

**SIEMENS**

*Ingenuity for life*

# Digitalization

Customer Survey in Qatar 2016

Result Report

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CEO of Siemens Qatar

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# Foreword



**Dietmar Siersdorfer**

CEO of Siemens Qatar

## 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, Qatar 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.

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. 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. 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 are also becoming smarter. Intelligent infrastructure is using data to automate and self-optimize, driving significant gains in energy efficiency. Qatar's vision is for Doha to be a smart city by 2030, and its e-government initiative is one of the worlds' most advanced. 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 is expanding rapidly. Digital technologies will enhance the efficiency, quality and pace of industrialization in Qatar, 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 Qatar, 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, and it is for this reason that we present the results of our study "Digitalization – Trends and Solutions for a More Competitive Qatar." Our intention is to get a better understanding of digitalization in Qatar, 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, written on a white background.

**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:**

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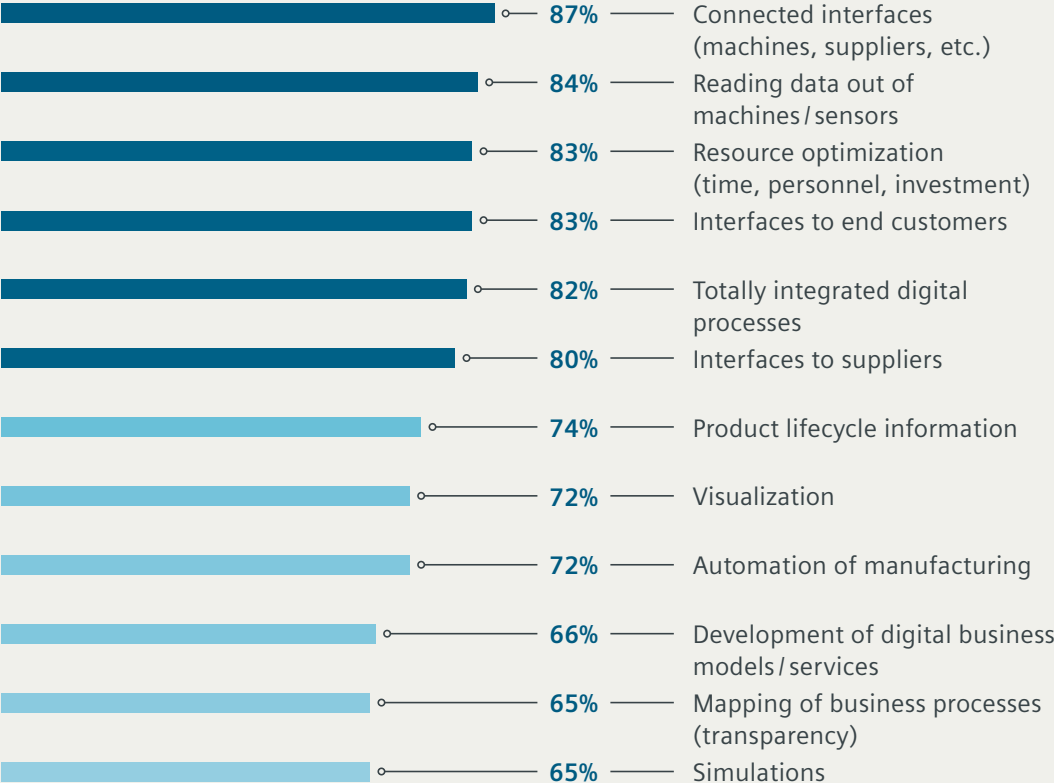
Siemens' first aim was to find out which aspects of digitalization are the most important to survey participants, which trends they see as particularly important in their individual business environment, and whether they see hurdles and barriers related to increasing digitalization.

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=100 persons surveyed)



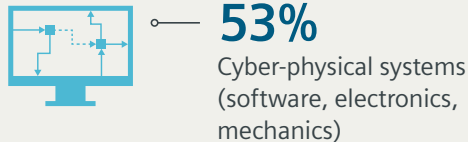
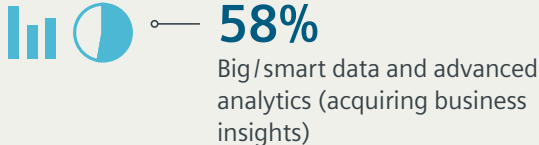
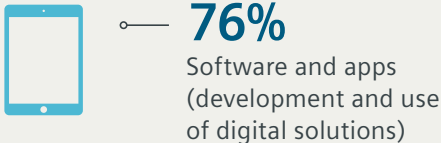
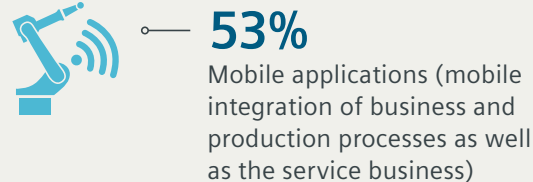
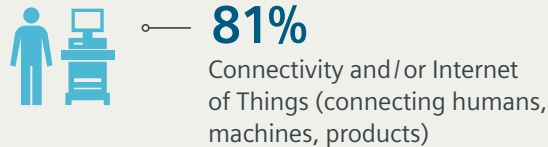
Assessed as belonging to one of the two top categories: "very important" and "important"

