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GISMA REPORT DIGITAL DIVIDE

— ANALYSING GERMANY'S DIGITAL LAG



Gisma
University
of Applied
Sciences

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The digital divide: How Germany’s digital gap is driving away tomorrow’s entrepreneurs

How digital a society really is cannot be measured by its technologies, but rather by the everyday interactions between citizens, businesses, and institutions. It is precisely at this interface that a “mobile first” generation, consisting of Gen Z, international professionals (expats), and start-up founders, is colliding in Germany repeatedly come up against an “analog wall.”

Gisma University of Applied Sciences has examined two central aspects of this development in a large-scale data-based synthesis: the degree of digitisation of German citizen services (2024 and 2025) and the international dynamics of start-up founding. Taken together, the data paint an alarming picture. Gisma refers to this gap as the administrative digital divide – the contrast between a digitally organised reality and an administration that is still analogue in many places. For Germany as a business location, this divide is increasingly becoming a dangerous early warning indicator of a weakening economy tomorrow. This analysis therefore aims to examine whether the level of digitalisation in municipal administrative services is associated with the attractiveness of German cities for start-ups, international talent, and innovation-driven investment.

Methodological approach of the analysis

The analysis combines two data sets: the degree of digitisation of municipal administrative services and the international dynamics of start-up financing.

The first step was to examine the degree of digitisation of citizen services in the 20 most populous cities in Germany, from Berlin to Münster. Eleven key administrative services that are particularly relevant for young people, international skilled workers, and entrepreneurs were evaluated, including residence registration, driver’s license applications, parental allowance, and business registration.

The evaluation was based on a three-point scale:

- **Analog (0 points):** Information is available online, but the application must be submitted in full on site.
- **Hybrid (1 point):** Individual process steps can be completed digitally, for example by downloading PDFs or submitting applications by email.
- **Truly digital (2 points):** The entire administrative process can be completed online without any media discontinuity.

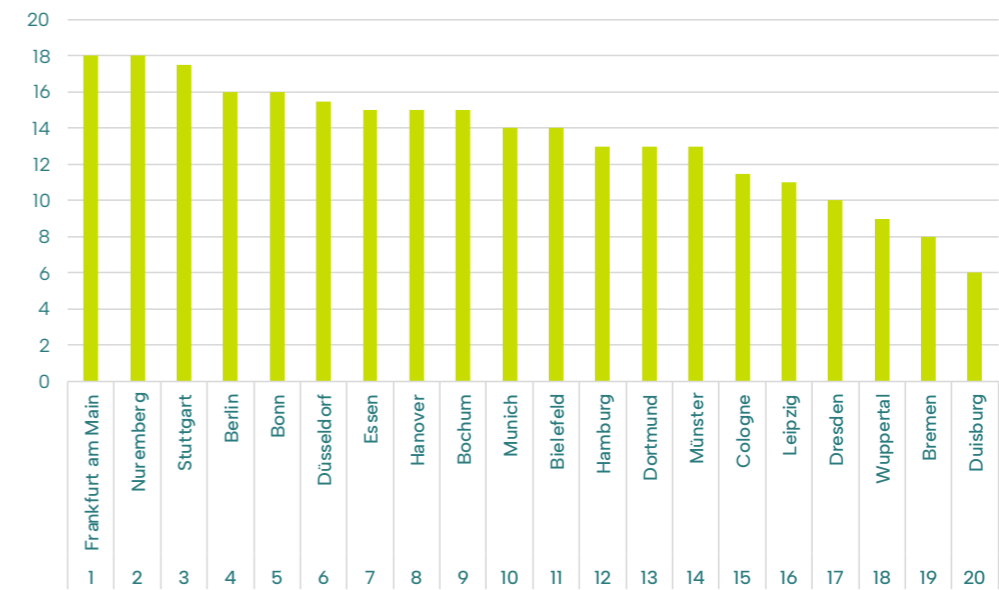
This scoring system allows the degree of digitisation of central administrative services to be determined for each city. In addition, the development between 2024 and 2025 is made visible.

