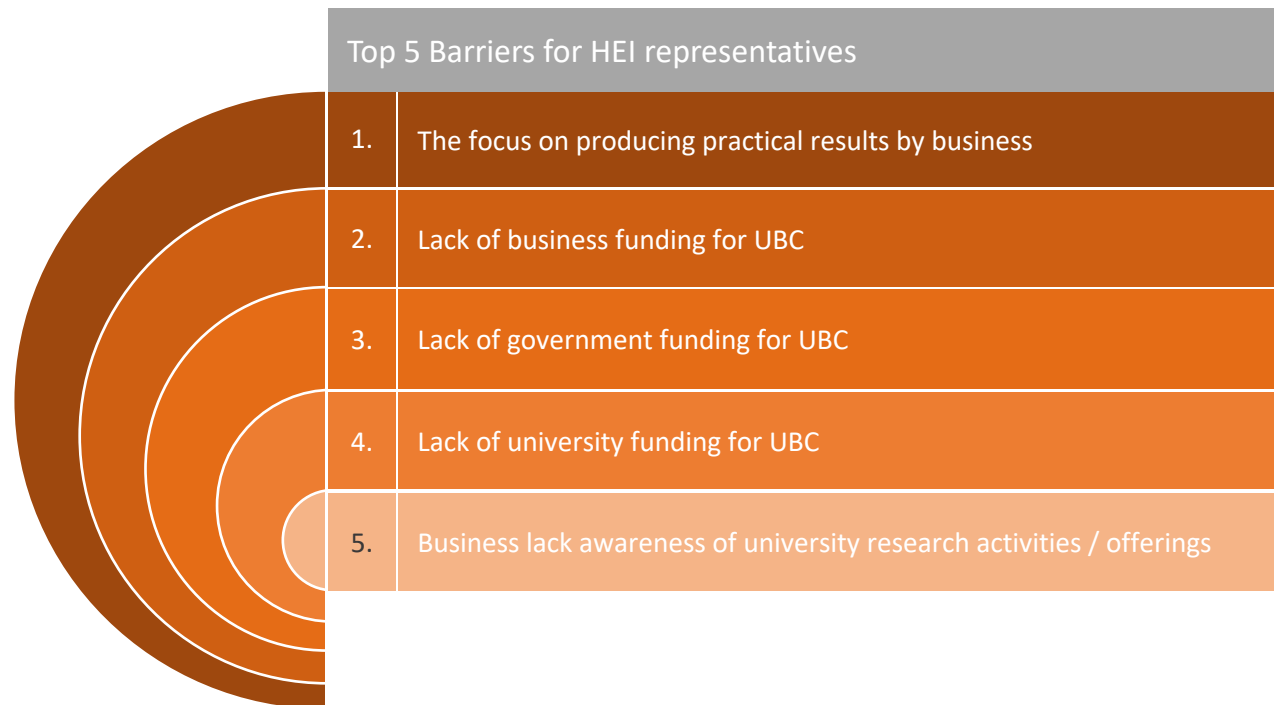




# Barriers hindering UBC

## Barriers

*'What is inhibiting your HEI cooperation with business?' – as answered by HEI representatives*



For Bulgarian HEI representatives 'business focussing on producing practical results' is the primary barrier to UBC. A fluid organisational structure of Bulgarian businesses and tendency to resolve their issues ad hoc, can be perceived by Bulgarian academics as to large of a focus on practicality.<sup>2</sup>

The other major barriers relate to the limited financial resources including lack of business, government and university funding. Business' lack of awareness of university research activities/ offerings hinders UBC as seen by Bulgarian HEI representatives.

<sup>2</sup> Valchanov N. (2017). Business needs to realise that the State is not the only one responsible for the education. *Newspaper Capital*. Sofia, Bulgaria.

# Barriers hindering UBC

The majority of barriers for Bulgarian and European HEI representatives slightly differs. Generally, Bulgarian HEI representatives perceive most of the barriers relatively stronger than their European counterparts.

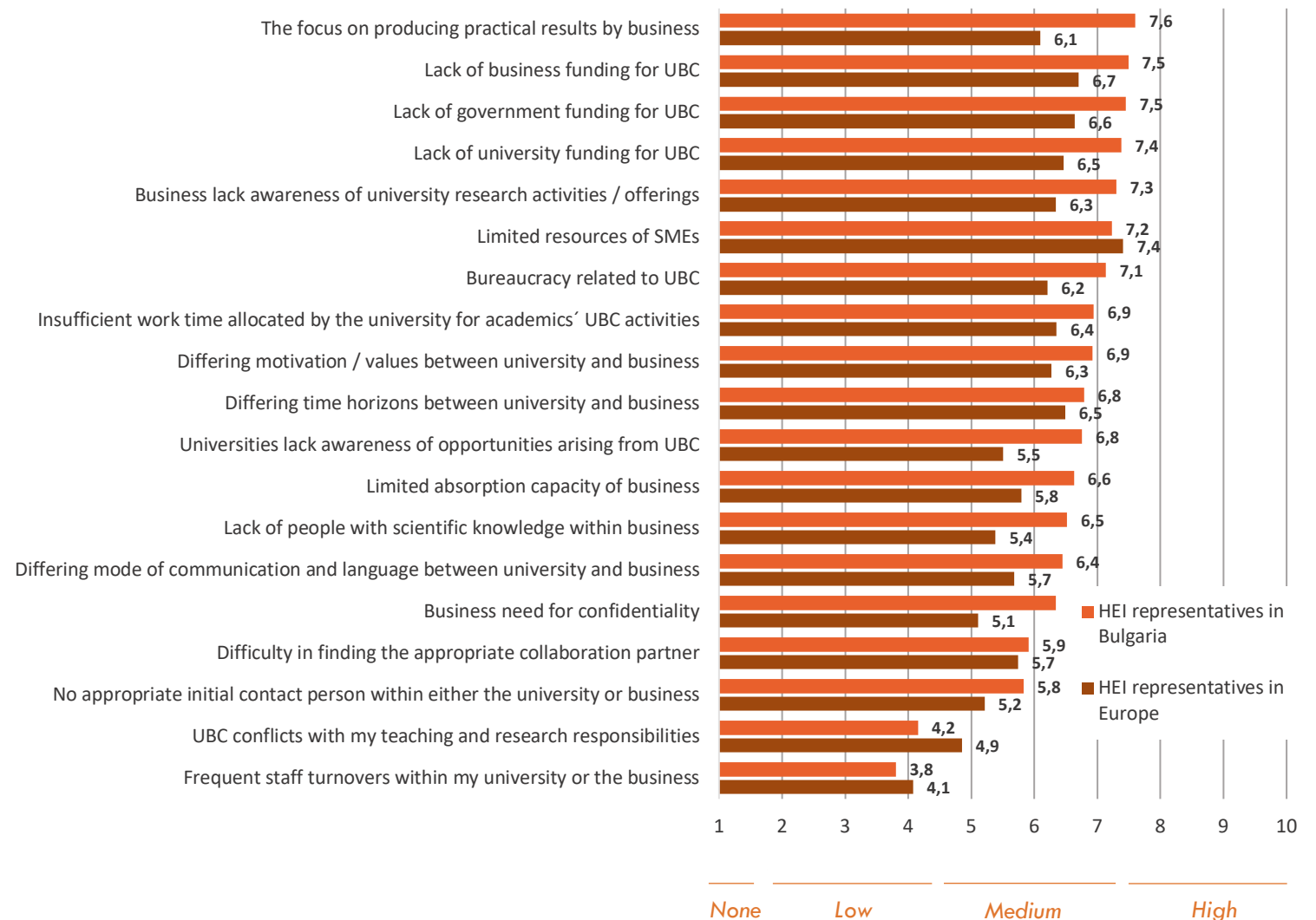
While for European HEI representatives limited resources of SMEs' is the top barrier, the Bulgarians perceive the business' focus on producing practical results to be the strongest factor inhibiting UBC.

The European and Bulgarian perspectives, however, align in relation to the importance of funding related factors.

They also agree on the insignificance of the lack of appropriate initial contact, as well as potential conflict between UBC related responsibilities with the teaching and research responsibilities' and staff turnover within any partner.

## Barriers

*'What is inhibiting your cooperation with business?' – as answered by academics and HEI representatives*



# Drivers stimulating UBC

*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.


Perspectives of Bulgarian academics and HEI representatives relatively align in respect to the UBC facilitators.

However, while for the academics engaged in UBC the existence of funding plays the most important role as an UBC facilitator, HEI representatives report that prior relation with business partner, and interest of the university in accessing business-sector R&D facilities play an important role. As it is noted in National Roadmap for Research Infrastructure 2017-2023, “The access to modern infrastructure is an important factor in attracting and retaining the best students, PhDs, and researchers. Research infrastructures serve also as centers for knowledge, innovation and technology transfer from research organizations to industry”.<sup>3</sup>

Both groups recognise the importance of the ‘relationship’ factor in UBC. Relationships matter in Bulgaria and the success depends to larger extent on personal commitments of the people involved.

## Facilitators

*‘What is facilitating your cooperation with business?’ – as answered by academics and HEI representatives*



	Academics cooperating	HEI representatives
1.	Existence of funding to undertake the cooperation	Prior relation with the business partner
2.	Interest of the university in accessing business-sector R&D facilities	Interest of the university in accessing business-sector R&D facilities
3.	Prior relation with the business partner	Existence of funding to undertake the cooperation
4.	Existence of a shared goal	Existence of mutual commitment
5.	Interest of business in accessing scientific knowledge	Existence of a shared goal

<sup>3</sup> Ministry of Education and Science Republic of Bulgaria. (2017). Bulgarian National roadmap for research infrastructure 2017-2023. *EU Publications*. Retrieved from [https://ec.europa.eu/research/infrastructures/pdf/roadmaps/bulgaria\\_national\\_roadmap\\_2017\\_en.pdf](https://ec.europa.eu/research/infrastructures/pdf/roadmaps/bulgaria_national_roadmap_2017_en.pdf)

