SPANNING BOUNDARIES AGENTS PROFILE BOOK
Champions of university-industry-society cooperation

Editors: Catherine Hayward (UIIN), Alexandra Zinovyeva (UIIN), Balzhan Orazbayeva (UIIN), Arno Meerman (UIIN)
Contributors: Alper Yurttaş (ITU GİNOVA Center for Entrepreneurship and Innovation), Clara Plata Ríos (University of Málaga), Elia Retamosa Agudo (Cámara de Comercio de España), Habtamu Diriba Garomssa (Science-to-Business Marketing Research Centre), Matleena Laaksonen (Crazy Town), María José Quero Gervilla (University of Málaga), Monica Holly Collins (Institut Mines-Télécom Business School) and Sofía Louise Martinez Martínez (University of Málaga)

Designer: Elena Galán Muros (UIIN)

ISBN 9789-491-901-515

This book highlights the individuals interviewed within the research exercise in the Erasmus+ funded project "Spanning Boundaries" (project number 2018-1-IE01-KA202-038796)

The information and views set out in this publication are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.
Who are Spanning Boundaries Agents?

University-business cooperation (UBC) has never been more relevant than it is today, and it is in challenging times like these that we witness how science and business work together to solve societies’ challenges. We hope that these partnerships continue to persevere in the name of innovation, despite difficulties being faced, and continue to co-create solutions to today’s pressing issues. At the frontier of these partnerships are the Spanning Boundaries agents, who “break down internal and external organisational boundaries in their engagement for collaborative innovation”.

Spanning boundaries is a vocation that requires one to live in two different worlds at the same time, which means that there are many different opinions, goals and expectations that need to be taken into account. Thus, boundary work is no small feat, as the road to success is littered with hard work and many setbacks, but it makes the victories even more valuable.

On account of the complexity of the Spanning Boundaries agent’s job and the crucial role they play in ensuring that UBC is successfully undertaken, we can’t help but think of them as champions. Because of the importance of their work, here we have endeavoured to identify and describe the qualities, roles and responsibilities of higher education and business professionals as Spanning Boundaries agents. Furthermore, we have looked into the types of boundary spanning activities that are undertaken in the context of UBC and compiled short profiles of some of Europe’s leaders in this field to showcase what it takes to be a true Spanning Boundaries agent.

Here we will present a wide range of insights into what makes an effective Spanning Boundaries agent. The professional Spanning Boundaries agents that are featured in this publication are from diverse backgrounds and are based in many different countries including Turkey, France, Finland, Germany, Netherlands and Spain.

Despite the diversity in our boundary spanning champions, they indicated many of the same characteristics as being important when working on the border of UBC: persistence, resilience, excellent communication skills and an entrepreneurial mindset were common qualities mentioned. One of the UBC professionals went on to state that having “a little bit of stubbornness” was necessary for success, and many emphasised the importance of never giving up in the face of adversity.

Some of the “best in the business” have drawn on their experience in order to help us create this important resource for all those working on the boundary of science and industry. With this, we hope to inspire and encourage future and current Spanning Boundaries agents, and give them insights into how to work effectively.
The “ability to understand and operate in the academic, public sector and business worlds, and even across the triple interface of the sectors” (Smart Specialisation Cohesion Policy 2014-2020).

What is Boundary Spanning?

After the launch of the Europe 2020 Strategy (2010) and the Smart Specialisation and Europe’s Growth Agenda (2014), Europe has taken the path to create a more connected relationship between society, government, business and higher education to improve employment rates, productivity, social cohesion, foster innovation and sustainable growth. Within this policy context, successful engagement of abovementioned stakeholders in synergetic relationships is deemed essential and the following question has a solid legitimate stance:

“How can universities and SMEs in particular drive deep transdisciplinary learning to co-create innovative solutions for sustainable growth?”

The co-creation of innovative solutions comes with the combination of diverse understandings and knowledge. However, the challenge here lies in the alignment of learning between the diversity of actors. A desired alignment can be achieved using Spanning Boundaries agents whose main expertise encompasses knowledge transfer/exchange between groups, cooperation enhancement/alignment as well as efficiency improvement via ideation. The deficit of such expertise is identified in various knowledge and industry sectors, however, in the EU context, an utmost urgency is identified in the interface of higher education cooperating with business and industry.

By developing skills for spanning the boundaries across institutions and sectors, the multi-fold benefit can be achieved. Transversal skills of Spanning Boundaries agents can stimulate better knowledge transfer, as well as align knowledge exchange between higher education, as a knowledge generator and skilled human capital provider, and society along with industry/business. On top of this, their non-stigmatised view as well as exposure to a diverse corpus of knowledge make Spanning Boundaries agents in ideation as they can rearrange the knowledge puzzle and come up with original solutions.

Our Goal & Objectives

We aim to empower university and business professionals to enhance their contribution in the regional economic and social development through closer engagement with each other and their environment.
SOUTHERN EUROPE
01 Antonio Abril - Inditex Group
02 Francesc Solé Parellada - Polytechnic University of Catalonia
03 Igor Campillo - Euskampus Fundazioa
04 Iván Martínez - University Polytenechnic of Madrid
05 Manel Arrufat - Polytechnic University of Catalonia
06 Maria Saiz - University of the Basque Country
07 Rafael Ventura - University of Málaga
08 Segundo Piriz Durán - Group Planieta
09 Victoria Galán Muros - Innovative Futures Institute

NORTHERN EUROPE
10 Kari Mikkelä - Urban Mill
11 Maarit Haataja - University of Helsinki
12 Mikko Markkanen - Crazy Town Oy
13 Pasi Vakasahtii - Tampere University
14 Vesa-Matti Ruottinen - Tribe Tampere RY

WESTERN & EASTERN EUROPE
15 Christian Guellerin - Nantes School of Design
16 Detlef Isermann - DERMASENCE
17 Jurgen Raizner - Steinbeis Transfer Centre
18 Kerstin Kurzhals - MUAS S2B Marketing Research Centre
19 Kirsten Williamson - Petrus Communications
20 Mark Siebert - Elsevier
21 Monalisa Goswami - Spark 904
22 Renier Kurzhals - Westphalia DataLab
23 Uwe Rotermund - Noventum

ASIA & MIDDLE EAST
24 Amir Sagi - Ben Gurion University
25 Angelina Yee - Nottingham University Business School
26 Imran Gürakan - Bilkent University Cyberpark
27 Nazım Kemal Üre - Istanbul Technical University
28 Sinan Tandoğan - Scientific & Technological Research Council of Turkey
29 Victor Lau - City University of Hong Kong

NORTH AMERICA & OCEANIA
30 Cameron McCoy - Lehigh University
31 Michael Fors - Boeing
32 Shailan Patel - MYOB
33 Zoe Piper - IC Global at CSIRO
SOUTHERN EUROPE

From corporates to academics to those who started their own companies. In this section we showcase Southern Europe’s champions of boundary spanning and get a glimpse into the roles they play both within and outside their institutions.

Our Champions come from:
- Euskampus Fundazioa
- Inditex Group
- Innovative Futures Insitute
- Planeta Group
- Polytechnic University of Catalonia
- Polytechnic University of Madrid
- University of Basque Country
- University of Malaga
Antonio Abril
Secretary General, Inditex Group

Antonio has a degree in Law from the University of Oviedo and is a state lawyer. He is also the Secretary General and Secretary of the Board of Directors of the Inditex Group. Antonio’s professional career has always been closely linked to the university environment. Throughout his academic career he has been an associate professor of Administrative Law in the Faculty of Law at the University of A Coruña and has been a member of the Social Council of the University of A Coruña.

SPANNING BOUNDARIES ACTIVITIES

Antonio is president of the Conference of Social Councils of Spanish Universities and of the University-Business Commission of the Spanish Chamber of Commerce. He is also vice-president of the Forum of Renowned Spanish Trade-marks (FMRE). Furthermore, Antonio is a member of a number of institutions, including the Professional Standards Committee of the Institute of Directors and Administrators, Board of Trustees of the Society and Responsible Company Foundation, the Advisory Council of the Biodiversity Foundation and the Executive Committee of the Spanish Chamber of Commerce.

MAIN MOTIVATION

Antonio believes that the main motivation of the Spanning Boundaries agent is social commitment and a personal conviction of the necessary interrelationship between university and company.

Companies must dedicate part of their resources to the relationship with the university, with a firm and long-term commitment in their collaboration with the university.
Talent is a key asset for economic and social progress. Talent that is trained in university institutions and is productively organised in companies.

Antonio believes that there is no need for too much knowledge in a specific subject, but rather a practical experience with both universities and companies. As a complement, he recommends that one should also have experience in the field of Civil Service. Furthermore, the Spanning Boundaries agent must have a strong commercial profile and management skills. Personal qualities are closely linked to the skills required, with special attention paid to the skill of making agreements and bridge building.

Drivers
- Recruitment of post-doctoral researchers, which means the return of talent;
- Encouraging industrial doctorates and business chairs;
- Promoting the culture of entrepreneurship at university because Spanning Boundaries agents are needed in the public sector (especially in universities);
- Other drivers include accessible research centres, financing of interface mechanisms and technology incubators.

Barriers
- Legislation, as the regulations applicable to transfer are complicated. There are a great multitude of rules, which are sometimes contradictory;
- The bureaucracy associated with the materialisation of collaboration can also be an obstacle to its development.
Francesc Solé Parellada
Professor Emeritus,
Polytechnic University of Catalonia

Francesc is an industrial engineer from the Polytechnic University of Catalonia (UPC). He has a degree in Economics and Business Studies from the University of Barcelona, a Master’s in Business and Technology Management and a Doctorate in Industrial Engineering from UPC. He has taken several courses and postgraduate courses, including the Entrepreneurship Programme at MIT. Francesc is currently Professor Emeritus of UPC in the Department of Business Organisation, working at the Escola Tècnica Superior d’Enginyeria Industrial de Barcelona (ETSEIB).

SPANNING BOUNDARIES

ACTIVITIES

- Director of the first Spanish Master’s Degree in Innovation and Management of Technological Change in the Company;
- Creator of the Fundació Politècnica de Catalunya;
- Full-time professor at the UPC dedicated to teaching, research, technology transfer and university management.

MAIN MOTIVATION

The motivation of the Spanning Boundaries agent should not be the occasional contact between the company and the university. It must be to connect the university with the productive system on a permanent basis, with a long-term outlook. As well, it should be to discover the business opportunities at the university and transform them into patents and companies, as well as to spread entrepreneurial and innovation spirit among the different university groups.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Knowledge not necessarily specific to a scientific area, but of a general nature, is important. The Spanning Boundaries agent must know the technological innovation centre very well, and have a language very similar to that of the interlocutor, as well as a general knowledge of technology. In addition, they must have a direct dialogue with the research team and can even go on a commission basis. Perhaps the most important soft skill is knowing how to work in a team. Also, regarding personality traits, Francesc highlights qualities or traits such as: sympathetic, understanding, pleasant and tolerant.

“Connecting the university with the productive system on a permanent basis requires the mobility of researchers, from the university, to the innovation centres of companies”.

BARRIERS AND SUCCESS FACTORS

Drivers
• Leadership is fundamental, it is what creates the culture of porosity;
• High quality research;
• A clear vision of the market and related soft skills;
• Existence of a policy that encourages collaboration, infrastructure and funding;
• Incentives and reward systems, beyond the economic ones.

Barriers
• The governing bodies of universities sometimes do not have clear objectives for collaboration and incentives;
• Regulations and bureaucracy, for example, Spain currently has a solid scientific base, but the objective, focus, strategy and incentives must be facilitated and not bureaucratised.
Igor Campillo
Executive Director, Euskampus Fundazioa

Igor Campillo has a degree in Physics and a PhD in Theoretical Condensed Matter Physics from the University of the Basque Country. Throughout his professional career he evolved from a purely theoretical and academic profile to one that is totally practical and applied thanks to the entities he worked for: a company, a technology centre, where he had his first experience in applied science, and finally, entities linked to the university world. There he developed and implemented initiatives leading to the generation of university-business relations that have been very successful thanks to his knowledge of both worlds.

SPANNING BOUNDARIES ACTIVITIES

• Designing of the NanoBasque strategy to help the competitiveness and diversification of companies in the Basque Country (2008-2015);

• Development of the strategic plan for the Institute of Technology linked to the Faculty of Engineering of the University of Deusto;

• Designing and implementation of the International Campus of Excellence (CIE Euskampus) composed by the University of the Basque Country, Tecnalia Corporation and Donostia International Physics Center;

• Creation of the 4GUNE Cluster, formed by faculties and engineering schools from the four different university centers operating in the Basque Country, to better respond to the needs of companies.