Respondents in Qatar generally considered all aspects of digitalization important, with its potential to change the way they interact with connected interfaces (87%), read data from machines (84%) and optimize resources (83%), taking the top three spots. Business-process mapping and the development of digital business models and services (65% and 66% respectively) were largely seen to be of lower importance, indicating that many Qatari respondents primarily see the value of digitalization in resource optimization and in the connection of devices and interfaces to drive data acquisition.

# Main aspects of digitalization #2

## How important do you consider the following trends to be?

(N=100 persons surveyed)



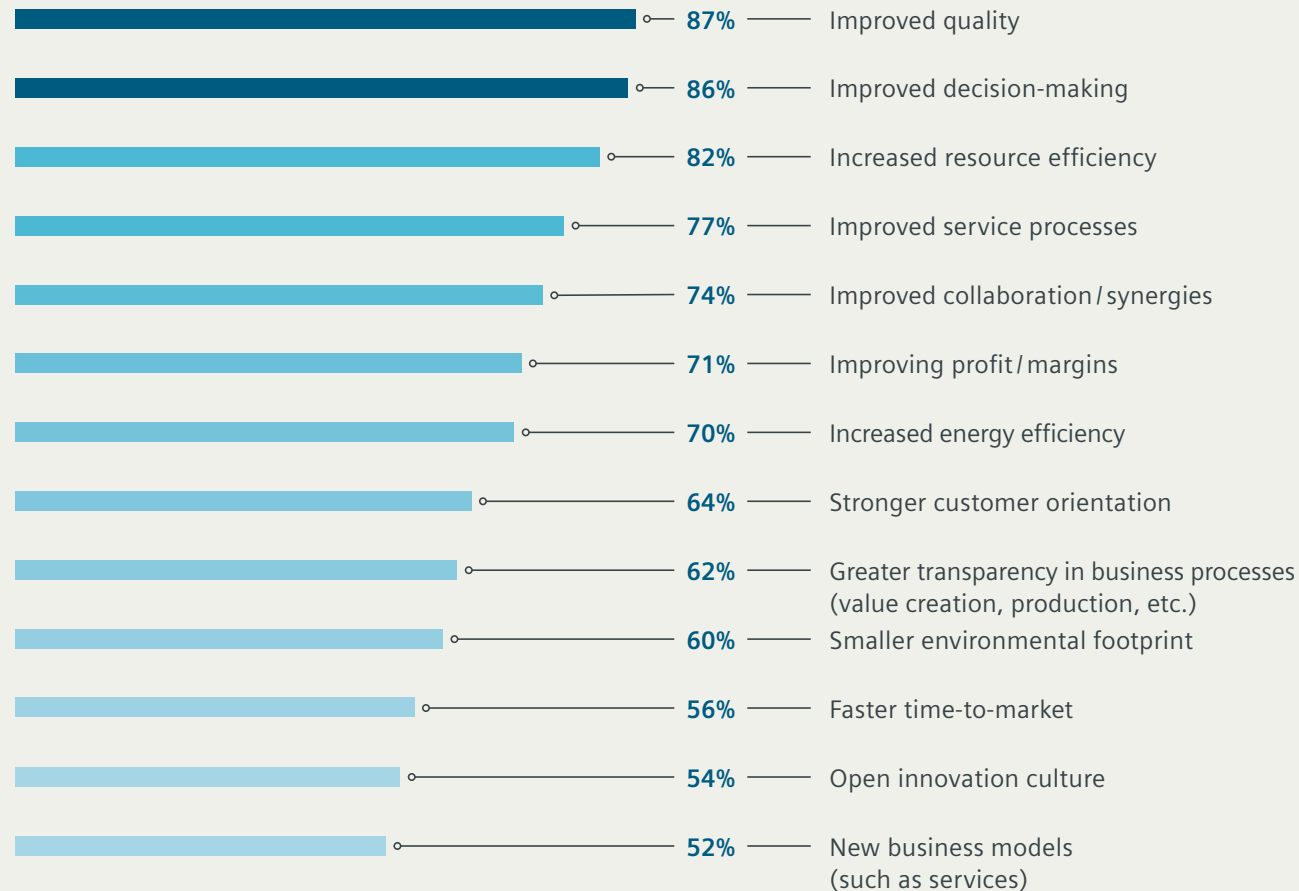
Of those surveyed in Qatar, a majority cited the Internet of Things, or connectivity of humans, machines and products in general, to be the most important trend (81%). The fact that software and apps, at 76%, came in at a reasonably close second place also indicates that Siemens customers in Qatar are 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=100 respondents)



