

SIEMENS

Ingenuity for life

Digitalization

Customer Survey in UAE 2016

Result Report

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Foreword



Dietmar Siersdorfer

CEO of Siemens UAE

Dear readers,

Our world is becoming ever more digitalized. Billions of devices and machines are generating massive amounts of data, connecting the real and virtual worlds. And this change is happening fast: By 2020, the number of connected devices will double to 50 billion, and the world will be producing 40 zettabytes per year, 15 times more than in 2012. The ability to capture, analyze and use this data to create real value will shape the future of industry and infrastructure.

In recent years, the UAE has taken great steps towards economic diversification. Knowledge, industrialization and a focus on sustainable energy are replacing a traditional reliance on hydrocarbons. Cities are becoming smarter, infrastructure is increasingly connected and efficiency gains are being sought in all sectors. Digitalization is driving these transformations. The World Economic Forum ranks government vision as the most important to Information and Communication Technologies (ICTs), and according to the International Data Corporation, Internet of Things (IoT) investment in the UAE is expected to increase by 23.74% to \$436.8 million in 2016.

At Siemens, we see digitalization as a catalyst for new business models and optimized processes. We believe it will drive significant change in markets and strategy, but it is a broad concept with many technological ramifications. Consequently, identifying the digital applications that will enable companies, industries and countries to reach the next level of productivity – and thus of competitiveness – presents a tremendous challenge.

We see each sector utilizing digitalization in a different way. The UAE's energy supply will become increasingly decentralized and diversified, with large-scale power plants giving way to smaller, locally-operated facilities. The mix, too, will become more complex, with a rising share

of renewables and a focus on increasingly efficient gas-fired power generation. The UAE wants to achieve at least 25% use of renewable energy in its power-generation mix. With more renewable power comes the challenges of grid integration and energy storage, and digital technologies are the key to building and maintaining a smart, reliable, efficient and powerful energy mix.

Cities in the UAE are also becoming smarter. Intelligent infrastructure is using data to automate and self-optimize, driving significant gains in energy efficiency. Digital technologies will integrate trains, buses, taxis and traffic, and soon we'll see door-to-door journey planning from a single app.

The industrial landscape is changing, too. Industrialization in the UAE, an essential element of the country's sustainable development, is expanding rapidly. Digital technologies will enhance the efficiency, quality and pace of the UAE's industrialization, which will enable this process to drive competition and increasingly contribute to the country's GDP.

Put simply, digital technologies are transforming the way we do business in the UAE, and the digitalization of infrastructure and industry presents a window of opportunity for boosting competitiveness. Siemens' role as a provider of these technologies is to support and guide our customers as they make the digital leap.

There is no doubt that embracing digitalization is the key to a sustainable and globally competitive economy for the UAE, and it is for this reason that we present the results of our study "Digitalization – Trends and Solutions for a More Competitive UAE." Our intention is to get a better understanding of digitalization in the UAE to find out where we are now, which industries see the greatest impact, what the opportunities are and where Siemens can best provide support.

I wish you pleasant reading.

A handwritten signature in blue ink, appearing to read "Dietmar Siersdorfer". The signature is fluid and cursive.

Dietmar Siersdorfer

Introduction

Although digitalization has made extensive progress in our world, it is still only in its infancy. In the next 30 years, computing power, storage capacity, and the data transmission rate of microchips will increase a thousandfold. This development will not only transform our everyday lives, it will also transform the entire global economy. However, the level of preparedness for this change varies widely from country to country.

To gain an overview of the status of digitalization at businesses within the Gulf Cooperation Council (GCC) region, Siemens conducted a survey of 306 executives in various sectors of industry in May and June 2016. Beyond examining what digitalization means to them, the survey focused on the degree to which the companies have become digitalized, the areas in which respondents could identify potential, the places where they see barriers, and the extent to which they perceive Siemens as a company that can help them on their digital journey.

Siemens is ideally positioned to help its customers in this area: With its Vision 2020 corporate strategy, the company is helping to shape digital change worldwide. As a result, Siemens customers can count on a partner who is promoting digitalization in the areas of electrification, automation and urban infrastructures. In addition, the company offers several independent digital products, including Product Lifecycle Management (PLM) software from Siemens, which enables over 77,000 customers worldwide to efficiently and cost-effectively manage all the information relating to the entire lifecycle of a product.

Yet surveys in an international comparison verify that the needs of each individual country are weighted differently. This is underscored by *Preparing for the digital era: The state of digitalization in GCC businesses*, a report conducted by PwC's strategy consulting team Strategy& to supplement the Siemens survey. The objective was to emphasize the opportunities, address the challenges and give a clear picture of the status of digitalization in the GCC. Combined with the findings from its own survey, Siemens now has a basis for determining how to best support companies in the UAE and Qatar in order to help them meet future requirements.

Governments in the GCC region have acknowledged the economic and social benefits that going digital can bring, and have developed ambitious plans and strategies. However, as this survey shows, many companies in the region have not been as quick to seize the potential of digitalization as their governments and their sophisticated customers. A limited understanding of digital transformation has run in tandem with a similarly restricted perception of its potential benefits. Nevertheless, we were able to identify six steps that can bring GCC industries up to speed in digitalization, and enable them to become global leaders. In manufacturing, for example, with its skilled labor and willingness for diversification, the GCC could become a leader in Industrie 4.0.

