Digitalisation presents challenges for the German business sector. For established enterprises in particular, developing own technological capacities appears to be a particularly large obstacle on their way to the digital transformation of their business models. Participations or takeovers, however, give businesses the opportunity to acquire additional digital technologies and expertise. Information and communication technology (ICT) firms would be particularly attractive investment targets. Thus, the trend towards digitalisation has the potential to stimulate takeover activities that target ICT businesses.

According to analyses conducted by KfW Research on the basis of the Zephyr database, small and medium-sized enterprises (SMEs) of the ICT sector are indeed sought-after targets of mergers and acquisitions (M&A) in Germany. Between 2005 and 2017, around one in five targeted SMEs operated in this field. But there was no growing trend to be observed for the ICT sector as a whole during this period.

But if we look one level deeper we see that structural shifts occurred within this economic sector. Enterprises from ICT sub-segments that offer technologies or expertise that are relevant to digitalisation are significantly more sought-after today than in the mid-2000s. The cumulative shares of the areas ‘Provision of information technology services’ and ‘Information services’ in all M&A deals targeting the ICT sector grew from 57 to 79 %. At the same time, the shares of M&A transactions in the sub-areas ‘telecommunications’, ‘radio broadcasters’ and ‘film and music’ have fallen.

Most M&A transactions targeting SMEs that provide IT or information services, however, remain within the ICT sector. IT service providers rank first in the acquisition mix of ICT enterprises. Other economic sectors have shown only slightly more interest so far. In their digital transformation, business service providers appear to be the only ones that focus slightly more on participations in SMEs providing IT or information services. Since 2013, around 14 % of their M&A deals have targeted SMEs in these segments, whereas up to 2009 it was less than 9 %. Manufacturers, in turn, appear to have little interest in such M&A deals thus far. Only around 4.3 % of their participations or takeovers since 2013 have targeted IT or information service providers.

Digitalisation – great opportunities and great challenges

The digitalisation of the German business sector has been a focus of political and public debate for quite some time now. And there is good reason for this because digital transformation provides great opportunities for businesses, such as productivity and efficiency increases, as well as the possibility to adopt new or innovative business models. Nevertheless, only one SME in four successfully completed a digitalisation project between 2014 and 2016. Some EUR 13.9 billion was spent on these projects in the year 2016. This is a sizeable sum but modest compared with the EUR 169 billion invested in machinery, buildings and equipment. Greater efforts therefore appear to be necessary.

But digitalisation also presents great challenges for established enterprises in particular. They need to invest more in new technologies and IT infrastructure to fully harness the potential of digitalisation. But they also need to build what are referred to as ‘digital skills’. The latter in particular often appears to be problematic. A study conducted by KfW and the Centre for European Economic Research (ZEW) revealed that one of the greatest obstacles to the expansion of digitalisation in SMEs is lack of IT skills in their workforce.

M&A as a strategy for advancing digital business models

One way for businesses to acquire new technological solutions and digital expertise consists in acquiring or participating in enterprises that offer technologies or knowledge that are relevant to digitalisation. Information and communication technology firms would be particularly attractive investment targets. Many products and services of this economic sector such as software applications, apps, digital networks as well as cloud and data services are decisive drivers of increasing digitalisation.

There is anecdotal evidence that the interest in M&A deals with ICT firms as a vehicle for transferring technology and knowledge may have grown. In 2017 TÜV Süd AG, for example, acquired Uniscon GmbH, a provider of highly secure cloud solutions, to expand its range of digital services. In 2016 Bayer AG acquired proPlant, a supplier of diagnostic and early-warning services, to develop new digital solutions for sustainable, resource-efficient agricultural production.

The aim of this publication is to explore whether the digitalisation trend has indeed made a noticeable impact on M&A activities in the ICT sector. On the basis of the Zephyr
database, KfW Research examined the development and structural composition of M&A transactions (full and partial takeovers as well as mergers) targeting a German SME from the ICT sector during the period from 2005 to 2017 (see box). Acquirers and merger partners (hereinafter referred to simply as acquirers or investors) were domestic and foreign enterprises irrespective of size class.

M&A deals in the ICT sector – moving sideways, not trending upward

First of all, our results demonstrate that the annual number of M&A transactions targeting an SME from the ICT sector was subject to fluctuations during the period under review (Figure 1). The lowest number of ICT M&A deals were completed in 2010 (some 150) and the highest number in 2008 (250 deals). In 2017, the year examined last, around 170 M&A deals were identified in the ICT sector. Hence there is no rising trend to be observed since the mid-2000s.

