Berlin aktuell

Berlin’s Digital Economy in the Fast Lane

2015
Investitionsbank Berlin
Digital Economy

Statement by the Governing Mayor

Klaus Wowereit

Berlin's economic recovery remains unbroken. Once a "problem child", Berlin has now become a dynamic pioneer in many fields. In the past twelve months alone, companies in Berlin have created around 40,000 regular jobs – a strong statement for Berlin as a business location. Berlin will need these positive developments in the years to come if it is to catch up with economically strong regions and other major cities and to improve the prosperity of its citizens.

The digital economy, one of Berlin's greatest success stories, has a key role to play here. In addition to being one of the strong drivers behind Berlin's start-up ecosystem, it has also become an increasingly important economic factor. In the four years alone from 2008 to 2011 (newer data is not yet available), sales here rose by almost 40 percent to close to 6 billion euros. Over the same period, Berlin's economy did in fact grow by a good 13 percent.

Higher sales are also offering good career prospects for the working population. Since 2008, the digital economy has created almost 20,000 new jobs and has grown by 44 percent. In the field of e-commerce, this figure has even increased more than tenfold. These are opportunities which are also opening up new possibilities for job-seekers in Berlin.

And there is considerable potential for the further development of the digital economy. The IPO of a number of Berlin-based start-ups is an important next step for Berlin. Topics like Industry 4.0 or Smart City will help to create promising new business fields. Founders and tekkies have the full support of Berlin’s Senate. The newly established Berlin Startup Unit in which Investitionsbank Berlin is also extensively involved will continue to pave the way here.

I would like to thank Investitionsbank for its ongoing monitoring and wish continued outstanding development for the digital economy in Berlin.

Klaus Wowereit
Governing Mayor of Berlin
Editorial by the Chairman of the Board of Investitionsbank Berlin

Rolf Friedhofen

The Internet is everywhere, at work, at home and on the move. It has become a matter of course and its speed is increasing continuously. And it is not always immediately obvious what digital technologies can lead to and what their long-term effects will be.

Berlin as a centre for business will continue to grow further especially if it remains just as attractive on an international level as a start-up metropolis. This also means that even more young companies will be established that have their roots in Internet-based research ideas, a development that also poses enormous challenges for Investitionsbank Berlin (IBB). In recent years, we have already built up a comprehensive range of offers to promote start-ups. The VC funds offered by our investment company were instrumental in the development of Berlin's lively start-up scene with its international renown. But Berlin has also developed incredible dynamism and is today up there with the world's hotspots next to Silicon Valley, London and Tel Aviv. That's why business for our investment company has been so energetic, including new acquisitions Blogfoster and Stilnest as well as successful follow-up financing in the case of Pflegebox, Sofatutor, Scarosso and Open Synergy. During the course of these rounds of financing, the companies were also able to find reputable and important financing partners as new shareholders.

In light of this, I am pleased about the decision by Berlin's Senate to increase the VC Funds Technology and Creative Industries by another EUR 100m. Half of this amount is from IBB and the other half from the European Regional Development Fund (ERDF).

This study by the IBB economists shows that Berlin has a very good position in the digital world. Compared to the ten most important Internet centres in Germany, Berlin comes out in first place. Berlin's Internet sector, which in itself employs close to 60,000 people, also affects employment in many other areas. Jobs in the digital economy are securing other positions in upstream and downstream sectors. Today, the digital economy is often the most important driver behind innovation and new business models throughout the entire economy. After all, the future lies in the combination of Internet and production.

In the broad field between smart cities, cloud computing, the Internet of Things and the digital economy, tomorrow's industrial production will depend more than ever before on advanced software and special sensor technology. Machine and workpiece will communicate increasingly via the new "Internet of Things" so that products can be produced on a customised basis and efficiently.
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This industry 4.0, enhanced with digital aspects, will ultimately have a positive impact on Berlin's existing strengths and future fields, such as the health sector, energy technology, transport, mobility and logistics, ICT, media and the creative sector, as well as optics (including microsystems technology).