# Drivers stimulating UBC

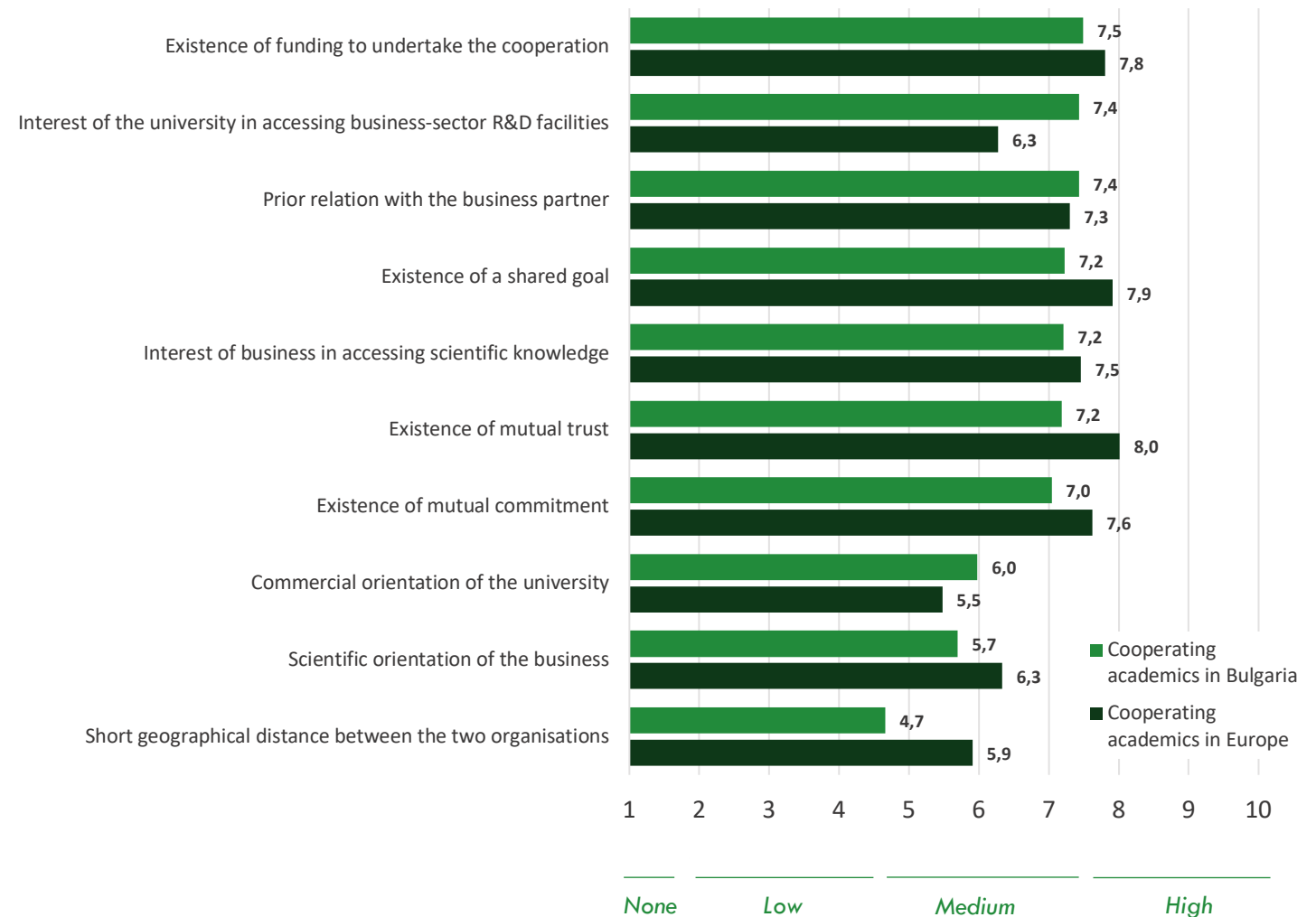
Perceptions of Bulgarian and European academics in respect to UBC facilitators differ to some extent.

While in Europe the relationship related factors such as existence of mutual trust and a shared goal play the most significant role as drivers of UBC, the existence of funding to undertake the cooperation and university interest in accessing business-sector R&D facilities are the strongest facilitators for Bulgarian academics. The university research infrastructure was suffering from the lack of both private and public funding for the last two decades. Therefore, the universities are interested in accessing the external infrastructural resources, which can lead to a significant increase of the capacity of Bulgarian scientists for conducting high quality scientific research.<sup>4</sup>

Short geographical distance between the two organisation emerges as one the least important factors that drives UBC.

## Facilitators

*'What is facilitating your cooperation with business?' – as answered by academics*

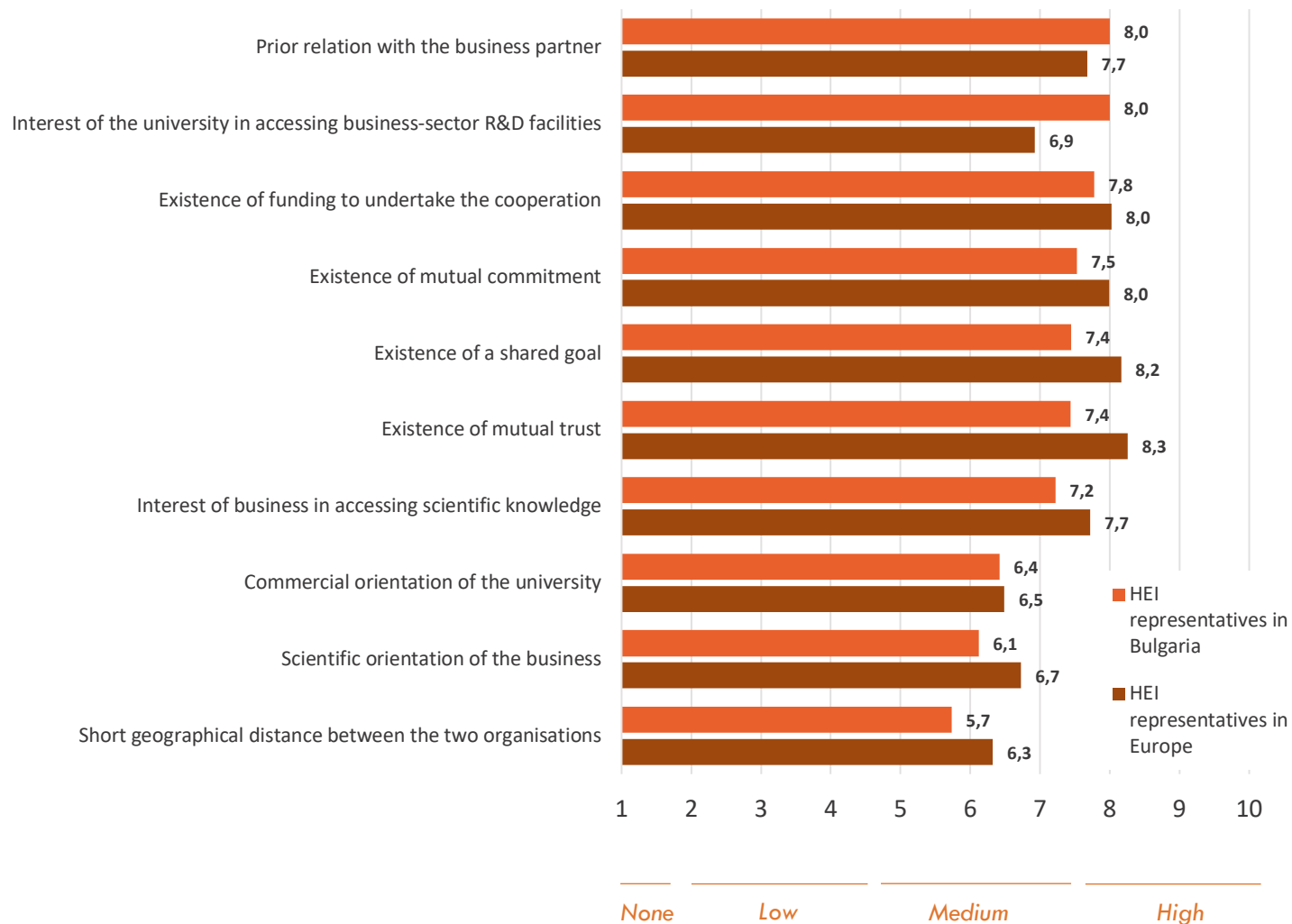


<sup>4</sup> Ministry of Education and Science Republic of Bulgaria. (2014). Strategy for the development of higher education in the republic of Bulgaria for the 2014-2020 period. Retrieved from <https://rio.jrc.ec.europa.eu/en/file/7322/download?token=4xBBILfV>

# Drivers stimulating UBC

## Facilitators

*'What is facilitating your cooperation with business?' – as answered by HEI representatives*



Bulgarian HEI representatives and their European counterparts perceive the UBC facilitators in a slightly different way.

For European HEI representatives the existence of mutual trust and a shared goal play more important role than for their Bulgarian counterparts, who perceive the existence of prior relation with the business partner and their university's interest in accessing business-sector R&D facilities as the strongest drivers for UBC.

However, the perspectives of both groups align in relation to the weakest facilitators, which are commercial orientation of the university, scientific orientation of the business and short geographical distance between two organisations, ranked medium.

# Drivers stimulating UBC

While Bulgarian academics who cooperate strive to improve their own professional profile, the non-cooperating academics put more emphasis on motives related to other stakeholders. They are motivated by the willingness to improve graduate employability and address societal challenges and issues.

Although the same factors have been listed as the top five motivators for both groups, certain differences still can be seen in their perceptions of motivators.

