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# Start-up competitions as anchor events in Entrepreneurial Ecosystems: first findings from two German regions

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## ABSTRACT

Entrepreneurial ecosystems (EEs) are currently a major theme of entrepreneurship research and policies designed to support entrepreneurship. However, the role of specific policy instruments in EEs often remains unclear. This paper contributes to research on that topic by analysing the role of start-up competitions (SUCs) in the contrasting German case study regions Berlin and Hanover. Based on 45 qualitative interviews with participants in two public SUCs, their organizers, and ecosystem experts, the role that the SUCs play in each EE is investigated. Both analysed SUCs serve as networking events that can be described as 'anchor events' for specific parts of their ecosystems. They provide strong support for participants and help local entrepreneurship support offices connect and allocate their resources efficiently. However, sub-networks of entrepreneurs and actors who are not connected to the SUCs are identified. The SUCs seem to work primarily for public actors, 'solid' entrepreneurs, and university spin-offs. International venture capitalists, wealthy business angels, and high growth firms are not involved in the competitions. Both analysed regions influence the perceived value of their competitions, e.g. in terms of the industrial expertise of jurors.

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## 1. Introduction

Entrepreneurship is an important driver of job creation (Acs and Armington 2004; Birch 1987; Carree et al. 2015; Doran, McCarthy, and O'Connor 2016) and the renewal and growth of an economy (Acs et al. 2012; Andersson, Braunerhjelm, and Thulin 2012; van Stel, Carree, and Thurik 2005). However, entrepreneurial activity differs strongly across countries (Blanchflower 2000; Terjesen, Acs, and Audretsch 2010) and among sub-national regions (Davidsson and Wiklund 1997; Fritsch, Brixey, and Falck 2006; Sternberg 2011). A recent approach in understanding (regional) entrepreneurial activity is entrepreneurial ecosystems (EEs) (Cavallo, Ghezzi, and Balocco 2019; Credit, Mack, and Mayer 2018; Malecki 2018; Audretsch et al. 2019). By emphasizing the importance of the economic and social context in the entrepreneurship process (Spigel 2016), the approach follows earlier contributions that discuss the importance of (regional) context for new venture formation (van De Ven 1993; Spilling 1996; Feldman 2001). The EE concept has quickly found its way into economic policy (see, e.g. World Bank 2018; World Economic Forum 2013), which

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may be accelerated by the fact that seminal works on EEs were created by and for practitioners (Feld 2012; Isenberg 2010).

Today, EE is referenced in a wide range of formal policy documents on supporting entrepreneurship and in practitioners' works in countries worldwide at all development stages. However, its conceptual ambiguity results in diverse perceptions of the concept and its adoption by policymakers (Brown and Mawson 2019). Scholars have engaged in critical appraisals of the EE approach, for example, regarding the role of the institutional and political context of EE interactions and the spatial scales of their relevance (Alvedalen and Boschma 2017). A key question is how policy can influence EE and what role single policy instruments play (Spigel 2016; Feldman, Siegel, and Wright 2019).

One instrument that public and private actors use to foster entrepreneurship in specific regions or sectors is start-up competitions (SUCs). With the emergence of the EE approach, SUCs also have been mentioned frequently as elements of EEs, both by practitioners (Isenberg 2011; World Economic Forum 2013; Harrington 2016; Feld 2012) and scholars (Wright, Siegel, and Mustar 2017; Motoyama and Knowlton 2017; Mason et al. 2020). However, the role of SUCs in EEs has not been analysed more in-depth. This lack of attention is surprising, as the sheer quantity of such competitions calls for analysis. While comprehensive overviews do not exist, studies for single countries report 77 active SUCs in Italy (Passaro, Quinto, and Thomas 2017) and 71 in Germany (Schwartz et al. 2013). Similar to these former studies, in this paper, 62 SUCs were identified in Germany in 2019. SUCs have comparatively lower requirements for participation than accelerators and incubators (Bliemel et al. 2016; Schwartz et al. 2013) and at the same time provide a wide range of further training and networking opportunities (Watson, McGowan, and Cunningham 2018; Schwartz et al. 2013; Passaro, Quinto, and Thomas 2017). Hence, they are considered an important part of EEs, but their specific role remains unclear (Feld 2012; Motoyama and Knowlton 2017). Once this role is revealed, research and policy can draw on, improve, or adapt a widely used tool to support entrepreneurship and EEs.

This paper aims to explore the role such competitions play in EEs and thereby contribute to theory on specific policy instruments that foster regional entrepreneurship and ecosystems. To do so, case studies of two established SUCs in Germany are provided. Based on 45 face-to-face interviews with organizers, participants, and local entrepreneurship experts, the role of each SUC in its EE is explored. The remainder of this paper is structured as follows: First, the theory of EEs is presented in a theoretical section, where the potential role of events like SUCs is also discussed. The theory of anchor events and their role in EEs is presented as a basis for analysing the role of SUCs in such ecosystems. Subsequently, the methodology is explained, and an overview of SUCs in Germany is given. The case selection is demonstrated, and the two cases are described in detail. In the following empirical section, the interviews are analysed, and the findings are presented. In the next section, the results are discussed. The final section concludes and provides some implications for policy.

## 2. Theoretical basis

EEs are a relatively new theoretical concept in studies of entrepreneurial activities, but the number of publications on the subject has risen sharply in recent years (see e.g. the overviews of Cavallo, Ghezzi, and Balocco 2019; Malecki 2018). This increase has a lot to do with the attractiveness of the concept for local policymakers, many of whom view EEs as the new 'blockbuster' of industrial policy (Brown and Mawson 2019, 347). Despite its recent inception, many different adaptations of the EE concept can be found in the literature (for an overview, see Brown and Mawson 2019).

Despite – or perhaps because of – the variety of publications regarding EEs, there is no generally accepted definition of an EE among scholars. This lack of consensus is primarily because the definitions are based on different elements of ecosystems, research designs, and spatial levels (Malecki 2018). Nevertheless, most scholars agree that the essential characteristic of an entrepreneurial

ecosystem is the interdependent relations among different actors and elements related to entrepreneurship (Malecki 2018; Cavallo, Ghezzi, and Balocco 2019). Thus, in this paper, entrepreneurial ecosystems are defined as ‘a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory’ (Stam and Spigel 2018, 407). Even though there are various spatial units of analysis for an EE, the majority of studies conceptualize EEs at the regional level (Malecki 2018). Analogous to understanding entrepreneurship as a regional event (Feldman 2001), this paper also examines EEs on a regional level.