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

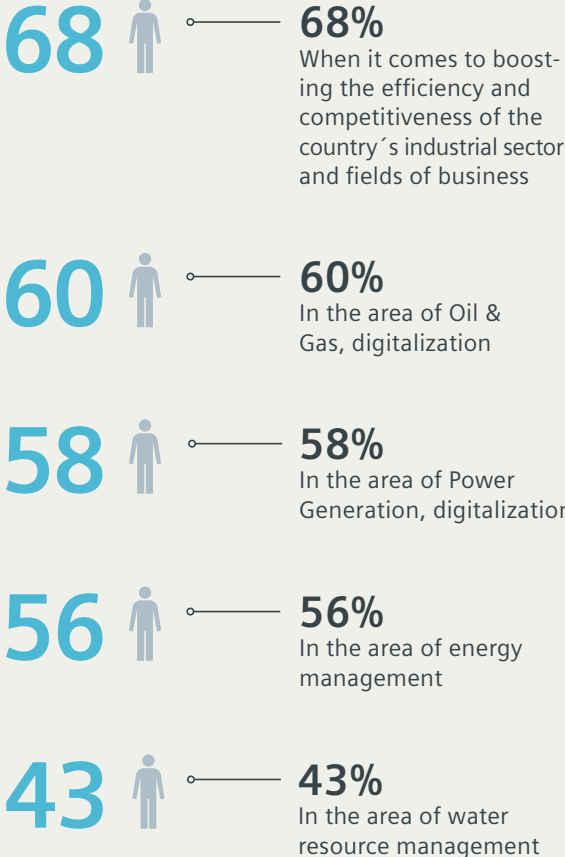
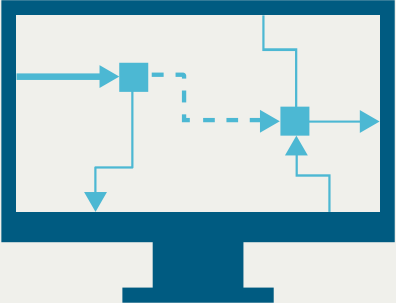
When asked about the impact on their own companies, the respondents cited many areas in which they see potential for improvements as a result of increased digitalization. Moreover, 87% of organizations were looking to improve quality, and an almost equal number were targeting improvements in decision-making (86%). Those surveyed generally considered process and efficiency aspects to be of greater importance, with environmental impact (60%), time to market (56%) and driving new business models (52%) seen as less significant.



# Impact on competitiveness

## To what extent does digitalization help solve the following structural problems and thus boost Qatar's ability to compete?

(N=100 respondents)



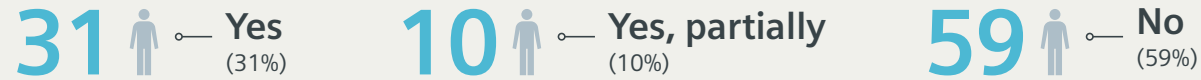
Respondents in Qatar saw the greatest positive impact of digitalization on the efficiency and competitiveness of the country's industrial sector and related businesses (68%), while at the other end of the spectrum, only 43% saw positive value for Qatar's water resource management. Those anticipating advantages in the oil and gas sector came in at a relatively high 60%, and significant percentages of the respondents were of the opinion that power generation and energy management stand to benefit (58% and 56% respectively).

