





European Conference of the CVETNET project on digitalization and intergeneration learning 21.10.2021



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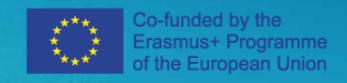
Introduction

The entry of digital technologies in all spheres of life and business changed a lot.

Due to the COVID-19 pandemic everyone had to adapt to the new reality.

The whole globe is involved in these trends and no one can avoid it.







Goals of the survey

The German-Bulgarian Chamber of Industry and Commerce (AHK Bulgarien) and Siemens Bulgaria did a national survey on the level of digitalization in Bulgaria among leading companies.

The survey aims:

- to outline a real and detailed picture of the current situation;
- * to study the expectations and obstacles for the business regarding the implementation of digital technologies;
- to identify the effects of the pandemic and the new perspectives.









Partners



Siemens Bulgaria

Siemens Bulgaria is part of Siemens AG - a world leader in the production of innovative and efficient solutions in the field of electrification, automation and digitalization. The company is a leading supplier of combined cycle turbines for power generation and transmission solutions, a pioneer in the field of infrastructure solutions, transport, building technology and software solutions for the industry.

Siemens has been present in Bulgaria for 140 years, and today its employees number nearly 500 people.

German-Bulgarian Chamber of Industry and Commerce

The German-Bulgarian Chamber of Industry and Commerce (AHK Bulgarien) is the official foreign trade chamber and is the major partner of the representatives of the German economy in Bulgaria. The aim of AHK Bulgarien is to create a platform for contacts, partnerships and exchange of information and business know-how between German and Bulgarian companies, to open new opportunities for successful business, as well as to provide a wide range of services to meet the expectations of its German, Bulgarian and international members and clients.



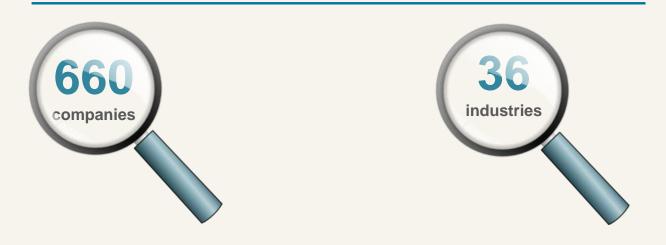
Deutsch-Bulgarische Industrie- und Handelskammer Германо-Българска индустриално-търговска камара



Co-funded by the Erasmus+ Programme of the European Union



Participants



The survey involved representatives of **660** companies from **36** sectors of the economy, at different management levels and with different functions.



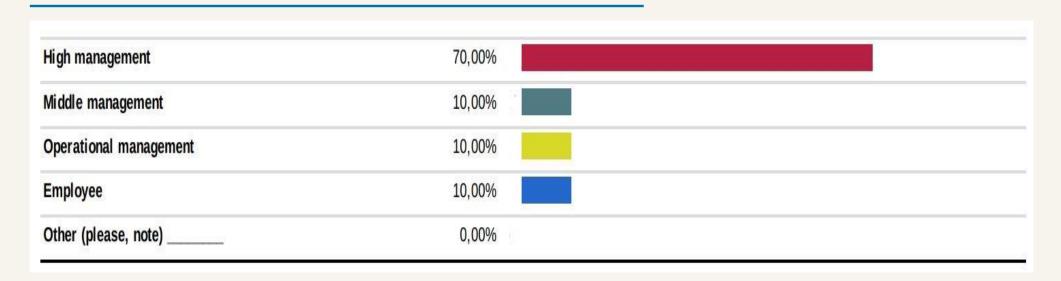
They answered **20** questions, connected with the digitalization in the company and the impact of the COVID-19 pandemic for business as a whole.







Position in the company



Representatives of Bulgarian and foreign companies operating in the country, from different sectors, at different management levels and with different functions took part in the survey.

70% of the respondents are representatives of the top management.

10% are defined as middle management and 10% as operational management.

10% are the representatives of the executive levels (employees).







Number of employees in the company

16,67%



Big companies (over 500 employees)

61,66%



Medium and small companies (11-500 employees)

17,1% m



Micro companies (1-10 employees)

The study involved 660 companies, including customers, partners and suppliers of Siemens Bulgaria and members of the German-Bulgarian Chamber of Industry and Commerce (AHK Bulgarien).