The EE approach has some characteristics in common with other systemic concepts to support regional economic development that are or can be related to entrepreneurship, such as clusters (Delgado, Porter, and Stern 2010; Feldman, Francis, and Bercovitz 2005) or innovation systems (Acs, Autio, and Szerb 2014; Ylinenpää 2009). A key difference is an explicit focus on the interdependent relations between entrepreneurs, related actors, and institutions, enabling the EE approach to solve the shortcomings of other related systemic concepts in which ‘the role of entrepreneurs remains a black box’ (Stam 2015, 1760). While this sounds very promising for entrepreneurship scholars, the approach has drawn some criticism. Specific critiques argue that the EE concept is too similar to other approaches (Scaringella and Radziwon 2018), there is a lack of clear reasoning regarding causes and effects (Stam 2015), and the influence of institutional and political context on the interactions within the EE is unclear (Alvedalen and Boschma 2017). Also, the role of individual elements like support programmes in the ecosystem remains unclear (Spigel 2016). This paper focuses on the latter by analysing the role of SUCs in EEs. Thereby, this study addresses a gap in the research on the role of policy initiatives in such ecosystems (Scaringella and Radziwon 2018; Feldman, Siegel, and Wright 2019).

A central argument in EE research is that they comprise the creation and diffusion of ‘entrepreneurial knowledge’ in the region, which helps create and grow new ventures (Spigel and Harrison 2018). This particular type of knowledge comes from experienced entrepreneurs and businessmen and thus diffuses horizontally (a vertical diffusion would take place within the value chain). Scholars identify that horizontal knowledge diffusion in EEs occurs voluntarily, while in systems like clusters, it is normally based on competition (e.g. copying competitive practices) (Autio et al. 2018; Kuebart and Ibert 2019). In this line of argumentation, ‘the distinctive structural elements of entrepreneurial ecosystems, such as new venture accelerators, coworking spaces, and makerspaces, also serve as a forum for cultivating knowledge on effective business model experimentation and the horizontal sharing of it’ (Autio et al. 2018, 80).

Long lists of such structural elements of EEs exist, including accelerators, incubators, makerspaces, pitch days, start-up weekends, networking events, boot camps, hackathons, university entrepreneurship offices, and public entrepreneurship support programmes (Stam 2015; Spigel 2017; Autio et al. 2018). An event included in many lists of such elements of EEs is the start-up competition (Isenberg 2011; World Economic Forum 2013; Harrington 2016; Wright, Siegel, and Mustar 2017; Mason et al. 2020). SUC works as an umbrella term for various types of competitions, e.g. hackathons, pitch competitions, and business plan competitions (Watson 2019). One common element among these competitions is their targeting of nascent entrepreneurs (Schwartz et al. 2013; Passaro, Quinto, and Thomas 2017). For this paper, they are defined as events in which (nascent) entrepreneurs compete for awards and prizes by submitting information (e.g. through business plans or pitch decks) on their (planned) business to a professional jury. This definition covers the core characteristics of such competitions, as descriptive studies of SUCs show (Schwartz et al. 2013; Passaro, Quinto, and Thomas 2017). Organizers of SUCs differ, but most commonly, SUCs are held by public or a mix of public and private organizations, with the goal to foster entrepreneurship in the region (Schwartz et al. 2013; Passaro, Quinto, and Thomas 2017).

From a theoretical point of view, SUCs could have various effects on EEs (an overview is provided by Stolz 2020). First, they could directly influence entrepreneurs, who are the central point of EEs. Studies show that SUCs provide networking opportunities for participants (Russell, Atchison, and Brooks 2008; Watson, McGowan, and Cunningham 2018; Schwartz et al. 2013). Such

social ties are important for nascent entrepreneurship (Davidsson and Honig 2003) or venture performance (Batjargal 2003). Another effect would be increasing the quality of new ventures through feedback (Wen and Chen 2007; Watson, McGowan, and Smith 2015; Passaro, Quinto, and Thomas 2017). Empirical evidence shows that learning in competitions can help entrepreneurs expand a new business or start a new venture (Klinger and Schündeln 2011). Also, SUCs provide some, typically minimal, form of financing for new ventures through prizes (Schwartz et al. 2013; Passaro, Quinto, and Thomas 2017). External financing is an important factor for the survival and growth of new firms (Fotopoulos and Louri 2000). Consequently, if SUCs help increase start-up rates (e.g. more start-ups or more start-ups that survive), they can impact the EE directly by funding more entrepreneurs or more successful entrepreneurs.

In addition to the direct impact, indirect influences are also possible. A regional culture for entrepreneurship is a core element of the EE approach (Neck et al. 2004; Stam 2015), which could arise through historic start-up rates (Stuetzer et al. 2014). Also, skilled workers and the integration of universities and research institutions into EEs are central to their existence and development (Feld 2012; Wright, Siegel, and Mustar 2017; Stam 2015). However, university spin-offs require universities to have specific capabilities (Rasmussen and Borch 2010). One obstacle for such spin-offs is the decoupling from the academic setting and the integration into the commercial setting (Rasmussen and Borch 2010). SUCs, first developed at universities (Katz 2003), could help overcome this hurdle.

Some empirical contributions show that SUCs positively influence the probability that the winners will start their new venture afterwards (Klinger and Schündeln 2011; Michelsen, Wolf, and Schwartz 2013; Gailly 2006). However, little is known about their functionality. Instead, prior studies focus on the learning effects for the participants, revealing that the main benefits of SUCs for participants are to provide learning environments (Watson, McGowan, and Smith 2015; Wen and Chen 2007; Russell, Atchison, and Brooks 2008), networking opportunities (Watson, McGowan, and Cunningham 2018; Russell, Atchison, and Brooks 2008; Foo, Wong, and Ong 2005), and prize money (Lee, Almirall, and Wareham 2015; Russell, Atchison, and Brooks 2008).

To date, however, no study has examined to whom the participants can be connected or what networks might be extended or made denser through SUCs. The role of SUCs in a broader regional and systemic context, which the EE approach emphasizes, remains unclear (Stolz 2020). Thus, the following research question is derived for this paper: What role do start-up competitions play in entrepreneurial ecosystems?

