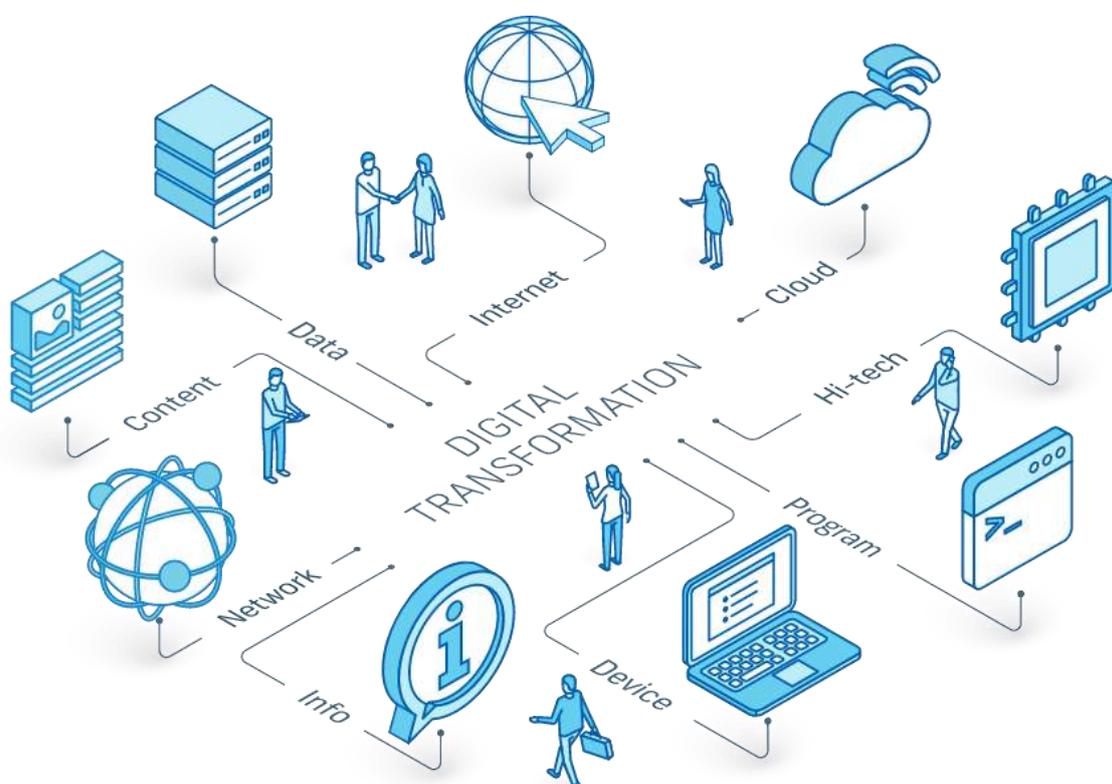


# Digital Strategy at the Medical University – Sofia

## /2020 – 2025/



Digitization is key to the development of the modern university. It provides better access to knowledge, increased efficiency of processes, improvement of results, etc.

Digitization in teaching and learning content is an essential aspect of modern higher education. It includes the use of digital technologies and tools to improve the educational process, as well as the provision of interactive learning content.

The strategic planning of the digitization process at the Medical University - Sofia helped to build modern and innovative educational models adapted to the digital age.

All these aspects combine to create a modern and innovative educational environment that meets the needs of today's students and prepares them for future challenges. Digitalization supports innovation in higher education and provides new opportunities for more efficient, high-quality and engaging teaching and research.

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Digitalization is a dynamic process that requires constant development and innovation, adapting and updating the strategy to new technologies and trends in changing needs and challenges.

### **Priorities of the digitization process at MU-Sofia:**

- Infrastructure and technologies:

Building a modern and reliable information infrastructure is essential. This includes access to fast internet, network security, data storage and cloud services, investment in modern computer labs, Wi-Fi coverage, cloud infrastructure and other means that support digital education; investing in upgrading existing technology and infrastructure and expanding their capacity to meet ever-increasing technological needs.