MAIN MOTIVATION

Igor found his motivation in his eagerness to return to the academic world after leaving university. When he finished his thesis and an associate professorship for two years, he had to jump to the business world. After a short time he realised he was not made for corporate culture, and started working in a Research Technology Organisation (RTO) where he discovered his Spanning Boundaries skills. He found out that he liked working in the interface, with people outside of his discipline, and he discovered he was a good manager.

Furthermore, Igor has always been motivated by complexity. He believes he has the ability to synthesise complex matters, to bring them to intermediators who are not as knowledgeable. He enjoys moving from small, concrete projects to increasingly large initiatives which can influence how knowledge enriches the socio-economic fabric in his region.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Knowledge has been crucial. Although Igor had a theoretical background, he evolved towards a more applied knowledge during his professional life. At the same time, his multiple labour relations with multidisciplinary teams made possible the expansion of such knowledge to other areas. Although Igor’s university degree was in physics, he acquired a lot of knowledge in business development and project management through his professional experience.

Igor also learnt about the field of communication through the Master’s in Journalism and Scientific Communication, which allowed him to acquire better tools to develop liaisons between the university and business worlds.

“We must break the binary logic between business and university with something that, deep down, everyone understands, because we are all part of the same society.”

BARRIERS AND SUCCESS FACTORS

Drivers

Some factors decisive for the success of projects include having diverse previous experience and a good multidisciplinary team, which adds value to the developed projects and transversal training. The multidisciplinary profile of the Spanning Boundaries agent requires “a polyhedral profile that facilitates the establishment of relationships at different levels and with diverse people and entities”. Furthermore, Igor suggests the application of a systemic approach. Boundary spanning activities should not be seen from a transactional approach but rather from a perspective of co-creating value among all participating agents.

Barriers

Igor highlights that the main barriers are mental barriers that people acquire when they identify themselves with the institutions where they work. People from university usually are not capable of thinking from the demand side, they just think that the world is a projection of the university reality. Another big barrier is negativity regarding initiatives for change. From the start, people are very negative, reluctant, and think it won’t work. From the company side, the main barrier is the lack of knowledge about university processes.
Iván Martínez
Deputy Director of Innovation & Entrepreneurship, Polytechnic University of Madrid

Iván is the University Polytechnic of Madrid (UPM) Deputy Director of Innovation and Entrepreneurship. He is also UPM Tech Innovation Programme co-ordinator. This programme has identified and assessed more than 150 technologies, contributing to sales agreements of technology (€3M since 2012) at a national and international level. Iván is actively involved in European projects focused on innovation, executive education and acceleration of startups, mainly in digital and health sectors. He has participated in providing technology intelligence and innovation services for both public and private entities and holds both an MSc in Telecommunication Engineering and an MBA from UPM.

SPANNING BOUNDARIES ACTIVITIES

- EIT Health Product/Market Fit & Startups;
- Human Brain Project;
- EIT Health Go Global Medtech;
- EIT Health Trinity Digital Health Validator;
- Awareness, Innovation and Entrepreneurship in Cybersecurity;
- Actúaupm, UPM Entrepreneurship Program, supporting the creation of more than 270 startups so far;
- UPM_innovatech, UPM Tech Transfer Program, with more than 100 tech transfer licensing agreements, €3M through royalties since 2012, more than 150 researchers being trained and 5 workshops focused on tech transfer and linking industry and research.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Iván highlights the importance of the knowledge developed through professional experience, such as those acquired in industrial property issues or transfer rules. He explains that this knowledge is not difficult to acquire, but that it is developed from the different contexts and problems that are generated in the day-to-day work. Also, he considers the ability of managing uncertain scenarios important, as well as problem-solving capacity and ability to create consensus and agreement between parties involved. These, along with communications skills, are very relevant since they imply knowing how to transmit an idea and convince others of its interests.

MAIN MOTIVATION

The main motivation of Iván’s Spanning Boundaries activities has been the possibility to meet interesting researchers with very different profiles. He is also motivated by his work as a Spanning Boundaries agent because it gives him the opportunity to establish important networks with technology companies. In this sense, he values interaction with profiles outside the university very much. In relation to these aspects, Iván highlights the great autonomy that his work as a Spanning Boundaries agent gives him. Personally, he likes the freedom of his tasks, that is, being able to choose the projects and people he wants to work with, emphasising that this is very difficult to achieve in the private sector.

BARRIERS AND SUCCESS FACTORS

Drivers

In Iván’s personal experience, the national prestige of the UPM as a great brand has been a driver to open doors for leading many projects. Although the knowledge of the researchers does not differ much from one university to another, the contribution of the resources does. In this sense, investment in the public university is a great enabler for the development of these initiatives. UPM is located in the country’s capital and therefore has access to a large number of leading companies in the technology sector that are based in the same region. The geographical proximity facilitates collaborative relationships.

Barriers

The biggest initial obstacle to is credibility, both on the part of researchers and companies, is to make them see one can be a facilitator for value creation, for both university and company. Also, the traditional form of getting funding for research, in which research groups get funded and deepen their research without having to transfer the results, is another barrier.
Manel Arrufat
Entrepreneurship & Innovation Manager,
Polytechnic University of Catalonia

Manel Arrufat is a chemical engineer with a degree in market research and an MBA. His academic background provides him with knowledge in three main areas that are fundamental for fostering alliances between academia and industry: Technology, Market and Strategy. He has worked both in private companies and at the university, which has helped him to understand the needs of both worlds. Since 2009, he is the Entrepreneurship & Innovation Manager of the Polytechnic University of Catalonia. He leads courses, transfer initiatives and entrepreneurial programmes and is responsible for the definition, implementation and development of the university’s Innovation Ecosystems’ Strategy.

SPANNING BOUNDARIES ACTIVITIES

Manel highlights two main boundary spanning activities:

• A programme created for the university in which technology-based companies participate with the aim of increasing HEIs’ involvement in the business world, through tech transfer processes and developing the university’s contribution as a shareholder in these tech transfer activities.

• “UPC Innovation Ecosystems”, a project to transfer the university’s capacities to the surrounding business fabric to promote its innovation through 5 areas: entrepreneurship, creative spaces to bring university talent closer to the market, incubation, acceleration and contact with investors and corporate ventures. Special importance is given to the Innovation Hubs, which generate open innovation.

MAIN MOTIVATION

The public system offers a wide range of opportunities. Manel wants to take advantage of all these capacities to achieve different goals that bring the public system closer to the private one, in order to boost development. So, Manel’s main motivation is the will to change things for the better in the public realm.

His motivations are both related to his personal and professional spheres. The creation and development of partnerships and different boundary initiatives entails recognition and a personal satisfaction derived from the achievement of objectives that generate impact. For Manel, the professional field is integrated and interrelated with his personal well-being. For him, his professional activity and the achievement of goals is a way of understanding life. In this sense, Manel has a very high intrinsic motivation to seize opportunities. He is inspired by discovering missing opportunities and sees himself as a facilitator, a gear, that is able to propose things and find solutions. To reach these goals he mobilizes resources, establishes a strategy, and acts.

Another strong motivation for Manel is being a model for others, that can lead to the promotion of new boundary spanning initiatives.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Knowledge is important as it helps to identify personal abilities and limitations, something fundamental for Manel. He gives great importance to university education because it provided the tools to face problems from different points of view, and find solutions.

Moreover, time and people management skills are needed, as well as soft skills, like communication and dissemination capacity, leadership through collaborative management, and the ability to rethink and transmit a vision. In this sense, getting people to share a common goal is fundamental. In terms of personality traits, Manel highlights resilience, charisma to negotiate, empathy, perseverance and gaining motivation from new challenges.

You cannot know what the public sector can bring to the private sector if you have never been there.

BARRIERS AND SUCCESS FACTORS

Drivers

Most of the success factors come from the Spanning Boundaries agent’s own personality, abilities and desire to change society. Human capital management and talent retention are also crucial to the viability, sustainability and success of boundary projects. Internal and external networks with specific purposes are drivers, since they give visibility and facilitate feedback to validate and improve projects. Building networks is crucial as well as knowing how to explain, listen and adapt the message to what people think. The Spanning Boundaries agent must have a good position in these networks, convening power and willingness to initiate and lead projects.

Barriers

As barriers, Manel highlights internal aspects of the university: bureaucracy, the difficulty of changing established procedures, the lack of people with the right skills and knowledge in certain positions and the short-term nature of some posts. In the development of initiatives with companies, agility and flexibility are fundamental issues and they are often the great shortcomings of universities. To overcome these barriers Manel encourages doing things differently with a clear and well-defined strategy and a global perspective, even if the changes are local. Manel also recommends patience and the establishment of strong collaborations.
María Saiz Santos  
Director MBAe3 Master’s, University of the Basque Country

From an early age, María was involved in the design of employment and self-employment policies in Biscay and participated in European projects. She became part of Global Entrepreneurship Monitor (GEM) and developed her PhD on entrepreneurship. Shortly after defending her thesis, she was appointed Director of External Relations at the University of the Basque Country, and created and managed four university incubators. Nowadays, she is an Economics and Business professor and researcher, Executive Director of GEM Basque Country and part of the Management Committee of GEM Spain, chairwoman of Basque Entrepreneurship Observatory EEB-OVE and director of the Entrepreneurship Master’s MBAe3.

SPANNING BOUNDARIES ACTIVITIES

• Creation of the University of the Basque Country’s incubators. She designed the operating structure of the incubators and created the alliances with the collaborators, establishing the network to obtain the necessary resources (connections between the University, the Provincial Council of Biscay and the banks);
• Development of top-down initiatives, like the creation of diverse entrepreneurial programmes, spaces and technology transfer possibilities;
• Implementation of a bottom-up strategy, fostering the entrepreneurial spirit and intentions, developing entrepreneurship training in the university (e.g. MBAe3);
• Spanning Boundaries initiatives in the teaching context, encouraging and helping students to do internships and take advantage of different work experiences.

MAIN MOTIVATION

María finds it very motivating to have the opportunity and the freedom to design and execute innovative initiatives. She is passionate about improvement. In the university context she is motivated by the idea of promoting and facilitating the transfer of research results to society. It is very important to her that the research done at the university does not remain in publications that nobody reads, but that it ends up becoming companies and products that reach society.

Another motivation for María is the growth of the projects she has helped over the years. In this sense, she explains that the recognition received from these entrepreneurs is higher than that obtained from the university. Many current leaders of large companies, which are now benchmarks in their respective sectors, were once entrepreneurs in the incubators that she created. This is the best example of work developed that is useful, and produces a significant change in society.

Finally, obstacles are also a great motivation for María. She highlights that they are one of the key aspects that have driven her to continue during the years. She is motivated by challenges and prefers complex projects to simple tasks.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Maria’s PhD in entrepreneurship and employment policies served to theoretically base her Spanning Boundaries activities. Her continuous acquisition of knowledge has gone hand in hand with the development of boundary projects.

The skills that have helped her most in her career have been her tenacity and her capacity to create bonds and communicate. In this sense, her ability to convince people has been fundamental. She works at a very high pace and demands a lot from her team members.

She considers herself as a passionate, courageous and impatient person, who prefers to ask for forgiveness than to ask for permission.

“**It’s important to jump into things even if their design is not perfect, you have to use trial and error a lot to get things done**.”

BARRIERS AND SUCCESS FACTORS

Firstly, the position is an important success factor of Spanning Boundaries initiatives, it gives the capacity to act. Maria believes that without a position like the one she has, she would have had the same attitude but would not have been able to launch initiatives with such an impact. Secondly, the network is also a driver. Both the internal relations within the university and the external alliances with governments, other institutions and universities condition the success of the project. Finally, the communication strategy and the visibility. She highlights that if you do not make yourself visible you don’t exist.

There are barriers both in the university and in the industry context. The university culture influences the researcher’s behaviour and entrepreneurial intentions. It is very difficult to promote technology transfer in an environment where the focus is on academic publications. Also, companies do not completely understand the functioning of the university environment and are not so open to invest in it.

To overcome barriers, it is essential to find Spanning Boundaries agents, to create good teams, to know how to adapt the message to the interlocutors and to be very convincing in expressing what you want to do.
Segundo Píriz Durán
Academic & International Director,
Group Planeta

Professor at the Faculty of Veterinary Medicine at the University of Extremadura, Segundo has participated as a researcher in many research projects, and obtaining, as one of the results of these works, a patent for a veterinary vaccine. He has participated in university management as a member of various teaching and research committees. In 2011, he took over as Rector of the University of Extremadura and later as President of Conference of Rectors of Spanish Universities (CRUE). He is currently Academic and International Director of Planeta Formación y Universidades and Institutional President of MetaRed in Santander Universidades/Universia.

SPANNING BOUNDARIES ACTIVITIES

Among the activities carried out by Segundo in the area of collaboration between universities and companies, the following stand out: the creation of infrastructures at the University of Extremadura for the teaching of soft skills, signing of agreements with companies to insert students into the labour market through internships and collaboration with Centro Internacional Santander Emprendimiento.