## Motivators

*'What motivates you to cooperate with business?' – as answered by academics*

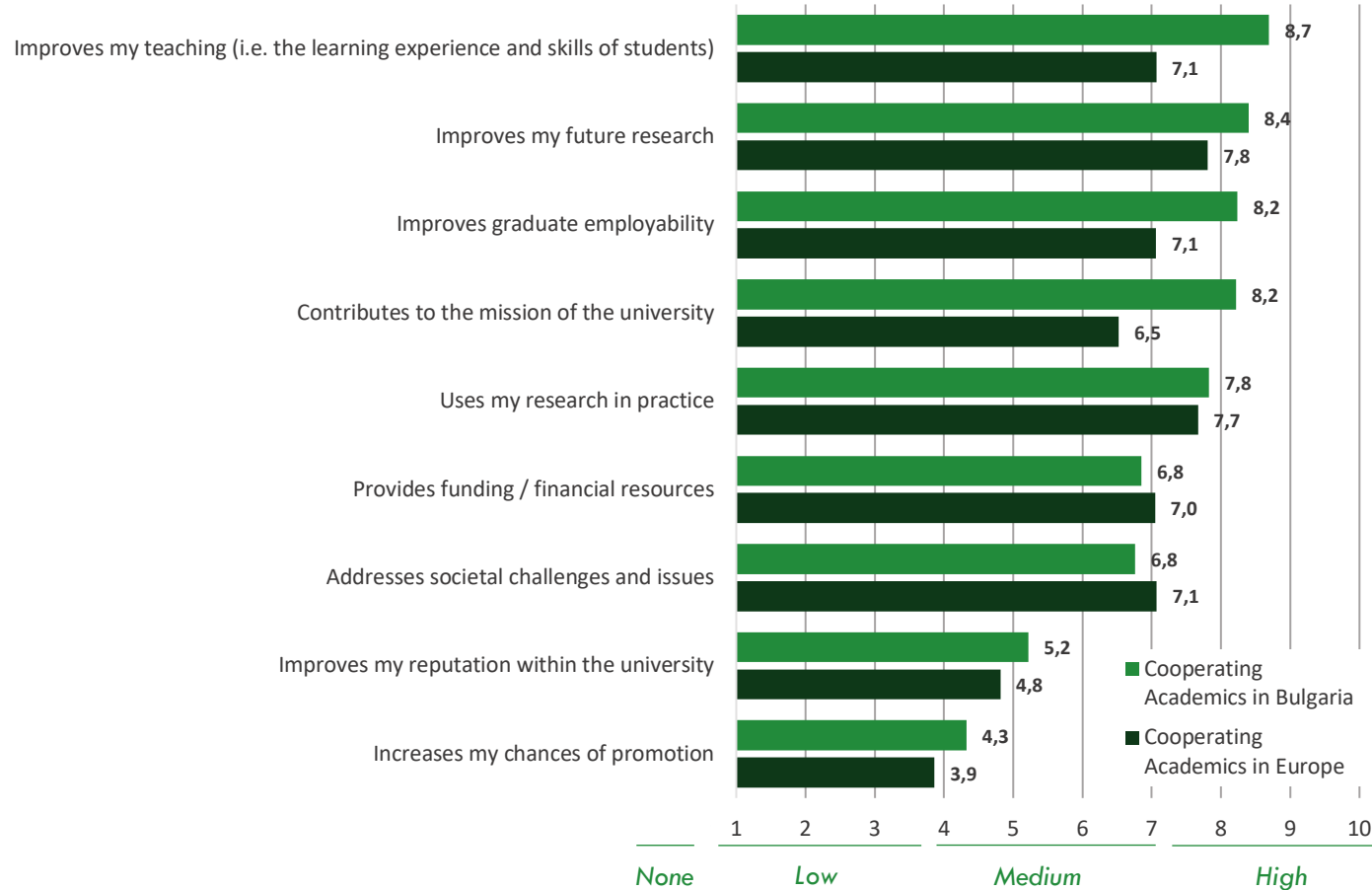


	Academics who cooperate	Academics who <u>do not</u> cooperate
1.	Improve my teaching (i.e. the learning experience)	Improve graduate employability
2.	Improve my future research	Address societal challenges and issues
3.	Improve graduate employability	Improve my teaching (i.e. the learning experience and skills of students)
4.	Contribute to the mission of the university	Contribute to the mission of the university
5.	Uses my research in practice	Improve my future research

# Drivers stimulating UBC

## Motivators

'What motivates you to cooperate with business?'- as answered by academics



Bulgarian academics perceive the UBC motivators stronger than their European counterparts.

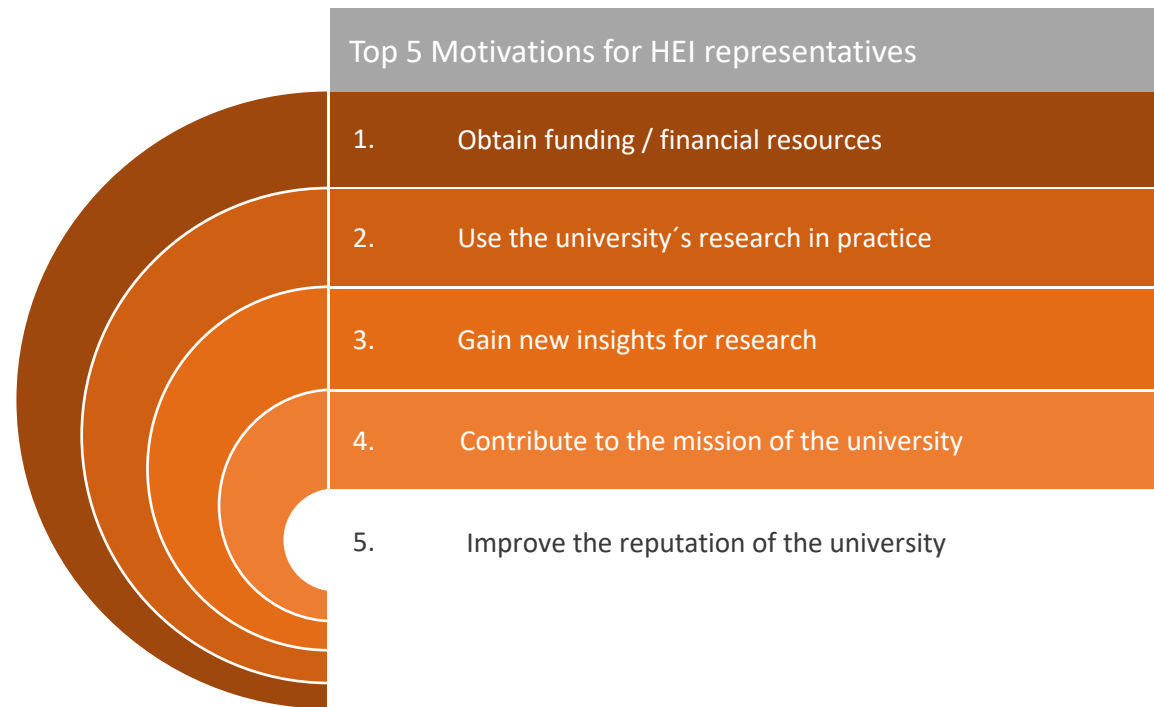
Both in Europe and in Bulgaria academics are driven by the self-oriented motives. Thus, while European academics are mostly motivated by the desire to improve their future research and use their research in practice, for Bulgarian respondents the willingness to improve the teaching is the strongest UBC motivator alongside research related motives.

Promotion and reputation related factors are the weakest motivators for both Bulgarian and European academics.

# Drivers stimulating UBC

## Motivators

*'What motivates your HEI to cooperate with business?'- As answered by HEI representatives*



The top five motivators identified by Bulgarian HEI representatives relate to different types of outcomes including resources, research, and competitiveness.

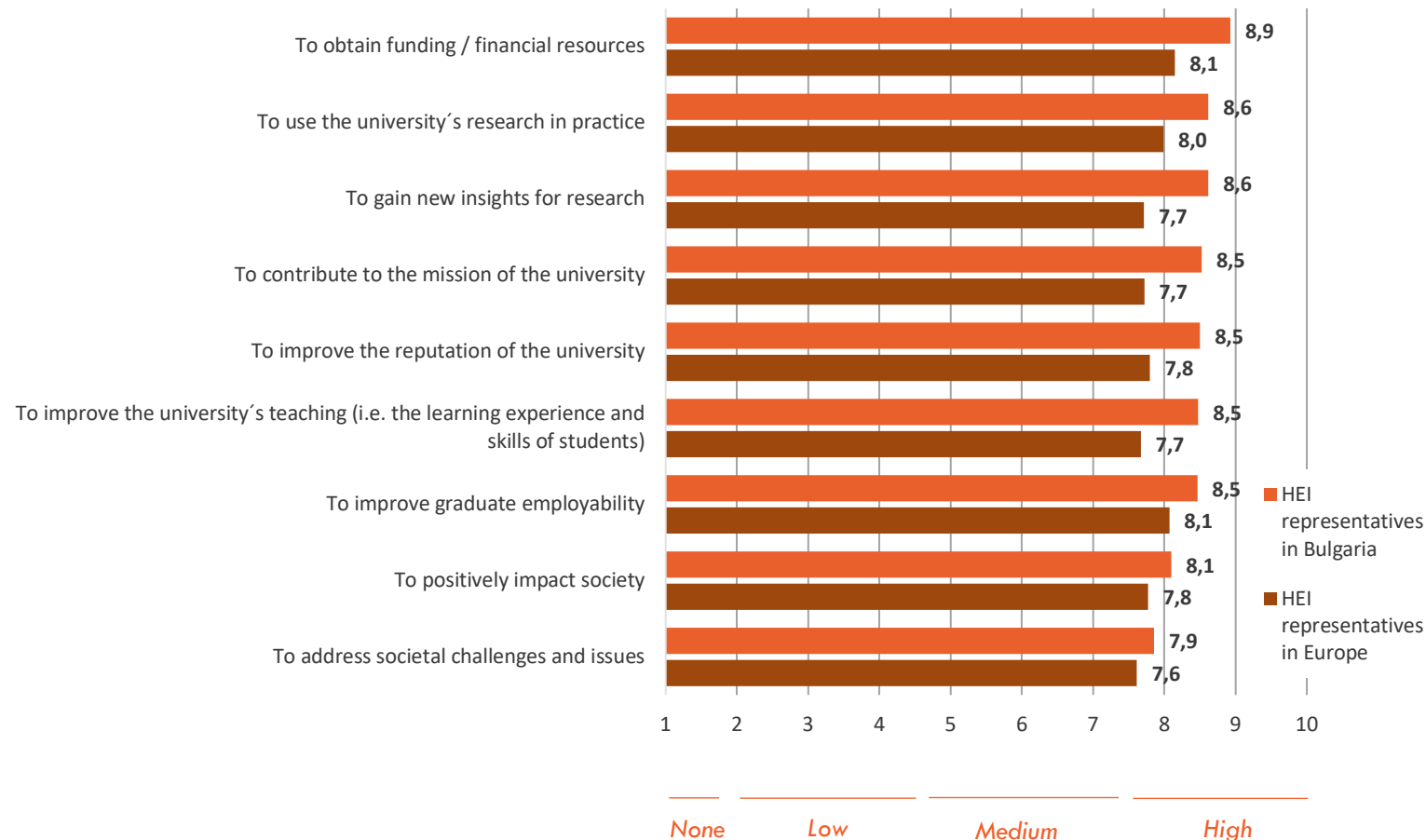
Bulgarian HEI representatives are motivated by the desire to obtain the funding and the willingness to apply and improve their research. They are also driven by the motivation to advance the university profile by contributing to its mission and improving its reputation.



# Drivers stimulating UBC

## Motivators

'What motivates your HEI to cooperate with business?'- as answered by HEI representatives



HEI representatives in Bulgaria perceive all motivators stronger than HEI representatives do in Europe. Overall, their perceptions in respect to the UBC motivators differ.