Survey results

The survey questions covered a wide range of issues relating to digitalization and its outstanding importance for the future of the economy. In conducting the customer survey, Siemens focused, among other things, on two key aims:

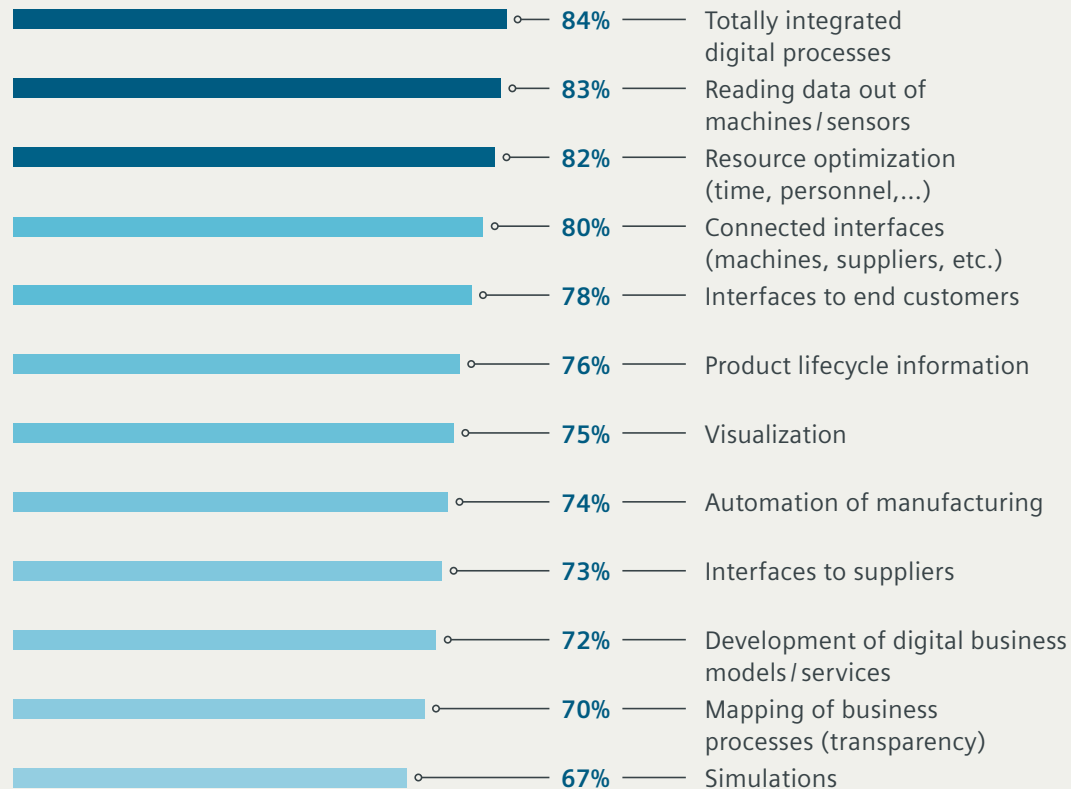
Siemens' first aim was to find out which aspects of digitalization are the most important to survey participants, which trends they see as particularly important in their individual business environment, and whether they see hurdles and barriers related to increasing digitalization.

The second aim was to find out if the companies surveyed have already developed an overarching digital strategy and where the responsibility for digitalization lies within their company organization.

Main aspects of digitalization

Which of the following terms provide the best summary of what you understand digitalization to mean? How important are these areas to you?

(N=206 persons surveyed, multiple answers possible)



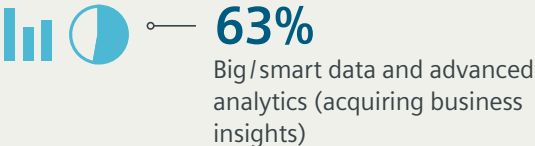
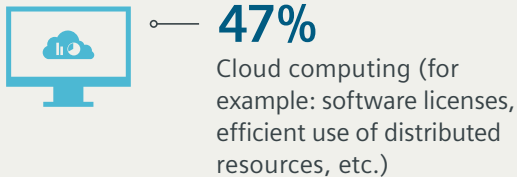
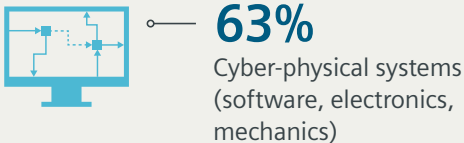
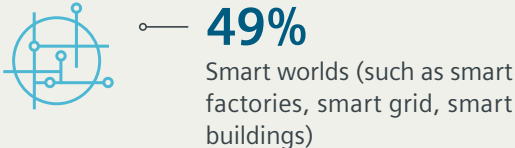
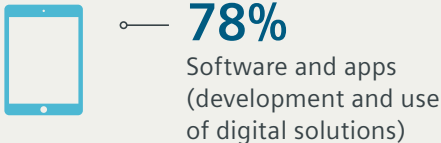
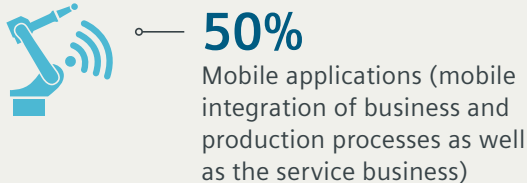
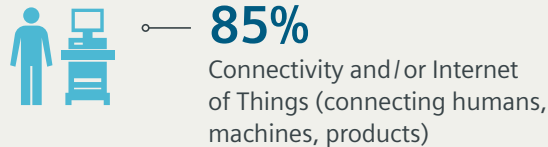
Assessed as belonging to one of the two top categories: "very important" and "important"

Digitalization is seen to be an important topic by Siemens customers in the UAE, with the total integration of digital processes identified as the most common summary of digitalization (84%). Following closely behind, the reading of data (83%) and resource optimization (82%) complete the list of the three factors considered most important among the respondents. While this indicates that the digitalization of hardware and resource-heavy processes is seen to be an important topic among those surveyed, the development of digital business models and services, and the mapping of business processes was relatively lower at 72% and 70% respectively, suggesting that fewer respondents see digitalization changing the way that businesses operate in the UAE.