In the second step, international start-up dynamics were analysed. The basis for this is the Crunchbase database, one of the world’s most comprehensive sources for start-up financing rounds. The data set evaluated for 2025 comprises more than 5,500 companies and focuses on larger financing rounds of 10 million euros or more.

For the analysis, both data sets were correlated: Data set A comprises the degree of digitisation of citizen services, while data set B comprises the number and volume of start-up financing in the respective regions.

The aim of the study is to examine whether there is a correlation between the digital performance of public administrations and the international attractiveness of a location for start-ups and investors. The starting point is the assumption that efficient and digitally accessible administrative processes are an important component of the location conditions for innovation-driven companies. The comparison of these two datasets is intended as an exploratory analytical approach to assess whether patterns in administrative digitalisation correspond with variations in regional start-up activity and investment dynamics.

Digitalisation across cities: ranking of citizen service offices

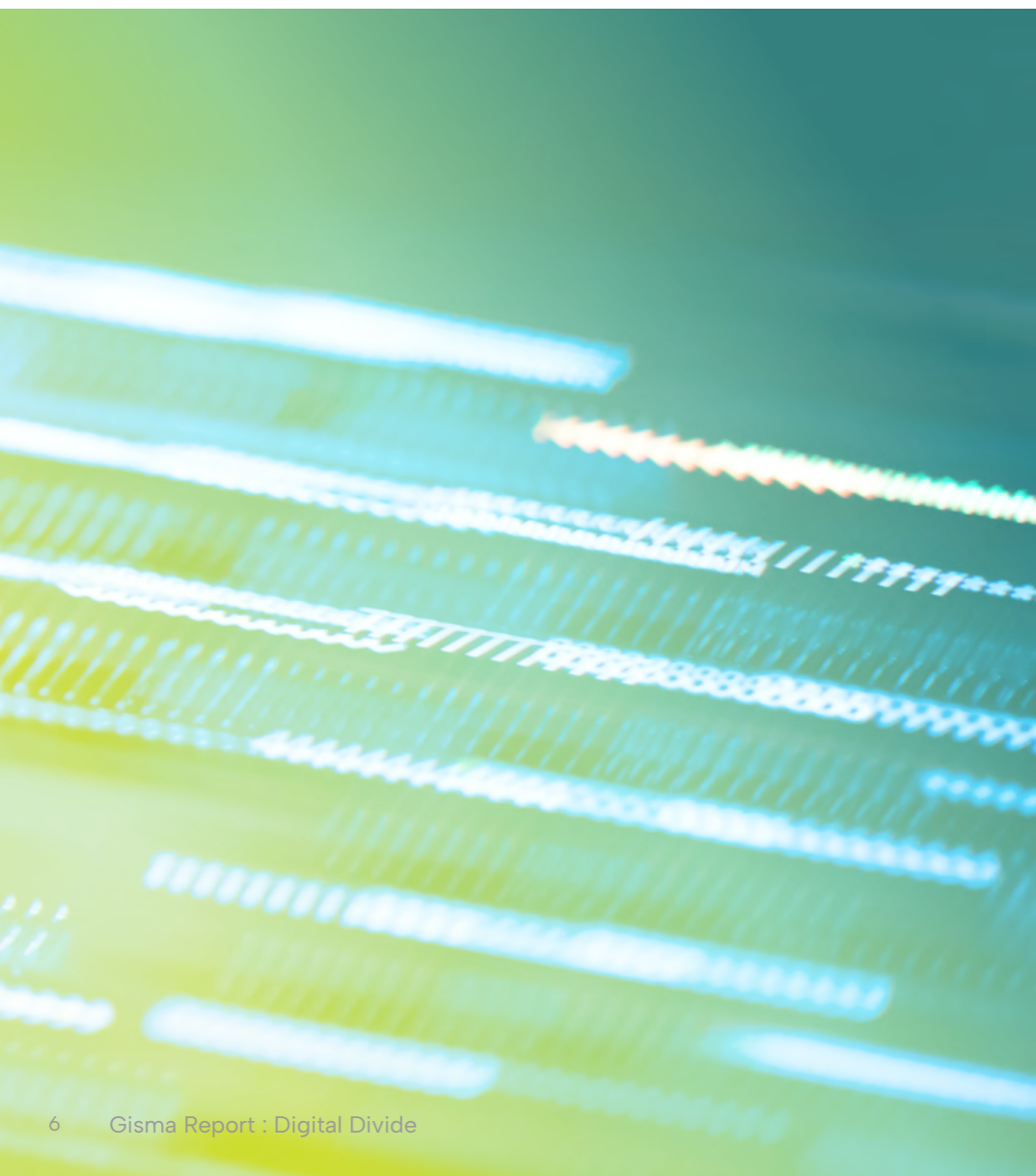


Germany in digital comparison: Nuremberg and Frankfurt lead the way, Duisburg and Bremen lag behind