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

# Digitalization and business strategies

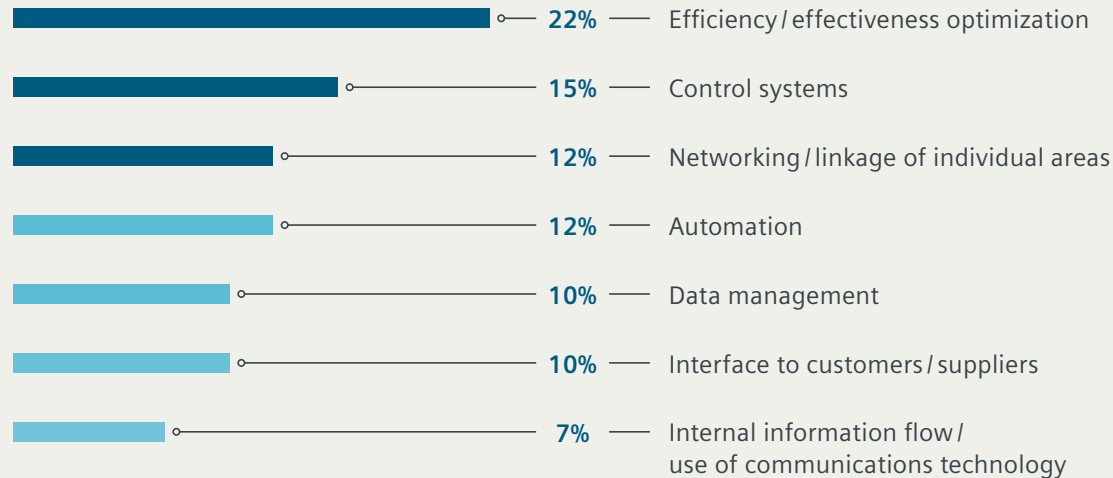
## Would you say that you've already developed an overarching "digital strategy"?

(N=100 respondents)



## Could you briefly describe this strategy?

(N=41 persons surveyed, multiple answers possible, unsupported question, responses clustered)



Not shown: "Don't know" (12%), "Other" (7%), "No comment" (7%) and categories with values below 5%

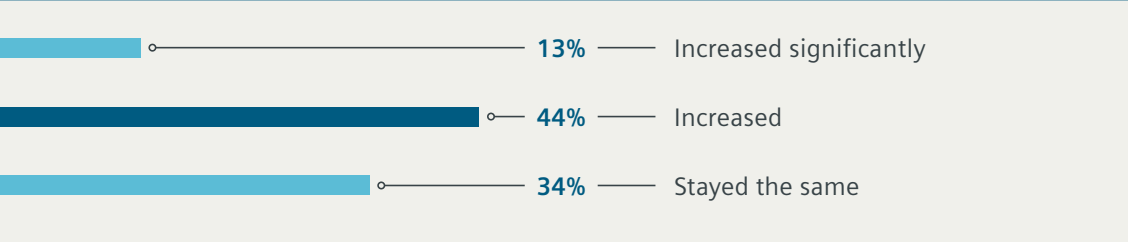
According to the respondents from Qatar, 59% of companies have not yet developed an overarching "digital strategy." Only 31% of organizations already have such a strategy in place, with the remaining 10% in the process of developing a digital strategy.

When asked about the focal points of their strategy, 22% of respondents cited efficiency and effectiveness optimization as key, with control systems (15%) and automation (12%) following. Another 10% were focused on using digitalization for data management and customer/supplier interface, while cost optimization was only a priority for 2% of respondents.

# Investment in digitalization

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

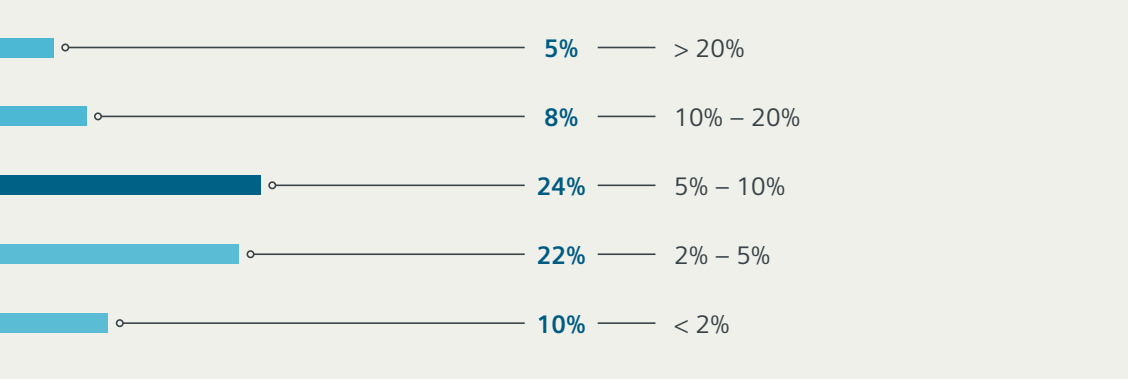
(N = 100 persons surveyed)



Not shown: "Don't know" (5%), "Reduced" (4%), "Reduced significantly" (0%)