Surely this question cannot be answered without examining a sufficient number of SUCs in different EEs and countries worldwide. Thus, this study focuses on insights for theory-building regarding the role of such an event-like element of EEs.

SUCs differ from other elements in an EE that support entrepreneurs and provide networking opportunities due to their event-like character. Programmes such as accelerators and incubators combine financial support (such as subsidized office space and office services, including meeting rooms and cafeterias that function as meeting spaces) with learning or educational services through business advising or coaching (Tamásy 2007; Amezcua et al. 2013; Schwartz 2009). These entities often require attendees to have a scalable business model or initial customers already in place (Bliemel et al. 2016). By comparison, SUCs usually only take place once a year for a given period of time and have lower entry barriers (Russell, Atchison, and Brooks 2008; Ross and Byrd 2011; Schwartz et al. 2013).

Further, SUCs require participants to submit a proposal, most commonly an elaborate business plan, a detailed pitch deck, or a similar document. The majority of SUCs give away monetary awards and non-cash prizes such as vouchers for coaching or office equipment (Schwartz et al. 2013; Passaro, Quinto, and Thomas 2017; Russell, Atchison, and Brooks 2008). To assess the participants and provide prizes, SUCs partner with a broad range of sponsors and judges (Schwartz et al. 2013). Studies report, *inter alia*, that the following actors are involved: experienced entrepreneurs, venture capitalists, bankers (Foo, Wong, and Ong 2005; Russell, Atchison, and Brooks 2008), start-up or business consultants (Gailly 2006), academics, and university staff (Russell, Atchison,

and Brooks 2008). This variety of actors could lead to vertical (e.g. participants and large companies that are potential clients) and horizontal (e.g. participants and other participants, sponsors and judges) networking in the ecosystem. SUCs could therefore fulfil the requirements of a field configuring event, e.g. providing unstructured opportunities for face-to-face social interaction (coaching session, participants meet-ups) as well as ceremonial and dramaturgical events (jury sessions, awarding ceremony) to actors from diverse backgrounds (Lampel and Meyer 2008).

Studies suggest that EEs develop over time (Autio et al. 2018; Spigel and Harrison 2018; Mack and Mayer 2016), though this process takes place in different stages (Cukier, Kon, and Lyons 2016; Cukier and Kon 2018; Mack and Mayer 2016; Thompson, Purdy, and Ventresca 2018). Moreover, the transition between stages bears risks of failure or lock-in effects, e.g. due to the dependence on policy instruments (Harima, Harima, and Freiling 2021; Cukier and Kon 2018). Simultaneously, policy instruments like accelerators that inject various resources into a EE (e.g. money and international entrepreneurs) are needed for less developed ecosystems to reach the next stage of development (Harima, Harima, and Freiling 2021). Such key organizations or events are referred to as ‘anchor tenants’ (Harima, Harima, and Freiling 2021; Colombelli, Paolucci, and Ughetto 2019). This term stems from early research on the entrepreneurial context, which highlights the role of mega-events (Spilling 1996) and the formation of anchor firms (Klepper 2007) in the development of entrepreneurial activity in a region.

As SUCs take place regularly, and normally over many consecutive years, potentially injecting various resources to the EE (social, financial, knowledge), they could not only function as temporal events to support the EE but also have inter-temporal characteristics. In this context, Garud, Gehman, and Giuliani (2014) have introduced arguments related to ‘anchored events’, which are regularly-held events like conferences and state-sponsored entrepreneurship expositions (or ‘expos’). Such anchor events would not only provide entrepreneurs with an opportunity for feedback and networking but also serve as platforms for different parts of ecosystems to coordinate their activities. Anchor events are defined as ‘venues for the creation, maintenance, and rejuvenation of networks that constitute ecosystems’ (Garud, Gehman, and Giuliani 2014, 1183). They fulfil two conditions: first, they allow different actors to connect and integrate multiple constraints in a dynamic fashion; second, they serve as venues for the temporal coordination of different activities (Garud, Gehman, and Giuliani 2014). Recent literature on EEs suggests the existence of different sub-networks of actors, e.g. financial, knowledge, and business subsystems (Clarysse et al. 2014; van Rijnsoever 2020). Analysing the interconnection among the sub-networks is important for further research on EEs (Alvedalen and Boschma 2017). As stated above, the variety of actors involved in a SUC could potentially connect such sub-networks horizontally, vertically, and over time. Based on these theoretical arguments, the following proposition for the empirical analysis is derived:

Start-up competitions function as anchor events in entrepreneurial ecosystems, as they regularly bring together actors of different sub-networks, help them coordinate their activities, and create, maintain, and rejuvenate their networks.

As highlighted above, the need for anchor tenants or events, particularly those held or sponsored by public entrepreneurship initiatives, depends strongly on the ecosystem. Seminal contributions on EEs emphasize the role of entrepreneurs in ecosystems and highlight that mature and resilient EEs are led by entrepreneurs and not policy initiatives (Feld 2012; Isenberg 2010; Stam 2015). Also, prominent SUCs give large amounts of prize money, like the RICE Business Plan Competition (Feld 2012) with \$1.5 million in total prizes (RICE University 2020). Such prizes could attract more entrepreneurs, even from other regions, but depend on the ecosystem, as not every region would have enough sponsors to fund such a large sum. Thus, the role of SUCs could have varying levels of importance in different ecosystems, for example, in terms of size and maturity, but also could be influenced by the ecosystem.

### 3. Methodology

For the purposes of this paper, exploratory case studies of two SUCs in German EEs were conducted. The case study approach helps to understand new phenomena characterized by a lack of (quantitative) empirical evidence and testable hypotheses, in particular with a range of (regional) economic influences (Flyvbjerg 2006; Hassink, Gong, and Faller 2016), and allows for the differentiation between mechanisms that are unique to particular ecosystems and those that are standard to the entrepreneurship phenomena (Spigel 2017). Therefore, this approach best suits the research question at the centre of this paper. To identify mechanisms that may apply to different SUCs or those that are universal, procedures applied by previous studies to identify all ‘proper’ SUCs in a given country were used (Passaro, Quinto, and Thomas 2017; Schwartz et al. 2013). Thus, all 196 German competitions (as of 2019) have been identified via internet research, and their websites and brochures were screened for information. Competitions that were no longer active, innovation competitions (where a prize is awarded for a particular innovation but not specifically to entrepreneurs or start-ups), or those competitions that were awarding outstanding businesspersons were excluded. As a result, 62 competitions served as the basis for the case selection. A map of all competitions, the type of organizer, and their location is provided in Figure 1.