- Digital learning content and interactive learning materials and tools:

The use of digital tools and technologies to create and implement new and innovative teaching and learning methods, interactive learning materials, virtual collaborative environments and other digital resources will make the learning process more engaging and exciting for students. Interactive learning materials and tools (multimedia presentations, video lessons, audio recordings, interactive exercises, simulations, virtual laboratories and other formats) improve the active participation of students in the educational process and practical training. Interactive learning stimulates critical thinking, problem solving and collaboration among students.



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- Development of e-learning and online courses:

It is planned to develop and introduce high-quality online courses to be provided through distance learning platforms, to manage the learning processes, LMS systems (Learning management system (e.g. Moodle) to be available to students 24/7; creating interactive and engaging online learning materials; providing the necessary training and resources for familiarization and adaptation to new technologies and teaching methods.

- Data and Information Analysis:

Digital platforms offer different possibilities for collecting, processing and analyzing information. The use of analytical tools and software solutions is envisaged to support the processing and analysis of large volumes of data, improvement and optimization of work processes, identification and decision-making based on data analysis. Data analysis provides valuable information about learning progress, student engagement, student preferences, and other factors. This data can be used to improve and adapt the educational process, personalize learning and make informed decisions.

- Implementation of virtual classrooms and collaboration platforms :

Building and promoting the use of virtual classrooms and collaboration platforms, online forums, video conferencing systems, file sharing and other tools that support distance learning and collaboration, facilitate communication, support virtual communication, sharing ideas, materials and teamwork . It is planned to provide training on the use of these tools and to stimulate their active use in the educational process.

- Developing digital skills:

Digitization requires students, teachers and staff to develop and acquire digital skills that are increasingly important in the labor market. The use of digital tools and technologies in the educational process prepares students for work in the modern digital environment and gives them a competitive advantage.

- Virtual/electronic libraries and resources:

Providing access to virtual libraries and digital resources offers students access to a rich variety of course materials, research and reference sources. Investments in the digitization of library services and resources, including search and access software, as well as e-books, journals, etc., available 24/7.

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- Improving and facilitating assessment and feedback:

The use of digital tools and platforms for conducting online tests and evaluation is foreseen; providing faster and more effective feedback to students using automated grading systems and feedback tools.

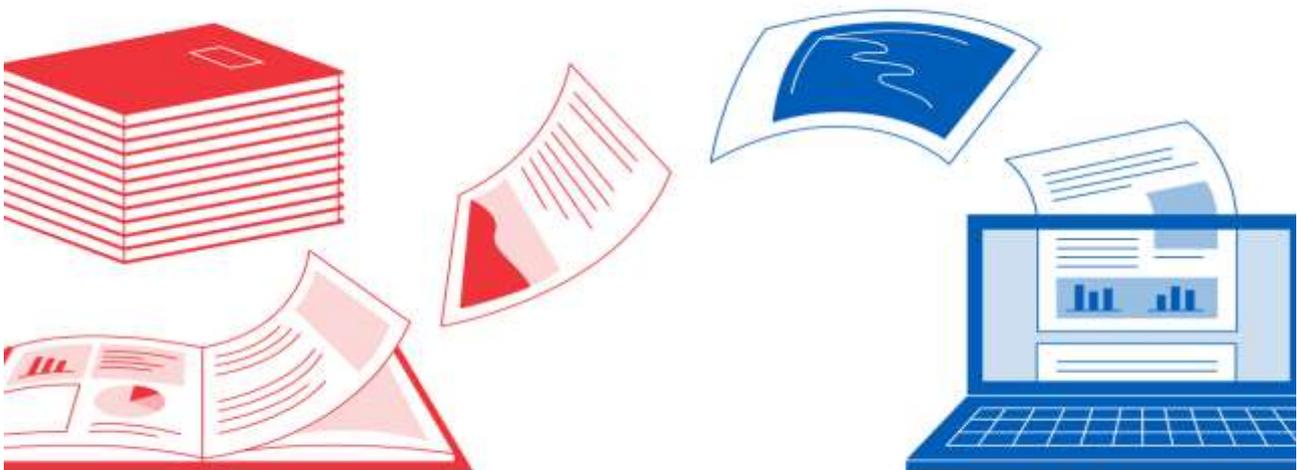
- Cyber Security and Data Protection:

It is necessary to ensure the security and protection of information and personal data, by taking appropriate measures and establishing strict policies and procedures for data protection; investing in cyber security and staff training to reduce and prevent possible cyber-attacks and data breaches.

- Improving the effectiveness and efficiency of the administration:

Digitization optimizes data management and leads to more efficient functioning of administrative processes. Automating tasks such as registration, recording grades, and organizing materials frees up faculty time and improves administrative efficiency.

The implementation of digital and digital technologies and tools in internal work processes (Automation of routine tasks, optimization of work flow, use of online tools for communication and collaboration, data analysis, etc.) reduces time costs, improves accuracy and quality of work, increases efficiency, productivity and improves the work environment.



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- Digital data storage, digitization of documents and paperless document circulation:

Document digitization refers to the conversion of paper documents into electronic format and the shift from working with paper documents to electronic formats and electronic processes. Includes scanning of paper documents and/or direct creation of electronic documents. Digitized documents can be stored in electronic document management systems (e.g. Eventis) or in cloud storage services. Reduce document processing time, facilitate information access and sharing, reduce the risk of information loss, improve security and compliance with legal regulations, thanks to better controllability and auditing of access to documents.

It includes the use of electronic signatures (electronic identification) to authenticate documents, increase security, etc.

- Professional development of teachers:

It is planned to provide training and support for teachers in order to develop their digital skills and competences; training in the use of technology for education, online learning methods and the design of interactive learning materials.

- Supporting research and innovation:

Digitization provides new opportunities and expands opportunities for research, collaboration and innovation. Online access to scientific articles, databases, and research tools makes it easy to conduct research and share results. Virtual environments and platforms create opportunities for collaborative work and exchange of ideas between scientists from different locations and institutions. It is envisaged to encourage the use of advanced analytical tools, cloud computing and other technologies that support the scientific process and research work.



- Integration of new technologies:

Digitization provides opportunities to integrate new technologies, such as virtual reality, augmented reality, augmented reality, block chain and artificial intelligence. These technologies can be used to simulate work environments, can contribute to the improvement of learning, research and data management in the educational environment, to support technical operations.

### **Summary work program for digitization:**

<b>Project / Task</b>	<b>Status</b>	<b>Estimated start</b>
Online admission of documents of candidate students	<b>Done</b>	Q2 2021
Online exams/tests for foreign student applicants	<b>Done</b>	Q2 2021
Online Exams/Tests in various disciplines for students (Where applicable and eligible.)	<b>Done</b>	Q4 2020
Virtual classrooms and online teaching in various disciplines (Where applicable and eligible.)	<b>Done</b>	Q3 2020
Trainings and courses with full online teaching	<b>Done</b>	2021
Online card payment of fees for prospective students (For medicine, dentistry and pharmacy.)	<b>Done</b>	Q1 2023
Increasing university Internet connectivity from 1 Gbps to 10 Gbps (Capacity, capabilities, availability, services, security, reliability.)	<b>Done</b>	Q3 2021
Increase the capacity of the network to 10 Gbps to the units (Equipment provided in Rectory. In process in other units.)	<b>In progress</b>	Always
Reconfiguration and optimization of the LAN network (Redundancy, reliability, optimization, security, capacity, services.)	<b>In progress</b>	Always
Update and upgrade of servers, network devices (Redundancy, reliability, optimization, security.)	<b>In progress</b>	Always
Server virtualization (Redundancy, reliability, optimization, security, backup, availability.)	<b>In progress</b>	Always
Step-by-step renewal of computer equipment	<b>In progress</b>	Always
WiFi coverage on the units (Coverage ensured in MF, CMB. In process in Rectorate, FDM, FF and FOZ.)	<b>In progress</b>	Always

