

The background of the entire page is a high-angle, daytime photograph of a European city, likely Vienna, showing a mix of historic architecture and modern buildings. Overlaid on this image are several digital and technological elements: a large, glowing blue and orange wireframe cylinder in the upper center; a transparent digital interface with charts and data points floating within the cylinder; streams of binary code (0s and 1s) falling from the top; and a hand in the lower right foreground holding a tablet that displays a blue interface, with lines of light connecting it to the floating digital elements.

SIEMENS

Ingenuity for life

Digitalization and Siemens

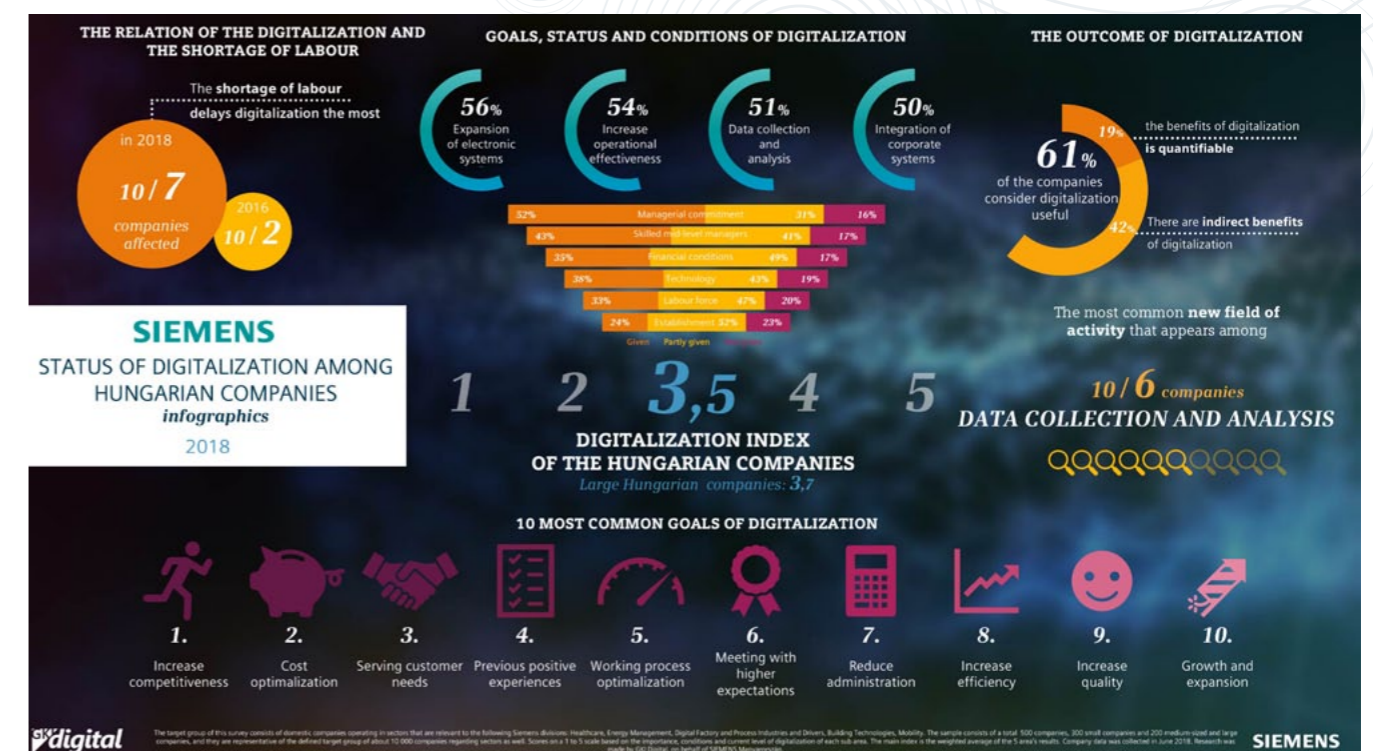
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Nowadays the most important question is whether companies can keep up with this fast-moving digitalizing world. Siemens has always played a leading role in making innovational efforts, and in creating value for their clients and the society.

Realizing the importance of digital improvements, Siemens started a wide range research in cooperation with GKI Digital on the fields of: Healthcare, Digital Industries, Smart Infrastructure, Energy and Mobility to get a picture of the domestic small, medium and large companies' digital tendencies and to create the first digital index of Hungary.

In 2018 Siemens and GKI Digital repeated the survey to explore the changes since 2016 and to give a comprehensive review of the optional changes in the case of affected sectors. The specialty of the 2018 research is the newly included categories of small and medium companies besides of large ones.

The changes in the field of digitalization



In 2018 domestic companies see digitalization as something more complex

The joint research of Siemens and GKI Digital shows that domestic companies regard digitalization as something more complex than two years ago. The lack of skilled labor force is a key problem in the field of digital developments as well.