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

(N = 100 persons surveyed)



Not shown: "Don't know" (31%)

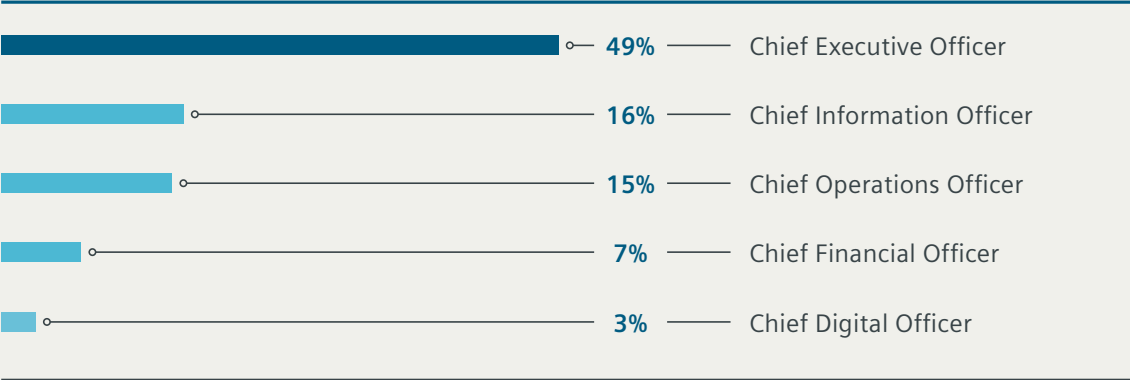
In Qatar, 44% of respondents described their digitalization investment activity as having increased over the last tax year, with a further 13% charting a significant increase. In addition, 34% of organizations had kept their digitalization investment static year on year, and 4% had seen reductions.

Of those surveyed in Qatar, 24% estimated their financial investment into digitalization to be between 5% and 10%, with 8% of respondents investing between 10% and 20%. Another 22% of those surveyed said they would invest between 2% and 5% into digitalization.

# Investment in digitalization #2

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

(N = 100 persons surveyed, multiple answers possible)



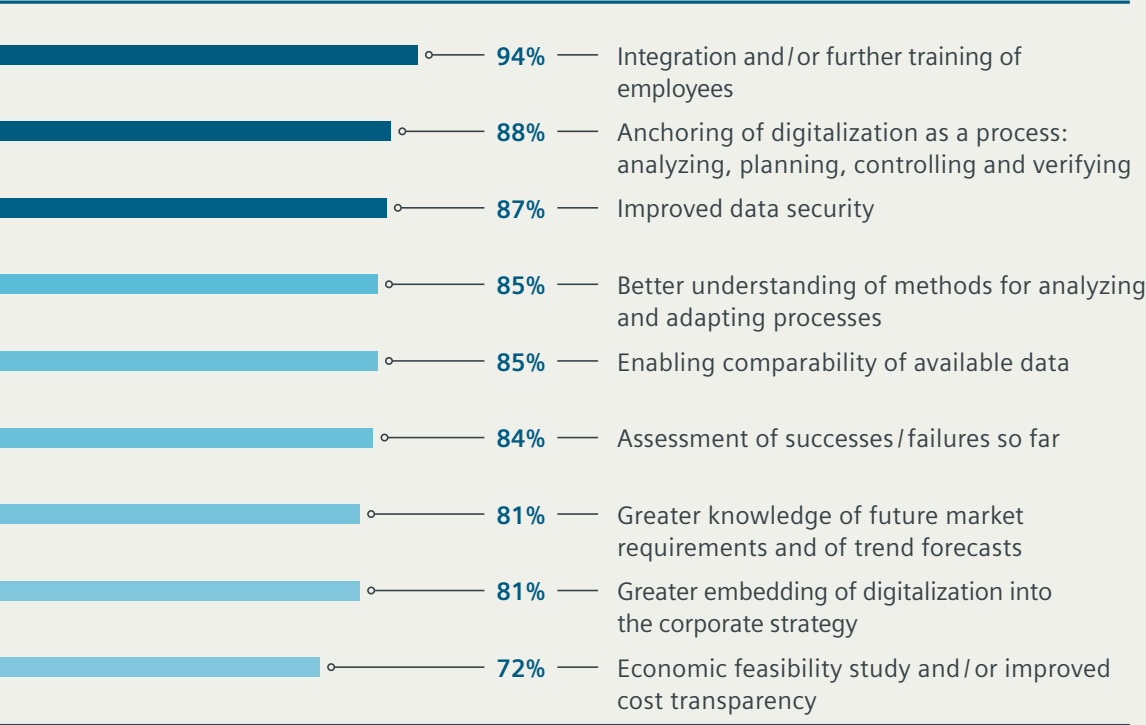
Not shown: "Don't know" (2%), "Others" (16%)

The Chief Executive Officer (CEO) was the key decision-maker for digital-enterprise investments at 49% of the surveyed organizations in Qatar, with the Chief Information Officer cited as the decision lead in 16% of cases and the Chief Operations Officer in 15%. Just 3% of respondents said the Chief Digital Officer was the key decision-maker for digital-enterprise investments.