MAIN MOTIVATION

The main motivation of the Spanning Boundaries agent is personal, to be committed to society, to want to help improve the employability of young people. Vocation is key.

Approximately 20% of Spanish university teachers have a relationship with companies, which is materialised through contracts with companies, regulated in article 83 of the Organic Law on Universities.
IMPORTANCE OF SPECIFIC KNOWLEDGE

The Spanning Boundaries agent requires technical skills to be able to develop their activity and an open mind is necessary to approach the company.

As far as competences are concerned, flexibility stands out. There is a lack of channelers that connect or know how to read science and scientific knowledge in economic terms.

Furthermore, the skill of listening to both parties (universities and companies) and generating trust is important. In terms of traits, patience is crucial, and it is not easy. Sometimes there are many bureaucratic procedures that must be faced with courage.

“Think globally and act locally. Knowledge-based reindustrialisation and knowledge transfer oriented towards employment generation are driving elements of the Spanning Boundaries agent”.

BARRIERS AND SUCCESS FACTORS

There are mechanisms for knowledge transfer, what is needed is a greater volume and growth of collaborative projects, a scientific culture must be created, and transfer must be encouraged.

Universities have created structures to transfer knowledge to companies, where Spanning Boundaries agents can develop their activities, for example, the Transfer Offices. Companies, for their part, must have innovation departments, with their own professionals, but these professionals must be connected to the place where most research is done (the universities) and be co-ordinated.

The main obstacles include bureaucracy and the amount of administrative paperwork required to set up university-business collaboration.
Rafael Ventura
Vice-Rector for Social Innovation & Entrepreneurship, University of Málaga

With a PhD in Business Administration from the University of Málaga (UMA) and a Master’s in Business Communication and Economic Journalism from the School of Industrial Organization, Rafael currently holds the position of Vice-Rector for Social Innovation and Entrepreneurship at the University of Málaga. In 2014 he launched the “Link by UMA” initiative - a real meeting point between university and business - as a project to promote the university’s entrepreneurship strategy. His research is focused on service dominant logic and innovation in open ecosystems, in close connection with his professional activity.

SPANNING BOUNDARIES ACTIVITIES

- Spin Off award from the University of Málaga in 1997;
- Vice-Dean of the Faculty of Economics and Business, University of Málaga;
- Director of the Secretariat of Innovation and Entrepreneurship, University of Málaga;
- Vice-Rector of Social Innovation and Entrepreneurship, University of Málaga;
- Co-ordinator of Team GEM Málaga;
- Co-ordinator of the Global University Entrepreneurial Spirit Student’s Survey (GUESS) project;
- Member of the Organising Committee of the Transfer Forum, every year since 2014.

MAIN MOTIVATION

The relationship between the three dimensions (social, organisational and individual) is close, and all of them are relevant in the performance of boundary spanning activities. In relation to the organisation and society, the willingness to change and improve stands out. This is directly related to motivation and happiness on a personal level and recognition on a professional level.

One of Rafael’s main interests, is the desire to produce a change in both the university and society. The idea of change is also understood through the concept of generating utility. In terms of professional aspirations, professional growth is identified in the sense of recognition and emphasis is placed on impact generation. The recognition obtained from the development of boundary spanning activities is acquired practically in its entirety from the context outside the university, by other institutions or the business sector.

The belief in university, as an engine to change society, connects the three challenges, as universities have to be drivers to make innovation a more open model in which the whole organisation has to take part.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Rafael highlights the need for a combination of knowledge and skills:

• Research knowledge, in his case, is closely linked to his management activities;
• Knowledge of the environment and business reality;
• Strategic knowledge, derived from his experience and academic training in economics and business administration;
• Social skills to establish new collaborative contacts and generate networks. Knowing how to identify key people, needs and value propositions;
• The ability to collaborate;
• Communication skills are considered very important: assertiveness, empathy, creativity, passion and enthusiasm in the project.

“I believe that if you are contributing to create a better university you are contributing to create a better society, and that is contributing to you personally. You have to believe in your project 100%, and that results in personal benefit”.

BARRIERS AND SUCCESS FACTORS

Drivers

The University of Málaga is a recognised public institution that opens many doors. Additionally, the organisational position held by the Spanning Boundaries agent does influence the possibilities of carrying out projects with numerous actors. The management positions occupied by Rafael favour contact with institutions and companies and the creation of projects. Structure is a very relevant aspect, so in such a bureaucratic institution the organisational position is key. In the case of “Link by UMA” project, results orientation, opportunity utilisation and willingness to generate change are key factors, combined with a high degree of internal and external commitment that configures a successful open university ecosystem.

Barriers

The main barriers of the Link project are structural and cultural. On the one hand, there is university institutional culture, the rigidity in the face of change and excessive bureaucracy. Rafael stresses that it is a complex aspect and therefore a challenge to overcome these perceptions that external agents have of the university. On the other hand, in the university there is a convergence of agents with different opinions and interests involved in the decision-making process. It makes a bigger challenge to carry out a disruptive project in a rigid environment with many rules.
**Victoria Galán Muros**  
**CEO and Founder, Innovative Futures Institute (IFI)**

Victoria Galán Muros has developed a 360-degree understanding of university-business cooperation due to her time working in industry, universities, and international organisations, as well as founder and CEO of her own company. From her positions in each of these “helices”, Victoria has always collaborated with actors in other “helices” and creating bridges. These settings have enabled her to get a multi-actor perspective on university-business cooperation, and the over 40 countries in which she has worked have further permitted a truly international comprehension. From practically undertaking university-business cooperation, to her role as Research Director of the largest international study on university-business cooperation, completing her doctorate on the topic, authoring reviews for the OECD, consulting for the European Commission and leading thought in this area, Victoria has advanced the field considerably.

**SPANNING BOUNDARIES ACTIVITIES**

Even when Victoria’s boundary spanning activities have been very diverse, they all have some elements in common, for example:

- Bringing people closer that normally wouldn’t interact or meet;
- Inspiring people to think differently and to support the development of new ideas;
- Translating information from one setting to another;
- Visualising the potential for research and educational collaborations and help finding a win-win situation for the actors involved;
- Guiding and managing expectations of the different collaborating actors;
- Drafting research and consulting pieces on this topic.

**MAIN MOTIVATION**

Victoria’s motivations stem from her own personal interest in making a positive contribution to society whilst utilising her skills, knowledge and experience to the fullest. Her focus has always been in the educational space, particularly higher education. Her interest flows into the modernisation of universities through business engagement as well as the development of future skills and policy level changes that systemise this modernisation.

She fully believes that true innovation often happens at the edges of organisations, disciplines, sectors, generations and geographies, so she seeks unusual interactions that explore the unexplored and are likely to result in new knowledge or technology. Her belief in future societies led by innovation is a key motivation for undertaking research and policy reviews, exemplifying an evidence-driven policy approach. She then brings this understanding into practice by actively spanning boundaries between triple helix actors (universities, governments, and the private sector), through collaborative innovation projects and thought-leadership articles.

On a personal level, Victoria is especially motivated to make a difference in less developed countries. In parallel to her work in Europe and Australia, she has undertaken projects in multiple countries in Latin America and South Africa, in which she has aimed to position higher education institutions as engines of social and economic development through stakeholder collaboration.
IMPORTANCE OF SPECIFIC KNOWLEDGE

A wide range of skills and abilities can be useful for successful Spanning Boundaries agents, including being:

- Trustworthy, and able to gain confidence;
- Flexible and adaptable;
- Creative, entrepreneurial and innovative;
- Resilient and persistent;
- Good with communication, but adaptable to the audience and culture that you are addressing;
- Resourceful and a good problem solver.

Victoria has a natural ability to engage diverse stakeholders, and has become more flexible and entrepreneurial through her experiences. Confident communication in English in different settings is an important skill for Victoria, but it was something that took time to develop.

“I fully believe that true innovation often happens at the edges of organisations, disciplines, sectors, generations and geographies, so I seek unusual interactions that explore the unexplored and are likely to result in new knowledge or technology”.

BARRIERS AND SUCCESS FACTORS

**Drivers**

- Institutional support to get buy-in from both sides of the collaboration and appropriate incentives targeted to your organisation that help to break through barriers;
- The commitment of both sides in the cooperation, which allows trust and shared goals to develop;
- The ability of Spanning Boundary agents to bring different actors together and transform it into a long-term win-win strategic partnership;
- The focus on people over technologies.

**Barriers**

- Lack of knowledge of the university-business cooperation process by many involved in or influencing cooperation, so training is needed in this area.
- Lack of institutionalisation of cooperation that often results in insufficient supporting mechanisms, personnel or incentives, which calls for a need to fully integrate engagement in the organisation strategies and operations;
- The extensive bureaucracy can also be a significant and underestimated, barrier, particularly in the university setting.
Collaboration, co-creation and co-working are prominent factors highlighted by our featured Northern European Spanning Boundaries agents. In this section there is a clear emphasis on initiatives such as startups and partnerships.
Kari Mikkelä has five decades of boundary spanning experience behind him and believes strongly in mission and impact-driven orchestration. This is where the key job of a Spanning Boundaries agent is to be an innovation orchestrator/producer, who helps others to make use of all opportunities, prototype solutions and deploy them into practice. Urban Mill is a “public–private–people–partnership” initiative, started in 2013. It is simultaneously a co-creation space, community and a service. Located at the heart of Aalto University campus, its main partners are the City of Espoo, Aalto University and “Academic Engineers and Architects in Finland TEK”.

Kari, along with his colleague, Lars, have brought together:
- 150,000+ people participated in 3,500+ registered events;
- 15,000+ visitors hosted, from Finland and abroad;
- 1,000+ pioneers involved in service co-creation;
- 1,000+ organisations and projects as platform users.

This has enabled them to have 100+ teams and startups joining the community, allowing them to implement cooperation across the “quadruple helix”:
- Joint RDI;
- Prototyping, co-creation;
- Curriculum development and delivery;
- Educational programmes;
- Consultancy;
- Shared resources and spaces;
- Entrepreneurship and startup creation;
- Governance;
- Alliances and cooperation.
IMPORTANCE OF SPECIFIC KNOWLEDGE

According to Kari, Spanning Boundaries agents solve systematic problems, thus they require a general understanding of how the world around them works: “When I studied, I read a little bit about everything. In a factory environment, I got hands-on practice in how everything works: from the factory floor to RDI planning. It is really important to understand the whole picture.”

Kari continues, stating, “I’m not a theoretical person! From an industry and society point of view, universities are creating people that are too theoretical and this direction has only grown stronger in Finland.”

MAIN MOTIVATION

Kari emphasises two things: He has always had a passion for helping others, and he wants to create: “Routines bore me. I would die inside if I was an accountant. You could call me a creative”.

He further states, “I don’t want to do boring stuff anymore. There are so many projects out there, where you have to do exactly what the project paper says. I’d rather spend the money on more worthwhile things.”

BARRIERS AND SUCCESS FACTORS

Kari claims that all barriers are relevant: funding, structures and cultural issues; and if you truly want to do valuable things, you need to generate impact. However, when involved in multi-actor initiatives, everyone has their own goals and shared goals are not a priority. Conflicting business models may make things difficult and making a change is rarely good for everyone involved. However, working with the community of practice of “best-practitioners” means learning from the best. Furthermore, support from top leadership is also important.

“Boundary spanning in innovation creation should be closer to movie production – first you have a synopsis, you assemble the production, collect the talent, produce the output, and then sell it to the market.”
Maarit Haataja
Deputy for Chief Development Officer,
University of Helsinki

Maarit has a PhD in Biology and has worked her entire career in academia; first as a researcher, then going on to work in administration. She has spent the last ten years working at the interface between academia and industry. Maarit emphasises the importance of learning-by-doing and the use of mentors in helping her to understand the business perspective and needs as a Spanning Boundaries agent. She has participated in several trainings on themes of university-business cooperation, IPR, funding, project management and boundary spanning; but nonetheless says the former have been most important.

SPANNING BOUNDARIES ACTIVITIES

Maarit is involved in the Business Collaboration Accelerator for Faculties, which is a service offered by the Research Services/Business Collaboration team of the university for individual faculties’ deans and their leadership to strategically design, lead, monitor and implement UBC activities and partnerships with ecosystem/industry partners. Contents are built according to the individual needs of each faculty. The Research Services team offers tools, training and additional resources to supplement faculty-level capacity. The University of Helsinki is piloting the “Business Collaboration Accelerator for Faculties” on this scale for the first time at the Faculty of Agriculture and Forestry under the theme of Sustainable Food.