Project / Task	Status	Estimated start
Installation of solar panels at RTB and CMB (Energy independence, reduction of energy costs.)	To do	2024
Introduction of IP-PBX / Digital PBX (Introduced in the Rectorate, CMB and RTB. Future extension.)	Done	Q2 2023
A unified document flow management system in all units (Working in the Rectorate, MF, FOZ. Implementation in all units is pending.)	In progress	Q3 2023
Unified accounting software in all units	Done	Q3 2022
Introduction of HR platform	In progress	Q4 2023
Paperless document flow (Gradually reducing the use of paper and moving to electronically signed documents.)	In progress	Always
Digitization of work processes	In progress	Always
Process optimization and efficiency	In progress	Always
Administrative information system (Conditions, necessity, capabilities, scope, functionalities, requirements, public procurement, architecture, development, implementation, monitoring, refinements.)	In progress	2025
Online services for students, PhD students, specialists	In progress	Always
Increasing information security	In progress	Always
Building a unified identity (Conditions, organization, system, reliability, security.)	In progress	Q3 2023
Link to eduGAIN	In progress	Q3 2023
European Student Card	In progress	Q4 2023
MyAcademicID (European Student Identifier)	In progress	Q1 2024
Connecting to eduroam	To do	Q1 2024
Erasmus Without Paper (EWP)	To do	Q1 2024
Training of employees and teachers (Digital skills, competitive advantage.)	To do	Always
Software solutions for online access (OSS)	In progress	Always
Increase and improve the quality of online resources (CMB)	In progress	Always

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## **General digitalization plan:**

### 1. Analysis of the current state:

- Conduct a detailed analysis of the current state of digital technologies and practices.
- Identifying strengths and weaknesses of existing systems, resources and infrastructure.
- Conducting surveys and interviews with students, teachers, administrative staff and other members of the academic community, to identify the needs and expectations of digitization.

### 2. Formulation of strategy and goals:

- Defining a clear digitalization strategy that reflects the university's vision and goals.
- Setting specific, measurable, achievable, relevant and time-bound goals for digitization.
- Determining the priorities and areas of focus for implementing digital solutions and practices.

### 3. Selection of appropriate technologies and tools:

- Research the market for digital solutions, platforms and tools that meet the needs and stated goals.
- Selection of appropriate software and hardware solutions for e-learning, data management, communication and collaboration.
- Considering the integration of different tools and platforms, to ensure synchronization and interaction between them.

### 4. Development of digital resources and materials:

- Create and adapt digital learning materials, resources and content to meet the needs of students and teachers.
- Building libraries of online courses, video lessons, interactive assignments and other digital materials.
- Designing web-based platforms and applications to support learning and collaboration.

### 5. Training and preparation of personnel:

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- Organization of training programs and webinars for staff to familiarize them with digital tools, technologies and practices.
  - Providing tools, resources and support for integrating digital solutions into the learning process.
  - Creating forums and platforms to share best practices and experiences.

6. Implementation and monitoring:

- Implementation of digital solutions and practices in educational and administrative processes.
- Monitoring and evaluating the progress and effectiveness of digitization against set goals.
- Communicate regularly with students, faculty, and administrative staff to obtain feedback and make corrections and improvements as needed.

7. Continuous development and innovation:

- Constant monitoring of new technologies, trends and changes in the education and technology sectors.
- Continue to innovate and develop digital solutions and practices to meet the evolving needs of students, faculty and administration.
- Exploring opportunities for partnerships (including international ones) with other institutions, startups and leading companies in the field of digital technologies, education, scientific research.