

Start-up-oriented professorships at the University of Cologne, Germany

The case in a nutshell

From 2019 to 2024, the University of Cologne has been receiving considerable state funding for establishing a Gateway Excellence Start-up Centre. A key approach is establishing nine new professorships. Seven of them are “start-up-oriented”, meaning that they deal with business foundation in their teaching, research, and student support activities, while focusing on a different academic subject. These professors are in the Faculty of Management, Economics and Social Sciences, in the Faculty of Mathematics and Natural Sciences as well as in the Faculty of Humanities and the Faculty of Medicine. The objective is to anchor entrepreneurship and innovation, also combined with digitisation, across the University. The professorships’ key task is to motivate students to think and act entrepreneurially. The University recommends to other universities that also seek to establish start-up-oriented professorships finding an approach that suits the university’s profile and framework conditions. Moreover, the university’s whole hierarchy must support the approach. Establishing such professorships is very challenging but also rewarding, as they provide new perspectives on start-ups.

1. Background

Profile of the University of Cologne

Founded in 1388, the University of Cologne is one of the oldest and largest universities in Europe. In 2021, the University had close to 50,000 students and more than 4,700 academic staff members. It has six faculties: Medicine, Law, Arts and Humanities, Mathematics and Natural Sciences, Human Sciences as well as Management, Economics and Social Sciences. The Faculty of Management, Economics and Social Sciences has approximately 10,000 students.

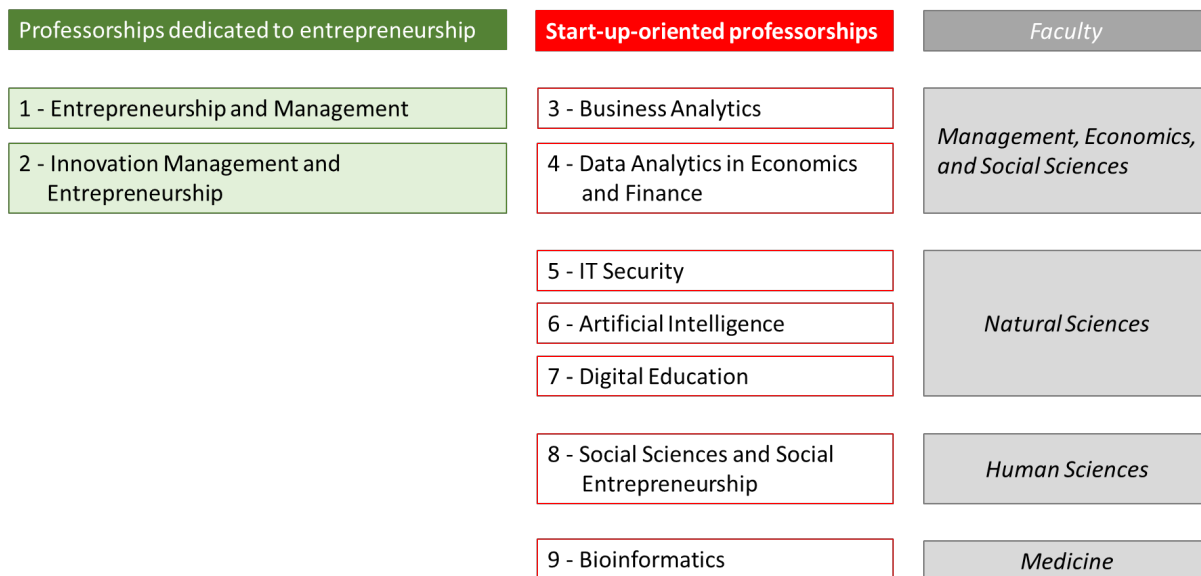
In 2015, the University established a start-up support service named Gateway for Innovative Start-up Ideas (Gateway für innovative Gründungsideen). This was a reaction to changing framework conditions: Knowledge transfer, start-ups from universities in particular, had become an objective in state legislation and in the national initiative for higher education excellence. In 2019, following a competition, the State Ministry of Economic Affairs, Innovation, Digitisation and Energy of North-Rhine Westphalia selected the University of Cologne as one of six **Gateway Excellence Start-up Centres** in the State.¹ The purpose of the Gateway Centre at the University of Cologne is to expand existing activities and to establish new offers for students interested in starting a business and for supporting company founders related to the University. To establish the Gateway Centre, the University will receive 22.8 million Euro until 2024. Today, the Gateway Centre has approximately 40 employees.