As stated in the theory section in this paper, entrepreneurship is understood as a regional event, and the influence of regional characteristics on EEs is presumed. Therefore, it is necessary to consider the potential regional influence on the role of the SUC in the EE. This was done by selecting SUCs in two German regions that differ regarding size, start-up rates, core industries, and GDP, hence using a contrasting case selection (Yin 2009). Choosing contrasting cases is common in geography (Giblin 2011) and entrepreneurship research (Swamidass 2013). Also, it strengthens the findings if both cases support the hypothesized contrast (Yin 2009). To select suitable contrasting cases, the SUCs located in the previous step were assigned to a NUTS-3 level. Using the city or region as the unit of analysis, often selected based on European NUTS levels, is broadly accepted in research on EEs (Schäfer 2021; Stam and van de Ven 2021). This assignment allowed for the addition of comparable data on employment, core industries, start-up rates, and GDP.

Based on that data, two SUCs in the regions of Berlin and Hanover have been selected. Both regions differ greatly regarding these indicators (see Table 1 and the following chapter for a detailed description of both regions). Moreover, Berlin is known as Germany’s start-up hotspot (Kritikos 2016) and ranks among the top EEs in the world (Florida and Hathaway 2018). Hanover, in comparison, has a rather weak entrepreneurial culture, despite its strong university and technology position (Hesse and Sternberg 2017). Therefore, the SUCs are expected to play a different role in each ecosystem, for example, due to different relevant players or simply because of the sheer mass of entrepreneurs and related actors in Berlin compared to Hanover.

The empirics are based on two SUCs: the Businessplan Wettbewerb Berlin Brandenburg (BPW) in Berlin and the StartupImpuls (SI) in Hanover (Table 1). Both competitions rank among the oldest in Germany, take place once a year, and are structured similarly. For participants of both competitions, the (planned) location of the new venture has to be in the respective local region, and participants must register online. Then, some optional coaching takes place, followed by a period during which prospective participants can submit their documents. These documents will be evaluated, and feedback is given online. Then, the finalists are chosen. The award ceremonies are public events. Both competitions have additional coaching sessions and networking events throughout the entire event.

#### 3.1. Situating the cases of Berlin and Hanover

Both regions differ significantly in terms of population, population density, and predominant industries, as well as their political and social significance. As Germany’s capital city, Berlin is the base for federal ministries and the branches of numerous national and international



**Figure 1.** Map of Startup Competitions in Germany.

Source: Own representation.

corporations and organizations. Berlin is also home to 29 non-university research institutes and ten federal research institutes, compared to five non-university research institutes and four federal institutes in Hanover (BMBF n.d.). However, in terms of their importance to the surrounding municipalities, they exhibit some similarities: both are the capital cities of federal states (Berlin for Berlin and the city of Hanover for Lower Saxony) and have the highest populations, as well as the most universities and students, compared with all surrounding regions.

Regarding entrepreneurship, Berlin shows more new business registrations per person than Hanover. Apart from these numbers, which include all kinds of new business, it also has a vibrant



**Table 1.** Empirical overview of the regions and SUCs studied.

Analysed region	Berlin	Hannover Region
Inhabitants (2018)	3,644,826	1,157,624
Inhabitants per km <sup>2</sup> (2018)	4,090	504
Size in km <sup>2</sup>	891.12	2,297.13
GDP (in Mil. €, 2016, current market prices)	138,907.71	51,089.13
Universities / Technical colleges	39	8
Students (2019)	188.347	49.619
Business registrations per 10.000 persons of employable age (2018)	188.4	125.5
Unemployment rate (in %, 2019)	7.8	6.3
Employees covered by social insurance (2019)	1,516,487	517,032
... of whom work in agriculture, forestry and fishery (in %)	0.04	0.23
... of whom work in the manufacturing industry (in %)	13.34	20.54
... of whom work in service industries (in %)	86.62	79.23
<b>Analysed competition</b>	<b>BPW Berlin Brandenburg</b>	<b>Startup-Impuls</b>
Organiser	Investitionsbank Berlin (IBB) (Federal State Development Bank)	Hannoverimpuls (Regional Business Development Agency)
Founding year	1996	2003
Regional restriction for participants	New venture must be founded or located in Berlin or Brandenburg	New venture must be founded or located in Hannover Region
Age limit for participants venture	Venture is newly founded or founded in the past 12 months	Venture is newly founded or founded in the past 12 months
Active participants (2018)	428	128
Document to be submitted and assessed	Business plan or detailed Canvas	Pitch Deck including detailed financial plan
Highest amount of prize money to be achieved by one participant	15,000€ + 5,000€ (sustainability prize)	30,000€ + Trip to Silicon Valley / Tel Aviv

Sources: Destatis 2019; Eurostat n.d.; Arbeitsagentur 2019; IfM Bonn 2018; Hochschulkompass n.d.; Hannoverimpuls 2019; IBB n.d.

start-up scene that has produced some unicorns (e.g. Auto1, Delivery Hero, N26, Hypoport, Zalando, Rocket Internet). These firms have attracted a range of international venture capitalists,<sup>1</sup> a phenomenon that is still relatively rare for Germany. Berlin has attracted companies from all over the world to launch incubators and accelerators, e.g. Microsoft and Porsche.<sup>2</sup> The successful start-ups in Berlin led to the establishment of VC funds and business angel networks (for example, saarbrücker21<sup>3</sup>) that invest in new tech start-ups and hold entrepreneurial related events. Therefore, the ecosystem is relatively mature and could be described as entrepreneur-led or self-sustaining (Harima, Harima, and Freiling 2021; Spigel and Harrison 2018). Hanover, in comparison, is not well known as a location for start-ups. Lower Saxony is more rural and characterized by an industrial past with large corporations that remain active today (e.g. Volkswagen Nutzfahrzeuge, Continental, Komatsu Hanomag). The Hanover region is also home to TUI, Germany's biggest travel company, and different leading insurance companies (VHV Group, Talanx, and Hanover RE). Not many well-known start-ups exist in Hanover. In contrast to Berlin, in Hanover, there is only one private co-working space (with two locations), which has its own accelerator.