While Bulgarian HEI representatives are driven by motives oriented on the research and university improvement, the European top five also includes motivators focused on students and society. The link between studies and research – activities that traditionally are institutionally separated in Bulgaria has not been transformed and modernized. Thus, the action of the key knowledge triangle: education – research – innovation, was in practice hindered. Focus on research work is perceived as source for access to funding from EU Structural funds.

# Benefits of UBC

While Bulgarian academics see the universities as the main beneficiaries of UBC, HEI representatives see most benefits for students. Until recently, the state funding for HEI was distributed based on the number of students enrolled. Although for the last three years statutory requirements have been adjusted to take into account the quality of education, over 90% of the amount of the state funding continues to depend on the number of students. Therefore, UBC activities are also perceived to be directed at students.

Both groups agreed that academics and government receive less benefits from cooperation with businesses. Academics perceive businesses not to be ready to dedicate resources to basic research and novelties that do not yet bring immediate revenue, which academics tend to traditionally engage and value more than more applicable mode of research.<sup>5</sup>

As for businesses as beneficiaries of UBC, both academics and HEI representatives have placed this stakeholder in the middle of the ranking.


**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

*'Who receives the benefits of UBC?' – as answered by academics and HEI representatives*



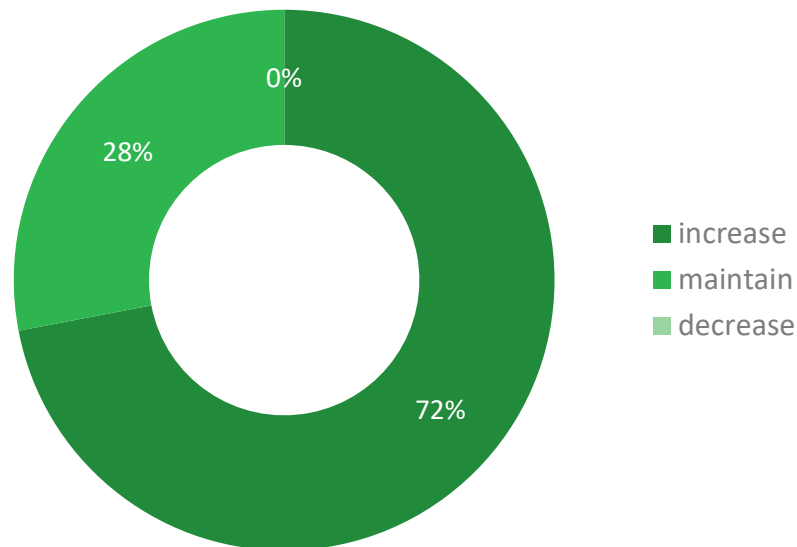
	Academics	HEI representatives
1.	Universities	Students
2.	Students	Universities
3.	Society (in general)	Businesses
4.	Businesses	Society (in general)
5.	Academics	Academics
6.	Government / public authorities	Government / public authorities

<sup>5</sup> Conclusions of Project "Science and Business" (2015). "Applied Practices in Academic Entrepreneurship", Sofia, Bulgaria

# Future intentions

## Future UBC intentions – Bulgaria

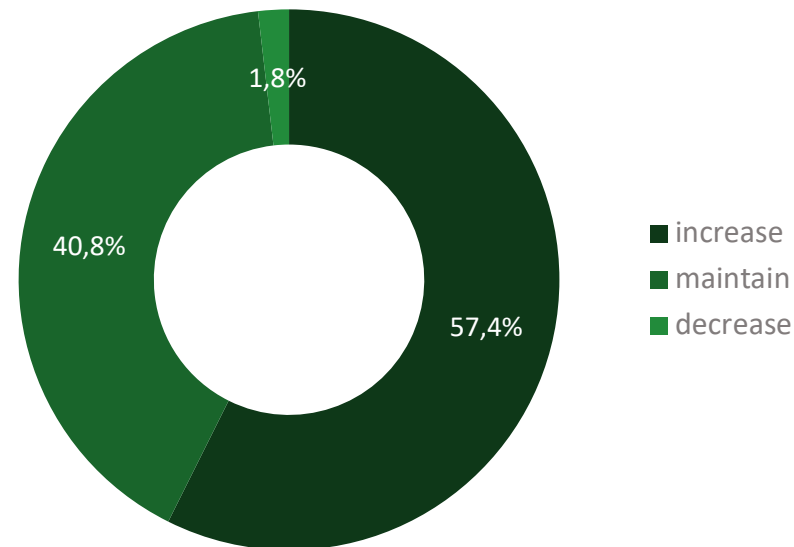
*As answered by Bulgarian academics*



Bulgarian academics showed very strong commitment to UBC, with 100% expecting to further engage in their collaborative activities with businesses. 72% of academics expressed in particular the willingness to increase UBC. In this sense, Bulgaria proves to have a high potential of further UBC development in the future.

## Future UBC intentions – Europe

*As answered by European academics*



In comparison to Bulgaria European academics showed a slightly less stronger commitment to increasing UBC-activities, with 57,4% of already cooperating academics expecting to 'increase' their cooperation. 1.8% of academics report that they intend to decrease UBC.

# Willingness to recommend UBC

Both groups of academics cooperating in research and education have expressed readiness to recommend their peers to engage with businesses in R&D (32%) and education (21%).

Yet, there is more support for cooperation in R&D in Bulgaria than for education.

Both net promoter scores in research and education UBC significantly differ from the European net promoter score results, indicating that Bulgarian academics are more inclined to recommend cooperation in both spheres.

## Willingness to recommend R&D and E&T cooperation with businesses

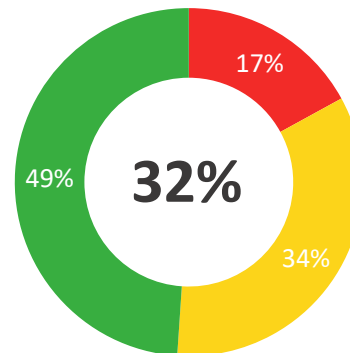
*'How likely is it that you would recommend to an academic colleague to engage in UBC?'*

*As answered by academics*

	Detractors	Passives	Promoters	Net promoter score
Academics cooperating in E&T	21%	38%	42%	21%
Academics cooperating in R&D	17%	34%	49%	32%