These strengths are rooted in the research and development partnerships that have already been established between science and business, the broad medium-sized business sector and the dynamic Internet start-up scene. An innovative economy in Berlin is a prerequisite for sustainable jobs. This IBB study titled "Berlin's Digital Economy in the Fast Lane" shows that the rise in both the number of companies being started up and employment in Berlin's Internet sector has recently been above average. This analysis provides an overview of developments in recent years as well as the prospects for individual Internet sectors in the years to come. I would now like to invite you to gain your own impression of the growing Internet sector in the capital city of Berlin.

Rolf Friedhofen
Chairman of the Board
Investitionsbank Berlin
Summary

Berlin has advanced to become Germany's most important centre for the digital economy. In recent years, an extensive and increasingly dense network has developed around the digital economy in Berlin comprising banks, investors, coaching centres and incubators. The companies operating in this network co-operate with each other, exchange experience, recommend investors and even help each other with job placements. The network in Berlin is increasingly developing new life from within and is set to become the pacemaker for employment growth in the capital city.

All in all, around 59,000 people were employed in the digital economy in 2013 (+7.0%). Since 2008, almost 18,000 new jobs have been created in this field in Berlin. This means that since 2008 every 8th new job in Berlin was created at a company in the digital economy. Digital retail is becoming increasingly important as a job engine in the capital city. The number of people employed with online retail firms has risen more than tenfold since 2008 with more than 8,000 people now earning a living in this field. The core area of the digital economy continues to record particularly strong growth. These are the companies that provide their customers with programming, IT and IT consultancy services. In the period from 2008 to 2013, 15,571 (+61.7%) new jobs were created in the core area of the digital economy.

Especially when compared to other major cities, Berlin’s employment figures in the core area of the digital economy are impressive. The only other city in the same league as the capital city is Munich where 14,041 (+56.2%) new jobs were created between 2008 and 2013, bringing this city very much on par with Berlin. Lagging far behind we find Hamburg (8,988 new jobs or +38.0%), Frankfurt am Main (+7,812; +57.8%), Cologne (+5,604; +44.5%), Düsseldorf (+4,360; +47.8%), Dresden (+2,360; +42.6%) and Dortmund (+247; +4.0%). Stuttgart is the only city in the comparison to show a negative trend in the digital economy for the period from 2008 to 2013 (-93 jobs or -0.7%). All in all, the nine reference cities in the digital economy account for 26% of jobs in Germany’s overall digital economy.

Employment growth in Berlin’s digital economy is largely due to the many start-ups in this field and the many companies that have set up shop here. But Berlin is not just a digital city, it is also a city of start-ups. It is now widely known that a lively and creative start-up scene has developed in Berlin’s digital economy. It is this scene, in particular, which is attracting well-educated people with new ideas to the city, along with investors from all over the world. Berlin has now become established as the most important German city for start-ups in the digital economy. Last year, Berlin recorded a total of 436 start-ups in the digital economy, ranking higher than all other major German cities. Around every 10th company in the digital economy is today being started up in the capital city. Even when the start-up figure is adjusted to reflect the size of the city, Berlin, with around 74 newly established companies for each 10,000 jobs in the digital economy, still comes out on top compared to other major German cities. The same figure for Germany as a whole is merely 37 Internet company start-ups. Cologne and Munich rank behind Berlin with around 42 or 40 start-ups, respectively, for each 10,000 jobs in the digital economy. Even fewer companies were launched in Hamburg (37 Internet company start-ups for each 10,000 jobs), Frankfurt am Main (36), Stuttgart (34), Dresden (32), Düsseldorf (30) and Dortmund (26).

Berlin is attracting more and more new entrepreneurs from outside who either find investors on site or who are, for their part, drawing in a growing number of important investors. We are talking about private investors with rather small investment companies or, for instance, large publishing houses who are looking to invest in new digital business in order to compensate for challenges in their core business. But there are also trading companies coming to Berlin who want to make use of new opportunities in e-commerce.
Start-up activities are benefiting from the effects of urban agglomeration. Distances are relatively short and there are many large sales markets. New Internet companies can especially acquire employees with the sought-after special qualifications in the capital city.