Main aspects of digitalization #2

How important do you consider the following trends to be?

(N=206 persons surveyed)



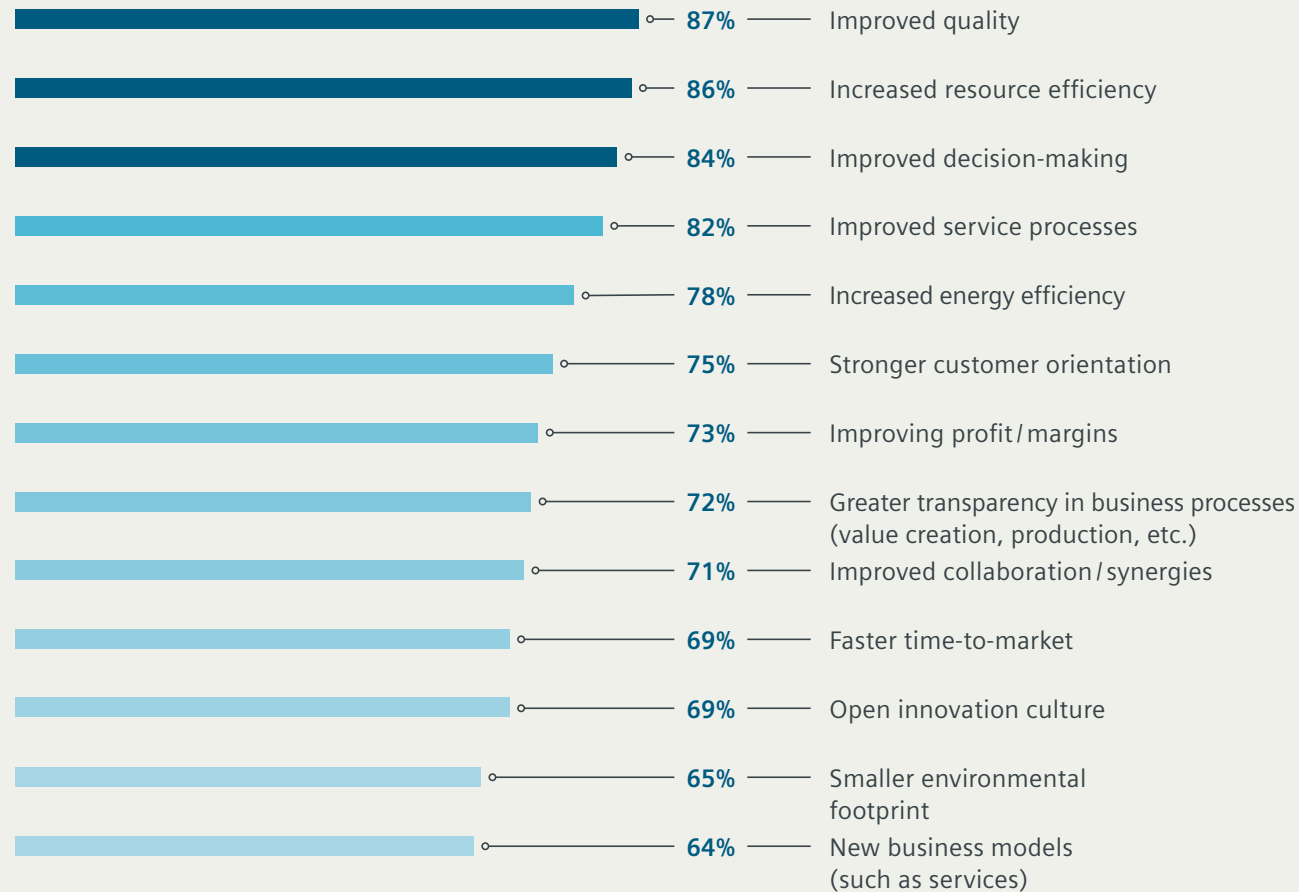
Of those surveyed in the UAE, a majority cited the Internet of Things, or connectivity of humans, machines and products in general, to be the most important trend (85%). The fact that software and apps ranked a reasonably close second (at 78%) also indicates that Siemens customers in the UAE are focused on the development of digital solutions to drive greater connectivity.

Assessed as belonging to one of the two top categories: "very important" and "important"

Impact on competitiveness

What benefits do you expect to gain from digitalization? What specific impact will this have on your business / company?

(N=206 respondents)



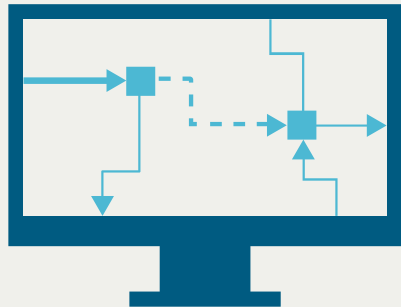
Assessed as belonging to one of the two top categories: "very high impact" and "high impact"


When asked about the impact on their own companies, the respondents cited many areas in which they see potential for improvements as a result of increased digitalization. Many organizations (87%) said they were looking to improve quality, and an almost equal number were targeting improvements in resource efficiency (86%). Those surveyed generally considered process and efficiency aspects to be of greater importance, with time to market (69%), lowering environmental impact (65%) and driving new business models (64%) seen to be less significant.