## Satisfaction in cooperation with businesses (net promoter score)

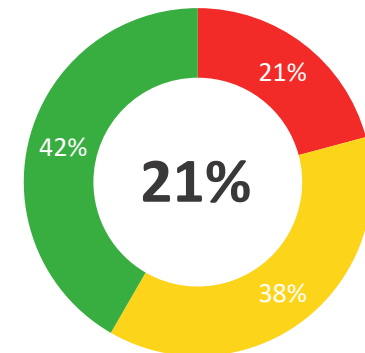
*Academics cooperating in research*



■ Detractors ■ Passives ■ Promoters

**European academics' NPS result: 17**

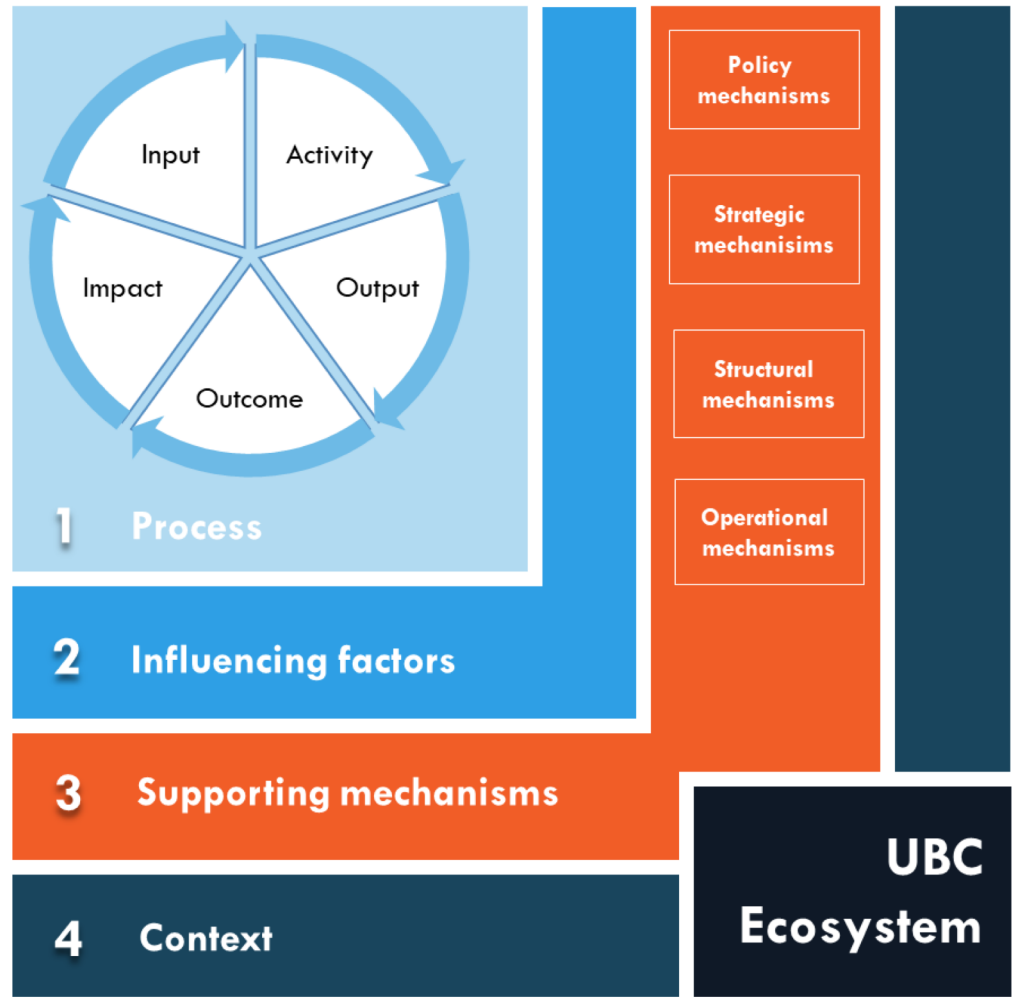
*Academics cooperating in education*



■ Detractors ■ Passives ■ Promoters

**European academics' NPS result: -13.8**

# 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

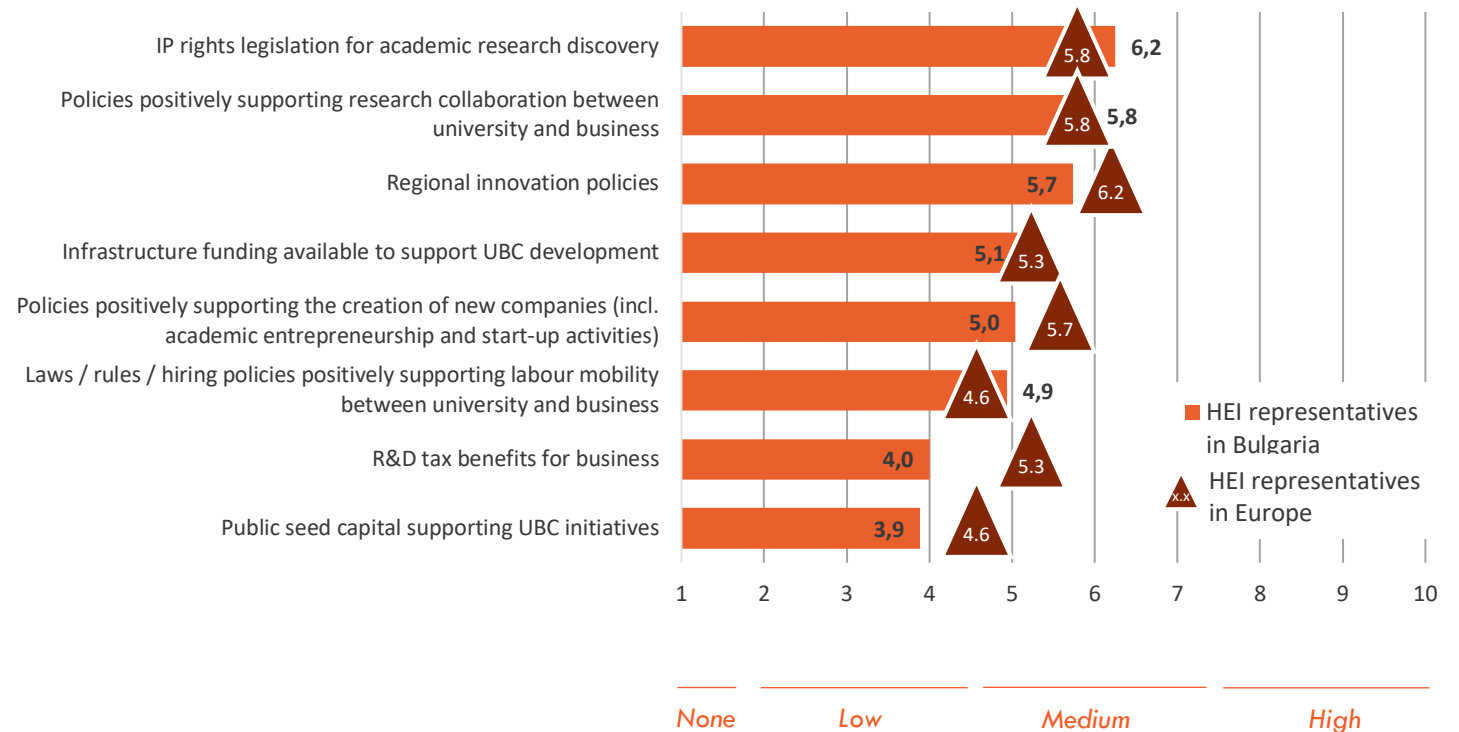
This section outlines the extent to which UBC supporting mechanisms are developed in this sample from the HEI perspective.

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

# Supporting mechanisms for UBC

## Policy mechanisms

*'To what extent do these mechanisms support UBC in your HEI?' - as answered by HEI representatives*



In Bulgaria the IP rights legislation for academic research discovery (6.2 on 10-point scale) is the most developed policy mechanism, followed by policies positively supporting research collaboration between university and business and regional innovation policies (5.8 and 5.7 respectively).

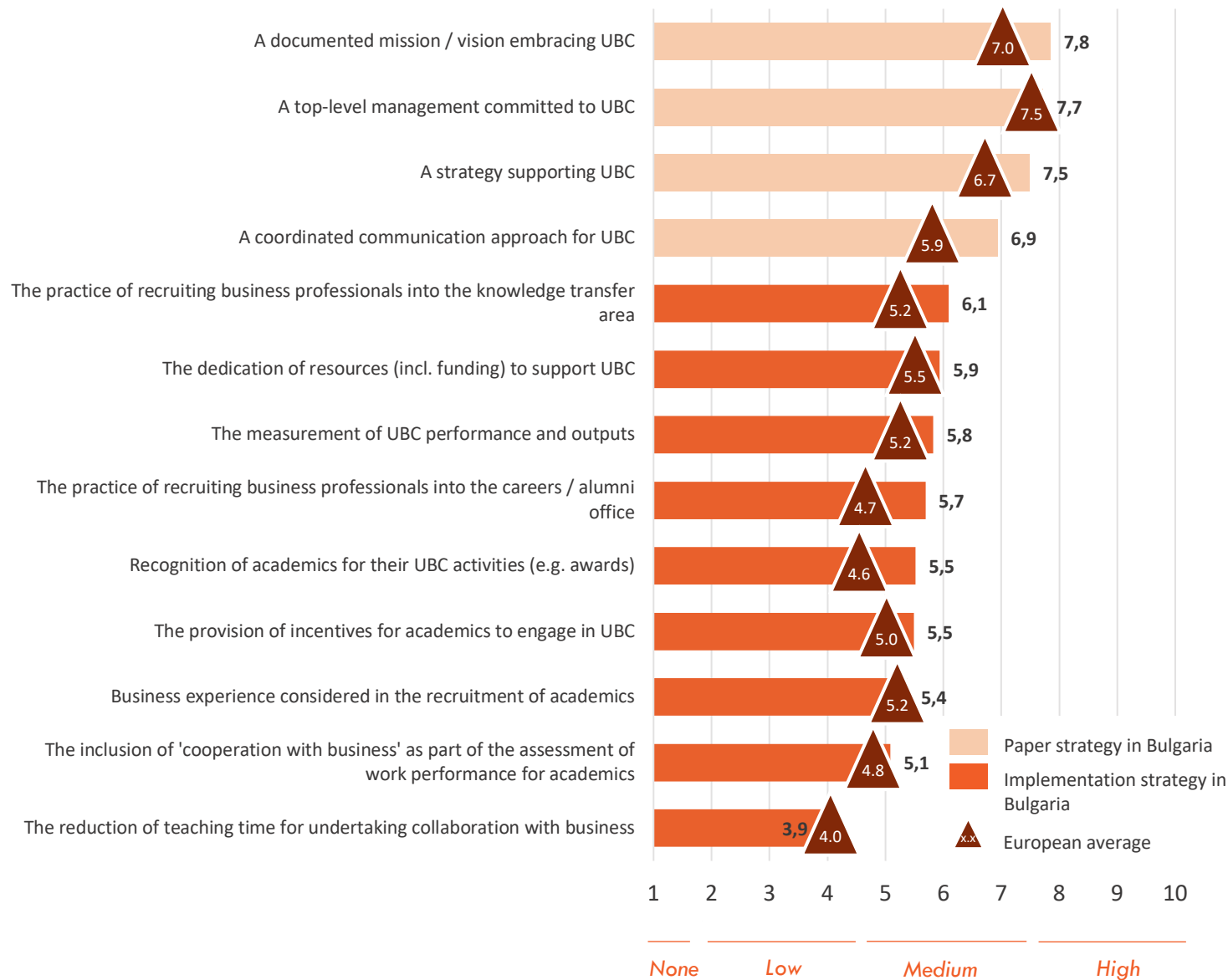
Yet, R&D tax benefits for business (4.0) and public seed capital supporting UBC initiatives (3.9) considerably lag behind.

Overall, the results show that most of the policy mechanisms in Bulgaria are less advanced compared to European average.

# Supporting mechanisms for UBC

## Strategic mechanisms

'To what extent do these mechanisms support UBC in your HEI?' - as answered by HEI representatives



Bulgarian HEIs have strong institutional commitment to UBC with the paper strategies being the most developed strategic mechanisms in Bulgarian universities. The implementation of the paper strategies are still yet to come, as the implementation strategies are less developed so far.

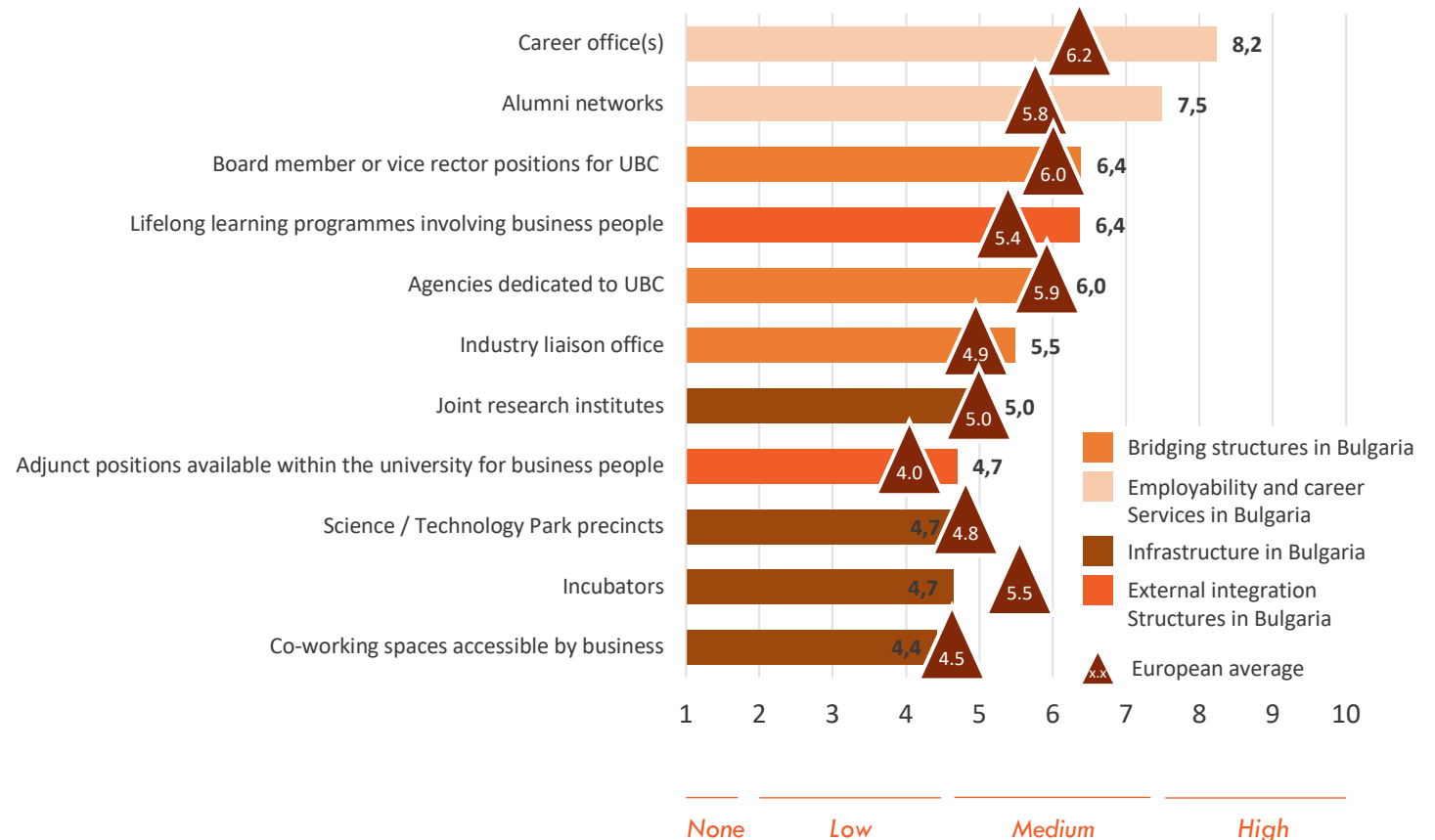
Such implementation strategy mechanisms as inclusion of cooperation with business as part of the assessment of work performance for academics (5.1) and reduction of teaching time for undertaking collaboration with business (3.9) considerably lag behind in comparison with other mechanisms.