Although the analysis of the 20 largest German cities shows progress, the total score rose from 210.5 points (2024) to 259.5 points (2025), the differences between the cities remain significant.

Munich (15 points) and Nuremberg (14 points) already led the ranking in 2024. In 2025, Frankfurt and Nuremberg share the top position with 18 out of a possible 22 points each. With an increase of eight points, Frankfurt is considered the “digital climber” of the year. Stuttgart (17.5 points) also shines, being one of the few cities to offer a fully digital driver’s license application process.

At the other end of the scale, some cities remain significantly behind the digitisation level of other municipalities. Duisburg will still only achieve 6 points in 2025, while Bremen will improve marginally to 8 points. The development in Wuppertal is alarming: it is the only city to record a noticeable decline of three points (to 9 points) and is losing massively in terms of digital service quality. Differences between cities may reflect variations in municipal governance capacity, digital infrastructure investment, and the speed at which local administrations implement national digitalisation strategies.



Digital society meets analog administration

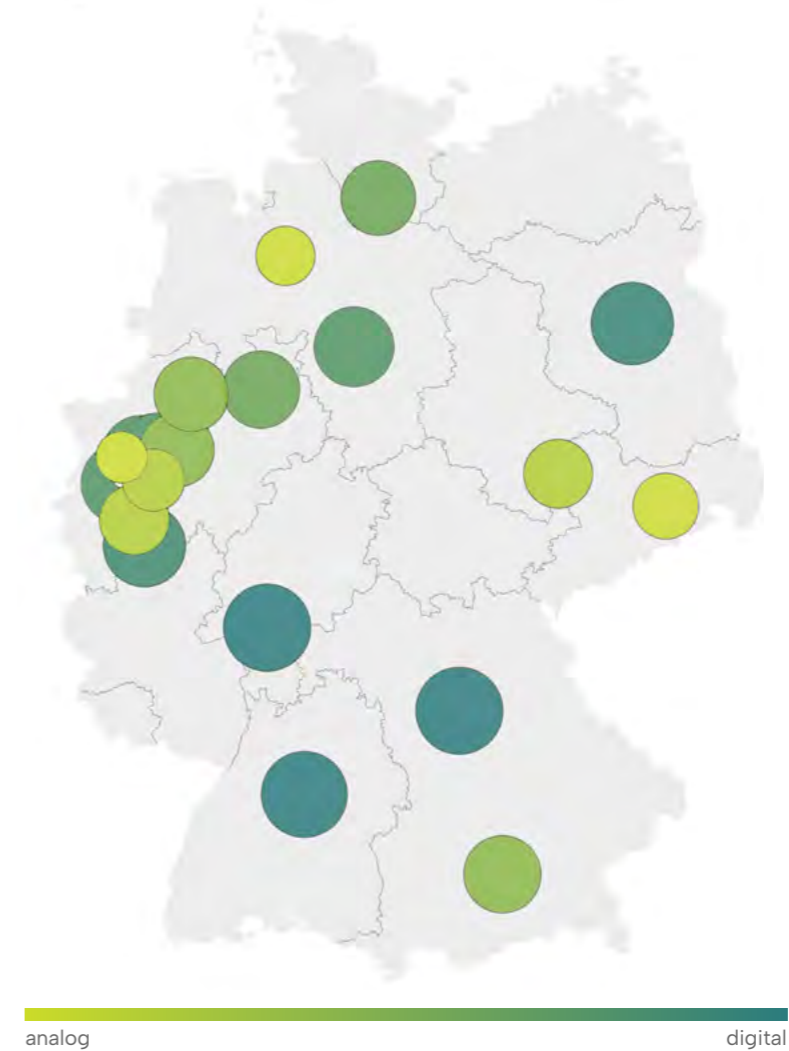
For many students, international professionals, and entrepreneurs, a digitally organised everyday life has long been the norm. Finding accommodation, banking, mobility, and communication are now predominantly mobile and take place on online platforms.