A key reason for selecting the University of Cologne in the competition was its approach to establishing **start-up-oriented professorships**. Their objective is to anchor entrepreneurship, digitisation, and innovation at the University of Cologne – more broadly and more deeply. The professorships are part of the University’s entrepreneurial network. Altogether, the concept of the Gateway Centre foresees the establishment of nine new professorships. Two of them are directly in the field of entrepreneurship:

¹ See <https://www.exzellenz-start-up-center.nrw/> (German only).

Entrepreneurship and Management as well as Innovation Management and Entrepreneurship. The other seven professorships are start-up-oriented, meaning that they deal with business foundation in their teaching, research, and student support activities, while focusing on a different academic subject. Two of them are also at the Faculty of Management, Economics and Social Sciences: Professorships for Business Analytics as well as for Data Analytics in Economics and Finance. Three start-up-oriented professorships are at the Faculty of Natural Sciences: IT Security, Artificial Intelligence, and Digital Education. Moreover, at the Faculty of Human Sciences there is a professorship for Social Sciences and Social Entrepreneurship that focuses on economic education, and the Medical Faculty has a professorship for bioinformatics.

Figure 1: New professorships in the framework of the Gateway Excellence Start-up Centre Cologne



Source: Own representation based on <https://www.gateway.uni-koeln.de/teamkontakt/> and information from Christian Schwens.

The University deliberately targets key digital issues for the seven start-up-oriented professorships. This is mainly for three reasons: First, the overall societal and economic importance of digitisation as well as, secondly, the ensuing availability of candidates and, thirdly, the faculties' readiness to fund the professorships after initial external funding ends.

This case study describes the rationale behind the start-up-oriented professorships, their activities, and experiences with them so far.

2. Objectives

Rationale for the start-up-oriented professorships

The nine new professorships are an instrument in the Gateway Centre's concept to extend and root entrepreneurial thinking and acting in the Faculty of Management, Economics and Social Sciences as well as in other faculties. The role of the professorships is to motivate students to act entrepreneurially, based on what they have learned about their subject. While there are already several professors who do so, the Gateway Centre concept sought to establish new professorships with a broadened thrust – rather than relabelling the status quo.

The Gateway Centre's managers believe that there is high entrepreneurial potential in all faculties. However, not all faculties and departments foster entrepreneurship, and not all were in favour of start-up-oriented professorships. The Gateway Centre managers have seen that students from non-economic faculties found no interlocutor for their business ideas at their faculty. The Gateway Centre team seeks to change this. They want to motivate not only bachelor and master students but also researchers – doctoral students in particular and also professors – because they often develop innovative ideas with commercial potential.

The nine professorships are part of a wider concept that, beyond teaching, includes further four major components:

- **Start-up consulting**, including transfer scouts, seven at all six faculties, whose task is to identify students and researchers with commercialisable ideas and to help realise the ideas
- **Incubator**: The University offers workspaces to aspiring company founders. A new innovation and start-up centre that the University is currently building on campus with donation funds. The building will offer more than 1,000 square metres of co-working spaces for start-up projects, offices for the Gateway Excellence Start-up Centre, rooms for low-tech prototype development as well as for regional business partners
- **Events**: Sensitising events such as simulation games, online tutorials, workshops, a start-up idea competition “startup your idea”, an entrepreneurship Fall School, and a lecture series protoTYPES for graduate students, graduates, and doctoral students
- **Accelerator**: A recurrent six-month accelerator programme includes coaching and workshops for students and researchers from all over the University interested in start-ups

3. Input

Resource the professorships can use

The new professorships are completely or largely funded from the Gateway Centre's budget. This is a considerable share of the total budget, approximately a quarter. Funding is not only for the professors as such but also for scientific assistants, support staff, and running expenses such as conferences.