Overall, the level of development of strategic mechanisms in Bulgarian universities differ from the European average. Yet, the two perspectives align in relation to the paper strategies which are found to be more advanced than implementation strategies both in Bulgaria and Europe.

# Supporting mechanisms for UBC

## Structural mechanisms

'To what extent do these mechanisms support UBC in your HEI?' - as answered by HEI representatives



Within the wide range of structures relevant for the delivery of UBC, employability and career services such as career offices (8.2 on a 10-point scale) and alumni networks (7.5) are the most developed mechanisms in Bulgarian universities.

Yet, infrastructure is the least developed type of structural mechanism in Bulgarian HEIs with Science/Technology Park precincts (4.7), incubators (4.7) and co-working spaces accessible by business (4.4) having the lowest scores. The infrastructure suffered from chronic underfunding of higher education and science for the last twenty five years. Development of Science/Technology parks, incubators, competence centers started only recently in Bulgaria.<sup>6</sup>

Compared with European average, clearly there are differences in the development of structural mechanisms in Bulgaria and Europe.

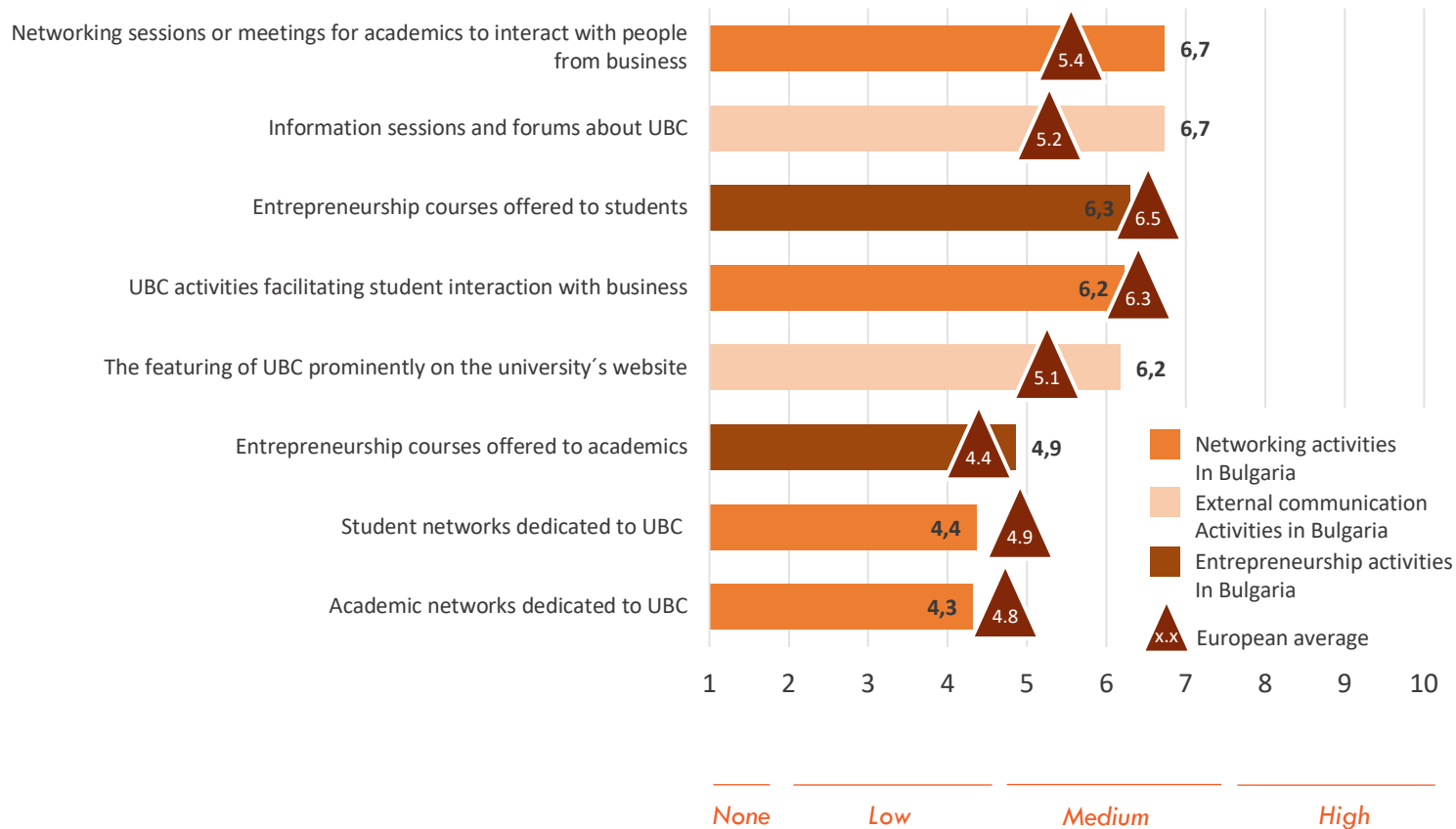
<sup>6</sup> Ministry of Education of Bulgaria. (2016). *Technology transfer and dissemination of knowledge*. ARC Fund [National Science and Business Platform Notes]. Sofia, Bulgaria



# Supporting mechanisms for UBC

## Operational mechanisms

'To what extent do these mechanisms support UBC in your HEI?' - as answered by HEI representatives



Overall, university staff centred activities are the most developed operational mechanisms in Bulgarian HEIs. Those include networking sessions or meetings for academics to interact with people from business and information sessions and forums about UBC (6.7 each). The other forms of UBC support in HEIs are not yet fully developed and are defined as challenges related to the management system of higher education institutions with the HEIs network, the types of HEIs and the educational and qualification degrees.

Contrary to European average, student-oriented mechanisms such as the offer of entrepreneurship courses to students, and other UBC activities facilitating student interaction with businesses are perceived to be developed to a higher level.

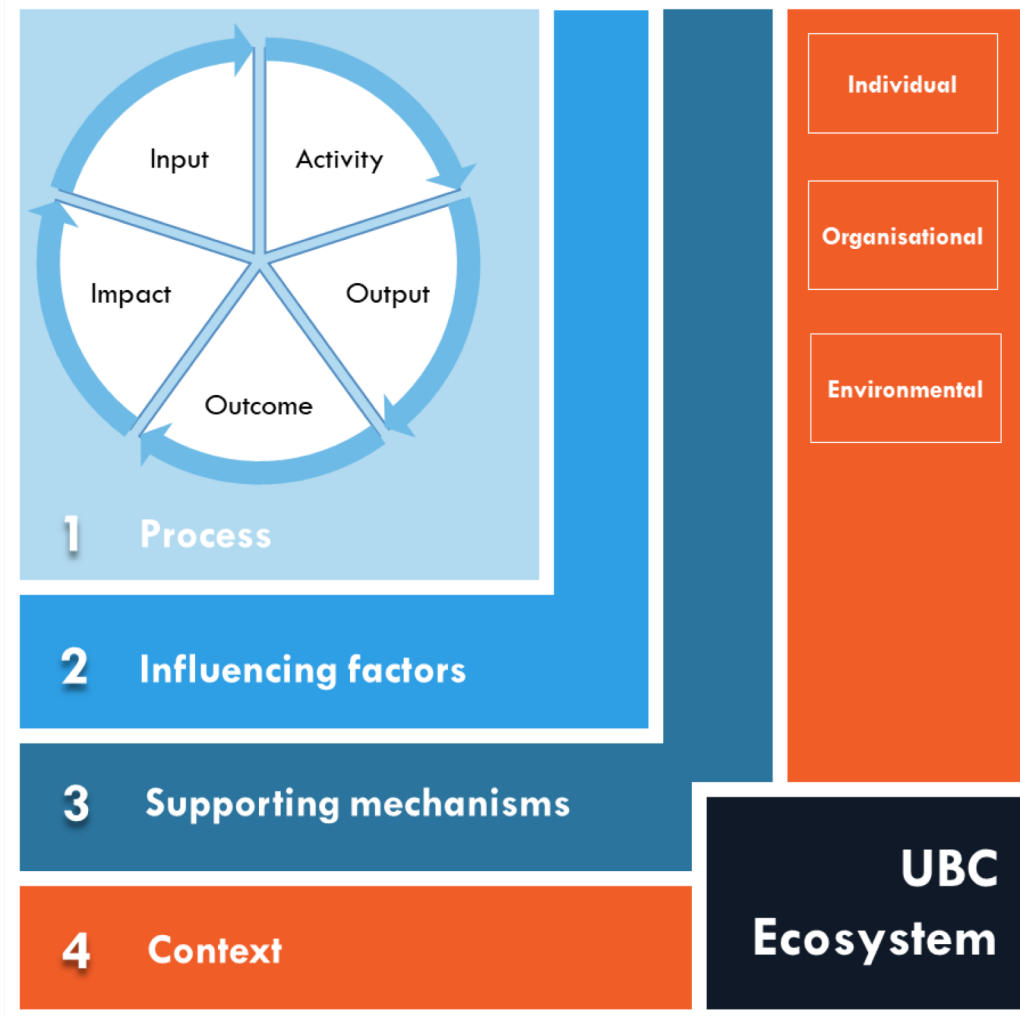
Networks specifically dedicated to UBC are the most undeveloped types of operational mechanisms in Bulgarian HEIs. Thus student and academic networks dedicated to UBC lag considerably behind.