A different approach

Since 2016 the interpretation of digitalization has changed a lot among domestic companies, the common research of Siemens and GKI Digital shows that in 2018 even the economic operators regard digitalization as a more complex aspect since the collection of digitalization opportunities is getting bigger and bigger in addition to getting more complex. In lots of cases improvements made in 2016 at the time considered digitalization are now treated like basic features or simple modernization. Digitalization as a term is preferred in more complex cases.

The aim and meaning of digitalization depend on the sector and the size of the company: while in the case of small companies it is common to regard smaller investments as a digital improvement, larger companies only consider more complex, bigger assets as digital development.

Siemens with the methodological support of GKI Digital created the digitalization index in 2016 which grades the domestic small, medium and large companies' digitalization status on an objective scale within a 1–5 range. With the help of the scale the companies can be indexed by the four aspects:

- importance within the company,
- current level of digitalization,
- the preparedness for innovation,
- digitalization plans and opportunities.

The digitalization index of the Hungarian medium and large companies are both 3,5 in 2016 and in 2018.



Even though seemingly the digitalization index hasn't moved from the 2016 3,5-point level, **the value of these are now completely different**: small companies are included in the research for the first time resulting in an index of 3,2, medium sized companies reached 3,5 and large enterprises' result elevated to 3,7. Moreover the assessment about digitalization among companies has changed a lot as well.

Digitalization opportunities among companies

In average, Hungarian companies feel less interference, and better circumstances for implementing digitalization innovations.



In case of most domestic large enterprises the conditions of digitalization are at least **partially given**. Compared to the in 2016 ratio in 2018 the number of those companies who feel the urge to digitalize further is a little higher.

“Formerly digitalization meant the changing of analog procedures to digital, and the expansion of electronical systems. With the introduction of digital procedures, companies are expected to have better transparency of their efficiency. Nowadays respondents expect the already built out software's connected nature, and their control level in larger networks, as well as the collection and analysis of data. They see deeper inside the digitalization processes, and strive to use opportunities in connection with the topic. 61% of companies say that they have some kind benefit rooted in digitalization.”

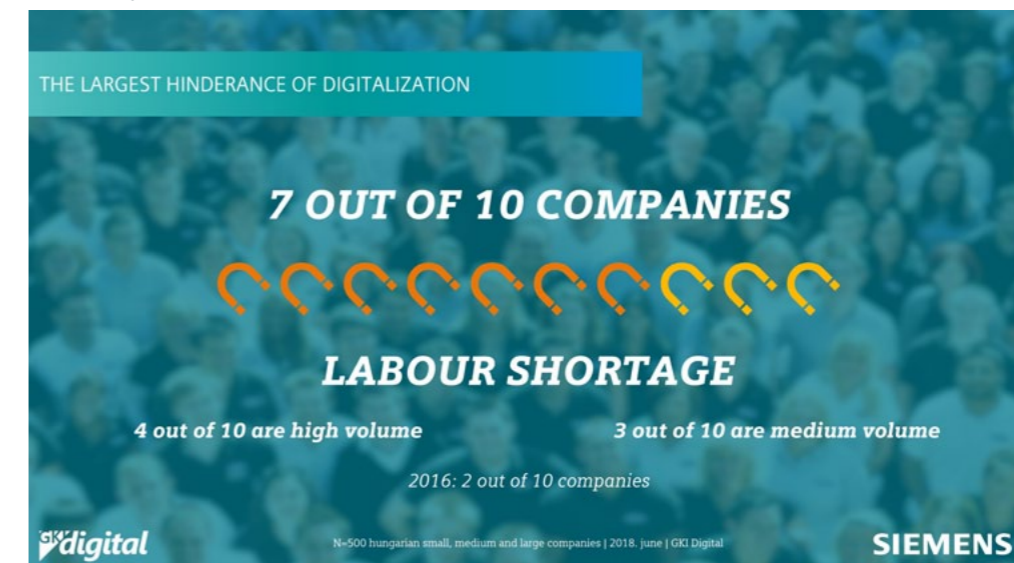
András Vértés,
the Chairman of GKI

The lack of skilled labour and the impacts of it

In this year besides the lack of capacity for the needed improvements, **the lack of skilled labor is the biggest problem and wattle, in case of most fields of economy.**

On the one hand it would be necessary to fulfill the proposed innovations, on the the other hand already digitalized areas has to be operated on a daily basis by skilled workers as well.

In 2018 for the domestic companies this was a crucial problem, 7 out of 10 considered this a central problem in their case.



In case of new fields emerged on the grounds of digitalization, they could be maintained by reorganising available work forces. In the whole, 11–16% of the companies solved this by headcount expansion.

Nonetheless there are special ones among the new fields that came in the life of companies as a side effect of digitalization – such as data collection and analysis – which require such a special expertise, that they can't manage it by just reorganising workforce (or can't be managed with retraining). For instance, the value of big data specialists has significantly risen on the workforce market, as they can deal with the huge amount of data as a result of data collection.