In addition to this, there is the physical concentration of companies that enables the transfer of knowledge between start-ups along with the exchange in technology-orientated clusters with other companies. The excellent environment for the digital economy in Berlin is also reflected by sales trends. While sales in the core area of the digital economy rose in the period from 2008 to 2011 by 30.2%, i.e. from EUR 2.3bn to EUR 3.0bn, sales in the digital economy as a whole (including online retail) even rose by 37.5%, i.e. from EUR 4.1bn to EUR 5.7bn, during the same period. Compare this with the increase in sales of just 13.1% during the same period for Berlin's economy as a whole.

The sectors of the digital economy, together with online retail, are setting the pace and are an important part of Berlin's economy. In 2013, companies in this area provided work for 58,692 people in regular jobs. Only 5.2% (3,036) of them work in marginal jobs. In total, the digital economy already provides 4.3% of all jobs in Berlin and accounts for EUR 5.7bn or 3.2%, resp., of overall sales in Berlin.
The Digital Economy is a Growth Engine

In recent years, the digital economy in Berlin has grown at an impressive rate. In particular, companies in the information and communications (ICT) sector are the most important growth drivers in the capital city. Gross value added in this sector rose higher than in any other sector of the economy. Between 2005 and 2012, information and communications companies in Berlin increased gross value added in their sector by a total of 58% – that’s 39 percentage points more than average growth in Berlin. As a result of this development, 7.4% of Berlin’s total value added was generated in the communications sector. This means that the ICT sector in Germany’s capital accounts for greater value added than the construction sector (3.8% of total value added) and the hospitality sector (2.5%) combined.

Within the information and communications sector of the economy, which also includes publishing, media and broadcasting services, companies in the digital economy also have a particularly strong position. That’s because it is especially these companies who introduce new technological and entrepreneurial innovations and hence have the greatest potential for growth. This is another reason why these sectors are very much in the focus of public discussion which is to be backed now by this study and the latest figures.

Just like in the previous year’s study,¹ the focus is once again to be placed on the core area of the digital economy.

The companies in the core area of the digital economy are largely responsible for creating and providing services and software on the basic ICT infrastructure and terminal devices. Furthermore, the companies of the bitpipe infrastructure are also part of the digital economy. They provide the infrastructure needed to transmit (basic ICT infrastructure) and present (consumer electronics) the content and services generated in the core area of the digital economy. In other words, these are for the greater part telecom companies and manufacturers of terminal devices. Internet retail has now also become an integral part of the digital economy. With the expansion of the Internet, mail-order retail changed dramatically, paving the way for new, young companies who are now primarily setting up shop in the Berlin region.

¹ Berlin aktuell: Digital Economy – Analysis by comparing German cities (July 2013)
Since 2008, the digital economy has accounted for a total of 17,928 new jobs (increase of 44.0%; compared to the 11.7% increase for Berlin’s economy as a whole). This means that every 8th job created in Berlin since 2008 was provided by a company in the digital economy (12.5% of all new jobs). In 2013, a total of 58,692 people were employed in Berlin's digital economy – more than in any other major German city. Far fewer people were employed in the digital economy in Munich (51,708), Hamburg (47,064), Frankfurt (25,232), Cologne (23,781), Düsseldorf (22,482), Dresden (17,111), Stuttgart (16,702) and Dortmund (10,517). Berlin’s employment growth from 2008 to 2013 (+44%) was also higher than in other major German cities. Growth was lower over the same period in Cologne (+31.8%), Hamburg (+19.9%), Düsseldorf (+19.5%), Frankfurt (+17.4%) and Dresden (+7.2%). And employment in the digital economy actually fell in Dortmund (-0.2%), Munich (-8.1%) and Stuttgart (-9.2%).