# 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.).

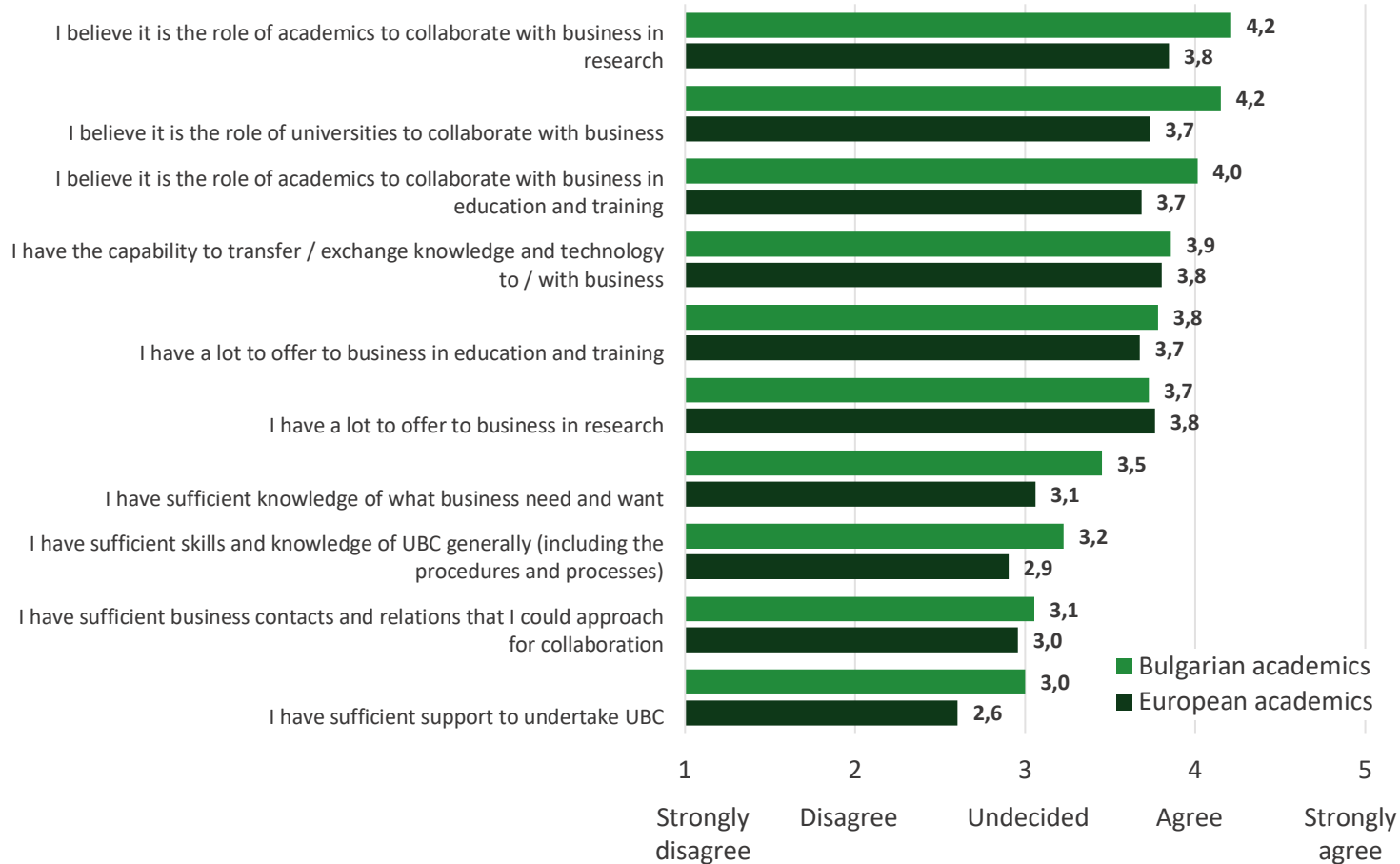
This section outlines how some contextual factors influence UBC in the country.



# UBC capabilities

## Capabilities for UBC

'To what extent do you agree or disagree with the following statements?' - as answered by academics



Bulgarian academics believe that it is their role to collaborate with businesses in research and education. They also expressed the opinion that universities have to engage in UBC.

Yet, they perceive that they have less capabilities related to UBC skills and knowledge (3.2) and business contacts (3.1) also indicating that they do not receive enough support to undertake UBC (3.0).

Compared to the European average, Bulgarian academics perceive that they have slightly stronger capabilities to undertake UBC.

# Context

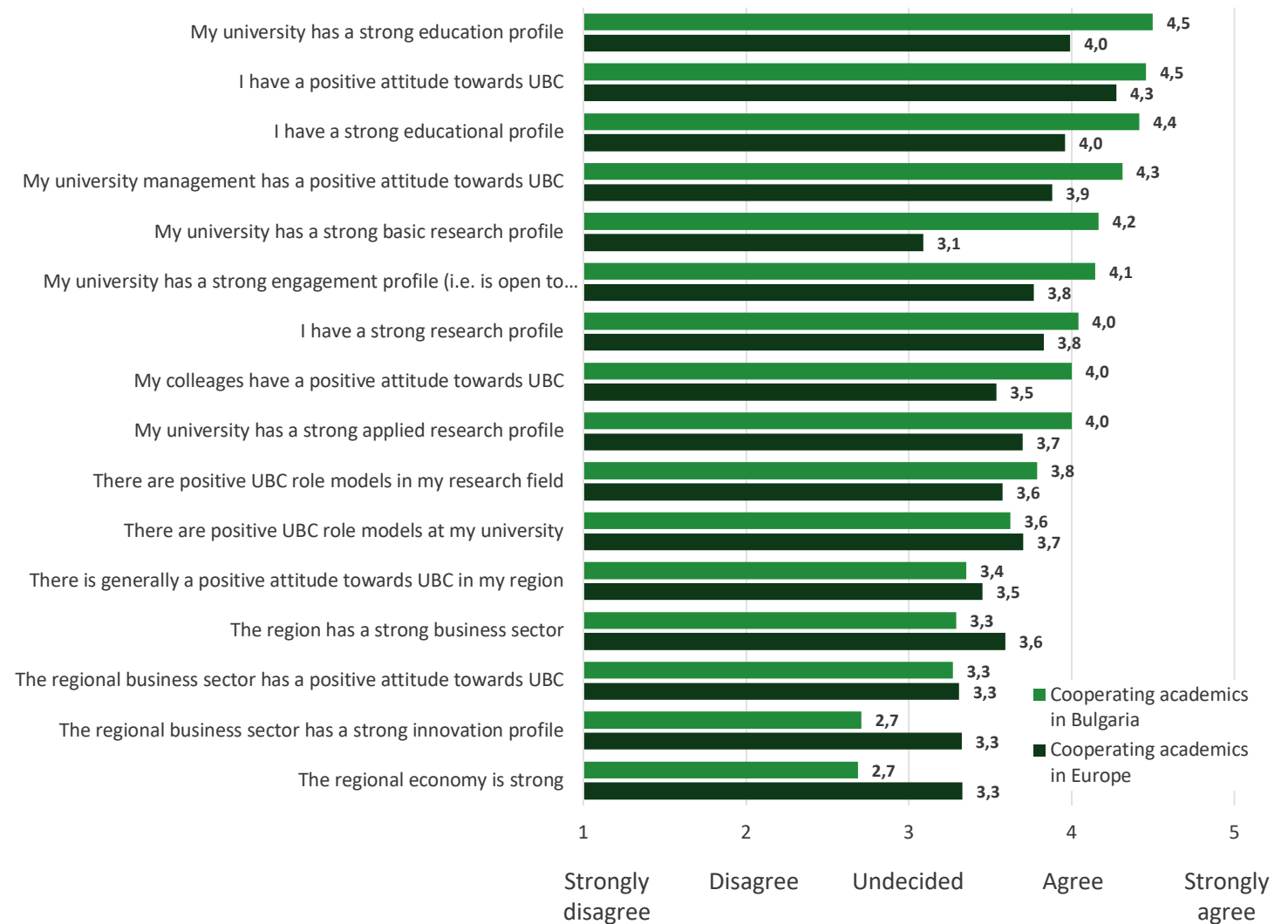
Overall, Bulgarian academics are positive towards UBC.

Both Bulgarian universities and academics have a strong educational profile. The Bulgarian Academy of Science and other universities are traditionally named as the major knowledge creators in the country.

Generally, compared to European average, Bulgarian academics expressed more agreement about the existence of contextual factors affecting UBC. Yet, all statements related to the region were listed in the bottom of the ranking. The country is not strongly divided into distinctive regions, comparable to the other EU countries.

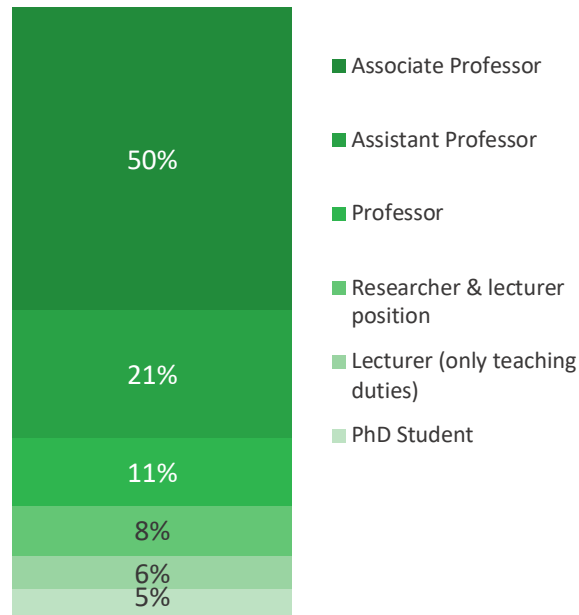
## Contextual factors affecting UBC

*'To what extent do you agree or disagree with the following statements?' - as answered by academics*



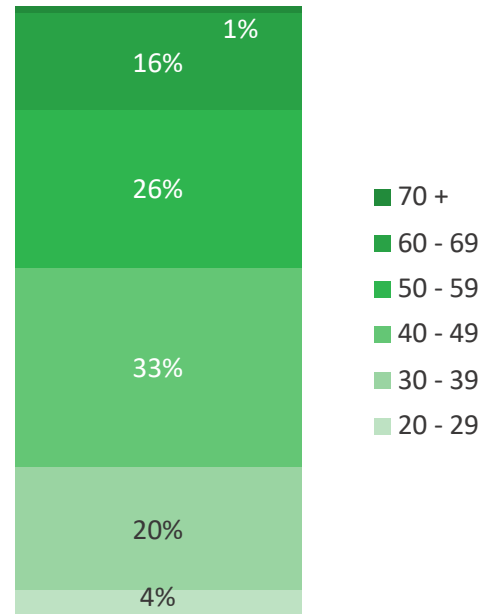
# Respondent profile – academics

Position of respondent



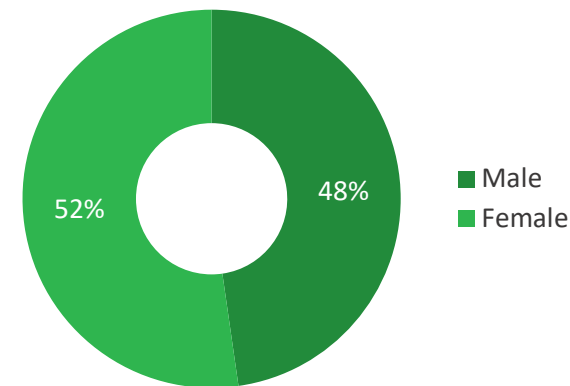
'Associate Professors' comprised the largest group of Bulgarian academics (50%), followed by 'Assistant Professors' (21%). The remaining respondents identified themselves as 'Professor' (12%), 'Researcher and Lecturer' (8%), 'Lecturer' (6%) and 'PhD student' (5%).