# Drivers for digitalization

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

(N = 100 persons surveyed, multiple answers possible)

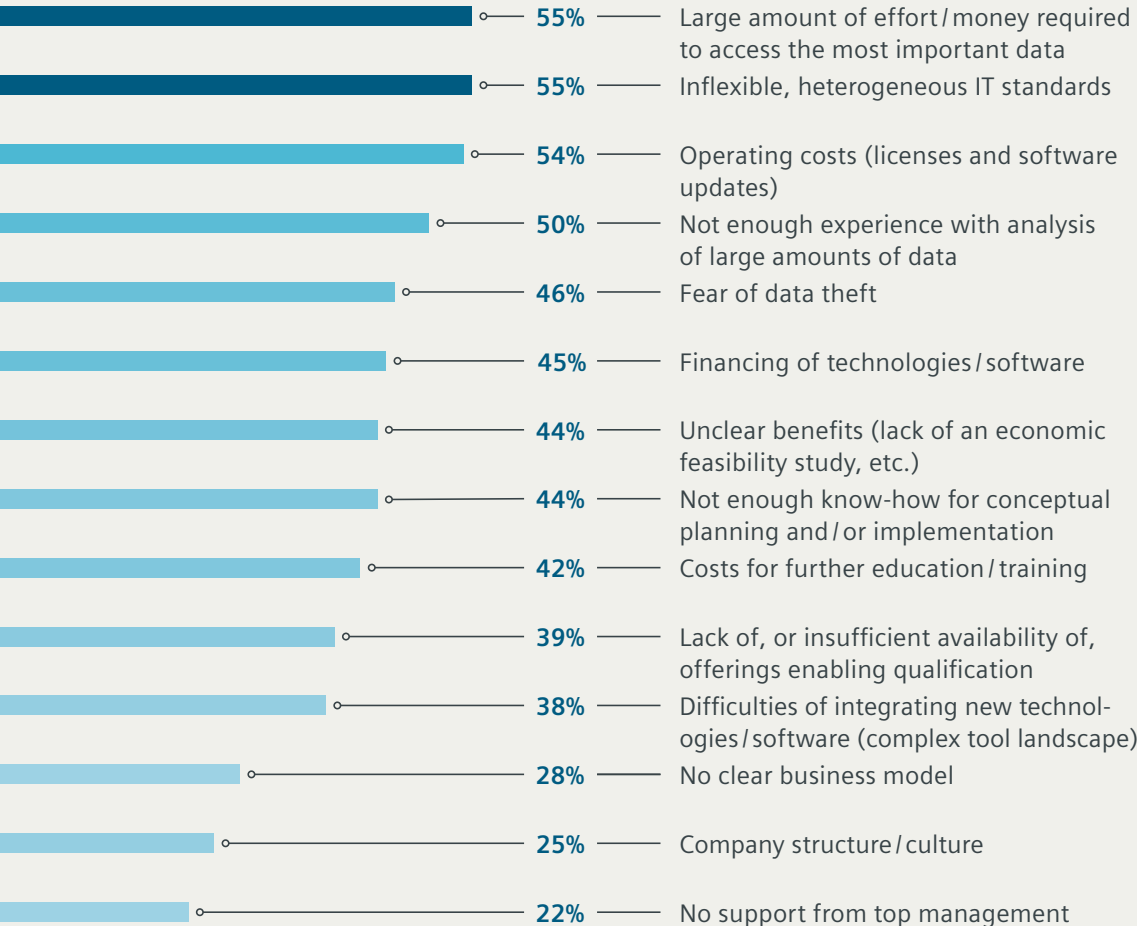


In Qatar, a large majority (94%) of companies cited the integration and further training of employees as the key factor in the further implementation of digitalization. Generally, respondents considered all factors important, with the anchoring of digitalization as a process (88%) and improved data security (87%) also standing out. The least important to respondents, at a still-high 72%, was improved cost transparency or an economic feasibility study.