Impact on competitiveness


To what extent does digitalization help solve the following structural problems and thus boost UAE ability to compete?

(N=206 respondents)




161  **78%**
When it comes to boosting the efficiency and competitiveness of the country's industrial sector and fields of business

152  **74%**
In the area of energy management

132  **64%**
In the area of Power Generation, digitalization

123  **60%**
In the area of water resource management

107  **52%**
In the area of Oil & Gas, digitalization

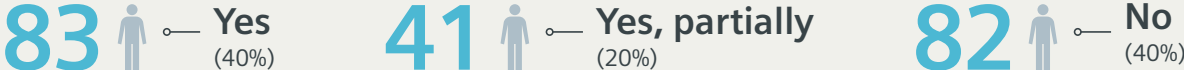
Respondents in the UAE saw the greatest positive impact of digitalization on the efficiency and competitiveness of the country's industrial sector and related businesses (78%), while at the other end of the spectrum, only 52% saw positive value for the UAE's oil and gas sector. Energy management also scored highly (74%), with a further 64% anticipating greater benefits in the power generation sector.

Assessed as belonging to one of the two top categories: "helps much" and "helps"

Digitalization and business strategies

Would you say that you've already developed an overarching "digital strategy"?

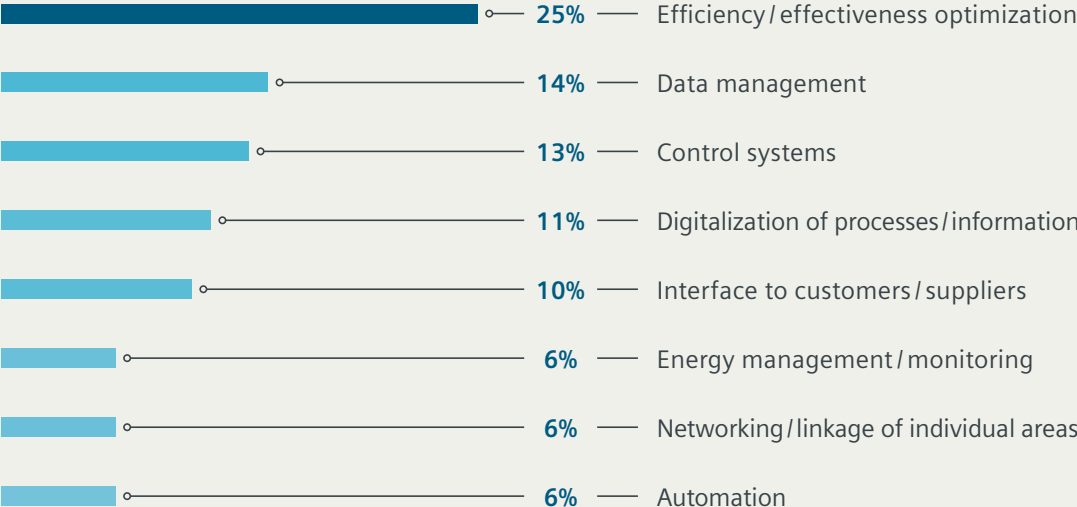
(N=206 respondents)



Of those surveyed in the UAE, 40% have already developed what they consider an overarching "digital strategy" within their organization. In 20% of companies, such a strategy was at least partially in place. For 40%, the process of digital strategy development had not yet begun.

Could you briefly describe this strategy?

(N=124 persons surveyed, multiple answers possible, unsupported question, responses clustered)



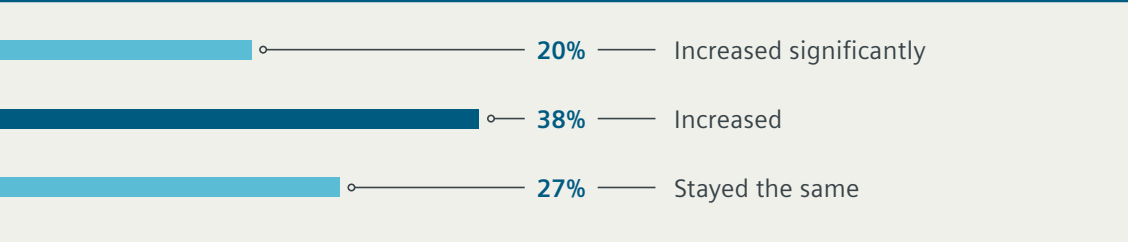
When asked about the focal points of their strategy, 25% of respondents cited efficiency and effectiveness optimization as key, with data management (14%) and control systems (13%) following. Moreover, 11% were focused on the digitalization of processes and information, while only 2% of respondents were looking to use digitalization to expand and develop infrastructure.

Not shown: "Other" (18%), "Don't know" (6%) and categories with values below 5%

Investment in digitalization

Compared with the last tax year, how would you describe your organization's activity in terms of digitalization investment?