Concerning public support for entrepreneurship, both regions are home to active programmes with multiple similarities. For example, each has an economic development agency: Berlin Partner and Hannoverimpuls. These agencies are focal points for entrepreneurs and carry out consultancy work, help with promotional funds, and refer entrepreneurs to other organizations if needed. Also, both regions have entrepreneurship support offices at their universities. Both also serve as home to their federal state's public development banks (IBB in Berlin and NBank in Hanover). These banks carry out state-specific entrepreneurship support programmes that differ in some points but are mostly very similar. In general, support programmes for

entrepreneurship, especially regarding finance, are very common in Germany and are evaluated positively by entrepreneurship experts, even in international comparisons (Bosma et al. 2020). These organizations not only carry out various entrepreneurship support programmes but also organize the SUCs that have been analysed. Hannoverimpuls organizes the SUC in Hanover, and the SUC in Berlin is organized by the IBB.

In both regions, the programmes also manifest in the form of public-owned coworking or office spaces. In Hanover, there is a publicly owned coworking space with an accelerator<sup>4</sup> and publicly supported office spaces and workshops for creatives.<sup>5</sup> As with start-ups, there are many more publicly supported offices in Berlin, for example, at universities<sup>6</sup> or provided via public economic development agencies.<sup>7</sup> Although both regions provide strong public support, Hanover has far fewer start-ups and entrepreneur-led initiatives; thus, its EE can be described as less mature than that in Berlin. Initial dynamics exist in Hanover, but it is unclear whether enough entrepreneurial activities and networks exist for the ecosystem to become self-sustaining.

### **3.2. Interview data**

In order to obtain comprehensive information on the SUCs and their role in both regions' EEs, qualitative interviews with participants, judges, and organizers of the SUCs, as well as local ecosystem experts, were conducted. Also, the award ceremonies were visited. A random sample of individuals who had participated in the last three years and were traceable via online research was contacted for interviews. However, participants who were mentioned online were mostly winners. Also, the organizers were not able to provide contact data on participants due to data protection regulations. To counterbalance that effect, a snowball approach was applied after the initial interviews were held. In total, 45 face-to-face interviews have been conducted from May 2019 to January 2020. Out of these interviews, 29 were participants, and 16 were ecosystem experts. Of the participants, 11 were winners, 15 did not win any money but somehow still profited (e.g. were mentioned on the website or received nominations for prizes, which included professional videotapes), and three won nothing at all. Out of these, 16 were participants in Berlin and 13 in Hanover. The interviewed organizers and experts were found via online research on relevant ecosystem actors, e.g. banks, entrepreneurship support offices at universities, business angels (Stam 2015). Ten ecosystem experts in Berlin were interviewed and six in Hanover. The sampling process was stopped when theoretical saturation was achieved (Glaser and Strauss 1967).

The average interview length was 49 min. The interviews were semi-guided, with open questions that were based on previous theoretical and empirical contributions and primarily related to the respective competition, the start-up climate, and important local stakeholders and networks. Anonymity was ensured for all interviewed persons, and all interviews were recorded and subsequently transcribed. To analyse the interviews, the method of structuring content analysis was applied (Kuckartz 2016). It allows for the analysis of interview data by applying deductive codes (based on the proposition and their theoretical foundation) and complementing them with inductive codes based on the material, developed from newly found information (Kuckartz 2016). The results were summarized and incrementally reduced to the essentials regarding the proposition. The analysis was conducted using the software MaxQDA.

## **4. Results**

The analysis of the interviews with entrepreneurs (ENT) and ecosystem experts (EXP) illuminates two main layers of the role that both SUCs play in their EEs. First, SUCs function as an initial baptism of fire for participants and provide them and other actors with helpful feedback and networking opportunities. This layer is referred to as the role of the SUC within the ecosystem, since it directly impacts central elements of EEs: entrepreneurs, and the networks between relevant actors (Stam 2015). This layer also represents the findings regarding the role of SUCs as anchor events,

which was identified theoretically. Second, these effects depend on the size and structure of the corresponding region. There are differences between both regions and the position of the SUC in the respective ecosystems, for example, regarding the relevant industries and size of the ecosystem. This layer can be described as the impact of the EE on the SUC. The findings regarding both layers will be explained in detail below.

#### **4.1. The role of SUCs in the EEs of Berlin and Hanover**

The interviews show that for both regions, the SUCs are well known among people who actively search for entrepreneurship support and their peers, but not the entire population. The organizers are highly connected to other (semi-)public organizations that aim to foster entrepreneurship in the region. These other organizations promote the competitions when they advise nascent entrepreneurs. This detail was mentioned by entrepreneurs, consultants at university entrepreneurship offices and chambers of commerce, and the competitions' organizers. This approach leads to a situation where nearly every student entrepreneur in both regions who seeks information about entrepreneurship will sooner or later come across the SUC.

Organizers of both competitions said that one of their goals is to reach every (potential) entrepreneur and to be a central contact point for them due to their political objectives as public organizations. This initiative seems to be working since a wide range of participants were found in both SUCs, including self-employed tailors and start-ups developing a new device to treat heart failure. These cases are exemplary for two main groups of participants that could be identified: 1) self-employed entrepreneurs, who are craftsmen or have ideas for small businesses; and 2) university or company spin-offs, mainly consisting of teams of students, PhDs, or experienced workers. During the analysis of the interviews, it became clear that these groups benefit differently from their participation. However, what both had in common was that they were able to network.

Networking in both SUCs occurs among these actors: a) entrepreneurs among themselves, b) entrepreneurs and judges/coaches, c) judges/coaches among themselves. The following groups of actors were actively and continuously involved in the SUCs: banks, chambers of commerce, entrepreneurship development agencies, corporations, venture capitalists, business angels, tax consultants, business consultants, and lawyers. They mainly contribute through sponsorship, participating in a jury, delegating coaches, or promoting the competition. Therefore, the involved actors are very similar to those found in other competitions (Foo, Wong, and Ong 2005; Russell, Atchison, and Brooks 2008; Gailly 2006). Networking takes place in two different phases: the assessment phase and the award ceremony. In the assessment phase, participants can connect with coaches and judges (and vice versa) through individual coaching or possibly meet the judges after assessing the business documents. Here, the heterogeneity of judges, coaches, and participants leads to very different outcomes for the entrepreneurs. Another finding regarding the networks is that the assessment phase allows jury members to connect to entrepreneurs at a very early stage. As one investor stated:

We often take part in juries and generate many deals out of that, of course. (EXP23, Berlin)

The first group of participants (i.e. the self-employed, less innovative start-ups) benefitted the most from connecting during the competition. They found it very motivating to connect with entrepreneurs in the second group (e.g. university spin-offs) who they usually would not have met. They learned a lot and experienced some kind of start-up atmosphere, which they had not encountered before. The second group of participants did not mention profiting much from these interactions yet found it pleasant to connect to peers in the second group.