The share of ICT M&A deals in all M&A transactions in the German SME sector has also moved sideways instead of trending upward since 2005. The ICT share varied between 16% (2017) and 21% (2011) during the period under review, averaging 19%. After manufacturing, which recorded a share of 34% in all M&A deals, the ICT sector nevertheless remained one of the most sought-after economic sectors in SME mergers and acquisitions in recent years.8

Figure 1: ICT share has hardly changed
M&A deals targeting SMEs from the ICT sector

![Figure 1: ICT share has hardly changed](image)

Source: Zephyr, own calculations

ICT sector is a very mixed bag

So far, it is not possible to conclude from the aggregate assessment of the overall SME ICT sector – as it was performed above – that digitalisation would have triggered a wave of acquisitions in the sector. But the ICT sector is very diverse overall. It also comprises sub-sectors that provide technologies and services that are only partly relevant for digitalisation. It is therefore appropriate to make a more differentiated assessment by sub-sector.

In accordance with the ‘Classification of Economic Activities’ of the German Federal Statistical Office (WZ 2008 according to NACE Rev.2), ICT can be broken down into the following sub-sectors: publishing, film and music (e.g. recording studios and cinemas), radio broadcasters, telecommunications (e.g. Internet and telephone providers), provision of information technology services (e.g. software firms) and information services (e.g. web portals and hosting providers). The enterprises in the latter two sub-sectors – IT service providers and information service providers – are important drivers of digitalisation in the German economy. In the following we therefore focus primarily on M&A transactions in these two segments.

Shares of ICT sub-sectors that are relevant to digitalisation have grown

Since 2005 the composition of M&A deals in the ICT sector has indeed shifted clearly towards ICT sub-sectors that are relevant to digitalisation (Figure 2). The relative share of M&A deals with IT service providers and information service providers has grown. By contrast, the number and shares of M&A transactions in other ICT sub-sectors have dropped.

Figure 2: Composition of ICT M&A deals has changed
Share of M&A deals in the ICT sector in per cent

![Figure 2: Composition of ICT M&A deals has changed](image)

Notes: Other ICT sub-sectors comprise publishing, film and music, radio broadcasters and telecommunications.

Source: Zephyr, own calculations
Figure 3: ICT sector has the greatest interest in IT and information service providers

a) Information technology service providers

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<tbody>
<tr>
<td>ICT</td>
<td>36.5%</td>
<td>43.1%</td>
</tr>
<tr>
<td>Self-employed, scientific and technical</td>
<td>8.8%</td>
<td>14.0%</td>
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<tr>
<td>service providers</td>
<td></td>
<td></td>
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<tr>
<td>Financial service providers and insurers</td>
<td>6.2%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Retail</td>
<td>3.1%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Other service providers</td>
<td>2.2%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>3.0%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Other branches</td>
<td>2.1%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

b) Information service providers

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<tbody>
<tr>
<td>ICT</td>
<td>4.2%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Self-employed, scientific and technical</td>
<td>1.5%</td>
<td>2.7%</td>
</tr>
<tr>
<td>service providers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial service providers and insurers</td>
<td>1.0%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Retail</td>
<td>0.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Other service providers</td>
<td>0.4%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>0.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Other branches</td>
<td>0.0%</td>
<td>0.0%</td>
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</tbody>
</table>

Guide: Between 2005 and 2008, around 36.5% of all M&A deals in which the acquirer enterprise came from the ICT sector targeted a small or medium-sized IT service provider.

Between 2005 and 2008, around 51% of all M&A deals in the ICT sector targeted IT service providers. That share has grown again significantly since 2013 – to around 63%. Today this represents around 11.5% of all M&A deals in involving SMEs. Their annual number increased from around 115 deals between 2005 and 2008 to some 130 deals between 2013 and 2017.

The share of ICT M&A transactions that targeted an information service provider has also increased significantly – from 6% between 2005 and 2008 to around 16% since 2009. Their annual number more than doubled during the period under review – from an average 13 in the years up to 2008 to 32 in the period of 2013 to 2017.

The service sector is particularly interested in digitalisation businesses

Thus, M&A activities in the ICT segments relevant to digitalisation have indeed increased slightly. But which sectors had a particularly high interest in IT and information service providers in the past years? In order to answer this question, we need to look at the target group mix of the individual sectors, particularly the target group shares of IT and information service providers (Figure 3). Specifically, we have to ask: In each sector, how high was the share of M&A transactions that targeted an SME in the IT or information services segments?