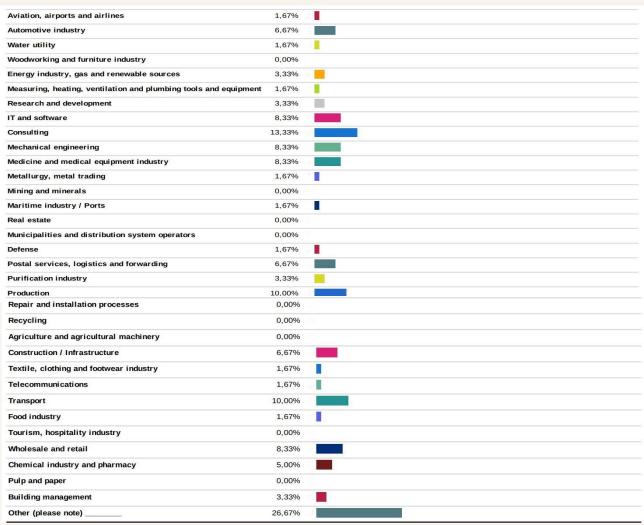
The majority of the companies participating in the survey can be defined as medium and small enterprises (11-500 employees), and about 17% fall into the category of large companies with over 500 employees.







Industries / Sectors / Branches



Companies develop business in a wide range of industries and industries, including manufacturing, trade, banking and insurance, transportation, engineering, energy, IT, construction, outsourcing and more.

The wide presence of various industries that participated in the survey aims to give the most complete picture of the level of digitalization, expectations and challenges facing Bulgarian business in terms of the implementation of digital technologies.



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What are the most serious effects of the COVID-19 pandemic on your company?

(more than one answer possible)

| Increase of remote work | 88,14% | | |
|--|--------|--|--|
| Increased customer interest in online purchases / services | 20,34% | | |
| Increased use of digital technologies in the company | 52,54% | | |
| Changed customer needs/ requirements | 27,12% | | |
| Need for more investment in cybersecurity | 25,42% | 1 | |
| Reorientation of supply chains | 20,34% | | |
| Other: | 0,00% | in the second se | |







Has the process of digitalization become a greater priority for your company as a result from the COVID-19 Pandemic?

| Yes | 70,00% | |
|---------------|--------|--|
| No | 21,67% | |
| Cannot decide | 8,33% | |







Which of the following priorities in the field of digitalization have come to the forefront for your company as a result of the pandemic?

(more than one answer possible)

| Introduction of more remote communication/ meeting technologies | | |
|---|--------|----|
| Introduction of more remote communication/ meeting technologies that facilitate cooperation | 85,00% | D. |
| Development / offering of new lifting products and services | 10,00% | |
| Increasing investments for digitalization of the company | 36,67% | |
| Greater automation of IT and business processes | 40,00% | |
| Retraining and training of employees (development of new IT skills, focus on "soft skills", others) | 31,67% | |
| No change in priorities | 6,67% | |
| Cannot decide | 1,67% | |
| Other (please note) | 0,00% | 23 |







How much money does your company plan to invest in digital transformation technologies in 2021 compared to 2020?

| More | 46,67% | |
|---------------|--------|--|
| Less | 1,67% | |
| Unchanged | 33,33% | |
| Cannot decide | 18,33% | |







How has the intensified digitalization of the work process in connection with the crisis changed the productivity of your employees?

| It did increase it | 41,67% |
|--------------------|--------|
| It did reduce it | 10,00% |
| Cannot decide | 51,67% |







What digitalization measures did you take during the Covid-19 lockdown that you

consider interesting to keep at your company?

(more than one answer possible)

| Work from home office | 63,33% | | |
|---|--------|------|-----|
| Holding work meetings digitally | 71,67% | | |
| Greater amount of investments for digitalization of the company | | | |
| (online platforms for cooperation and communication, virtual | 33,33% | 4 1 | |
| training and others) | | | - W |
| Reduction/ refusal of office space | 16,67% | | |
| More paperless processes | 63,33% | | |
| Increase of cloud-based internal services and processes | 46,67% | | |
| Other (please note): | 0,00% | dil. | |

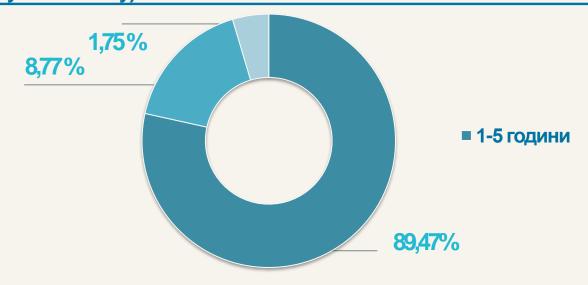






Would you say that you've already developed an overarching "digital strategy"?