This makes the disconnect all the more apparent when contact with government agencies, of all things, falls back into analog routines.

The administrative digital divide describes precisely this structural friction: a digital reality of life meets administrative processes that in many places still rely on paper, appointments, and personal visits.

For internationally mobile talent, this is more than just an organisational obstacle. It is increasingly becoming a question of location attractiveness. Existing research on digital government and administrative burden suggests that inefficient public services can significantly affect the mobility decisions of international professionals and entrepreneurs.

How digital Germany’s citizen service offices are



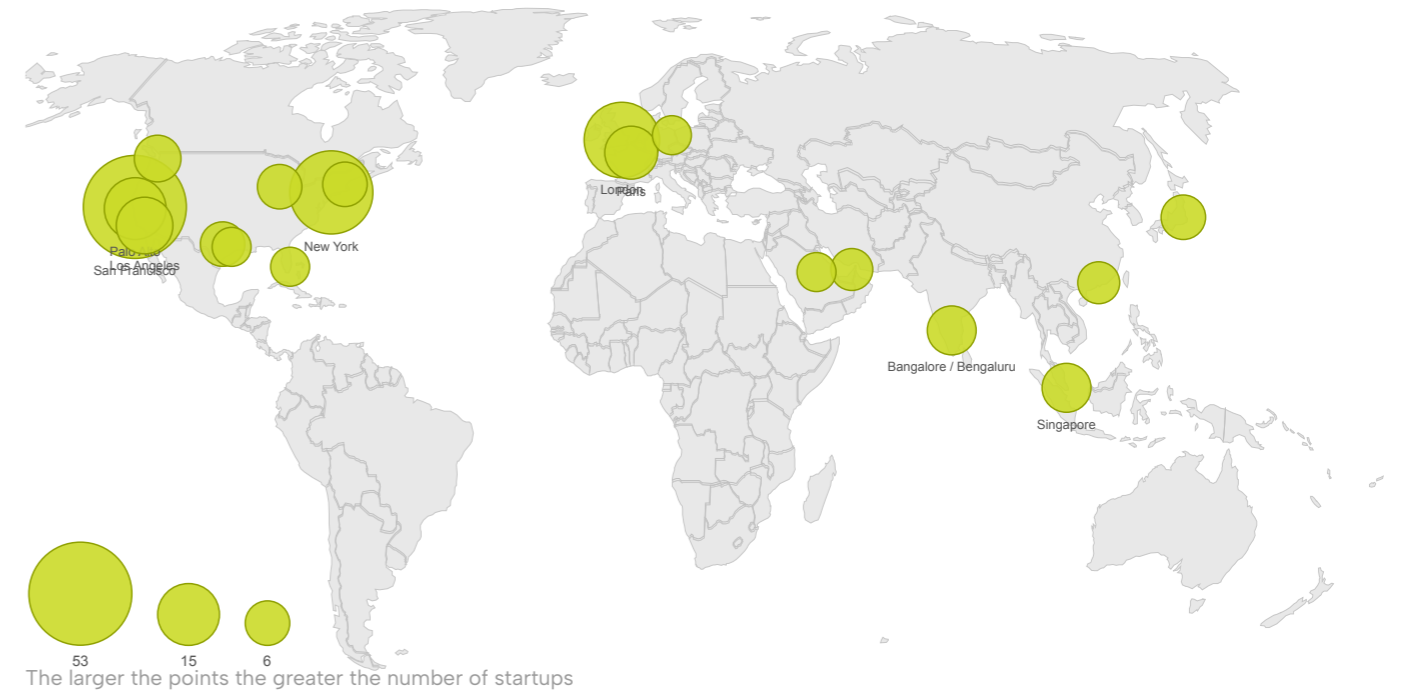
The global start-up atlas shows the consequences