The second phase that allows for contacts to develop is the award ceremonies. They include a full evening with numerous networking opportunities for entrepreneurs and related actors. The circle of participants at the ceremonies consists of actors involved in the competition, sponsors, and guests. The ceremony was described positively by participants, judges, and ecosystem

experts, who noted that it might lead to first clients in some cases or to contacts with executives or investors. An additional finding is that the networking effects seem more significant for winners. Based on the data, it is not clear whether the winners are more successful entrepreneurs than others or whether some early-stage start-ups, which would be successful otherwise, participate due to windfall profits. There were also indications that an award might signal future investors. As one entrepreneur said:

Well, I mean, the interest of the fund clearly came because we won – and it already was the second competition that we won [...]. If you win two competitions, it is like, ‘ok, this is more than just a blind chicken that finds corn every now and again’. There has to be something to it. And then you get attention. (ENT17, Berlin)

Other entrepreneurs expressed similar experiences (12, 13, 20 in Berlin; 35, 39 in Hanover). However, the interviewed investors disagreed with that point of view. While initial contacts could be made through the SUCs, and it was stated that it was easier to initiate a personal connection while having a beer at the award ceremony, for investors, it was the numbers and the documents that counted in terms of investment decisions. This finding highlights another role of the SUCs, as winners would feel more secure about their ability to launch a business successfully and to obtain (financial) resources after finding confirmation by winning the SUC. Moreover, prize money or its equivalent, like trips to Silicon Valley, were found helpful by entrepreneurs. Though the investors disagreed and mentioned their reliance on numbers alone, this is relevant in terms of anchoring entrepreneurship in a region because it drew attention to the competition and its winners.

The award ceremony is also one possibility for the groups of actors to connect. The interviewees found it to be a great networking opportunity but claimed that the people they would see at these events were already a part of their network. Thus, the connections primarily entailed the ‘maintenance’ of networks. Nevertheless, the SUC was described as an opportunity for new actors to connect with experienced actors, thus ‘rejuvenating’ the network:

Definitely, the getting together of different actors brings new potential and additional links, because those who have been in the game longer, who are more courageous regarding that scene, they connect with those who are more conservative, and help to break the ice and integrate those people into the scene. (EXP38, Hanover)

These findings highlight the role of the SUC as a networking event in the EE, bringing together a variety of actors for a short period of time in an environment where they feel comfortable. The combination of events like the jury assessments, coaching, and awards ceremony provides different opportunities for networking and actors to meet. A key finding here is that entrepreneurs often participate only once in a SUC, evolve, and change priorities, whereas coaches, judges, and sponsors participate many years in a row, which helps them strengthen their networks and integrate new actors into the network. This inter-temporal perspective shows that the SUCs anchor the activities of those actors. In the theory chapter, the proposition was developed that SUCs could function as anchor events in EEs. Regarding this proposition, the findings show that both competitions serve as anchor events for parts of the ecosystem, particularly for the entrepreneurship support offices at local universities.

As many experts stated, universities play an important role in both ecosystems and are the origin of the majority of the second group of participants (innovative start-ups). In both ecosystems, the universities had entrepreneurship support offices to assist aspiring entrepreneurs. Consultants in these support offices strongly rely on the SUCs. Compared to the anchoring explained above, this involvement refers less to creating, maintaining, and rejuvenating networks than some type of outsourcing for the support offices. The reason is twofold: First, the competitions provide a learning environment for the entrepreneurs that is highly appreciated by the support organizations. While, from an ecosystem perspective, the creation and distribution of specific entrepreneurial knowledge are important (Stam and Spigel 2018), no detailed analysis is provided here, as the findings are similar to previous studies that find that SUCs can bring specific knowledge to (some of) the participants (Russell, Atchison, and Brooks 2008; Watson, McGowan, and

Cunningham 2018). Second, in a result that strengthens the postulated anchor role, it was found that the SUCs provide a kind of obligation for their participants to deal with their businesses. The interviews with university entrepreneurship offices showed that they used SUCs to ‘force’ some of their teams to focus on business goals and find clients rather than getting stuck developing and improving a high-tech product or service.

For this role of SUCs as a knowledge hub for entrepreneurs, the type of SUC seems to be important. There are many SUCs in Germany, some for specific industries only (e.g. biotech, digital solutions), leading to more precise feedback for certain niche high-tech start-ups at these competitions. According to one entrepreneur whose team also participated in a biotech SUC:

the feedback we got at Science4Life, we really, really used. [...] On the other side, at BPW, the feedback did not really help us, but we won €10,000€. (ENT11, Berlin)

This finding indicates that such specific niche SUCs could be anchor events, but probably for a sector or a national EE rather than a regional EE. Also, the region influences the industrial expertise of the jury and coaches, a finding that will be discussed in the following section in detail.

In both regions, networks of entrepreneurs and actors seem to exist who are not connected to the SUC. Both competitions only get in touch with entrepreneurs who actively seek information, either via internet research or support organizations. Successful entrepreneurs who never searched for public support and, accordingly, were not in touch with the SUCs, were found in both regions. There is also another type of network in Berlin: wealthy entrepreneurs, who are now business angels and have their own elite business angel networks. Additionally, international venture capital funds are active. These players invest in high growth firms that they primarily recruit via private networks. As one investor noted:

And this is another scene that has developed in that Berlin ecosystem. It is not typical for Germany; it is more American and a bit elitist [...]. If you are in that small ecosystem, you can build extraordinary things. The big things do not run via such business plan competitions. (EXP24, Berlin)

This section has highlighted the diverse role SUCs have in EEs. In both regions, they help local authorities and support offices in their work and networking. They are well-known among university spin-offs and help them gain attention and investment. Overall, they anchor the public support services for entrepreneurship by being a regularly held event that, unlike most expos or fairs, is represented by its own offices in the town the whole year. At the same time, there are (particularly in Berlin) sub-networks of actors that are very important for a mature and entrepreneur-led ecosystem, e.g. wealthy business angels, venture capital funds, and gazelle start-ups (Stam 2015; Spigel 2017; Feld 2012; Harima, Harima, and Freiling 2021). Thus, both SUCs only work as anchor events for specific parts of the EEs.