Digitalization can be a solution for labour force shortage

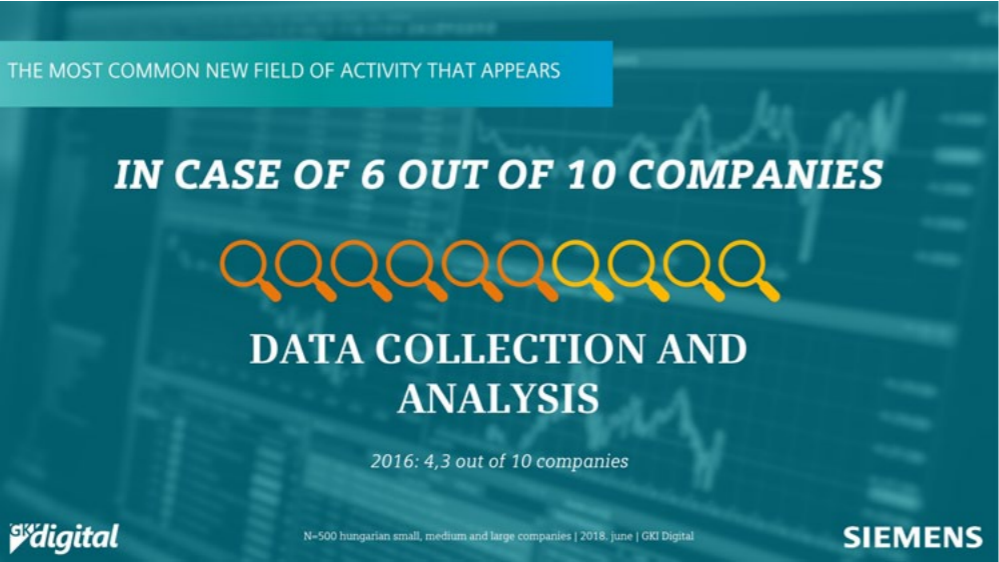
The well-skilled workforce shortage is not only a problem in case of the new fields. In many cases digitalization can be the solution for problems deriving from the rise of wages and the lack of labour force. In this case the process can be the opposite, as digitalization can be the solution and not the root of the problem. In whole, most of the companies experienced some kind of connection between the two courses, but this impact is getting close to 50% in the case of Process Industries.

Methodology

The target group of this survey consists of domestic companies operating in sectors that are relevant to the following Siemens divisions: Healthcare, Energy Management, Digital Factory and Process Industries and Drivers, Building Technologies, Mobility. The sample consists of a total 500 companies, 300 small companies and 200 medium-sized and large companies, and they are representative of the defined target group of about 10 000 companies regarding sectors as well. Scores on a 1 to 5 scale based on the importance, conditions and current level of digitalization of each sub area. The main index is the weighted average of the 5 area's results. Company data was collected in June 2018. Research was made by GKI Digital, on behalf of Siemens Hungary.

The side effect of digitalization: big data

As a result of digital innovation processes, more complex software and hardware options and also automatizations for the organisation of these are available for almost every economic organization aside from their level or size. Therefore **6 out of 10 domestic companies see data collection as an important option, which helps to spread the data-based decision making.**



How much does digitalization costs?

Domestic enterprises typically spend **2% of their incomes for digitalization connected expenses**, above 5% there are only a few examples. Regarding size, **medium sized companies spend the biggest proportion for this kind of costs**, around 3,3% of their total incomes is secluded for the case of digital improvements. Innovations are the least demanding for large companies, they spend only an average of 1,6% for this.

Digitalization as competitive advantage

The majority of decision makers within the companies see digitalization as competitive advantage, in the regional and the domestic market it is a key to keep their competitiveness. Moreover **61% of the companies acknowledge that it has a direct or indirect impact on their results.**



The summary of the research is available at:
siemens.hu/digitalizacio

“Digitalization has a leading role in prosperity, with the help of it companies can make their operation more effective, flexible and faster, which is a must in the case of the current market conditions. The real advantages of digital transformation can be relished by those who realise and use the several new trade advantages of it. As a leading technological company, Siemens has always aspired for providing their clients with progressive solutions, either with working out digital strategies or to successfully realize them.”

Dale A. Martin, CEO, Siemens Zrt.



Siemens – 130 years in Hungary

Siemens Hungary founded the first tram line in Budapest 130 years ago and the company has played a determining role in the modernization of the country ever since. Siemens Group in Hungary plays a decisive role in energy generation, processing and transmission, industrial automation, building technology, transport and infrastructure, healthcare and software development. In addition to Siemens Hungary, members of the Siemens Group are evosoft Hungary, Mentor Graphics Hungary, Siemens Gamesa Renewable Energy, Siemens Healthineers, Siemens Mobility, and Valeo Siemens eAutomotive Hungary. The Siemens entities in Hungary employ more than 3500 colleagues.