In recent years, the digital economy has changed considerably. Content conveyed via terminal devices has become increasingly important while the production of these devices has become less relevant. Today, consumer electronics are rarely produced in Europe. This explains why between 2008 and 2013 the importance of the bitpipe infrastructure within the German digital economy as a whole declined from 40% to 31%. Ever-greater networking has transformed entire industries, at times dramatically, and is opening up new business models for companies who are innovative enough to make use of the new technologies available.

The capital city's economy has proven to be very adaptable here. Although the number of people working in the bitpipe infrastructure in the capital has fallen by 4,855 since 2008, 7,212 new jobs were created by digital retail during the same period. More than 8,000 work people in this sector in Berlin, corresponding to 8.5% of all those employed in Internet retail in Germany.
The number of people employed in digital retail in Berlin has increased more than tenfold since 2008. The national average for employment rose by “only” around 59%.

In Berlin, digital retail accounts for around 5% of all jobs created since 2008. 8,000 people now work in digital retail in Berlin, that’s more than in any other major German city. In Dresden and Munich, digital retail accounts for only 4.1% or 2.7%, respectively, of growth in employment. In Dortmund, Cologne, Hamburg and Stuttgart, this figure was less than 1%. In Düsseldorf (-3.4%) and Frankfurt (-6.7%), growth in digital retail employment even came to a halt.

The steep decline in Frankfurt’s Internet retail is due to the closure of one of Europe’s leading mail-order firms at the end of 2012. This clearly highlights the impact of the transformation process which mail-order retail business has undergone in recent years. While Germany’s second-largest general mail-order company is no longer able to keep pace with the latest developments in networking, new Internet retailers are opening up in Berlin and taking over business. The real reason for this development is the enormous innovative strength of these new Internet retailers that allows them to respond faster, in a more customer-friendly manner and at less cost to new customer demands.

In addition to the 7,212 jobs created in digital retail, 15,571 (+61.7%) new jobs have been created in the core area of Berlin’s digital economy since 2008. Compared to other major German cities, the core area of the digital economy in Berlin fared extremely well, recording an increase of 61.7% against 2008.
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The Core Area of the Digital Economy –
A Comparison

In a comparison of major German cities, Berlin also has the highest number of jobs (40,803) in the core area of the digital economy. This is followed by Munich (39,041) and Hamburg (32,614). Far fewer people are employed in the core area of the digital economy in Frankfurt (21,337), Cologne (18,184), Düsseldorf (13,471), Stuttgart (13,471), Dresden (7,897) and Dortmund (6,470).

Employment in the core of Berlin’s digital economy accounts for a 6.6% share in the national economy and is 2.6 percentage points higher than the share of Berlin’s economy as a whole in the national economy. In contrast to this, the core area of the digital economy in Munich merely reached a share of 6.3% in the German economy. The difference between the share in the German economy achieved by the core area of the digital economy and that of the regional economy totals 3.9 percentage points in Munich and is hence slightly higher than in Berlin. Compared to Berlin, the core area of the digital economy in Hamburg (5.3%), Frankfurt (3.5%), Cologne (3.0%), Düsseldorf (2.2%), Stuttgart (2.2%), Dresden (1.3%) and Dortmund (1.1%) has a much smaller share in the national economy. The difference between the share of regional overall employment in the national economy is also much lower in Hamburg (2.4 percentage points), Frankfurt (1.8), Cologne (1.3), Düsseldorf (1.0), Stuttgart (1.0), Dresden (0.5) and Dortmund (0.3) compared to the capital city.

The Digital Economy Needs a Skilled Workforce

Product development especially calls for well-trained software engineers, programmers and graphic designers. A survey among companies in Berlin jointly conducted by IBB and Creditreform showed that the shortage of skilled workers had a much more important role to play among digital companies in Berlin than in other sectors. 84.4% of the companies surveyed in the digital economy stated that the shortage of skilled personnel was a major damper on growth – 10.3% percentage points more than for the average of Berlin-based companies surveyed.