#### **4.2. The influence of the regions on the SUCs and their role in the ecosystems**

While both SUCs exhibit similarities regarding their structure, involved actors, and impact on the participants, some differences can be attributed to each region. The interview data shows that both competitions are dependent on their respective regions. The organizers state that the vast majority of participants come from the region, and the same applies to the judges and coaches. This factor influences the competitions in two ways. First, it affects the number of participants and how easy they are to find. In Berlin, with vastly more inhabitants, start-ups, and entrepreneurship-related actors, local experts, as well as the organizer of the SUC, found it easy to locate many participants yet noticed intense competition:

Berlin is the hotspot [...] we have the critical mass of entrepreneurs that we can address [...]. It is a bit difficult. We noticed that we have a disadvantage because we are so old. It is not hip anymore to talk about it [...]. There are big companies coming to Berlin with new events. (EXP2)

In Hanover, in comparison, an interviewed local bank even closed its venture capital company due to a lack of promising investment cases. Interviewees found the local scene to be very small but, as a result, had the feeling they were connecting to relevant players through the competition.

Second, the local base of judges and coaches inherits a bias of expertise for certain sectors. In Berlin, several participants said that they missed judges with industrial expertise or visitors from large industrial corporations to connect with at the award ceremony. As one entrepreneur said:

I mean, in Berlin, the scene is not known for its technology. I do not mean tech in the sense of a new platform, but like engineering. (ENT17, Berlin)

There were no similar statements from participants in Hanover. Two interviewed participants even worked as engineers at Volkswagen. Another one, who founded an insurance tech start-up, said:

Investors and contacts to the sector though – to the insurance sector. [...] The judge was a business angel. He said he also had an expert with him. And the expert was from the industry and helped us. We decided against the investment later, but the contacts remain. (ENT30)

This strong regional integration gives both competitions the advantage of being fairly well known in the local network (besides the sub-networks in Berlin). However, as Hanover's EE is smaller, both participants and actors from local support services felt they were able to connect to all important actors in the local network through the SUC. In contrast, people in Berlin knew from their daily experiences that there are other, unconnected networks in its far larger ecosystem.

The regional integration also affects the SUC's role in ecosystem development. Thus, although both competitions had successful start-ups, these are not at the level of unicorns or comparable fame. As the previous section showed, the majority are solo entrepreneurs or small, knowledge-intensive university spin-offs. As highlighted in the theory section, the integration of international actors plays an important role in EE development. In both regions, the SUCs had no contact with such actors. Nevertheless, while the interview data does not cover the early years of the SUCs, it still indicates that the SUCs help create the groundwork of an EE, i.e. bring many people, some of whom had little prior affinity for entrepreneurship, in contact with the topic. Further, SUCs provide less business-oriented people with an 'entrepreneurial spirit' that is elementary for ecosystems.

## 5. Discussion

The EE approach is suitable for understanding (regional) entrepreneurial activity, yet it is criticized for some issues. Scholars highlight that the role of (single) policy measures and the overall role of policy in ecosystems need further elaboration (Alvedalen and Boschma 2017; Feldman, Siegel, and Wright 2019; Spigel 2016; Brown and Mason 2017). This paper addresses this gap by analysing two SUCs in Germany. It contributes in two ways to the literature on EEs and the economic geography literature that researches EEs.

First, in lists that enumerate the elements of ecosystems, SUCs are included as often as comparatively similar policy instruments like incubators and entrepreneurship support events (Feld 2012; Isenberg 2011; World Economic Forum 2013; Harrington 2016; Wright, Siegel, and Mustar 2017; Motoyama and Knowlton 2017; Mason et al. 2020). However, previous research has not explicitly considered SUCs' role within the EE context (an exception is Motoyama and Knowlton 2017). Analyses to date often focus on incubators, accelerators, and coworking spaces (van Rijnsoever 2020; Nicholls-Nixon et al. 2020; Hochberg 2016). Empirical studies mainly examine output in terms of new ventures, their survival rates, or perceived benefits from participation (Schwartz 2009; Del Sarto, Isabelle, and Di Minin 2020; Grimaldi and Grandi 2005; Chan, Patel, and Phan 2020; Gonzalez-Urbe and Leatherbee 2018). This is also the case for research on SUCs that has been done apart from EEs (Russell, Atchison, and Brooks 2008; Watson, McGowan, and Cunningham 2018; Watson, McGowan, and Smith 2015; McKenzie 2017). While this helps reveal their overall effectiveness, it does not look at their role and how these instruments are embedded in the

ecosystem and its local network of actors. By using case studies and interviews with different actors, this study provides the view of participants and external experts. This approach reveals a more differentiated picture of the role of SUCs. They anchor the activities of local entrepreneurship support agencies by regularly connecting them and by helping them to fulfil their support functions for start-ups. However, both SUCs are publicly funded and are mainly connected to other public actors. Any integration of these networks into those with influential business angels, international venture capital funds, or particularly successful start-ups could not be found. This integration would be important because these actors are particularly relevant for the development of EEs.

Second, the chosen method of contrasting case studies allows comparisons of two similar SUCs in different regions with distinct ecosystems, which helps identify mechanisms that can be attributed to the particular regional ecosystem and those that can be attributed to the SUCs in general. The economic geography literature has proven the importance of location in individuals' decisions to become entrepreneurs, particularly regarding cities (Andersson and Larsson 2016; Bosma and Sternberg 2014). Regions can develop substantial entrepreneurial activities despite different circumstances if some generic functions are present, such as the creation and dissemination of knowledge (Saxenian 1994; Spigel 2017). The present study shows that SUCs as an element of public entrepreneurship support also have such functions (learning environment, networking opportunities, prize money), but their form is partly influenced by the region in which they are located. In particular, both SUCs function as regular events that connect public actors and bring them together with entrepreneurs, who also achieve some learning effects (for a detailed analysis of learning effects in SUCs, see Stolz and Sternberg 2022). The findings highlight the heavy reliance of SUCs on regional resources (funding, coaches, participants) and reveal that their role in the ecosystem is partly perceived differently depending on the regional circumstances. The local industry structure influences the composition of the jury and the coaches, which influences the perceived value of the feedback. Also, entrepreneurial networks exist that are not connected to the SUC.