A connection between administrative hurdles and location attractiveness is also visible in global start-up dynamics. The Gisma Start-up Atlas shows a strong concentration of innovation and venture capital in a few global tech hubs, while laggards are structurally losing competitiveness. This is dramatically illustrated by surveys of the global start-up landscape (financing data via Crunchbase):

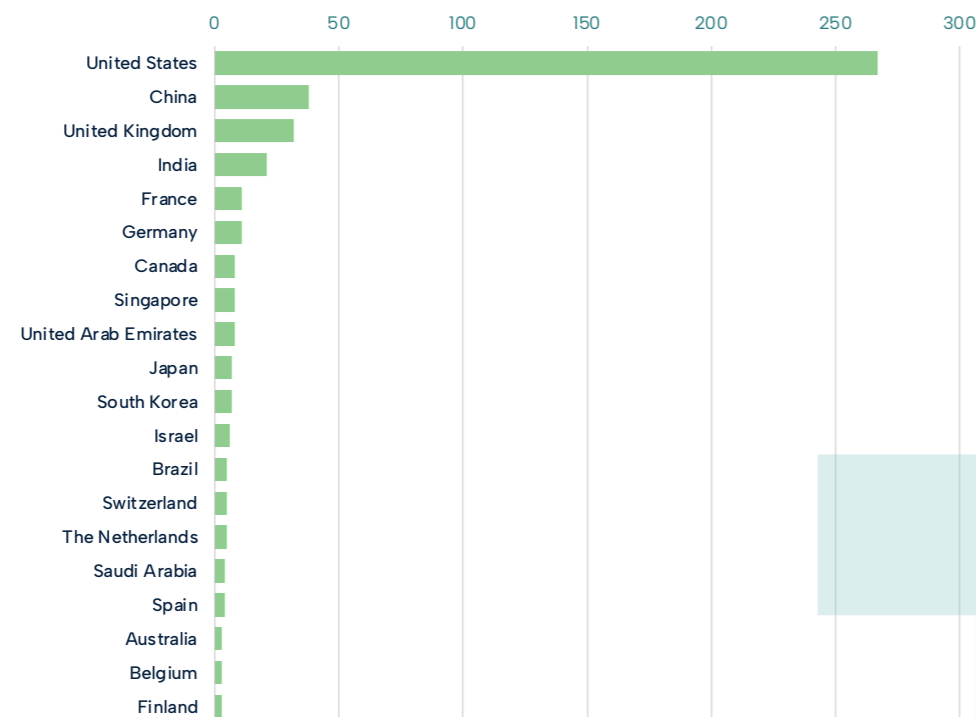
- **Data set 2024 (focus on large start-ups with €10 million or more in financing):** More than 51 percent of globally financed start-ups came from the US. China followed with just under 10 percent, and the UK with 5 percent. Germany lagged far behind in fifth place with only 3.05 percent (170 start-ups).
- **Data set 2025 (early-stage focus from €1 million in financing, founded since mid-2024):** The US also dominates the early-stage segment with 46.3 percent (267 start-ups). China (6.6%) and the UK (5.5%) are holding their own. Germany, on the other hand, has fallen to a share of only 1.9% (11 start-ups) in this early-stage segment.
- **City comparison:** San Francisco is the undisputed center with 53 start-ups (2025). It is followed by New York (32) and London (25). At the European level, only London and Paris (10 start-ups) can claim global relevance. Berlin, as the German frontrunner, stagnates in the 2025 data set with a meager 4 relevant start-ups, followed by Munich and Hamburg with 2 each.

While the analysis does not claim a direct causal relationship, the patterns observed suggest that administrative efficiency may be an important contextual factor influencing the attractiveness of innovation ecosystems.

Start-up formations by city (2024/2025)



Start-up formations by country (2024/2025)



Ease of Doing Business: Capital follows the path of least resistance

The link between these two worlds – local government and global financial flows – reveals the true location risk. Venture capital behaves like water: it seeks the path of least administrative resistance. Successful innovation ecosystems emerge where, in addition to talent and money, the institutional framework is also quickly and digitally scalable.