Numerous other sectors also appear to be slightly more interested in IT and information service providers. Their target group share increased in almost all economic sectors between 2005 and 2017. The increase was most significant, however, in the area of ‘self-employed, scientific or technical service providers’ (business service providers). Here the share of IT service providers in the target group mix increased from 9 to 14%. They have thus moved up to second place on the business service providers’ shopping list. The target group share of information service providers has also increased in the period under review – if on a low level – rising from 1.5 to 2.7%.

Financial service providers and insurers also have a relatively strong interest in IT service providers. Around 7.2% of M&A transactions with a service provider from the financial services or insurance industry on the acquirer side have targeted an IT service provider since 2013. These relatively high shares, however, do not necessarily mean growing digitalisation pressure in the financial sector. Our data show that the investors are more likely to be portfolio or investment firms, meaning financial investors. They usually have more of a financial than strategic interest in the enterprises they acquire.
Even if digitalisation can bring about major transformations, particularly in manufacturing under the catchword 'Industry 4.0', its enterprises appear to be focusing only to a limited extent on participations in ICT SMEs for their digital transformation. The share of IT service providers in the target group mix of the manufacturing sector grew only moderately from 3.0 to 4.1% during the period under review. The segment of information service providers grew from a minimal 0.08 to 0.3%. Retailing companies and other service providers, by contrast, have slightly increased the share of IT and information service providers in their M&A transactions.

More foreign firms are investing in information service providers
Digitalisation does not affect the German business sector alone. Rather, it is a global phenomenon. It is therefore not surprising that the acquirers or investors of small or medium-sized IT firms or information service providers are not from Germany alone. Enterprises from Europe and the US are also interested in these SMEs.

Between 2005 and 2008, the share of domestic investors was an above-average 76%. Since then, however, the interest of foreign acquirers has grown significantly. Since 2013 the share of European acquirers has been around 24% and the share of US acquirers 13%.

Conclusion: a slight increase, but no M&A wave
With increasing digitalisation, acquirers have become slightly more interested in investing in and taking over ICT SMEs with products and services that are relevant to digitalisation. But so far there has been no wave of takeovers. The number and share of M&A deals targeting a small or medium-sized IT or information service provider have moderately increased since the mid-2000s. Most of these M&A transactions, however, remain within the ICT sector. This finding is also consistent with the results of other studies. The consequence is growing consolidation in the ICT sector in particular.

The restraint exhibited by other sectors – particularly the manufacturing sector – may indicate that these enterprises have so far resorted primarily to other forms of technology and knowledge transfer to expand their digital capacities. These might be, among others, development partnerships, sales partnerships or commission-specific or project-specific cooperations. What is also possible is that participations and acquisitions rather take place in the start-up segment, which was not examined in this study, because enterprises have recently started to also focus more on what is referred to as corporate venturing.

Whether by way of participations, takeovers or other forms of cooperation: enterprises can benefit enormously from greater exchange with digitalisation-relevant enterprises – whether they are established or still in the start-up phase.
Box: Database

The analysis was based on the Zephyr database of Bureau van Dijk. Zephyr supplies up-to-date detailed information on M&A, IPO and private equity transactions around the world. Our research covered only M&A transactions with target enterprises in Germany that generate an annual turnover of not more than EUR 500 million. The analysis did not include start-ups nor deals under which only specific assets were sold (restaurants, factories, branches, etc.). It covered around 13,700 M&A deals concluded between 2005 and 2017. The figures used here refer to transactions completed during the period under review.

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5 TÜV Süd AG (2017): Press release - strategic acquisition - TÜV SÜD takes over provider of highly secure cloud solutions, Munich (in German only).


7 The transaction database used is subject to subsequent amendments and supplements. The database analysed by KfW Research therefore does not claim to be exhaustive.

8 Gerstenberger J. (2018), *M&A deals in the German SME sector – manufacturers are most sought after*, Focus on Economics No. 228, KfW Research.


10 By way of corporate venturing, enterprises or their affiliates provide private equity to typically young, non-listed technology-oriented start-ups. The aim of established enterprises is to identify new technologies and business models early and to finance them. (Source: Haberstock et al. 2017, *Corporate Venturing als Erfolgsfaktor der Digitalisierung im Mittelstand* (Corporate venturing as a success factor of digitalisation strategy in the SME sector – our title translation, in German only), M&A Review 4/2017, p. 108–117).