# 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 = 100 persons surveyed, multiple answers possible)



Internal barriers are inhibiting the greater use of digital technologies within regional organizations. Inflexible, heterogeneous IT standards and the high investment in terms of time and money that is required to access the most important data were identified by 55% of Siemens customers in Qatar as a key barrier. At 54%, operating costs such as licenses and software updates were also a commonly cited issue for companies looking to drive digital technologies, as was a lack of experience in handling the analysis of large amounts of data (50%). In general, financing issues and a lack of expertise in data management were seen to be the most problematic for companies, while support from top management was seen to be relatively good, with only 22% of respondents citing it as a barrier.

# 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.

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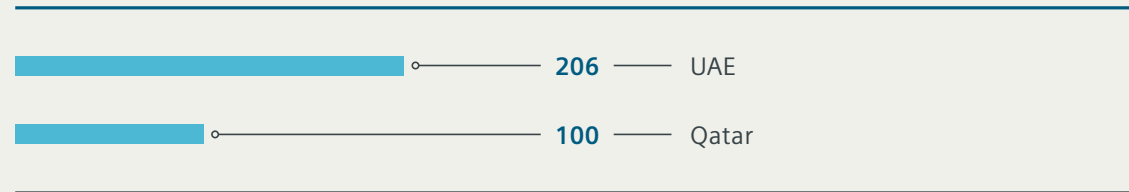
This document portrays the state of digitalization in the Gulf Cooperation Council (GCC) countries and gives recommendations to the region's governments and companies for enabling GCC businesses to achieve a digitalized future.

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

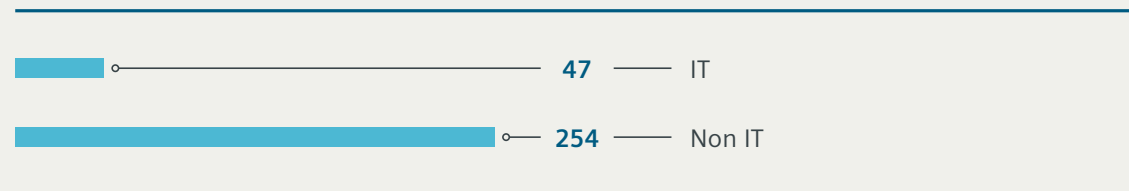
(N=306 executives surveyed)\*



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

## Respondents by function

(N=306 executives surveyed)\*



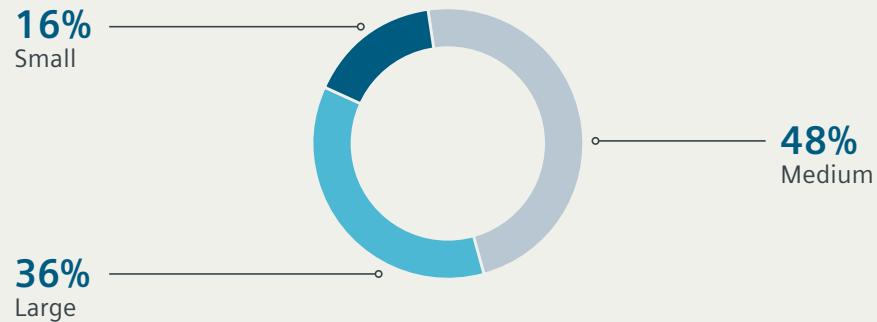
\*Survey conducted by Siemens during May/June 2016. Respondents are Siemens clients in UAE and Qatar.



# Collaboration between Siemens and Strategy&

## Respondents by company size

(N=306 executives surveyed)\*



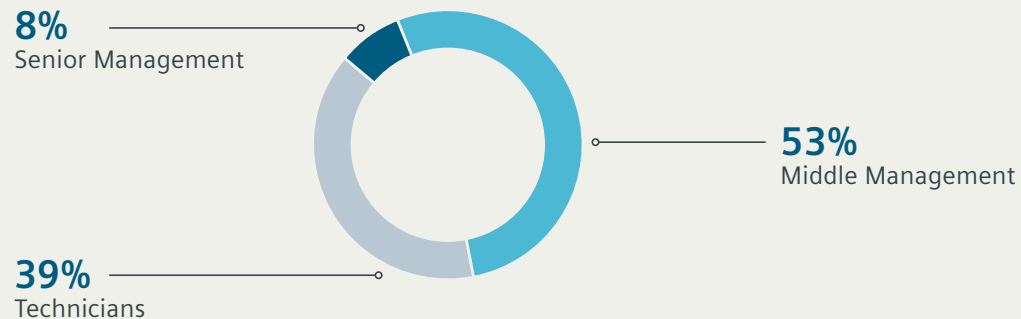
Almost half (48%) were from medium-sized companies. Meanwhile, 36% of the executives were from large companies, and 16% from small companies.