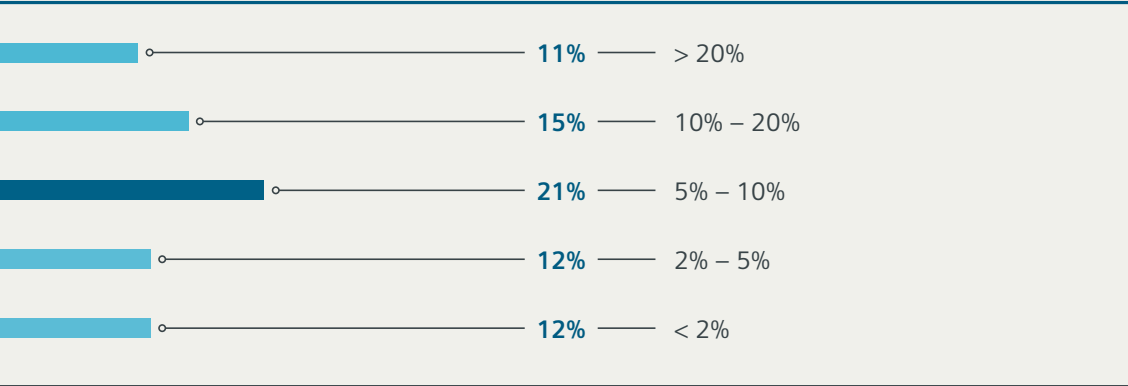
(N=206 persons surveyed)



Not shown: "Reduced" (4%), "Reduced significantly" (2%) and "Don't know" (8%)

What is your company's percentage of investment (for the current tax year) given over to the implementation of digitalization?

(N=206 persons surveyed)



Not shown: "Don't know" (29%)

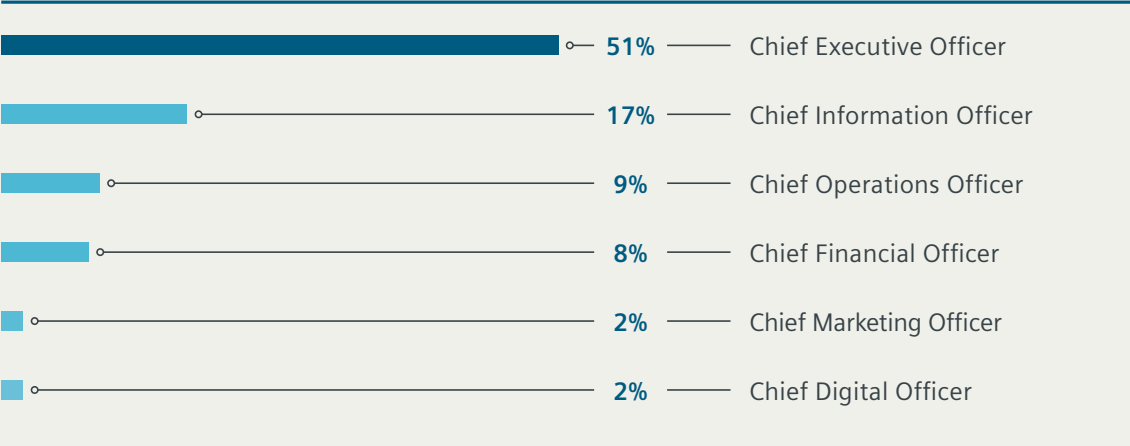
In the UAE, 20% of respondents described their digitalization investment activity as having increased significantly in the last tax year, with a further 38% suggesting an increase had been made. More than a quarter (27%) of organizations had kept their digitalization investment the same, and a combined 6% had seen reductions.

At 36%, a large share of those surveyed in the UAE estimated their financial investment into digitalization to be between 5% and 20%, with 11% of respondents estimating that more than 20% of total investment would go towards digitalization.

Investment in digitalization #2

Which executive is ultimately responsible for digital enterprise investments in your company?

(N=206 persons surveyed, multiple answers possible)



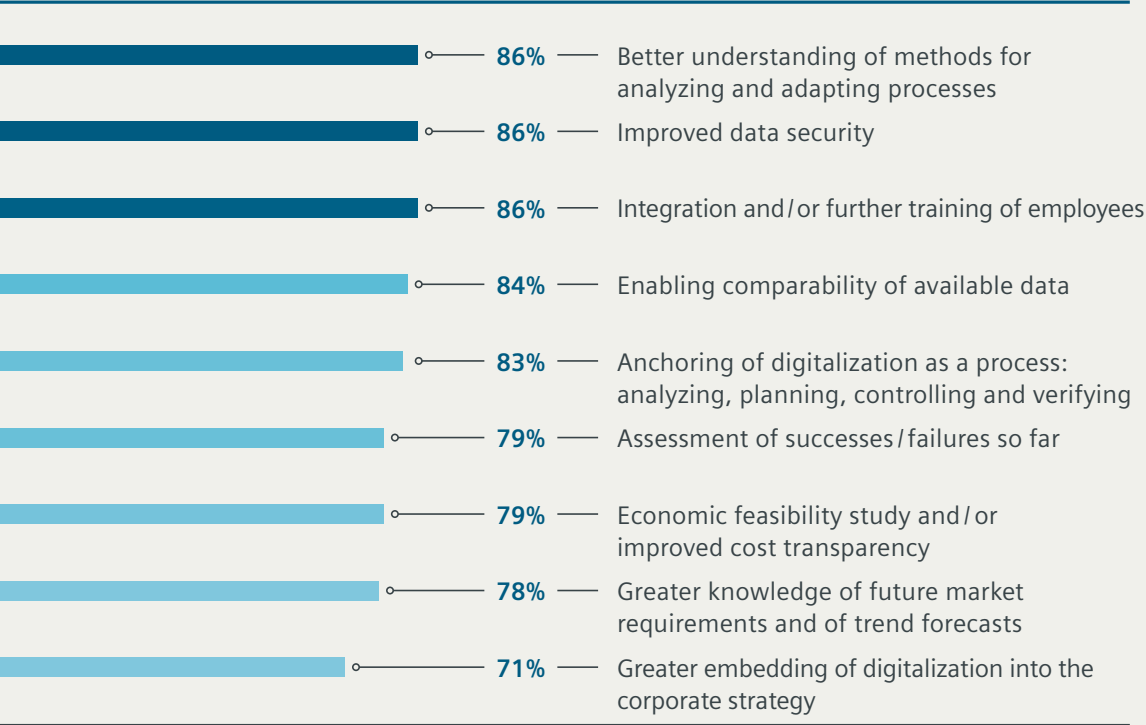
Not shown: "Others" (7%), "Don't know" (3%) and "No comment" (0,5%)

The majority of the surveyed organizations within the UAE (51%) said that the Chief Executive Officer (CEO) was involved in the decision-making process for investment into digitalization, and 17% of companies noted the Chief Information Officer's involvement in the process. Just 2% cited the Chief Digital Officer as the decision-maker for digital investment.