It is not clear if the effects that were found also apply to SUCs in different surroundings, e.g. different legal frameworks in other countries. Although 45 interviews were conducted and two different ecosystems were included in the analysis, the results are limited in terms of generalizability due to a qualitative approach and a lack of complete information on all participants in both competitions. Therefore, no random sample out of all participants could be selected. While some participants were not successful in the competition, most interviewees were winners or nominated for an award. Further research with complete rosters of competition attendees is needed to expand the findings and could also provide information on the development of SUCs and EEs over time (Malnecki 2018). Regarding the debate about the development stages of EEs, no clear results could be achieved. While both SUCs play an important role for many actors, it is unclear if other events would fulfil this role if the SUCs were absent. The findings show that some actors are in touch with the SUCs every year, and thus, an inter-temporal anchoring occurs. However, longitudinal analysis is needed to understand the role of such events in the development of EEs. Finally, the analysed competitions are held by public organizations and sponsored by a mix of public, semi-public, and private actors. This characteristic applies to the majority of German SUCs (Schwartz et al. 2013) and is typical for the landscape of German entrepreneurship support, but it limits the results to comparable competitions and frameworks. Nevertheless, by examining two such different ecosystems, it was possible to identify some functions of the competitions that were the same in both ecosystems despite the different framework conditions.

## 6. Conclusion

This paper demonstrates the multifaceted role of two SUCs in their respective ecosystems in the German regions of Berlin and Hanover. The SUCs have a clear role in the local networks of different entrepreneurship support organizations, providing an important point of contact for other support services in the ecosystems, especially at universities. Consultants at such support offices would send

their clients to the SUCs in order to ‘force’ them to focus on business aspects and less on technical solutions. The SUCs served as anchor events for those support actors, helping to maintain networks and even rejuvenate them by integrating new actors. This added inter-temporal perspective shows that SUCs, through their continued presence, both through their work throughout the whole year and due to the continuity of the competitions over many years, anchor the other support organizations in the region. However, these functions are primarily important for networks of public or semi-public actors. While some investors from venture capital funds and business angels who participated in the SUCs were interviewed, active sub-networks of wealthy business angels and international venture capital funds exist that are not connected to the SUCs. Thus, the proposition developed in the theoretical section can only be partly confirmed, as the anchoring does not cover the whole ecosystem but is important for specific sub-networks.

An additional effect that is not directly connected to networks, but can still be referred to as an anchoring effect in the EE, is publicity and a kind of ‘seal of approval’ for the winners of the SUCs. While interviewed investors said they only rely on the business model and the numbers, the winners of both SUCs stated that the award led to investment offers and increased publicity. The findings highlight the different layers that interdependencies and networks in EEs have; for example, regional characteristics influence the individual benefits entrepreneurs obtain from SUCs. A smaller ecosystem makes it easier for the SUC to be well connected.

The results lead to valuable policy implications: Firstly, SUCs are helpful for early-stage entrepreneurs and entrepreneurship support offices. However, they lack connections to relevant ecosystem players. In line with scholars who call for more systemic approaches to foster EEs (Brown and Mason 2017; Brown and Mawson 2019), this paper demonstrates that politicians or SUC organizers should try to integrate those actors. This encouragement could happen through joint follow-up investments from private and public actors. A difficulty is the heterogeneity of the entrepreneurs who participate, which leads to the second policy implication: Feedback at SUCs often depends on the expertise of the judges and the technical level of the business. Entrepreneurs who also participate in SUCs that are active in specific fields (e.g. biotech), obtain more helpful technical feedback from them and are connected to relevant industry players. This finding could be applied by creating nationwide SUCs to anchor specific industries.

Another finding is that the SUCs in both ecosystems play an important role for local (university) entrepreneurship support offices, in particular by providing relevant knowledge and forcing the participants to focus on business aspects. Regions without competitions but with universities could learn from this and establish a SUC. Also, the EE of Berlin is already mature and can be described as entrepreneur-led. The interviews did not provide information on whether SUCs can help generate or support enough well-connected entrepreneurs to significantly foster the development of an ecosystem. The ecosystem in Hanover is not that developed yet, and so far, the competition has not been able to change that. However, participants and stakeholders found it essential to feel that something is happening and that these opportunities exist. Regularly bringing together different stakeholders can be mentioned as the primary function of the SUCs. Policymakers should ensure that competitions are run over many years to enable such ‘anchoring’. The reality is that many competitions are abandoned or replaced by new ones, which prevents this continuity.

Finally, the empirical findings are limited in terms of generalizability due to the case study approach and the focus on qualitative data. Further research should consider SUCs in other regions and countries. Previous studies show that in Berlin, distinct entrepreneurs designate different locations as networking places and rely on personal networks more if they have higher levels of experience (Heebels and Van aalst 2010). The present study found similar results for participants in the SUCs. Further research could analyse more in detail the locations where SUCs take place within cities, revealing whether the choice of locale influences the abilities of SUCs to connect with more than just public actors and entrepreneurs. Also, both analysed competitions are publicly-funded business plan competitions. Supplementary research should study private competitions or those only aimed at, for example, innovative start-ups to verify whether they affect the ecosystem similarly.



## Notes

1. See <https://techcrunch.com/2019/07/17/banking-startup-n26-raises-another-170-million-at-3-5-billion-valuation/> [last access: 27.09.2021].
2. See <https://news.microsoft.com/de-de/presskits/microsoft-scaleup-berlin/> [last access: 27.09.2021]; <https://apx.ac/> [last access: 27.09.2021].
3. <https://www.sb21.de/> [last access: 27.09.2021].
4. See <https://venturevilla.de/> [last access: 27.09.2021].
5. See [https://www.wirtschaftsfoerderung-hannover.de/de/Gruendung/HALLE\\_96.php](https://www.wirtschaftsfoerderung-hannover.de/de/Gruendung/HALLE_96.php) [last access: 27.09.2021].
6. See <https://humboldt-innovation.de/de> [last access: 27.09.2021].
7. See <https://charlottenburg.wista.de/charlottenburger-innovations-centrum/ueber-uns/> [last access: 27.09.2021].

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