MAIN MOTIVATION

Maarit is motivated to promote university-business cooperation so that society benefits. How can she help society and business make use of the knowledge created at universities? She feels it is the duty of universities to ensure the knowledge is transferred for decision-makers, business and industry to be utilised in practice. Her objective at the University of Helsinki is to ensure that the cultural mindset of researchers and staff members changes and that the capacity for collaboration and partnerships increases. Instead of “ad hoc” cooperation that currently characterises UBC at the University of Helsinki, she wants to build strategic partnerships that include shared facilities, mobility, student cooperation as well as joint-projects, regional development and startup creation.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Anyone in university leadership interested in increasing boundary spanning capabilities needs knowledge of organisational change-management and cultural change. Maarit says she has ‘typical’ UBC skills such as:

- IPR - Business development and advisory;
- Funding;
- Commercialisation;
- Understanding of industry needs;
- Understanding of research which is required from a Spanning Boundaries agent.

But Maarit underlines that cultural and change-making skills are of utmost importance for leading UBC on a strategic-level. A Spanning Boundaries agent leading the charge needs to be able to understand the big picture, pain points and weaknesses. She needs process-understanding, negotiation skills as well as strategic understanding.

BARRIERS AND SUCCESS FACTORS

Drivers
- Shared vision;
- Top-leadership commitment;
- Champions within faculty;
- Pooling in scattered resources.

Barriers
- Lack of UBC culture;
- University leaders lack innovation and business creation skills;
- Lack of UBC incentives;
- Lack of personnel support resources (i.e. 4500 researchers vs. team of few dozen experts in support staff);
- Resources scattered, lack of overall co-ordination;
- Lack of industry awareness about what the University of Helsinki can offer businesses.

To overcome barriers it is important to use thematic mission/impact-driven thinking that creates a common direction. As well as giving and nurturing ownership on faculty-level.

“Anyone working in university leadership and interested in increasing boundary spanning capabilities, needs knowledge of organisational change-management and cultural change.”
Mikko Markkanen is an entrepreneur and the CEO of Crazy Town, a community for work and learning. Its boundary spanning activities can be divided according to 3 categories: communities, co-creation projects and the academy. Together with its partners, Crazy Town also organises numerous events and activities that span the boundaries between universities and industry.

Mikko Markkanen
CEO & Entrepreneur, Crazy Town Oy

Mikko is involved in various activities:

- **Communities**: Crazy Town operates four community-driven spaces in Finland, where over 200 companies and organisations work and learn together. Members include a mix of solopreneurs, micro-sized companies, startups, and teams from larger organisations;

- **Co-creation projects**: Co-creation activities strengthen the surrounding ecosystem where Crazy Town is located, offering members access to resources and networks of universities and other innovation support organisations. Tools include hackathons, co-creation workshops, idea campaigns and matchmaking events. Many activities can be organised face-to-face or online;

- **Academy**: Together with its partners, Crazy Town also organises bootcamps and training programmes for members.

**MAIN MOTIVATION**

Mikko has an interest in different phenomena and people. He says he has a child-like excitement about everything. Coming up with new ideas and new angles on how different ideas, people, initiatives and themes could be interconnected fires his enthusiasm. There isn’t always any direct economic incentive - it’s something that comes to him naturally and what he enjoys doing.
IMPORTANCE OF SPECIFIC KNOWLEDGE

A Spanning Boundaries agent should have a little knowledge about everything — but not too much, according to Mikko. "This lets me see connections. Sometimes, it's good to be a generalist, who can see the bigger picture and not be too deeply mired in a certain issue."

He further mentions the skill of being able to visualise how abstract issues, themes and challenges are connected, and which people, organisations and assets should be mobilised. A good trait to have is to be open to learning and comfortable about being out of your comfort zone. "Child-like enthusiasm about learning and exploring is required."

"People are more important than organisations. Oftentimes, people may change the organisation, but still remain a key stakeholder in their new position.”

BARRIERS AND SUCCESS FACTORS

Drivers

- Funding that allows flexibility for accelerating initiatives;
- Having a recognised position, either an official mandate or recognised market position.

Barriers

- Does the Spanning Boundaries agent have permission to act? For example, "Am I allowed to directly communicate with researchers at a university, or do I need to go through official channels?"
- A lack of funding for boundary spanning activities can be a barrier. A Spanning Boundaries agent rarely gets direct income from the boundary spanning activities – is anyone willing to pay compensation for matchmaking?
- Failure to understand business logic and thought logic of partners can be an issue. A Spanning Boundaries agent should be an interpreter between different worlds.
Pasi Vakaslahti
Manager of Industry Interaction, Networks, Cooperation & Co-creation, Tampere University

Pasi Vakaslahti works as a manager for the Industry Interaction, Networks, Cooperation and Co-creation services at Tampere University. Pasi is constantly connecting, funneling in, distilling, forwarding, co-ordinating, facilitating, marketing and leading new opportunities for universities’ societal renewal and interaction. As well as fostering entrepreneurial mindsets.

SPANNING BOUNDARIES ACTIVITIES

Pasi works with the Doctoral School of Industry Innovations (DSII), which offers companies a new avenue for improving their competitive position and renewing their business. DSII builds bridges between academia and industry and provides companies with access to the latest research knowledge and the opportunity to address research questions that are essential for developing business.

MAIN MOTIVATION

Pasi says that work as a Spanning Boundaries agent is important and a bit different to regular research work. Usually, professors have good connections to businesses in their own substance but outside the main curricula there might be some unseen potential that Spanning Boundaries agents can reach. The objective is to interact in an interdisciplinary way inside the university. With businesses, they emphasise new possibilities in research and initiatives. To work as a Spanning Boundaries agent is a very interesting and important job by enabling new possibilities and cooperation.
IMPORTANCE OF SPECIFIC KNOWLEDGE

It helps to have outgoing and goal-oriented traits and actively searching for win-win situations (university, business and personal benefits). There are tricks to be learned on how to work in the crossroads of academia and industry but that can be learned as well. Skills can be learned through practice. Pasi says that it helps a lot to have social capabilities when spanning boundaries between academia and industry. He emphasises that you have to support and encourage people towards cooperation and action.

BARRIERS AND SUCCESS FACTORS

Drivers

Pasi explains that having common goals is definitely a driver for everybody. Many companies try to achieve their aims through sustainable development. That is a common denominator for research as well. Furthermore, external funding is seen as a driver for both parties.

Barriers

The commitment that DSII demands from businesses is quite substantial (four years). It usually means that they have to agree on a strategic level which is of course a good thing. Nevertheless, it takes time and it’s not something “light”. To overcome or circumvent barriers, universities should try to offer shorter and more concise collaboration models and tools to keep companies committed.

“Boundary spanning usually starts by supporting and communicating ideas and concepts towards companies. Basically, creating conversations between faculties and businesses. Trying to find if there is a potential case that can be addressed”.

Vesa-Matti Ruottinen is one of the founders of Tribe Tampere. He has a degree as an Automation Technology Engineer/Technician and studied knowledge management as a minor. He also has his Master’s in the field of Product Development. In addition to product development, he has studied industrial management, project management and knowledge management. Vesa-Matti is very active when it comes to entrepreneurial work and events. He has established several startups and micro-companies and has worked as a volunteer in Stream Startup Festival.

Spinning Boundaries Activities

Tribe Tampere aims to increase collaboration between different experts, cultures, startups, students and investors. They aim to do it by organizing a series of events and taking part in new initiatives as an active member. They operate in five different topics: startup programmes; students and researchers; funding and investors; startup talents and startup events. Under each topic they have different initiatives and projects. For example, for universities they organise lectures and classes inside the curriculum. Outside the curriculum they organise accelerator programmes for university-based startups and try to encourage the students to get involved with the startup ecosystem.

Main Motivation

Engaging in boundary spanning activities feels very meaningful to Vesa-Matti. He has a personal mission to enable entrepreneurship in all forms. At Tribe Tampere they started working with a vision to form the most unified startup system in Europe.
IMPORTANCE OF SPECIFIC KNOWLEDGE

At Tribe Tampere the lightness of the governance and structure enables success. People who really want to, can create new projects and initiatives easily. And an open minded attitude helps to test things. Vesa-Matti says that he noticed that when being a Spanning Boundaries agent, one needs to have this kind of an attitude, where one starts some initiatives even though something has not been tested before. He mentions that you need a sincere and curious mind, out-of-the-box thinking and readiness to create agile experiments.

“Sometimes you have to be like a broken record; repeating core messages all the time to keep people informed and involved. Spanning Boundaries agents need perseverance and tenacity”.

BARRIERS AND SUCCESS FACTORS

Vesa-Matti mentions funding or applying for funding as a barrier; but having little money is not necessarily a barrier, it can be a possibility as well. Another barrier is the clash of cultures. Sometimes this slows down the action and can make things unnecessarily difficult. On the other hand, the main driver which enables and eases the process is passion. Tribe aims to connect people who are genuinely interested in the science to business processes, new innovations and entrepreneurship. This creates a positive spiral when like-minded enthusiasts collide.
Among the Western and Eastern European boundary workers there are a number of company founders featured. Here we clearly see the transfer of knowledge and the use of innovation to create value.

Our Champions come from:
- DERMASENCE
- Elsevier
- L’Ecole de Design Nantes Atlantique
- MUAS S2B Marketing Research Centre
- Noventum
- Petrus Communications
- Spark 904
- Steinbeis Transfer Centre
- Westphalia DataLab
Christian Guellerin, Executive Director of L’Ecole de Design Nantes Atlantique, has dedicated himself, since the 1990s, to design education. Over the 22 years that Christian has occupied that position, he has developed boundary spanning initiatives that bring the design school together with public and private organisations, as well as individual players with the goal of developing and carrying out full-scale testing of sustainable and innovative measures. Christian, driven by the desire to provoke change in society and build a better future, chooses global challenges highly likely to impact societies today, and in the future, as topics of collaboration.

**SPANNING BOUNDARIES ACTIVITIES**

- Working on the ecosystem of companies, professionals of design, students and teachers, which has resulted in the school working with around 80 companies today;
- Food Design Lab, which works with 5 Higher Education Institutions, 10 government offices, and 19 companies to innovate in the field of food products;
- The Care Design Lab, which is focused on issues of societal and environmental well-being and health;
- The City Design Lab, which is dedicated to sustainable urban and territorial change;
- Digital Design Lab, which deals with the hybridisation of physical and virtual worlds, and explores possibilities of technological innovation in areas such as AI, robotics and Big Data.

**MAIN MOTIVATION**

Christian is highly motivated by a desire to provoke change in society and build a better future for humanity, for example by moving from what he describes as an “industrial paradigm” towards an “innovation paradigm”. In the 19th and 20th centuries, the purpose of companies was to focus on what was technologically possible and economically profitable, but in the 21st century, the purpose of companies, says Christian, is to focus on what “makes sense” for making a responsible and sustainable world.

His objective is to make design schools the “centre of incubation, the centre of entrepreneurship” that brings other stakeholders to the table to achieve these changes through collaboration and design.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Christian highlights the importance of having a vision of plausible futures and using this as a basis for action in his boundary spanning activities. Vision should be combined with the ability to convince others of the legitimacy and value of one’s ideas, especially when implementing initiatives that involve multiple stakeholders. Creativity, communication, innovation skills, and being able to take an idea about the future and “make it real”, are also essential.

Over time, Christian has developed the ability to admit when he is wrong or does not know something. This allows more learning and can encourage taking risks with ideas.

BARRIERS AND SUCCESS FACTORS

According to Christian, the largest barrier when creating and implementing boundary spanning initiatives is what he calls the “problem of recognition”, which he explains as a general lack of awareness of how design and designers can be of value to other disciplines, to industry, and to society. Moreover, there is an absence of designers in high profile positions in industry, which can possibly have a negative impact on the legitimacy of design and designers, making it more difficult to gain the support of stakeholders in collaborative projects.

Tackling topics that are of great importance to the future of humanity is the principal driver behind successful boundary spanning initiatives that Christian mentions. Whether motivations of stakeholders are value-based or based on organisational interests, or a combination of these, addressing problems that impact society as a whole, facilitates support for collaboration.

“We are passing from an industrial paradigm based on quality of services to another paradigm, [which] is innovation and this is why design schools are more and more pertinent regarding strategy, business economy and economical strategy”.
Detlef Isermann is a managing partner of the medical skincare company DERMASENCE. His position uniquely presents him with a complex network of scientific and practical partners from diverse disciplines and countries. Having gained years of experience in boundary spanning activities, today he engages in associations and takes part in diverse events, actively searching for collaborations with universities and scientific institutions. Detlef enjoys travelling to new places which allows him to learn from different traditions, innovative resources and technologies, and specific customer demands. Furthermore, he recently established a competence centre to strategically explore new materials, technologies, and ingredients for his products.