What is the targeted time frame of your strategy on digitalization (if you have any)?



According to the answers of the respondents, 41.67% of the companies state that they have a complete (11.8%) or at least partial (36.67%) digital strategy. At the same time, 21.67% admit that they do not have such a strategy.

The results of the survey also show that only 1.75% of companies in Bulgaria have a long-term overall digital strategy that exceeds a period of 10 years.

Most companies plan their strategic actions in terms of digitalization in the short and medium term (1-5 or 6-10 years). 8.77% of companies have a strategy with a period of 6 to 10 years, and the majority 89.47% - a strategy with a period of 1 to 5 years.

Does your company have a position/body that bears central responsibility for those

topics and makes decisions regarding a digital strategy? (more than one answer possible)

| Yes - CEO/Managing board | 55,00% | |
|---|--------|--|
| Yes - CFO | 5,00% | |
| Yes - Communication manager | 1,67% | |
| Yes - Operational manager | 8,33% | |
| Yes - Marketing manager | 6,67% | |
| Yes - Manager digitalization | 6,67% | |
| Yes - Special team/commission | 13,33% | |
| l do not know | 3,33% | |
| We do not have such employee/department | 18,33% | |
| Other (please note): | 10,00% | |







On a scale of 1 (in the very beginning) to 10 (very far), how far are you currently in regard of implementation of digitalization within your company?

| 0 () | 0,00% | |
|-------|--------|--|
| 1 | 0,00% | |
| 2 | 3,33% | |
| 3 | 6,67% | |
| 4 | 10,00% | |
| 5 | 21,67% | |
| 6 | 13,33% | |
| 7 | 23,33% | |
| 8 | 16,67% | |
| 9 | 3,33% | |
| 10 () | 1,67% | |

Durchschnittswert:

ø 5,98







What would you have to do or need to have in order to drive further the implementation of digital technologies?

(more than one answer possible)

| Economic feasibility study and/or improved cost transparency | 30,51% | i(|
|--|--------|----|
| Greater embedding of digitalization into the corporate strategy | 35,59% | |
| mproved data security | 38,98% | |
| Greater knowledge of future market requirements and trends | 49,15% | |
| Better understanding of methods for analyzing and adapting processes | 45,76% | |
| Anchoring of digitalization as a process: analyzing, planning, controlling and verifying | 47,46% | |
| Further training of employees | 37,29% | |
| Enabling comparability of available data | 18,64% | |







What kind of digitalization experts you think your company will need in the coming years? In which of the following fields: (more than one answer possible)

| Industry 4.0/Automation of Manufacturing | 27,12% | | o . |
|--|--------|---|-----|
| Big/Smart data and advanced analytics | 33,90% | | |
| Simulations | 8,47% | | |
| Developing of digital business models and services | 42,37% | | 12 |
| Cyber-Physical systems | 13,56% | | |
| Cloud computing | 33,90% | | |
| Developing and integrating mobile applications | 23,73% | | |
| Digital marketing | 47,46% | | |
| Conceptual planning and implementation | 22,03% | | |
| Other (please note): | 1,69% | 1 | |







What benefits do you expect to gain from digitalization? What specific impact it will have on your business/company? (more than one answer possible)

| Open innovation culture | 35,59% |
|---|--------|
| Cost reduction | 54,24% |
| Increased resource efficiency | 74,58% |
| Improved quality | 40,68% |
| Improved planning and decision-making | 49,15% |
| Added value for the customers | 49,15% |
| New business models (services) | 47,46% |
| Shorter time to market | 23,73% |
| Smaller environmental footprint | 28,81% |
| Improved service processes | 45,76% |
| Greater transparency of business processes (value creation, production, etc.) | 28,81% |
| Improved profit/margins | 23,73% |
| Increased competitiveness | 69,49% |
| Improved data collection and advanced analytics | 49,15% |
| Customization of products | 20,34% |







What benefits do you expect from digitalization? What specific impact will this have on the business / company? (more than one answer possible)

The opinions of the respondents about the benefits of digitalization that companies expect, as well as the specific impact on business and the company itself are quite different. More than 2/3 of the companies expect an increase in resource efficiency and an increase in competitiveness. For more than the half it will have an effect on cost reduction. About the half of the companies expect that digitalization will lead to better planning and management, added value for the customer and improved data collection and analysis, and for 48% of the companies it is related to **new business models and services**. More than 1/3 of the companies see digitalization as a way to improve service processes and improve quality. For 23% the expectations are for reduction of the ecological footprint and greater transparency of the business processes. 14% believe that digitalization will accelerate faster market access and increase the company's profits. 10% are of the opinion that the impact will be in the form of individualization of products.