It is mostly regular jobs that are being created in the core area of the digital economy. On the whole, 95.5% (38,966) of all people employed in the digital economy hold regular jobs. Regular employment in the core area of the digital economy rose by 15,020 (+63%). This increase was also higher than the increase in marginal employment (+551; +43%).
Internet Companies are Growing Stronger than Companies in the Overall Economy

Between 2008 and 2011 (most recent figures available from the business register), Berlin's economy managed to increase sales by a total of 13.1%. In the core area of the digital economy, companies in Berlin were even able to boost their sales during the same period by 30.2% to around EUR 3.0bn. This development, however, is even surpassed by the development of sales for the digital economy as a whole. Between 2008 and 2011, sales in the digital economy rose by a total of EUR 1.6bn (+37.5%) to EUR 5.7bn.

Sales averaging EUR 823,000 per company were generated here; 8.6% more than in 2008. Work productivity during the same period also rose by 2.6% to EUR 153,000 per regular job. The average number of people in jobs also rose between 2008 and 2011 to 5.4 per company (+5.8%). This means that every third company hired one new employee during this period.

Berlin Continues to be a Top Location for Start-ups

In 2013, a total of 436 new companies were founded in the digital economy as a whole (including online retail). This means that around every 20 hours one new company is set up in Berlin's digital economy and that every 10th start-up in Germany's digital economy was launched in Berlin. The number of new digital companies is much lower in Munich (208 start-ups; share: 5.5%) and Hamburg (174 start-ups; 4.6%). The number of new companies in Berlin's digital economy is as high as the number for Munich and Hamburg combined.

The analysis of the absolute number of start-ups, however, neglects the different size of the cities. Berlin's digital economy employs 58,692 people whereas Hamburg's employs only 47,064. In order to be able to better compare the cities, the number of start-ups per 10,000 people in jobs (start-up intensity) is examined. Start-up intensity in Berlin's digital economy totals around 74 start-ups for every 10,000 people in jobs and is far higher than in the other cities in the comparison.
With a total share of 9.6% (319 start-ups) in the overall German economy, the particularly innovative core area of the digital economy in Berlin is far ahead of Munich and Hamburg in the comparison of German cities.

Even when adjusted for size, we can see that Germany’s capital with its 78.2 start-ups for every 10,000 jobs is much more attractive for founders in the core area of the digital economy than other major German cities. While start-up intensity in Dresden in 2013 managed to reach 60.6 per 10,000 jobs in the digital economy, start-up intensity in Hamburg (50.6), Cologne (50.1), Munich (44.9), Dortmund (42.0), Düsseldorf (41.0), Stuttgart (40.4) and Frankfurt (39.3) was even below the national average (53.7).

Start-up dynamism in the core area of the digital economy, however, slowed in 2013 compared to the previous year. While 407 digital companies were founded in 2012, this figure only reached 319 (-21.6%) in 2013. Over the same period, the number of companies closing down rose by 21.1% to 125. This means that the balance of start-ups and closures in 2013 resulted in a total of 194 additional companies. In the size-adjusted comparison of cities, Berlin continues to lead the field with a net sum of 48 start-ups for every 10,000 people in jobs.

The net number of start-ups was much lower in Cologne (net sum of 31 start-ups for every 10,000 people in jobs), Dresden (30), Stuttgart (30), Hamburg (27), Munich (22), Dortmund (19), Frankfurt (15) and Düsseldorf (13).
Good Prospects for the Digital Economy

In a survey conducted jointly with Creditreform, 93% of the digital companies surveyed stated that their business expectations up to the end of the year were positive – the average of all companies in Berlin showed that only 87% of companies have such a positive outlook for their business developments. 63.6% assume that sales will increase (overall economy: 44.8%). In light of these expectations, around half (50.9%) of the entrepreneurs in the digital economy who took part in the survey were planning to hire more staff by the end of the year – the average for all companies in Berlin shows that only every fourth company (26.8%) was planning to expand its workforce. Around 69.1% of digital companies also had plans to invest in 2014, the average for Berlin showed this figure to be only 54.0%. On the whole, 81.6% of companies intend to invest in expansion (overall economy: 59.9%). Furthermore, around 63.6% of digital companies are pursuing a strategy of expansion, that's 22.5 percentage points more than in the overall economy. All in all, the mood in Berlin's digital economy is one of strong optimism and the fundamental data confirms these prospects with sales and employment in this sector continuing to grow.