**Detlef Isermann**
Managing Partner, DERMASENCE

Detlef’s motivation to engage in boundary spanning stems from his inner interest in dermatological topics with the aim of solving skin problems of extreme skin types. Driven by this aim, he has not only built up his company, DERMASENCE, but also created a complex network, including universities and scientists, as well as regional and international business partners. His motivation to broaden his knowledge is directed towards discovering new areas and old cultural traditions. Although being focussed on business operations when engaging in his network, it is not a profit-driven way of networking, but focussed on the product side. As such, he is interested in meeting new people who share the same set of values as he does. He considers this the most important basis to start a successful collaboration.

**SPANNING BOUNDARIES ACTIVITIES**

- Detlef engages in diverse research and business projects related to his company’s business operations and products at DERMASENCE;
- He cooperates with universities and research centres to gain scientific knowledge;
- He also engages in associations and events to actively build up and maintain a complementary network, adding up different knowledge fields;
- He usually starts with an initial contact which he uses to start a first conversation and establish a common ground;
- By engaging in continuous communication, he not only tries to maintain his network but also bridge partners within his network to create additional value.

**MAIN MOTIVATION**

Detlef’s motivation to engage in boundary spanning stems from his inner interest in dermatological topics with the aim of solving skin problems of extreme skin types. Driven by this aim, he has not only built up his company, DERMASENCE, but also created a complex network, including universities and scientists, as well as regional and international business partners. His motivation to broaden his knowledge is directed towards discovering new areas and old cultural traditions. Although being focussed on business operations when engaging in his network, it is not a profit-driven way of networking, but focussed on the product side. As such, he is interested in meeting new people who share the same set of values as he does. He considers this the most important basis to start a successful collaboration.
IMPORTANCE OF SPECIFIC KNOWLEDGE

In terms of knowledge, having a broad-based educational background and a multi-faceted, basic knowledge in different areas is essential for starting a business as well as its networking activities, although Detlef also acknowledges that specialists are needed in certain areas. In addition, being able to realise new potential in the international market, is one of the key skills mentioned. Next to this, Detlef also highlights communication skills as essential for boundary spanning activities. His personality traits of being optimistic, open, and curious support his strength in this field.

BARRIERS AND SUCCESS FACTORS

A general understanding and appreciation of the business and professional work are general requirements for success. So, while a lack of these can turn an environment into a barrier, the fulfilment of them can become a major driver. The environment is an important factor in driving the organisation forward.

This is accompanied by key partners who support the business, and actively support the organisation to gain new knowledge through collaboration projects. The key success factor is to focus on “strengthening strengths instead of focusing too much on the barriers”.

As mentioned before, the environment can become a barrier. In Detlef’s case, the environment of the old headquarters of DERMASENCE was not conducive to build up new capacities and optimise the companies’ potential, consequently, Detlef decided to move back to Münster. From the very beginning, he received support from the city and other companies in his decision. Now, he values the scientific environment and continuous help that he receives. He specifically mentions universities of applied sciences which he found to be active collaborators.

“Strengthen your strengths - it is much more valuable to focus resources on the positive aspects and chances that arise, instead of focusing too much on barriers or weaknesses which might obscure you from pursuing opportunities”.

Jurgen Raizner
Founder and Director, Steinbeis Transfer Centre

Originally from West Germany, Jurgen Raizner is an economist by training and has over 20 years of practical experience in technology transfer and innovation management. Jurgen is the founder and director of Steinbeis Transfer Centre, which aims to foster synergies in Europe. On top of his business activities, he is a Project Management and Economics lecturer at his alma-mater, University of Applied Sciences of Nürtingen-Geislingen (HfWU). Jurgen’s journey in technology transfer and innovation management started almost 30 years ago, when he observed the limited competitiveness of businesses and industries in Eastern Europe.

Upon a prolonged trip to Russia (then Soviet Union), Jurgen observed the limited competitiveness of businesses and industries in Eastern Europe. With his desire to support the competitiveness of Eastern European industrial markets, Jurgen also saw a clear disconnect between the industrial and academic worlds for innovation and, therefore, lack of good practices in the East. His primary motivation was the cultural change from a more passive mentality of “there is nothing more we can offer” to a more optimistic and active “we can break though and innovate as much as the others” in the Eastern European regions.

MAIN MOTIVATION

SPANNING BOUNDARIES

ACTIVITIES

- The Steinbeis Transfer Center for East-West Cooperation Training and continuous professional development, the branches of the company offer professional training to academics;
- Establishment of the first fully-fledged independent technology transfer centers in Romania, followed by Ukraine and their western counterparts in Germany and Austria.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Spanning Boundaries agents need basic knowledge of the ecosystem and environment in which they are operating, thus both contextual and cultural knowledge, as well as of the science behind the technology/innovation in their field. Practical experience in both the real market (industry) and academia is crucial to understand the internal processes.

On the other hand, skills such as being able to undertake market analysis and the ability to see the long-term and “big-picture” view are essential. While personality traits such as having an entrepreneurial mindset, a desire for constant learning and a positive attitude can stand one in good stead for success.

“The best intermediaries are academics themselves who, ideally, should be the Spanning Boundaries agents”.

BARRIERS AND SUCCESS FACTORS

According to Jurgen, the best intermediaries are academics themselves who, ideally, should be the Spanning Boundaries agents. Having an interdisciplinary approach to collaboration and undertaking an effective needs analysis is the cornerstone of cooperative activities. Furthermore, having a strong network and access to the players in the field is an important driver, as well as an affiliation with the academic world.

Barriers include bureaucracy that dictates the terms and conditions for interaction between universities and companies; a lack of understanding of what university-business collaboration entails; and a lack of understanding of the organisation’s own needs (be it business or university).
Kerstin Kurzhals studied Business Administration and completed her joint PhD at Coventry University and Münster University of Applied Science (MUAS). After working for several years at an IT management consulting company, she obtained experience as both a researcher and practitioner. Kerstin is currently a junior professor at the Science-to-Business Marketing Research Centre (S2BMRC) of MUAS and focuses on the research field Science-to-Society. She is both a researcher and the project manager of the "münster.land.leben" research project which focuses on knowledge transfer management within the region. She is a Spanning Boundaries agent, linking the 6 different departments at MUAS associated with the project.

SPANNING BOUNDARIES ACTIVITIES

- As researcher and project manager at S2BMRC, Kerstin engages in regional boundary spanning activities in the project "münster.land.leben" and builds cooperations and bridges between the different departments at MUAS;
- For these activities, Kerstin stresses the importance of a trust base: "Vertrauensarbeit";
- Her team introduced the tool "expectation matrix" to foster sharing and discussing the partners’ expectations in a collaboration to make the collaboration more open and transparent;
- This also reflects the German way of collaboration in which information is exchanged to create a trust base.

MAIN MOTIVATION

Kerstin’s motivation to engage in boundary spanning is twofold: professional and personal. The professional motivation has to do with enriching her subject matter knowledge and understanding. That is, the exchange process with other experts gives her the opportunity to broaden her academic horizon and link different knowledge domains. While engaging in boundary spanning, she filters the relevant information from an interdisciplinary team to enhance the overall project outcome. Her personal motivation refers to being fulfilled by a diversified work.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Kerstin heavily draws on her technical knowledge from studies as well as a store of knowledge and experience, which she built in her business life. That makes her confident in her knowledge because she can position herself as an expert in her boundary spanning initiatives. Furthermore, while it is crucial to learn how to communicate effectively, it is also important to listen carefully and be empathetic. These skills help to develop good networking and conflict management.

Likewise, key personality traits are empathy for others’ situations and interests as well as openness to other opinions and the individual’s mind-set or motivation.

“While certain skills, personality traits or supporting tools can foster successful boundary spanning activities, I see its foundation in “Vertrauensarbeit” – the trust base between cooperating partners”.

BARRIERS AND SUCCESS FACTORS

Drivers

One driver can be the awareness of the different transfer barriers. Kerstin’s team developed a toolbox incorporating different ways to remove those barriers to drive the project forward. As such, finding ways to proactively circumvent/avoid barriers by, for instance, creating trust, building a shared understanding, and a shared language are ways to achieve successful boundary spanning projects.

The key success factor is “Vertrauensarbeit”, that is building a solid trust base on which everything else can grow. It is created through communication (professional and personal), listening, conflict management and networking skills, as well as through the personality traits of empathy and openness.

Barriers

A difference of culture and/or language can create conflicting ways of working that make it difficult to build a trust base. Kerstin and her team defined different transfer barriers, relating to having different visions, different institutional logics and norms, a lack of needs orientation, a lack of shared understanding of roles and responsibilities, different professional jargons and methodological approaches and a lack of trust to assess project results. In Germany, a lack of sufficient understanding of how the German research and education system works with its particular rules can be a barrier as well.
Kirsten Williamson
Founder & CEO, Petrus Communications

Kirsten Williamson is the founder and CEO of Petrus, a multi-award winning international design agency that works to bring companies together with university leadership, faculty, and students around impactful projects. Kirsten has created and implemented boundary spanning initiatives that address specific goals of stakeholders, as well as broader societal goals such as increasing inclusion and diversity in engineering, opening innovation and bringing ethics into engineering education. According to Kirsten, the key factors driving success in boundary spanning activities are the clear identification of a problem, an extensive understanding of the motivations of different groups, the availability of financial resources, and personal and professional networks that are open to newcomers.

SPANNING BOUNDARIES ACTIVITIES

Kirsten’s boundary spanning initiatives over 25+ years of work with universities and companies worldwide have included multiple high-profile events and initiatives including:

• The Airbus Fly Your Ideas Challenge, engaging over 20,000 students and hundreds of universities to design the future of sustainable aviation together;

• The Global Engineering Deans Council (GEDC) Industry Forum, a unique peer-exchange event bringing senior industry and education representatives together in equal numbers in a design workshop format;

• The Airbus Quantum Computing Challenge which created an ecosystem of over 1000 experts, entrepreneurs, researchers & faculty and generated multiple quantum computing start-ups;

• The Dassault Systèmes Innovate for Sustainability Challenge enabling students to design solutions to address selected SDGs using collaborative online software.

MAIN MOTIVATION

Kirsten is driven to build successful stakeholder collaborations by a desire to positively impact society as a whole. She believes that this can be done through the provision of quality education (especially STEM education) that is in line with the needs of companies, through providing individuals with information about opportunities, and by giving them the chance to interact with both education providers and employers. In doing this, students can more effectively apply knowledge and skills learned to local/national/regional/global challenges, as well as achieve personal growth and development. She uses her company to achieve these ends as well, stating that it is important to her that her employees “learn and grow and develop as a result of the work they do while they’re at Petrus Communications.”
IMPORTANCE OF SPECIFIC KNOWLEDGE

Kirsten highlights observational skills which allow individuals to identify needs in their environment that have been addressed inadequately. She secondly emphasizes interpersonal skills, since it is the responsibility of the boundary spanning individual to understand different groups and bring them together in a way that they feel comfortable, but allows them to “take a step beyond their comfort zone”. Empathy, or the ability to “dig deep” and truly understand what others are thinking and feeling is a crucial skill when spanning boundaries, according to Kirsten. In her case, it is one she was able to develop due to her marketing background.

“What we’re able to do, by bringing together these different groups and by observing what’s motivating for students right now, we’re able to put topics on the table that maybe universities and companies would not look at in such a focused way... Topics that will have an impact on society or the environment of the local community”.

BARRIERS AND SUCCESS FACTORS

Kirsten stresses that a lack of understanding of the motivations and perspectives of other groups can be a major barrier to successful boundary spanning activities. Additionally, a lack of funding can be a significant barrier, and Kirsten mentions the struggles that she and her company have in securing funding for collaboration activities, which has sometimes prevented them from initiating or maintaining activities. Networks limited to only one group can also pose a challenge when trying to identify and connect with relevant stakeholders – a key step in the collaboration process.

In terms of drivers, stakeholders do not necessarily need to have the same motivations when collaborating to solve a common problem or need, however, when these varied motivations are transparent and understood, collaborations are more successful. When building economic/innovation ecosystems, geographic proximity can be important. Kirsten gave the example of the Cambridge Innovation Center (CIC) in Cambridge, MA, USA to illustrate this. The CIC – a “community of entrepreneurs” combines startups, venture capital firms, and other relevant stakeholders in proximity to research and academic talent, and encourages interaction between the groups. Kirsten further cites the involvement of a collaboration “champion” who can build critical support for collaborations, especially in the early stages.
Mark Siebert
Director of Research Collaborations, Elsevier

Artificial Intelligence and Research Integrity are just two of the topics around which Mark Siebert develops and manages Elsevier’s flagship partnerships in Europe and Life Sciences. Mark is the Director of Research Collaborations at Elsevier, and developed Elsevier’s global engagement programme with leading research institutions, such as Harvard and Oxford. Besides his current position in partnership building and various managerial and business development roles in Siemens, he has created his own start-up, a platform for language courses in the New Economy.