Intergenerational

digital learning

Which of the following technologies do you plan to implement/have already

implemented in your business? (more than one answer possible)

| Connectivity and/or Internet of Things | 49,12% |
|--|--------|
| Big/Smart data and advanced analytics | 52,63% |
| Cyber-Physical systems | 15,79% |
| Cloud computing | 36,84% |
| Block-chain technologies | 7,02% |
| Mobile applications | 50,88% |
| Smart systems (smart factories, smart grid, smart buildings) | 22,81% |







What holds/would hold you back from making even greater use of digital

technologies and processes in your company? (more than one answer possible)

| The long-lasting negative effects of the Pandemic | 15,52% | | |
|--|--------|-----------------|--|
| Employee's qualification | 50,00% | 2 | |
| Data security | 25,86% | | |
| Insufficient technical standardization and certification | 13,79% | | |
| Insufficient maturity of technologies | 17,24% | | |
| Amount of investments | 39,66% | | |
| Lack of clear priorities by the top management | 10,34% | 0. | |
| Unclear benefits | 15,52% | 10 | |
| Not enough experience with analyses of large amounts of data | 10,34% | | |
| Lack of legal and regulatory framework | 20,69% | 5 ₄₄ | |
| We currently have other priorities | 17,24% | | |
| Other (please note): | 1,72% | | |
| | | | |

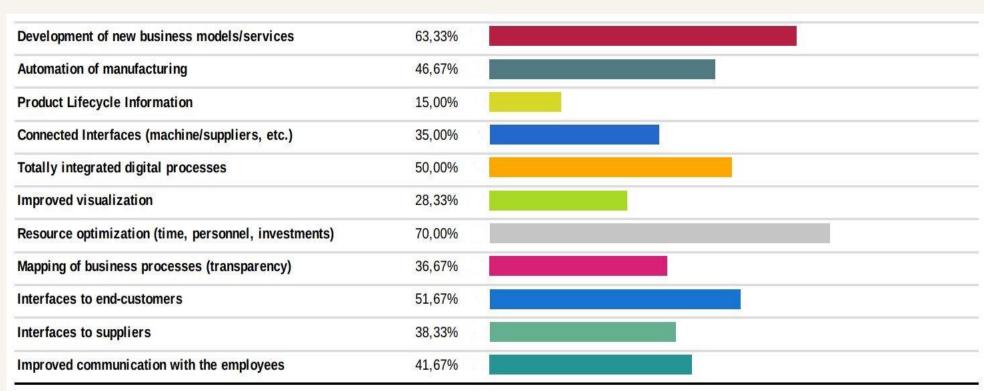






Part 3: Summary

In what areas do you think new digital technologies have the greatest potential to overcome some of the negative effects of the pandemic? (more than one answer possible)









Part 3: Summary

What are the lessons learned during the COVID-19 crisis in terms of remote work and digitalization? Are there any changes in the organizational culture of your company as a consequence?

The results show that Bulgarian companies are largely affected by the pandemic, have made changes and learned lessons for the organization of their work in the future.

1/3 of the respondents answered that the pandemic has changed the organizational culture of the company. The pandemic has not affected 20 companies in terms of teleworking and digitalization.

- Flexibility
- New forms of communication with customers
- improving internal communication
- ❖ Home office
- ❖ Developing online trading platforms and improving customer relationship
- ❖ Faster contacts with suppliers and customers, transparency of processes and their automation
- Increased responsibility and control over costs







Part 3: Summary

Although digitalization is becoming a mandatorypart of business in Bulgaria, there is still a long way to go

Digitalization does not mean job
losses, but digital competencies will be
increasingly sought after

Digitalization is perceived mainly as a way to optimize resources, processes and interaction

Insufficient qualification of employees hinders further digital transformation







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