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)\*

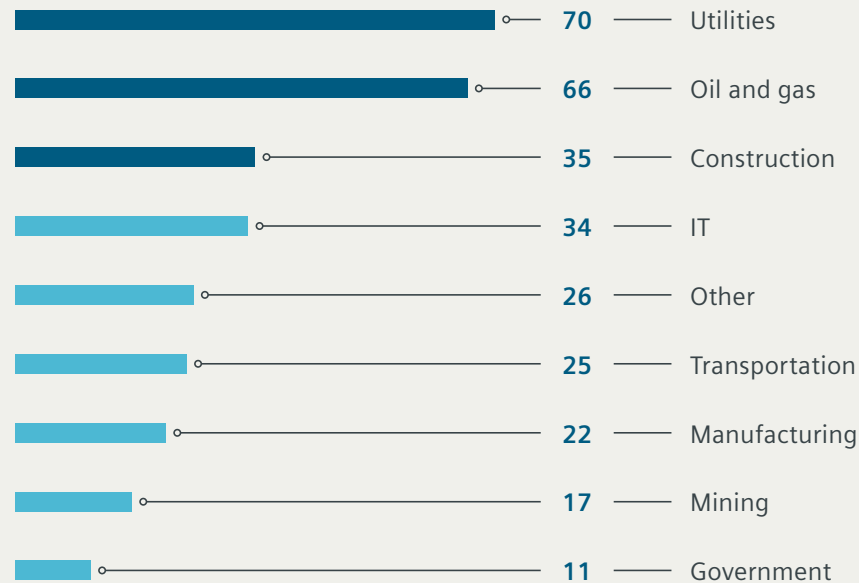


\*Survey conducted by Siemens during May/June 2016. Respondents are Siemens clients in UAE and Qatar.

# Collaboration between Siemens and Strategy&

## Respondents by industry

(N=306 executives surveyed)\*



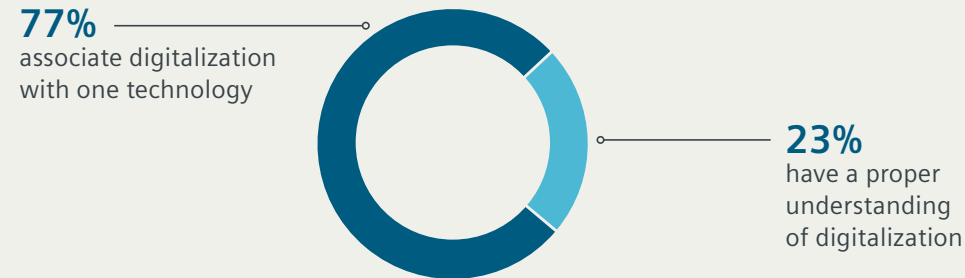
\*Survey conducted by Siemens during May/June 2016. Respondents are Siemens clients in UAE and Qatar.

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.

# 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 Qatar are familiar with digitalization. The majority of businesses in Qatar understand digitalization as the process of moving from analog to digital, but only one third is familiar with digitalization technologies. All industries acknowledge the importance of digitalization and its potential to have significant positive impact on business, with customers generally targeting improvements in quality, decision-making and resource efficiency within their own businesses. The Internet of Things, as well as software and apps, are currently rated as the most important technology trends.
- 02** Most Siemens customers in Qatar have yet to develop an overarching digital strategy. Where strategies exist, the focus tends to be on optimizing efficiency and effectiveness of the company itself, as well as operating control systems or networks/linkages. However, those who do have a strategy feel they are a good way down the path to implementation, and customers are generally setting aside between 2 and 10% of their annual investment funds for 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** High costs and a lack of IT standards and industry guidance are barriers to further development. Operating and data accessibility costs are mentioned as the main reasons for not making greater use of digital technologies, as are inflexible IT standards. Fears over data security are also holding customers back, as is the perceived lack of regulatory frameworks or industry-focused discussions. Almost half of the customers surveyed said they hadn't yet found the right partner to support them.

## Summary:

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Throughout all industries, the first seed has been planted. In most sectors, companies are adapting their mindset to Qatar's ambitious vision, recognizing the importance of digitalization. However, only a minority has a digital strategy in place. For Qatari companies, there is still some 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 developmental steps that other nations have had to take is immense, and becoming a worldwide leader has never been easier to achieve. Qatar is also transforming more and more into a knowledge-based society and is 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 Qatar wants to fulfill its ambitious plans, companies must act now.

# Information resources

## Further information on the content is available from:

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