Drivers for digitalization

What would you need to do, or need to have, in order to be able to drive implementation further?

(N=206 persons surveyed, multiple answers possible)

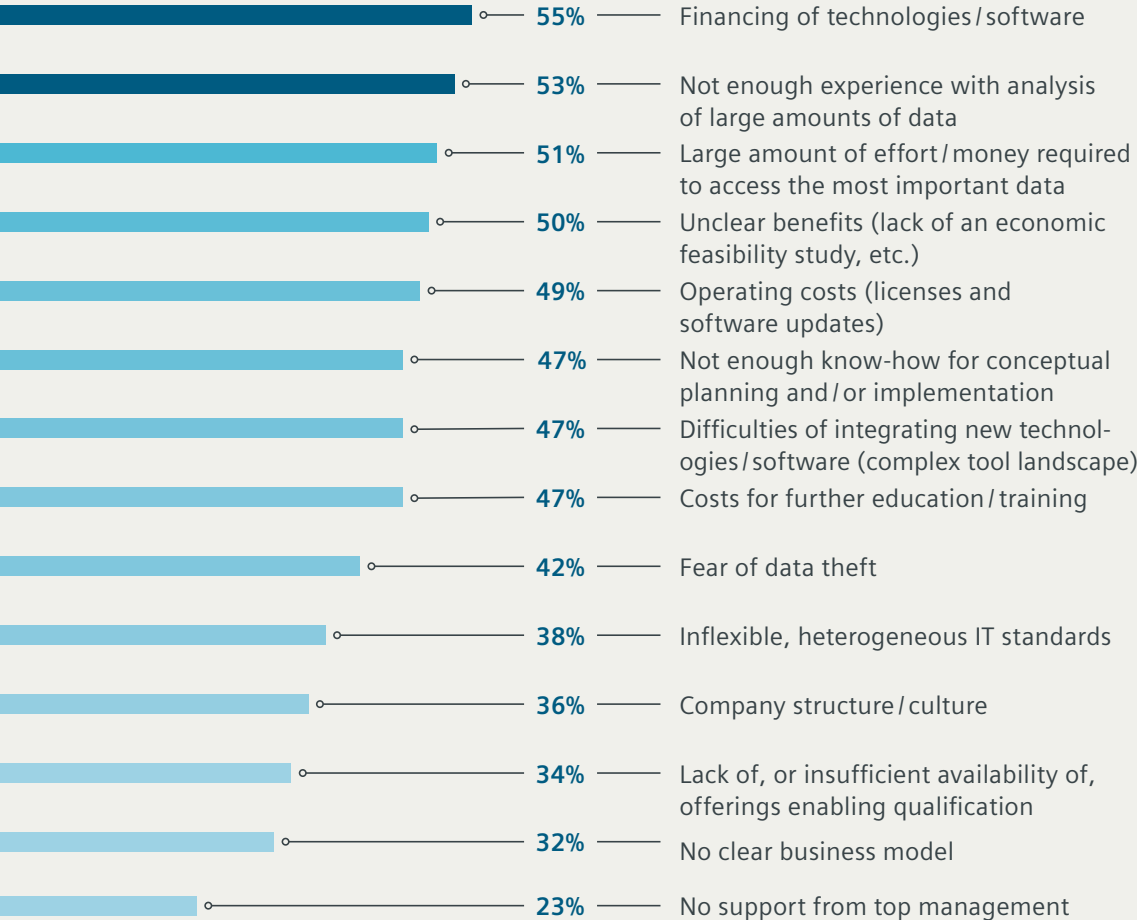


When asked about the drivers for digitalization, Siemens customers in the UAE suggest that almost all factors are necessary for the further implementation of digitalization. Many companies (86%) said they were looking for a better understanding of the methods for analysis and adaptation of processes, improved data security and the integration and training of employees. Almost an equal number (84%) saw a need for enabling comparability of available data, and 83% cited the anchoring of digitalization as a process as a key need for the further implementation of digitalization. The embedding of digitalization into the corporate strategy was generally seen as slightly less important (71%).

Barriers and challenges

What holds you back from making even greater use of digital technologies and processes at your company?

Barriers within the company (N=206 persons surveyed, multiple answers possible)



Not shown: categories with values below 2%

Internal barriers are inhibiting the greater use of digital technologies within regional organizations, and Siemens customers in the UAE have primarily cited the financing of technologies and software (55%) as a key factor holding them back. A lack of experience in the analysis of large volumes of data (53%) was the second most common barrier, with the high investment in terms of time and/or financing that is required to access the most important data identified as an issue for 51% of respondents. Barriers surrounding financing and lack of expertise in data management were broadly an issue for many respondents, with factors such as lack of support from top management (23%) and company structure (36%) generally seen as less of a problem.