Beyond the funds from the State Ministry of Innovation, the University of Cologne also receives funding from the federal programme EXIST-Potentiale.² This programme supports start-up teams from the University to enter international networks and markets.

4. Entrepreneurial activities

Description of the professorships' activities

The **special thrust of the start-up-oriented professorships** is that they motivate students to develop a business idea from what they have learned. The professorships themselves do not offer genuine courses about entrepreneurship. The idea is that their courses show what entrepreneurial potential their subject has and that running an own business may offer a promising professional perspective. This is accompanied with specific entrepreneurial events which the Gateway offers for all students. Moreover, the professor for Entrepreneurship and Management, Christian Schwens, offers entrepreneurship-related courses and lectures at all Faculties. See the box text at the end of this section for an example

² “EXIST” refers to “Existenzgründung”, the German term for individual start-ups.

of such a course. The professor teaches subjects along a start-up's lifecycle: From idea generation with the Design Thinking method via business modelling and business plan writing to prototyping and pitching. The learning objectives follow a sequence from sensitising to qualifying and proving to actual start-up. Sensitising for start-up as a viable career option is particularly important because students in digital subjects have many attractive options as employees.

As regards the **selection of professors**, start-up orientation was already a key criterion in the job advertisement. They did not only have to prove excellence in their academic field through publications and teaching but also entrepreneurial affinity: For example, through having guided start-up teams, having applied for patents based on own research, and having contacts to industry. This is not standard among the candidates but "extremely high preconditions", as Christian Schwens says. Hence, it was challenging to find the right candidates. Moreover, the selection process was not easy because the University representatives involved had different interests. The students focused on teaching capability, research-oriented professors focused on research achievements, and some did not have a specific interest in knowledge transfer.

Start-up affinity is also included in the **agreements with the professors**. They committed themselves to performing start-up-oriented research and teaching and to becoming actively involved in the University's start-up support activities. Being bound into the University-wide entrepreneurship network is an important aspect in these agreements. Soon after becoming employed, Gateway Centre experts and professors had initial talks to discuss how to implement entrepreneurship in courses and how to cooperate with the Gateway Centre team. This might for example mean sending students interested in starting a business to the Gateway Centre's consultants and to act as speakers at start-up related events. The Gateway Centre has a dedicated employee whom the professors can contact for entrepreneurship issues.

The Gateway Centre offers specific **information and teaching material** to the professors which they can use in their lectures and seminars. This shall not only support teaching but also ensure a certain degree of commonality in entrepreneurship teaching across the professorships. These offers are open also to any professor interested in promoting entrepreneurship.

The Gateway Centre team finds **trans-disciplinary collaboration** of students very worthwhile. For example, students from humanities who have a business idea may benefit from the expertise of business students. The Gateway offers an entrepreneurial Summer School that is open to students from all Faculties, so it fosters such collaboration. There is even the idea to collaborate across university borders. The University of Cologne has many excellent business students, while the University of Aachen, only 70 kilometres away, educates many excellent engineering students. However, students tend to attend only courses for which they receive credits, and the curricula do not yet foresee such trans-disciplinary studies.

Box text: Exemplary course from the Faculty of Management, Economics and Social Sciences for the Faculty of Mathematics and Natural Science:

Develop your own idea into a business model! Agile management techniques for MINT students

Format: Seminar

Offering organisation: Faculty of Management, Economics and Social Sciences / Interdisciplinary teaching

Target group: The course is open to all students (Bachelor, Master, PhD) from the Faculty of Mathematics and Natural Sciences.