SPANNING BOUNDARIES ACTIVITIES

- Mark holds a strategic marketing and business development position that is devoted to establishing strategic dialogue and hands-on collaborations between Elsevier and external organisations;
- He, together with Elsevier, spans the boundaries for technology and product development – Elsevier partnerships that are focused on innovation and application of Elsevier products and services. Such initiatives include funded research projects, talent-focused projects or joint data spaces. For example: Elsevier’s Discovery Lab on AI as part of Amsterdam Data Science and the Innovation Center for Artificial Intelligence;
- He works with the joint innovation center with Humboldt University Berlin (Humboldt Elsevier Advanced Data & Text Centre – HEADT).

MAIN MOTIVATION

Always driven and inspired by the asset of knowledge, Mark is motivated by the willingness to help organisations to drive innovation by applying technology – AI in particular – to knowledge that is being created by them. Given the future of innovation is data-driven and AI-enabled, Mark is driven to support the repositioning and reinvention of the companies in the times of digitalisation.

Not only spanning boundaries, but effectively crossing them and working across disciplines and industries is a motivator for Mark, which he also considers his core passion.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Mark describes three important knowledge bases to have: content, process and people. In your field, you must know the content, how mechanisms and processes work, and how relationships and trust are built. The ability to build knowledge, learn quickly, network, deal with ambiguity, and be persistent are skills that anyone involved in boundary spanning requires. While important traits to have include being passionate, empathetic, humble, curious and having creativity to shape and envision ideas and scenarios. Business acumen can help you understand the industry-side of things.

BARRIERS AND SUCCESS FACTORS

Drivers

One of the most important drivers of boundary spanning activities is an open collaborative culture and positive attitude towards innovation and engagement. Furthermore, organisations need certain support mechanisms. Given these activities mostly focus on partnership building, structures related to contract creation and management as well as legal services must be available. Further, a base budget and budget decision boards are needed for such collaborations.

Barriers

Barriers associated with boundary spanning activities mostly relate to the unclear potential initially, subsequent lack of resources, differing cultures and motivations, or unrealistic expectations.

“One of the most important drivers of boundary spanning activities is an open collaborative culture and positive attitude towards innovation and engagement”.
Monalisa Goswami
Founder, Spark 904

A person with a strong interest in her immediate environment, and the way organisations and people behave, Monalisa Goswami is highly alert to problems around her. During her PhD in Chemistry, she witnessed small- and medium-sized companies in the chemical R&D sector whose innovation capacity was limited due to lack of infrastructure. While universities, on the other hand, were not necessarily fully utilising their own advanced resources, infrastructure and expertise. Monalisa decided to solve this problem by founding Spark 904, as a spin-off company from University of Amsterdam, taking on her new role as an “academic entrepreneur”.

SPANNING BOUNDARIES ACTIVITIES

- Promoting and renting lab facilities at universities to businesses via Spark 904;
- Providing scientific experimentation and analysis services;
- Taking part in policymaking activities of the University of Amsterdam to maintain her lobbying activities.

MAIN MOTIVATION

Monalisa is driven by the opportunity of learning new things, and interacting with others, so naturally her initial motivation to engage in boundary spanning activities was finding an area that would allow her to work with different companies, professionals and problems. She wanted to become the bridge to allow academia and industry to collaborate. Besides fulfilling her personal motivations, Monalisa believes that expensive equipment in labs should be better utilised. Originally from India, where the resources at universities are limited, she saw the availability of equipment and infrastructure at Dutch universities as a privilege to be shared.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Monalisa's knowledge and understanding of business and the academic field in which she operates helps her to work effectively in her role. Furthermore, her skill of managing stakeholders and expectations and transversal skills are very important assets that Spanning Boundaries agents should have.

In the end, Monalisa believes that it all comes down to personality: tolerance of others' needs, biases and fears; being comfortable under the spotlight; having an entrepreneurial mindset and perseverance, are some of the traits she highlights.

BARRIERS AND SUCCESS FACTORS

Drivers
One driver of university-business collaboration is that if the boundary spanning activity addresses a real problem, the partnership finds its own momentum. Moreover, it is important to advertise your successes so that potential collaborators know that you produce quality results.

Barriers
Barriers to success include the resistance of actors to collaboration; this may be because they do not consider that university-industry collaboration could benefit them too.

“Boundary spanning is all about tolerance that accommodates other people’s needs, biases and fears.”
Reiner Kurzhals studied in Dortmund and Iowa before receiving his doctorate in Hanover. With some prior experience as project manager and programmer, he worked as Head of Statistical Consulting at Roland Berger. Meanwhile, he also started as a lecturer at the Münster University of Applied Sciences (MUAS). Since 2006, he is an active professor at MUAS in the area of Statistics and Data Science. In 2010, Reiner founded the Big Data Start-up 4tree which was taken over by McKinsey only 5 years after its establishment. Thereafter he went on to found another data startup - the Westphalia DataLab (WDL).

Reiner Kurzhals
Founder,
Westphalia DataLab

Spanning Boundaries Activities

- Reiner engages in boundary spanning in relation to his company WDL by building up a network of business as well as university partners;
- Going into a new collaboration, he usually tries to connect with and listen to the other person first, before sharing his own vision and what they can achieve together – as he calls it “the magical first minute”;
- The main focus of his activities is on conveying his enthusiasm for the topic and for the collaboration;
- Although trying to present the full potential of the cooperation, he engages in a smaller project first and enriches the cooperation later.

Main Motivation

Reiner is driven by achieving harmony between work and family. On the professional front his motivation to engage in data science startups comes from “the simplicity of dealing with numbers”. Numbers come naturally to him and he has always enjoyed dealing with them. Furthermore, he is also driven by the desire to succeed i.e. “making it work”. Lastly, he mentions the financial benefits of having one’s own startup and engaging in spanning boundaries.

On the other hand, he does not want to focus only on work but also on his family his four children. As he states, “the different worlds need to fit together”. As a business leader, a professor and a father, he is constantly looking for the right balance. One activity that he is proud of on the social front is that he is a children’s soccer coach.
IMPORTANCE OF SPECIFIC KNOWLEDGE

While Reiner notes a diverse knowledge in different fields is necessary, he also stresses the importance of constantly developing further. Additionally, he refers to “linguistic empathy” skills which combine the ability to listen actively and communicate in the right language and tone. The core skills for success are to use diligence, friendliness, good listening and positive attitude.

Reiner states that being an ambitious and target-oriented person with a constant need to further develop himself has helped him a lot. He mentions that a person needs to have a good character in order to work successfully.

“The first interaction with a potential collaborator is critical. I call it the first magical moment in which you have to listen actively and make your vision and cooperation potential understandable”.

BARRIERS AND SUCCESS FACTORS

Drivers

For Reiner, one driver has been the active role the presidents of MUAS took in his company. There is a constant knowledge exchange between the two different worlds - building bridges and driving both. This constant cooperation with universities has broadened the horizon of all involved and creates synergies as well as knowledge transfer and associate transfer.

The ability to listen, be flexible, optimistic and friendly combined with a high ambition to make his knowledge useful and to make things work have been the key success factors for Reiner.

Barriers

Being driven by the above-mentioned factors, he does not see any barriers to not develop oneself into a successful Spanning Boundaries agent.
Uwe Rotermund
CEO, Noventum

Uwe Rotermund started his career as an IT expert and system integrator, later becoming the head of IT in a data processing centre and system service. With 15 years of experience, he established a new site for a consultancy in Münster, which later became the company Noventum. As CEO of the young start-up, Uwe was led by his key principles with which he developed Noventum into a well-established and successful IT management consultancy. Having an intrinsic motivation to create a network and learn from others, today, he is a member of several associations, communities, university-business cooperations, and other platforms.

**SPANNING BOUNDARIES ACTIVITIES**

- Uwe is a member of different business forums and associations such as Business Unusual Forum, "Wirtschaftsforum", Federal Association of Medium-Sized Enterprises, ERCIS Launch Pad, and Future Forum;
- He engages in scientific and business projects with both the University and the University of Applied Sciences in Münster;
- He offers events and webinars to invite the network to exchange knowledge and collaborate;
- For boundary spanning activities, he relies on the cooperation theory and iteratively moving between internal and external experts to develop innovation;
- While learning skills intuitively at the beginning, he now has taken steps to learn cooperation skills more explicitly.

**MAIN MOTIVATION**

As his main objective is to strive for knowledge, Uwe decided to participate in collaboration to, first of all, share knowledge and experiences and later, to receive input from scientific – as well as business – experts. Through this approach, he is able to validate his ideas with external experts’ feedback and make them more robust before applying them in the real business case. Furthermore, he gains input from reading books and other literature.

Secondly, his motivation for boundary spanning is fuelled by his desire to bring about tangible impact. By recognising that scientific knowledge is a source of innovation and business development, he is strongly motivated to actively participate in knowledge transfer activities. Yet, he acknowledges that impact is not precisely defined and completely quantitatively measurable. In his case an impactful collaboration can be an idea that is turned into a product or service which customers ask and pay for. He also measures impact in terms of the number of audience members he reaches through the events he organises, such as webinar participants.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Driven by his intrinsic motivation, Uwe engages and draws upon expert knowledge that he considers as vital. By specifically targeting relevant cooperation partners, he enriches his own knowledge and enables transfer of knowledge which is useful for both sides.

He considers a clear vision about the future, craftsmanship skills of approaching activities with a mix of theory and practice, the ability to deal with people, and good change management as necessary skills for boundary spanning.

Personally, he takes advantage of his optimism, acceptance and adventurer’s mind as useful personality traits for boundary spanning activities.

“You have to be intrinsically motivated to be a good Spanning Boundaries agent. Take an optimistic and adventurous mind to share expert knowledge in your network and trust in receiving something back”.

BARRIERS AND SUCCESS FACTORS

Drivers

Firstly, Uwe is driven by expanding his knowledge. For instance, if a new topic becomes more relevant and he sees a need for gaining more diverse knowledge to use it in the future, he partners with others to explore the opportunity. Secondly, a new or changing customer need can be an influencing factor coming from the company side which might result in expanding the network to be able to address this new need.

The key success factor is the intrinsic motivation to constantly expand the knowledge. This is combined with some personality traits, using a trial and error method, and dealing with people.

Barriers

In the first instance, Uwe does not see any barriers. According to his approach of accepting the current situation and optimistically shaping the future, every Spanning Boundaries agent can reduce possible barriers by actively shaping their own network. Thinking proactively about future topics, it is possible to work with the limits and barriers of the environment and even realise new chances.

This includes balancing key partners. To maintain a good network is a time and energy consuming activity. It is important to balance the topics addressed in one’s own network to maintain a good and fruitful relationship.
Despite being predominantly aligned with universities, the following profiles display the diversity of backgrounds that each Spanning Boundary agent possesses and the different roles they have each taken on.
A world-renowned researcher in the field of biotechnology, Amir Sagi "wears more than one hat" professionally: not only is he a professor at Ben Gurion University at the department of Life Sciences and the National Institute for Biotechnology, but also an entrepreneur, helping other investigators to put their research to practice. With his prior experience in Intellectual Property, Amir established a spin-off company through which the university and PhD graduates can commercialise the ideas from the laboratory. This unique model of university-industry collaboration received special recognition and was suggested as an example to Israel's Commissioner of Higher Education.

As Amir progressed in his research career, he wanted to contribute more into his environment and the employment of the life sciences graduate students, thus the opportunity to have a long-term influence on developments coming from his lab was his main motivation to initiate a spin-off company. Amir's first engagement with industry was via the technology transfer office which patented and licensed his inventions. However, he found the relationship with industry very limited and only transactional. Thus, as Amir furthered his research career, he wanted to contribute to society and the employment of the Life Sciences graduates. Another motivation was providing opportunity to his students where they can do applied research and experience both in academia and industry.
Prior interaction with technology transfer professionals and companies is helpful to learn the dynamics of university-industry relationships. Amir learnt much from these professionals and he also read extensively about different models of university-industry relationships.

Moreover, leveraging the skills of other people is important. When collaborating with people know how to give them their space, on one hand, and how to work with them on the other.

“It’s important to be able to collaborate with people. Give them space on one hand and work with them on the other.”

**Drivers**

Capital is the driver for research commercialisation activities. In the licensing model, you need a company to be interested in your patent. In a spin-off company case, you need investors to invest in your company. In both cases the capital is a prerequisite and the most facilitating factor. The key success factor is the intrinsic motivation to constantly expand the knowledge. This is combined with some personality traits, using a trial and error method, and dealing with people.