Conclusion

New company models are entering the market and are challenging established entrepreneurs. In the years to come, companies will not only have to grow faster, they will have to maintain their flexibility and, more importantly, their innovative strength.

Online retail business has demonstrated how this works. The new digital technologies make it possible to optimise business processes which can then be used to gain a lead over competitors in stationary retail. One company that makes use of the opportunities offered by digital networking and transforms this into added value for the customer is a men's clothing firm in Berlin.

This online retailer has managed to combine the advantages of customer-orientated service in the traditional fashion retail trade with the convenience of an online store. All the customer has to do is enter his fashion preferences once and will then receive clothing individually selected to meet his specifications which he can try on at home and then either pay for or return. This service would not have been possible without the savings which the company has made thanks to new technological advances.

On the other hand, the new disruptive technologies are a real challenge for many established market players. The market for private passenger transport is currently changing. Companies are still reluctant to make use of new business models on mobile terminal devices with regulatory requirements. Other sectors will also be transformed by the possibilities offered by digital networking. This means that established business models will be replaced by new ideas. The core area of the digital economy is at the heart of all this change. This is where experts and entrepreneurs are building up the know-how needed to facilitate this transformation of entire sectors of the economy. Following the demise of the first digital hype at the turn of the millennium, an ecosystem of the digital economy has developed in Berlin in recent years. This must now be maintained and given the best-possible framework conditions.

This not only means offering ideal conditions for people starting up in business, but also keeping Berlin attractive and increasing its draw on people with the necessary academic skills. In this case, the city's advantages should be actively advertised also with a view to experts from abroad and administrative hurdles should be reduced further.
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In addition to skilled workers moving to the city, Berlin’s universities are a source of new academics and hence of new innovation. This is the key to translating university findings to commercial application. It must hence be a top priority to equip university graduates with the necessary skills and to keep them in the capital city. Founder centres at universities have an invaluable role to play in the process of transforming scientific findings into practical, commercial applications.

But not every new start-up will be a success. However, there is good chance that in competing for ideas and business models, companies in Berlin will continue to have a decisive edge over their competitors. After all, the digital economy in Berlin has access to a unique network comprising academia, experts, start-up support and risk financing.

The role played by venture capital investors is considered to be vital in the growth of young companies. In addition to the EUR 100m in funding which IBB Beteiligungsgesellschaft mbH has at its disposal for investing in start-ups in Berlin, the conditions must also be optimised further in order to make it easier for private investors to invest in Berlin's digital economy. Incentive-based shaping of capital gains taxation, for instance, would provide leverage, allowing the government to improve conditions for innovative start-ups with growth capability. However, these decisions have to be made on federal-government level.

The first steps have already been taken in this direction. At the behest of the federal-state Ministers of Economics, the federal government has announced that government venture capital funding will no longer be taxed. If the Conference of Ministers of Economics are to have their way, other simplification measures, such as the treatment of losses carried forward and the equal exemption of venture capital companies from trade tax, will make young companies even more attractive for investors. What's important here is that these simplification measures must be designed in such a manner that they actually boost investment in the digital economy. Industry association Bitkom, for instance, has called for start-up funds to be set up where profits would not be taxed until they are taken out by the investor. After all, there is a historically high willingness to invest directly in companies thanks to permanently low interest rates. We now have to ensure that it is the innovative Berlin-based start-ups in the digital economy who benefit even more from this so that they can grow even further.

If we can make Berlin, as a centre for research and science, even more attractive for experts and founders in the digital economy and also provide capital for those companies with the best growth prospects, especially by offering incentive-based investment opportunities to VC funds and other investors, Berlin will be in an excellent position to face the future as a centre for the digital economy. Berlin's standing as a major city in the digital economy is the foundation for the prosperous development of Berlin's overall economy. After all, is there any sector where innovation will be possible in the 21st century without the know-how of the digital economy?
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