Age of respondents



A variety of age groups is represented in the Bulgarian sample, with the biggest group of respondents aged 40 to 49 (33%). Other significant groups are those aged 50-59 (26%) and 30-39 (20%), followed by those aged 60-69 (16%).

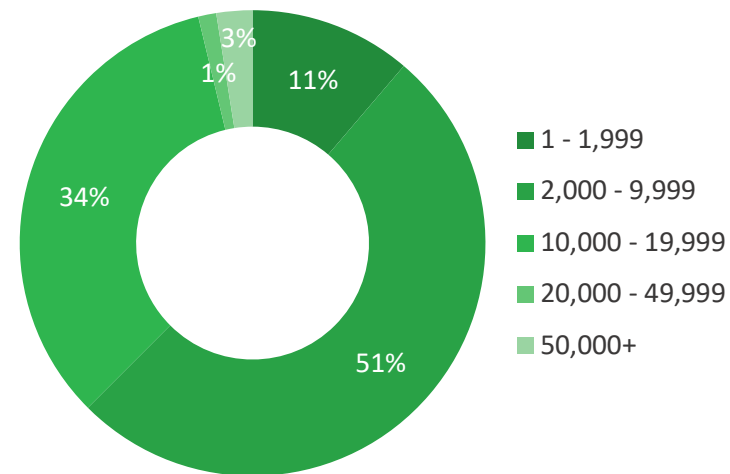
Gender of respondents



There is an even gender distribution with 48% male and 52% female academics.

# Respondent profile - academics

## Number of students of the HEI

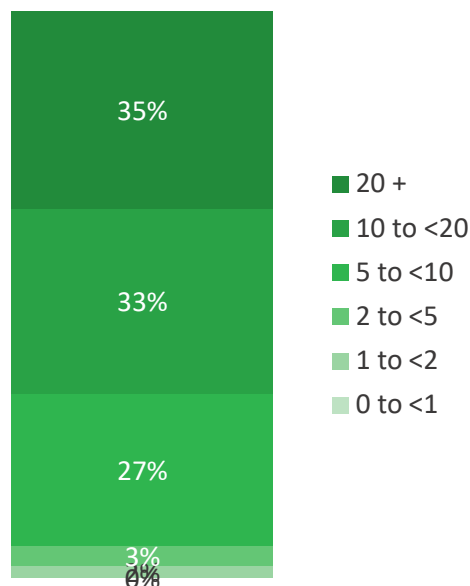


Sample Size	
Bulgarian Academics	n=109
European Academics	n=10.836
Bulgarian HEI representatives	n=59
European HEI representatives	n=3.482

Over half of Bulgarian academics work in small universities with 2,000 to 9,999 students (51%). Medium sized HEIs with 10,000 to 19,999 students is the second most represented in the sample (34%). Very small universities HEIs with less than 2,000 students account for 11% of the academics.

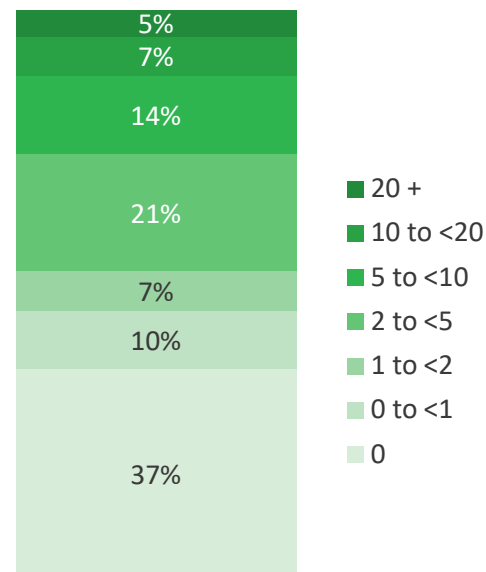
# Respondent profile – academics

## Years working in university



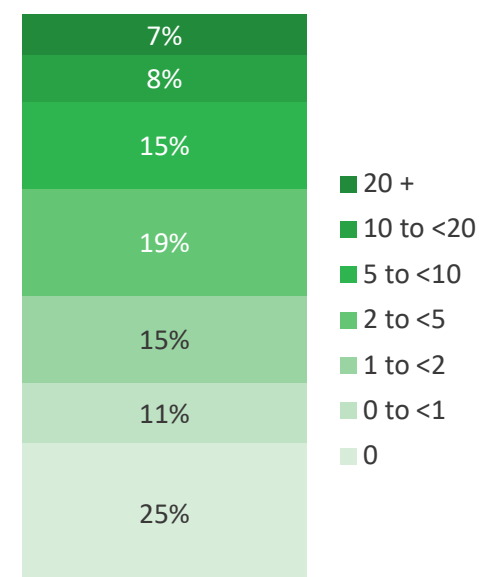
Over two thirds of academics have worked in HEIs for more than 10 years. 27% of academics have 5 to 10 years work experience.

## Years working in business



Over two thirds of Bulgarian academics have worked in industry before. 21% of academics have done so for 2 to 5 years. 14% have 5 to 10 years business experience. The even proportion (7%) emerged for those who worked in business 1 to 2 years and 10 to 20 years. Only 5% have worked in business for over 20 years.

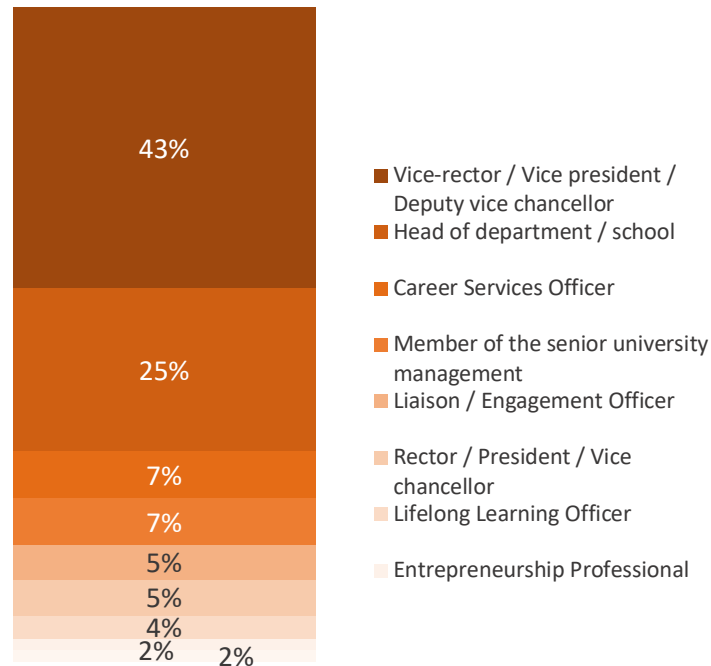
## Years involved in UBC whilst working at a university or business



25% of academics weren't involved in UBC. 19% engaged in cooperation with businesses for 2 to 5 years, and 15% – 5 to 10 years. Further 26% have been involved for less than 2 years in UBC. Only 15% of academics have for more than 10 years UBC experience.

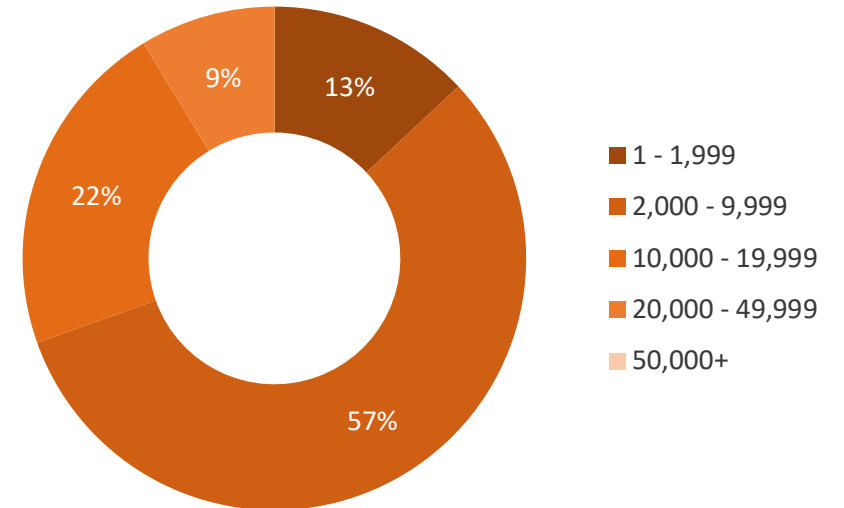
# Respondent profile – HEI representatives

Position of respondent



43% of Bulgarian HEI representatives hold a 'Vice-rector / Vice president' position. The second biggest groups is comprised by 'Heads of department / school'. Other positions represented are 'Career Services Officer' (7%), 'Member of the senior university management' (7%), 'Liaison / Engagement Officer' (5%), 'Rector / President / Vice Chancellor' (5%).

Number of students of the HEI



Overall, 57% of HEI representatives work for small HEIs with 2,000 to 9,999 students with a further 22% based in medium-sized institutions. 13% of HEI representatives work in very small universities with less than 2,000 students.





# Contact us

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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)