Semester: Winter semester 2022/23

KLIPS 2.0 Course number: 142.538.000

You are planning a career in a (multinational) company, or consultancy firm? You want to start your own business? You are seeking to be prepared for a future leadership position? You are striving for in-depth project management knowledge? This course – specifically designed to address the requirements of MINT students – is the perfect complement to your main study programme as it provides you with the necessary strategic, entrepreneurial and leadership know-how which you will need wherever your future career path may take you. Supplement your expert knowledge (from your studies) with business and management know-how, make contacts with business leaders and be prepared for the requirements in your future work environment.

Specifically, the course covers the following domains:

- Strategy: What is strategy? How can you position a (biotechnology, insurance,...) company in the face of competition and succeed in the long run?
- Project management: How can you best organise and steer large and small-scale projects?
- Leadership: How do you lead a team? How can you solve conflicts? How can you motivate others and initiate change?
- Entrepreneurial thinking: How can you become an entrepreneur? What differentiates entrepreneurial leaders? How can you instil an entrepreneurial mindset?

Source: <https://www.gateway.uni-koeln.de/lehrveranstaltungen/>, slightly adapted.

5. Stakeholders

How stakeholders contribute to the start-up-oriented professorships

All start-up-oriented professors bring in their networks with representatives from academia, business, government, and civil society. Moreover, the professors met initially and meet regularly with the Gateway Centre's **steering committee** and with the University's **advisory board** of external partners to exchange experiences and expectations. The steering committee includes start-up stakeholders from within the University such as Vice-Rectors, personalities with an affinity to business foundation, and intellectual property specialists. The advisory board includes entrepreneurs and representatives from, for example, the Cologne chamber of commerce, the local trade fair, and a professor from a top-ranking university in start-up promotion. They provide feedback on how to solve problems and they provide network contacts. For instance, they act as jury members in the Gateway Centre's business competition, and they link winners with helpful experts.

6. Outputs, outcomes, and lessons learned

One of the principal lessons learned is, as Christian Schwens puts it, that it is not trivial to implement start-up-oriented professorships. Many actors have to be involved from the University's hierarchy and

among professors, much “micro-policy” is required, and it is not easy to find and agree on the best candidates for the professorships. Moreover, it is important to regularly consult and exchange information with the professors. Such an exchange has proved to be fruitful and enriching as it opens new perspectives from different academic fields on start-ups.

Asked what the Gateway Centre can recommend to other universities that seek to establish start-up-oriented professorships, Christian Schwens first of all points to the universities’ different profiles and framework conditions. A university’s approach to entrepreneurship needs to suit its specific profiles and conditions.

Second, it is important that all important actors of the university support the approach: from the presidency to deans and professors. The reason is that establishing common objectives towards entrepreneurship is not easy. Experience shows that only a minority of professors is really in favour of entrepreneurship. Then there is also a minority that might even actively oppose entrepreneurship. The large majority may be indifferent. In this majority, it may be easiest to convince further professors about the benefits of entrepreneurship. Higher education laws and regulations may support professors’ involvement with entrepreneurship. In North-Rhine Westphalia, the Higher Education Law meanwhile requires higher education institutions to foster knowledge transfer. This causes pressure on Faculties to act.

Finally, since universities receive billions of public funds every year, universities need to prove to society what their public benefit is. Start-ups that create new high-quality jobs and new products with high value added might be an excellent prove. The Gateway Centre might increase the likelihood that more start-ups will emerge in the future. A tangible output of the Gateway Centre’s activities has been on persons reached: In the two years after the State Government began funding the Gateway Centre, the share of students and researchers who use the Gateway Centre’s offers has increased from 1 to 8%.

Sources

This case study was prepared by Dr. Stefan Lilischkis from empirica Gesellschaft für Kommunikations- und Technologieforschung mbH, Bonn, Germany, through collection and analysis of broad documentation about start-up-oriented professorships and interviews with key representatives from the University of Cologne.

The status of information provided in this case study is October 2022.

Contact

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Links

Gateway Excellence Start-up Centre University of Cologne: <https://www.gateway.uni-koeln.de/en/>.

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