**Barriers**

The main barrier for academics engaging commercialisation activities is related to the promotion system of academics. Although patents are clear outcomes of research, they are not counted for academic promotion. The current system solely focuses on the amount of publications, ranking of the publications, and the basic research grants. This includes balancing key partners. To maintain a good network is a time and energy consuming activity. It is important to balance the topics addressed in one’s own network to maintain a good and fruitful relationship.
Involving herself in building linkages in university-industry collaborations, Angelina Yee originally gained international exposure as an auditor and accountant. Angelina was Director of Executive Education and Head of Business Engagement and Innovation Services at the University of Nottingham Malaysia. In her former positions, she managed technology transfers and developed innovative training for corporates and academics across the world. Angelina promoted the university’s main research assets including findings, artefacts, patents and equipment. In her current role as Deputy Vice Chancellor, she manages and promotes research, innovation and commercialisation activities, and postgraduate programmes of the university.

Angelina’s personal interest always lay in her willingness to understand the two worlds (i.e. academia and industry) and contribute to their mutually beneficial collaboration. She believes this could be achieved by effectively applying her theoretical knowledge in practice.

Her research interests ultimately instigated her engagement with the topic of boundary spanning. She has a curiosity for listening to the stories of both businesses and academics who have engaged with each other in collaborative projects.

Furthermore, a decade ago the notion of business engagement had not yet been well-accepted in the Malaysian academic community. She found a clear need to create a structure that would initiate and manage relationships of the university with the outside world.

• Set-up the knowledge transfer office for University of Nottingham Malaysia. As Head of Business Engagement and Innovation Services, Angelina connected university colleagues with industry representatives and helped them negotiate the terms of joint research projects or contract research agreements;

• Angelina has contributed to policy making, with the Ministry of Higher Education becoming interested in university-industry cooperation in the commercialisation of R&D outputs, and sustainability and incentives for private higher education. She contributed to policies such as the “Strategic Enhancement Plan for University-Industry/Community Collaboration”, “Way Forward for Private Higher Education Institutions: Education as an industry”, and Malaysian policy and action plan related to commercialising R&D;

• Researched and published on university-industry linkages and commercialisation related topics for the last 10 years on Malaysia and ASEAN, and contributed to committees such as Knowledge Transfer Programme, Agency Innovation Malaysia Triple Helix Alliance and working groups in the 11th and 12th Malaysian Plan.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Theoretical knowledge and understanding of university-business cooperation is critical. Thus, the access to and insights from the existing good practices on university-business cooperation, knowledge and technology transfer are considered essential for building the general know-how about this line of work. Important knowledge includes:

• An understanding of both industry and academia;
• Speaking and understanding different languages;
• Understanding the strengths of others;
• Negotiation and communication skills;
• Ability to build trust;
• Entrepreneurial skills;
• Understanding the needs and wishes of different stakeholders;
• Perseverance.

“My personal interest always lay in my willingness to understand the two worlds and contribute to their mutually beneficial collaboration. I believe this could be achieved by effectively applying my theoretical knowledge in practice”.

BARRIERS AND SUCCESS FACTORS

In terms of a top-down approach, it is crucial for Spanning Boundaries agents to have the commitment of the leadership. In the case of setting up the technology transfer office as part of the university, it is obviously beneficial to have the full support and resources available in order for this kind of structure or department to be built in the first place.
İmran Gürakan
Manager of the Entrepreneurship, Cooperation & Technology Transfer Dept., Bilkent Cyberpark

İmran Gürakan is a manager at Bilkent University Cyberpark, one of the most reputable science parks in Turkey. She studied statistics at Middle East Technical University and completed her MBA in the field of Business, Management, Marketing, and Related Support Services at The University of Texas in Austin. After working for a project management company located in Cyberpark, as an International Business Developer and Project Co-ordinator, she joined Bilkent Cyberpark where she has been working for 5 years. Her knowledge and experience enabled her to establish several university-business collaborations and guide and monitor a variety of projects, especially in the IT field.

MAIN MOTIVATION

İmran’s primary motivation is mainly internal. While she was still a student, she started working for a project management business and was motivated to develop her knowledge and skills. She had always been quite interested in the field of technology, which motivated her to act as a project advisor in this field. She states that she sees herself as lucky in terms of engaging in boundary spanning. After the management of Bilkent Cyberpark offered her the job, thanks to the relational processes with other experts and the actions she took to link different actors and knowledge domains, she felt more conscious of her motivation. Her drive was complemented by the joint structure of the projects carried out in the science park, as well as by the unique atmosphere of the Turkish capital, Ankara, where the defence industry’s big technology companies are located within arm’s reach.

SPANNING BOUNDARIES ACTIVITIES

İmran takes an active role in Bilkent Cyberpark and Bilkent Technology Transfer Office. Here is the first example where one can see a university holding an equal share at the foundation of an independent company. Today, AB-MikroNano (Aselsan-Bilkent MikroNano Technologies) is a leading nanotechnology company, aiming to create high-level strategic technologies and start mass production of Gallium Nitrate (GaN) based nano transistors and integrated circuits for the first time in Turkey.
IMPORTANCE OF SPECIFIC KNOWLEDGE

İmran is a lifelong learner. Her statistics background with a minor in IT in her undergraduate studies, her MBA degree, and attending the Science and Technology Park Management Training Programme, enabled her to combine both technical and managerial perspectives, at the same time, learn more about UBC. In addition to her academic studies, her position at Bilkent Cyberpark exposed her to the entrepreneurship ecosystems all around the globe, enabling her to learn the best practices.

İmran states that networking is crucial for boundary-spanning activities. Her communication skills, especially negotiation and empathy, also allow the parties to meet on common ground. Curiosity, hard work and being sociable also paved the way for her to be the first to initiate cooperative relationships.

"Knowing the companies well and making connections quickly is the essence in this work. It’s all about networking.”

BARRIERS AND SUCCESS FACTORS

Being a member of Bilkent Cyberpark is a major driver for İmran; she expresses very confidently that this organisation is essential for building connections. Cooperation with the university’s Technology Transfer Office is also valuable in achieving new opportunities for cooperation. Building and maintaining networks, which go hand-in-hand with establishing trust in relationships, can be described as a key success factor. It is also essential for someone engaging in a boundary-spanning role to proactively be in touch with related sectors, both locally and internationally, participating in all stakeholder activities and providing quick answers to inquiries.

Barriers such as bureaucracy may slow down the project processes. The difference between the understanding, language, perception, and expectations of various parties involved in the collaboration is also a barrier. Usually, people in technology companies are not open to building new relationships; they are more “technical” individuals focused on their work performance. Therefore, it can be difficult to convince individuals with different visions and norms. Furthermore, academics can be over-focused on publishing or seeking prestige, and the power of external perspectives can be undermined. İmran has also observed that she could be ignored because of her gender, but after sharing her ideas and know-how, she overcomes this bias.
Nazım Kemal Üre
Associate Professor,
Istanbul Technical University (ITU)

Nazım Kemal Üre is an assistant professor at Istanbul Technical University, in the Department of Aeronautical Engineering. He received his PhD from the Massachusetts Institute of Technology (MIT) and is currently the Vice-Director of ITU Artificial Intelligence (AI) and Data Science Research Centre. Besides his academic work, he is involved with two start-ups, Lisa AI, where he is a Co-founder; and Eatron, where he is Director of AI.

SPANNING BOUNDARIES

ACTIVITIES

- Nazım collaborates with the industry on research and product development projects. His research group works closely with companies for developing innovative AI solutions for business and transportation problems. They also work with defense companies to develop high accuracy guidance, navigation, and control systems for aircraft and spacecraft;
- He is the co-founder of Lisa AI, an engagement predictor for Instagram;
- He is also the director of AI at Eatron (Electrification and Autonomous Driving).

MAIN MOTIVATION

Learning about the real problems of industry amplifies research opportunities, and this has been his main motivation. Having been educated in a context with a strong university-industry collaboration tradition has, also, showed Nazım the fruitful outcomes of such relations. When he returned to Turkey, his networks in the defense industry enabled him to observe the needs of the industry and how to develop and manage related projects with them.
IMPORTANCE OF SPECIFIC KNOWLEDGE

In terms of knowledge Nazım's engineering background enables him to analyze the problems and provide solutions.

Communication and presenting scientific knowledge in a clear way are the main skills he improved during his education at MIT. Nazım's role as a bass player in a band enriched him in terms of stage experience and helped him improve his presentation and communication skills.

In addition to these skills, his experience at startups helped him understand the business perspective and enhanced his understanding for industry. Empathy is also a key in collaborative works to identify hidden problems in different disciplines and knowledge transfer.

BARRIERS AND SUCCESS FACTORS

ITU Technology Transfer Office is one of the main drivers that helps Nazım's management of the collaborations. Having a structural support system is of great importance for the academics. Another driver is the Scientific Research Project Unit (BAP) of ITU, which encourages collaborative projects and provides funding opportunities.

The main barrier to success is funding and convincing the firms in Turkey to invest in long-term projects is another of the key challenges that Nazım encounters.

Moreover, keeping the talented graduate students, who want to go abroad for research and funding opportunities, is another challenge for boundary-spanning activities. In addition, working at a public institution, regulative limitations such as the number of students and projects a professor can carry is a constant barrier Nazım faces. As the research collaborations increase, with more funding coming from the industry, he is hopeful for the future.

“Sometimes it is really difficult to extract the problem. You have to understand the other party by asking the right questions to understand what the company really wants, what their expectations are. This is key in successful university–industry collaboration.”
Sinan Tandoğan
Former Manager, Scientific & Technological Research Council of Turkey

Sinan Tandoğan is a graduate of Electrical Engineering of Middle Eastern Technical University (METU) Ankara. He started his career at an IT company where his position was in R&D. He then went on to build five firms in internet communications. Following this journey both abroad and in Turkey, Sinan began his career at the Scientific and Technological Research Council of Turkey (TUBITAK). He went on to pursue a doctoral degree in Science and Technology Policy Studies at the same time.

MAIN MOTIVATION

Sinan’s main motivation was his pursuit of making a change, and his continuous interest in innovation. With his background in various work settings and roles, boundary spanning came naturally for him.

SPANNING BOUNDARIES ACTIVITIES

Sinan led the TUBITAK funded Techno-Entrepreneurship Funding Programme, which is to support entrepreneurs, to create technology-based startups with R&D capacity for providing innovative products and services to domestic and international markets. The programme necessitates continuous boundary spanning among universities, TTOs, Incubation Centers, as well as young entrepreneurs and corporates. The programme has been running since 2012, with a total of 157 million Turkish lira in funding.
IMPORTANT OF SPECIFIC KNOWLEDGE

Seeking new experiences, Sinan experienced different contexts and roles from industry to entrepreneurship to a public organisation. Combined with his experience, his engineering background has prepared him for his role where he needs to engage with industry and young entrepreneurs. He also worked directly on the making of national technology policies and this, in effect, provided him with an understanding of regulations – an important knowledge for preparing novel programmes. Trying to bring people together and mainly working with state institutions, Sinan emphasised the task of lobbying as a key focus. As such, communication skills and, in parallel, persuasion skills are also important.

“When I reflect in my past, I realise that I have been working to change the projects assigned to me”.

BARRIERS AND SUCCESS FACTORS

In terms of drivers, potential beneficiaries of the programmes can often become champions and lobbyists for the ideas. In fact, Sinan claims that sometimes the outsiders may be even more influential on the decision-makers. When coming up with innovative ideas within organisations, risk-taking can be described as the key factor. The analysis of the dynamics of the local UBC ecosystem is another key success factor.

The cultural dimensions are a common barrier. For example, new ideas about the financing mechanisms of the new funding programme had to be explained to the bureaucracy and public sector managers. Having the decision-makers on board for the implementation of a new programme is crucial. As they work in a highly regulated framework, regulations and legal jargon may also be a barrier.
Victor Lau
Associate Director of the Knowledge Transfer Office, City University of Hong Kong

An entrepreneur himself, with more than 20 years of hands-on experience in chemistry and manufacturing, Victor Lau is the Technology Transfer Officer at the City University of Hong Kong. Here, he is responsible for the development and establishment process. For Victor, technology transfer is about the people and different stakeholder groups from both academy and industry. Victor sees himself as the translator and connector that the university was looking for to build the new technology transfer strategy as well as effectively establishing the necessary support structures to support it.

MAIN MOTIVATION
Victor is motivated by using science to benefit society. While Victor found Hong Kong to be money-driven and competition-focused, he otherwise feels that scientists such as himself are driven and motivated by their passion for research and curiosity. To him, this is what makes the technology transfer office such a favourable and pleasant environment to work in – he is motivated by the curious individuals who surround him and need support in bringing their knowledge to society.

SPANNING BOUNDARIES ACTIVITIES
Currently, Victor is the technology transfer officer at the City University of Hong Kong, responsible for the development and establishment process that he supports from the moment of inception. He has also started his own his own manufacturing company, Kinstech Limited, in China, that focussed on flexible substrate R&D, printed electronics fabrication, semiconductor substrate design and prototyping.