Collaboration between Siemens and Strategy&

Siemens and PwC's strategy consulting team Strategy& released a joint report entitled "Preparing for a digital era: the state of digitalization in GCC businesses," the first of its kind in the region.

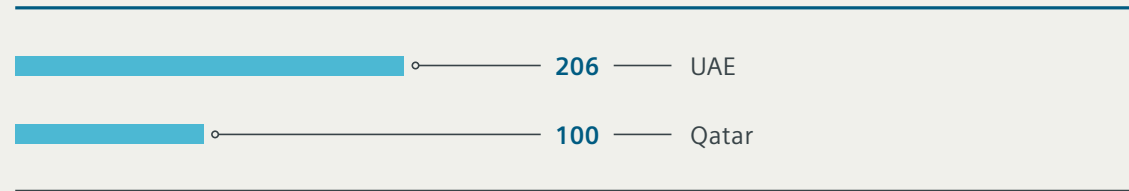
This document portrays the state of digitalization in the Gulf Cooperation Council (GCC) countries and gives recommendations to the region's governments and companies for enabling GCC businesses to achieve a digitalized future.

In May and June 2016, Siemens Global Marketing Services led a survey of 306 executives, asking them about digitalization at their companies.

Collaboration between Siemens and Strategy&

Respondents by country

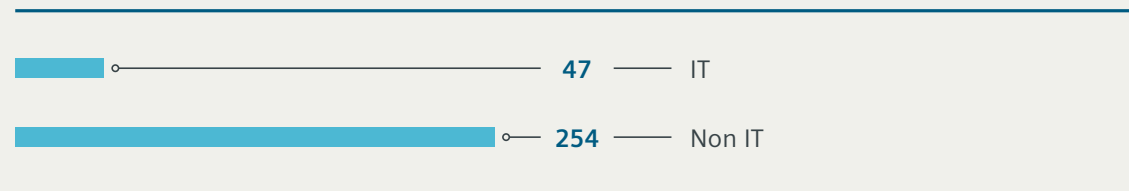
(N=306 executives surveyed)*



Of these executives, 206 were located in the UAE and 100 in Qatar.

Respondents by function

(N=306 executives surveyed)*

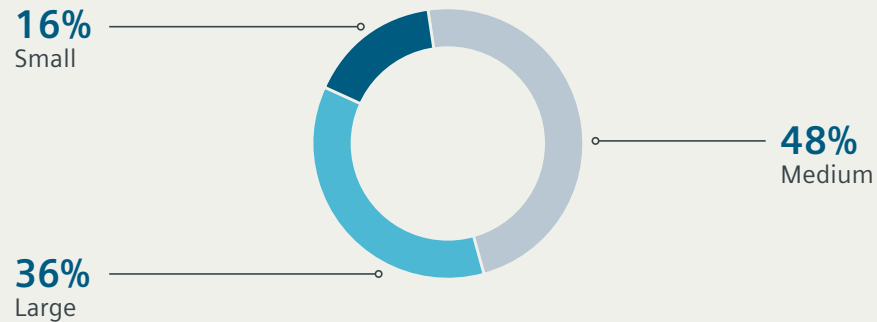


*Survey conducted by Siemens during May/June 2016. Respondents are Siemens clients in UAE and Qatar.

Collaboration between Siemens and Strategy&

Respondents by company size

(N=306 executives surveyed)*



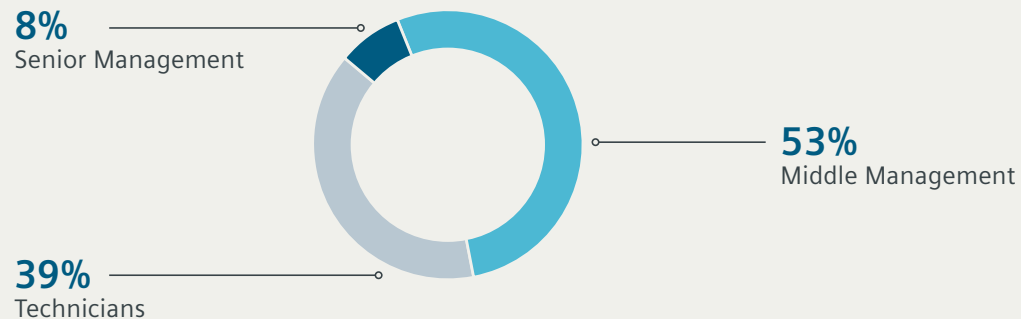
Almost half (48%) were from medium-sized companies. Meanwhile, 36% of the executives were from large companies, and 16% from small companies.

More than half the interviewees were middle managers (53%). Technicians represented another 39%, and 8% were senior managers.

With the help of 107 indicators, 18 categories and six dimensions, these respondents described the level of digitalization at companies in the UAE and Qatar.