A comparison of administrative digitisation and global start-up dynamics shows that digital transformation affects not only companies but also government institutions. While countries such as Estonia and Singapore have established fully digital administrative processes, Germany still relies on hybrid or analog procedures in many areas. Countries such as Estonia and Singapore demonstrate how fully digital public services can reduce administrative friction and create highly competitive environments for digital entrepreneurship.

Germany is making progress, but the expansion of digital administrative services remains uneven. As long as central processes are only partially digitised and access to government services varies greatly from city to city, the administrative digital divide will remain.

For an internationally oriented, innovation-driven economy, this is not a marginal issue. It is increasingly becoming a question of competitiveness.

Global venture capital data also shows a growing concentration of funding in digitally efficient ecosystems: in 2024, the United States attracted more than half of global venture capital investment, while Europe accounted for roughly 20 percent, with Germany capturing only a small fraction of that share. The findings highlight an often overlooked dimension of digital competitiveness: the administrative infrastructure that shapes everyday interactions between citizens, entrepreneurs, and the state.

Sara Ravan Ramzani, Vice-President, Professor of Research and Quantitative Methods and Head of the Business Department at Gisma University of Applied Sciences, explains: *“Our analyses show that digital sustainability does not only arise in companies or start-up centers, but also in the institutional framework conditions of a location. When young talents, international professionals, or founders operate in a highly digital manner in their everyday lives but continue to encounter analog processes when dealing with public authorities, structural friction arises. It is precisely this gap that we refer to as the administrative digital divide. Anyone who wants to promote innovation must therefore invest not only in technology, capital, and talent, but also in modern, reliable, and user-oriented administrative structures.*

Our analyses show that digital competitiveness is not only determined by innovation ecosystems or private-sector investment, but also by the efficiency of public institutions. When highly digitalised talent interacts with analogue administrative systems, structural friction emerges. Reducing this administrative digital divide is therefore not simply a matter of service quality, but a strategic prerequisite for maintaining Germany’s competitiveness in the global innovation economy. In this sense, the digital capacity of public administration is increasingly becoming a structural factor in the global competition for talent, capital, and technological innovation.”

Conclusion

If the administrative burden in Germany is too high and start-ups are slowed down by the lack of end-to-end digital process chains, “digital money” will migrate to more digitally savvy ecosystems such as London or New York. The degree of digitisation of local government offices is therefore no longer purely a service issue. It is the answer to the question of whether Germany is still competitive in the global battle for talent and investors.

According to the European Commission’s Digital Economy and Society Index (DESI), Germany continues to rank in the middle tier of EU countries in digital public services, highlighting the persistent gap between Germany’s industrial innovation capacity and the digital performance of its public administration.

Reducing this administrative digital divide will likely require coordinated reforms, including the expansion of end-to-end digital services, stronger interoperability between municipal systems, and accelerated implementation of digital identity and administrative platforms.

By combining administrative digitalisation indicators with global start-up financing data, the analysis contributes to ongoing discussions about the institutional conditions that shape innovation ecosystems and international competitiveness.

About the study

Gisma University of Applied Sciences conducted an analysis to examine the relationship between the digitisation of municipal administrative services and the international dynamics of start-up founding. Two data sets were combined for this purpose.

In the first step, the university analysed the degree of digitisation of citizen services offices in the 20 most populous cities in Germany. Eleven frequently used administrative services were evaluated, including residence registration, driver’s license applications, and business registration. Two points were awarded for fully digital services and one point for partially digitised processes, such as email submissions or PDF downloads. Services that can only be completed in person or by mail received zero points.

In the second step, international start-up dynamics were examined using financing data from the Crunchbase database. The data set for 2025 includes more than 5,500 start-ups and takes into account larger financing rounds and early-stage investments.

The aim of the study is to analyse whether there is a correlation between the digital performance of public administrations and the attractiveness of a location for startups and investors.



Gisma University
of Applied Sciences

Gisma Campus Potsdam

Konrad-Zuse-Ring 11
14469 Potsdam
T: +49 33 123 617440
E: info@gisma.com
W: gisma.com

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