ASIA & MIDDLE EAST
IMPORTANCE OF SPECIFIC KNOWLEDGE

In terms of knowledge, one may not be an expert in the specific scientific field, but one must understand the research and technology that is being developed. Generally, academic qualifications are important, but more crucial are people’s skills and market sense. Thus, the Spanning Boundaries agent must have the skills to manage people and communicate effectively. Having market sense and learning by doing increase one’s chances for success in this field. Lastly, Spanning Boundaries agents should be open minded, empathetic and a little bit stubborn to get what they want. While resilience is crucial in this type of work because not every project can be successful.

“When you deal with the tech, you never know what happens next”.

BARRIERS AND SUCCESS FACTORS

Drivers

In universities, Tech Transfer Officers that can build relationships with businesses, can drive the success of the project. Thus, of successful boundary spanning activities include having a strong team with an understanding of both science and business, as well as building a strong network.

Barriers

A barrier is often the fear of failure, which is very important to overcome so that one can learn from failures and have an open mind.

To overcome barriers in this kind of work, is to learn how to face the failure, how to take the risk and how to remain positive after a negative experience.
Among the following Spanning Boundaries agents we can see a diverse group of individuals. However, regardless whether they focus their work on research or education, one thing is clear: their passion for people.
Cameron McCoy (PhD) has been named on Norman, Oklahoma’s 15 under 40, DCI’s 40 under 40 in Economic Development, and Oklahoma Magazine’s 40 under 40 lists. He has performed in multiple boundary-spanning areas for the past 14 years and is currently Vice President & Vice Provost for Strategic Initiatives at Lehigh University. He transformed the university’s Engagement Office from fundraising-focused to a comprehensive boundary-spanning team. His team focuses on multiple areas including career, industry relationships, non-profits, strategic initiatives, and administration.

**Cameron McCoy**
Vice President & Vice Provost for Strategic Initiatives, Lehigh University

Cameron and his team are responsible for the following tasks:

- Building the university’s collaborative external strategic relationships with industry, non-profit sector, other universities, and government entities;
- Through Lehigh University’s Career Centre, they combine an economic development function with careers to scale, better align, and extend the university’s platform from admissions through career success. This allows more extensive integration of industry feedback into the university;
- Strategic initiatives are set up that enable the university to create a new economy. This economy supports the internal ecosystem essential for new companies to grow, and existing ones to reshape and be engaged in a meaningful way;
- Cameron is an active academic researcher studying university-business cooperation (UBC) and boundary-spanning functions of universities in North America. He collaborates globally with researchers to explore interdisciplinary statistical approaches in assessing variables in the UBC Ecosystem.

**MAIN MOTIVATION**

Cameron is particularly motivated by transformational and macro-level initiatives that centre learners, centre trust, and centre equity with intention. What makes the higher education sector and boundary-spanning activities interesting to him, is being able to make changes that lead to positive impact, both at organisational and societal level.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Spanning Boundaries agents must have knowledge of the underlying theories in higher education and university-business collaboration, as well as the different viewpoints on university-business collaboration. Furthermore, an understanding of university politics and establishing B2B relationships is also beneficial.

Having diverse academic and professional experience teaches critical skills for boundary spanning. Other skills consist of being able to interact with academics and practitioners, systems thinking, and being a strong communicator, as both a listener and a co-ordinator.

Spanning Boundaries agents further need to have personality traits that can complement their activities, like being resilient, self-aware and being comfortable with conflict.

“It is important for a Spanning Boundaries agent to have a network-focused approach rather than a transactional focused approach in relationship building”.

BARRIERS AND SUCCESS FACTORS

Having a robust network of people that one can call on is an essential piece to success. Having that network inside and outside the institution helps build trust and foster collaborative activity. This network is commonly built by engaging, speaking to people, and by offering your time in general. It is also built by shared experiences. In this regard, UIIN conference is such an important platform for fostering boundary spanning success because different kinds of Spanning Boundaries agents are in one space.
Michael Fors
Executive Leader in Leadership, Learning & Organizational Capability, Boeing

Michael has a long career in development training and business strategy. Having worked at Intel and Microsoft, Michael is now Executive Leader in Leadership, Learning, and Organizational Capability at Boeing. Outside his full-time positions, Michael is involved in a variety of higher education institutes such as Stanford University, and non- and inter-governmental organisations such as the World Economic Forum and the United Nations. Throughout his career, Michael has worked on developing a number of boundary-spanning initiatives. A recent example is the “Frontier Technologies for Sustainable Development: Unlocking Women’s Entrepreneurship through Artificial Intelligence (AI) in Afghanistan and Iraq”.

MAIN MOTIVATION
Michael is strongly motivated by a desire, and a sense of responsibility, to help others and “make a difference” through contributing to society. This started when he was younger and given a scholarship from the Veterans of Foreign Wars to attend university. He supported their cause (to promote democracy and avoid conflict and war), and since then has been trying to find ways to “give back”, or “pay it back and apply what’s been learned”.

For Michael, this means not only trying to get the companies that he works for involved in initiatives that help members of societies around the globe, it also means volunteering his time outside of his full-time roles to lead or become involved in initiatives that benefit people worldwide, and especially in post-conflict countries. Through volunteering at the UN, Michael also became motivated to bring diverse groups together when he identified a need to do so. He realised that there are resources available to work on different issues facing societies around the world, but that there is sometimes a lack of ideas and vision to bring people together (groups might be working on same topics but not realise it, for example).

SPANNING BOUNDARIES ACTIVITIES

• A UN programme that focused on civil development through learning and training in Afghanistan. The programme brought together mentors from government, universities, and the private sector, which “really made a difference because it brought different perspectives together”. Due to the success of this programme, Michael and his team were then asked to apply the same in Iraq and South Sudan;

• The “Frontier Technologies for Sustainable Development: Unlocking Women’s Entrepreneurship through AI in Afghanistan and Iraq” programme, whose goal is to empower women professionals to follow their entrepreneurial aspirations that provide positive social, economic, and environmental impact.
IMPORTANCE OF SPECIFIC KNOWLEDGE

The ability to “connect the dots”, or find connections between seemingly disparate individuals, organisations and goals, is especially critical in the beginning stages of the collaborative process, when Spanning Boundaries agents are searching for stakeholders. The ability to develop a clear vision about what is needed in society and how to address these needs, is also key during these preliminary stages. Once implementation starts, leadership and facilitation skills, management skills, and teamwork skills are important. Skills in metrics are also needed by someone on the team, as measuring the outcomes and impact of initiatives is key to maintaining stakeholder support.

“We have to try and help make these connections or help encourage these people to come together because it just makes so much difference [in the world]”.

BARRIERS AND SUCCESS FACTORS

One of the major barriers is a tendency of organisations to become “stuck in their boxes”, i.e. self-limited to only pre-defined activities, which makes it very difficult for them to get involved in new, innovative collaborative activities. Another obstacle is collaboration partners who are unwilling or unprepared to formalise certain parts of the partnership, for example those parts related to intellectual property. Differences in culture – both national and organisational – can also be a barrier to the successful implementation of boundary spanning initiatives. Organisations need to be able to understand and adapt to each other’s culture.

If a Spanning Boundaries agent identifies a problem and the people and organisations that are working on it, they can then connect and encourage them to join in a collaborative initiative. A handful of motivated individuals who are willing to work on particular topics can also drive these initiatives, since they can be very effective at persuading other stakeholders to work with them. During the initial phases as well as during implementation, strong leadership gives collaborative initiatives a higher chance of success. During implementation, a good team to carry out the execution of an initiative is critical to its success.
As a passionate Education Manager at MYOB, Shailan Patel is a mediator and communicator between this business management software company and New Zealand’s universities. Shailan started his boundary spanning journey five years ago when he took up the newly-opened position of Education Manager, with limited formal training but a strong passion for forging relationships between the company and universities. In this time, Shailan has developed stable collaboration in education and work-based learning with all local universities, by employing a pro-active outreach strategy and professionalising the communication.

Shailan Patel
Education Manager,
MYOB

The majority of activities that Shailan initiates/co-ordinates focus on the talent development and student engagement with the working world:

• Guest lecturing at partner universities on the business management and SaaS software that MYOB develops;
• Organisation of events and career expos at the partner universities;
• Mentorship of students and short-term student visits to MYOB;
• Real-world IT challenges;
• MYOB Future Makers Academy – MYOB Graduate programme for students/graduates aspiring for a career within software development;
• “Education Partner of the Year” – annually MYOB assessed the impact and extent of collaboration with its university partners and issue an award to outstanding universities.

Shailan is passionate about the future of work, student employability and student transition from academia to industry. His motivation is further spurred by the fact that the time it takes students to enter the workforce has significantly extended over past couple of decades. This unprecedented competition in the job market ignites Shailan’s desire to help equip the current students (while being in academia) with practical skills and experiences via facilitating work-based learning activities by and at MYOB.

Shailan hopes to raise the awareness amongst students about the possibilities for work-based learning activities within their universities.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Having specific tech domain knowledge is certainly useful, but possessing relevant transversal and soft skills are crucial for success in spanning the boundary between academia and industry. Thus, having sales and business development knowledge as well as basic knowledge of marketing strategies is beneficial. Communication, relationship building and networking skills as well as public speaking abilities help you get your point across effectively. Also, being able to self-brand ignites the snowballing effect by showcasing the impact that your work has. Finally, an entrepreneurial mindset, adaptability and perseverance are traits that any Spanning Boundaries agent can use to their advantage.

“*If we do not shout about the work we do, who will?”*

BARRIERS AND SUCCESS FACTORS

Certainly, the openness and the structures of the institution allow Shailan to excel in his line of work. However, there are other significant factors that contribute to success, such as the individual’s personal qualities and the ability to measure and communicate the impact of the activities that you are undertaking. Effective communication of the impact generates more interest in MYOB’s educational activities.

Shailan describes the major barriers for spanning boundaries activities as being connected with managing expectations between the parties, ensuring the alignment of the activities with all parties’ goals and regional peculiarities and closed ecosystems.
Zoe Piper is operating at the intersection of policy, practice and research. She led the development of IC Global at Australia’s national science agency, CSIRO (Commonwealth Scientific and Industrial Research Organization). This integrated suite of platforms was developed to catalyse innovation by facilitating capability discovery, problem solving and data visualisation. Besides her professional career, she is a founder of two companies, one in sustainable manufacturing and another one in blockchain technology. She is a professional Spanning Boundaries agent whose career is dedicated to driving collaboration across industry, research and government.

### SPANNING BOUNDARIES ACTIVITIES

Zoe is regularly engaged in a range of boundary spanning roles, often concurrently. Roles she has held include:

- Designing and developing Expert Connect (a key part of IC Global) which aggregated data to automatically create researcher profiles and make this available to industry in a business-friendly way (helping to facilitate industry-researcher linkages);
- Serving as a mentor for the Industry Mentoring Network in STEM (IMNIS), which breaks down barriers and fosters a culture of innovation and collaboration between industry and academia;
- Working at the Australian Chamber of Commerce and Industry to drive industry productivity by implementing the latest research;
- Driving business engagement with Australia’s Source IP platform, which allowed research sector patent holders to signal their licensing intent to industry;
- Working on the government taskforce that developed the 2030 strategic plan to help guide investment in Australia’s innovation, science and research system;
- Guest lecturing to university students about entrepreneurship and career development.

### MAIN MOTIVATION

Approaching issues from a different perspective, learning new things and seeing connections are some of Zoe’s personal drivers. She has always been very interested in acting at the intersection of a range of different industries and sectors. After realising the disconnect between researchers and industry, despite the benefit of their collaboration, Zoe became even more motivated to overcome barriers leading to this divide. This interest led her to undertaking a PhD where she is investigating the careers of individuals who concurrently work across industry, research and government.
IMPORTANCE OF SPECIFIC KNOWLEDGE

Spending time in each of the sectors allows us to gain knowledge about how the different sectors of academia and industry operate. Spanning Boundaries agents are often stepping outside their comfort zone, thus they need the skills to be adaptable and should be able to ask the right questions. Networking and communication skills are also valuable inclusions in the Spanning Boundaries agent’s portfolio.

Boundary spanning is a journey with many challenges to overcome, so the traits of being resilient and being at ease with ambiguity and uncertainty can aid one in understanding and successfully navigating their situation.

BARRIERS AND SUCCESS FACTORS

Drivers

Gaining experience across a wide variety of engagements helps Spanning Boundaries agents to cultivate a diverse range of skills and develop extensive networks that can add value to any roles they take on.

Barriers

Organisations are often not well prepared to attract and retain boundary spanning talent, particularly when individuals have taken non-traditional career paths. Narrow hiring practices, such as requiring many years’ experience in only one domain need to evolve and be replaced with more flexible approaches that consider the full suite of skills and experiences an individual can offer and what value this can add to the organisation.

“...even having hobbies where there is an opportunity to interact with people outside one’s professional sphere [is] beneficial.”