Respondents by seniority

(N=306 executives surveyed)*

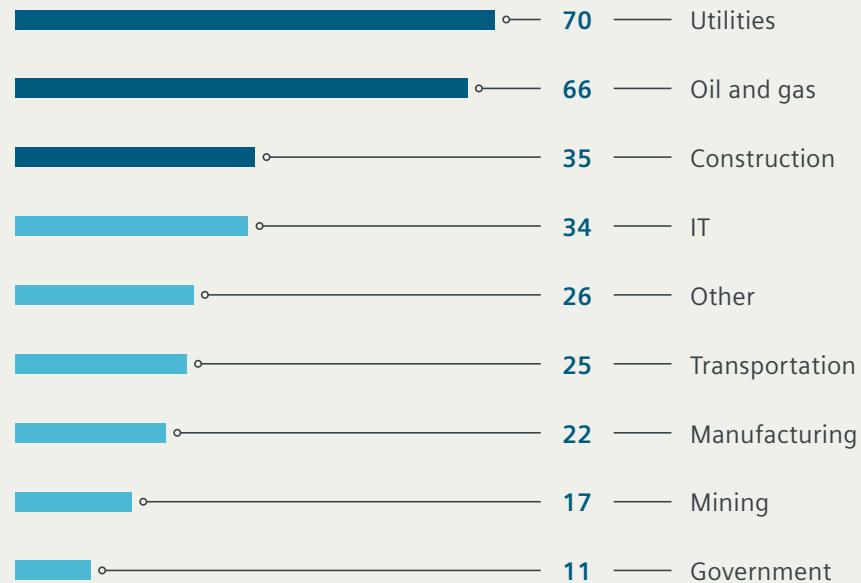


*Survey conducted by Siemens during May/June 2016. Respondents are Siemens clients in UAE and Qatar.

Collaboration between Siemens and Strategy&

Respondents by industry

(N=306 executives surveyed)*



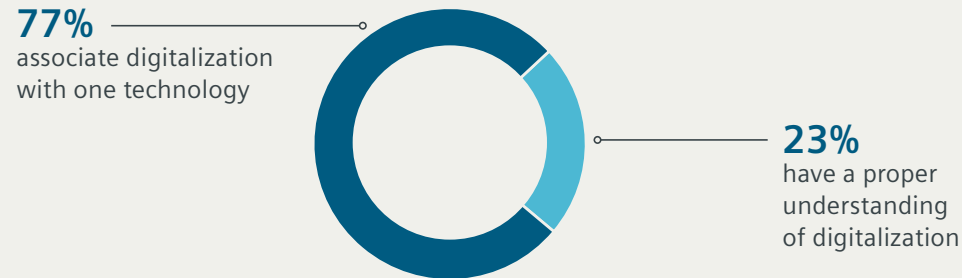
Respondents were also split along industry lines, with executives interviewed from the utilities, oil and gas, construction, IT, transportation, manufacturing, and mining industries, among others, and from government.

*Survey conducted by Siemens during May/June 2016. Respondents are Siemens clients in UAE and Qatar.

Collaboration between Siemens and Strategy&

46% are familiar with digitalization

(N=306 executives surveyed)*



*Survey conducted by Siemens during May/June 2016. Respondents are Siemens clients in UAE and Qatar.

Almost half of the interviewees (46%) said they are familiar with digitalization. However, 77% of the surveyed executives believe that going digital merely involves the adoption of a specific technology. This narrow definition ignores the many far-reaching benefits that moving toward digital can bring: harnessing the power of technology in order to solve problems, reinvent business models, reimagine the customer experience, inspire trust and accelerate change. This leaves a minority (23%) who think of digitalization much more broadly, along a spectrum of activities that range from realizing efficiencies in operations to growing an existing business model all the way to completely reimagining and disrupting an industry. As a result, there is a significant gap between theoretical aspiration and practical implementation.

Nevertheless, the situation offers great opportunity. The GCC is in a position to fully embrace the potential of digitalization across all sectors, driving the transition toward Industry 4.0, globally competitive businesses and next-generation smart cities.

Final Considerations

- 01** Customers from UAE are familiar with digitalization. The majority of those surveyed in the UAE understand digitalization as the process of moving from analog to digital, and about half are familiar with digitalization technologies. All industries acknowledge the importance of digitalization and its potential to have significant positive impact on business, with the Internet of Things, as well as software and apps, currently rated as the most important technology trends.
- 02** Most Siemens customers in the UAE at least partially have a digital strategy. For those with digital strategies, the focus is largely on optimizing the efficiency and effectiveness of the company itself. Only half have performed a process analysis or economic feasibility study, and investments are seen to be increasing year over year, with the customers investing between 5% and 10% of their funds in digitalization.
- 03** Digitalization responsibility is still primarily an IT topic. The majority of respondents acknowledge that digital strategy lies largely with the IT department, but that decisions on investments into digitalization are made at the CEO level. This indicates an early evolutionary stage of digitalization.
- 04** Costs and a lack of experience and partners are the main barriers to further implementation of digital technologies. While half of Siemens customers in the UAE rate their digital skills as high, the inability to make greater use of digital technologies and processes is, in part, down to a lack of general experience concerning specific topics, such as data analysis. Costs for items like licenses and updates are seen to be barriers, and finding the right digitalization partner is seen to be an issue for a high number of organizations.

Summary:

Throughout all industries, the first seed has been planted. In most sectors, companies are adapting their mindset to the UAE's ambitious vision, recognizing the importance of digitalization. However, only a minority has a digital strategy in place. For UAE companies, there is still way to go in their digital transformation journey, which means that there is vast potential for realizing efficiency gains, higher flexibility and lower downtime.

In most industries, the potential to leapfrog the developmental steps that other nations have had to take is immense, and becoming a worldwide leader has never been easier to achieve. The UAE is transforming more and more into a knowledge-based society, laying solid groundwork for quick adoption of digitalization standards. For companies, institutionalizing digitalization – by creating a vision for digitalization and putting a Chief Digital Officer in place, teaching employees the right skills and allocating investments in the right places – paves the way for successful digitalization. Siemens sees its role as a partner for digitalization – providing guidance and participating in joint development of new technologies and new business models together with our customers.

If the UAE wants to fulfill to their ambitious plans, companies must act now.

Information resources

Further information on the content is available from:

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