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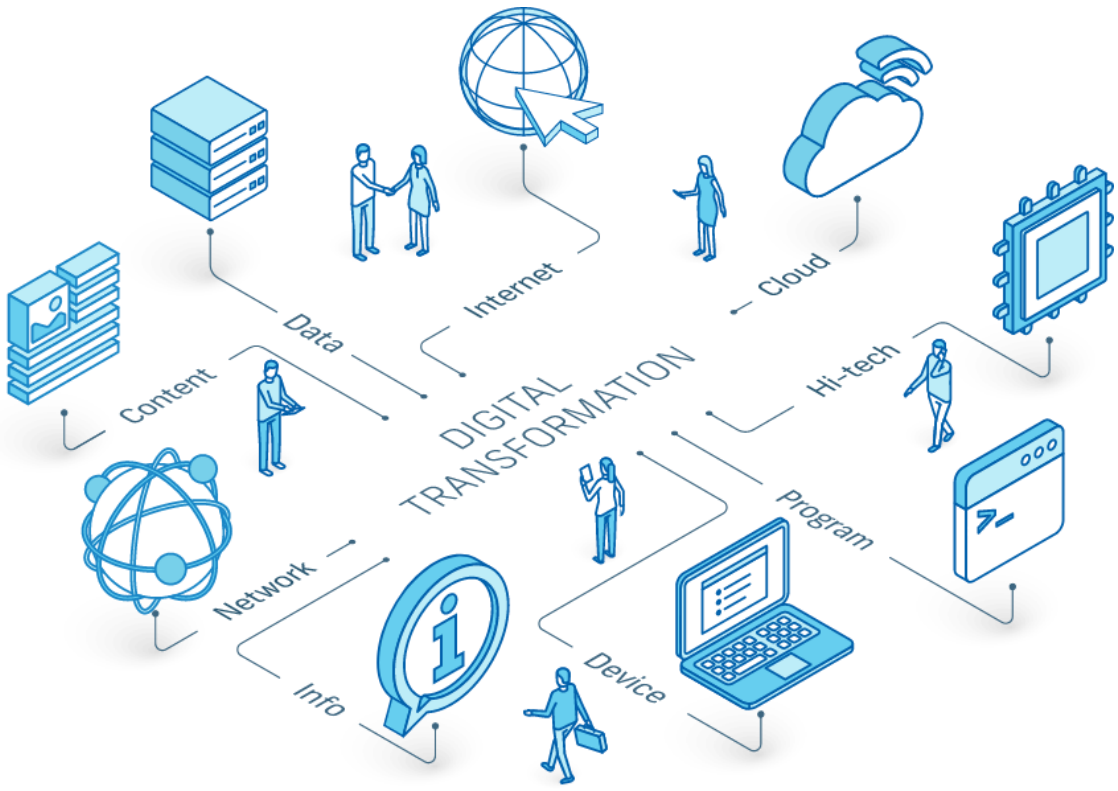
Digitalization Strategy at MU-Sofia

(2024 – 2028)



Digitalization is Key to the Development of the Modern University

Digitalization is a key factor in the development of a modern university. It ensures better access to knowledge, increased process efficiency, and improved outcomes.Digitalization in teaching and learning content is an essential aspect of contemporary higher education. It involves the use of digital technologies and tools to enhance the educational process and provide interactive learning materials.

The strategic planning of the digitalization process at the Medical University – Sofia has contributed to the creation of modern and innovative educational models that are well adapted to the digital era. All these aspects combine to create a contemporary and innovative educational environment that meets the needs of modern students and prepares them for future challenges. Digitalization promotes innovation in higher education and provides new opportunities for more effective, high-quality, and engaging teaching and research activities.

Digitalization is a dynamic process that requires continuous development and innovation, as well as regular adaptation and updating of the strategy in line with new technologies and trends, responding to the evolving needs and challenges of the academic community.

Priorities of the Digitalization Process at the Medical University – Sofia

● Infrastructure and Technologies
Building a modern and reliable information infrastructure is of crucial importance.
This includes access to high-speed Internet, network security, data storage, and cloud services; investment in modern computer laboratories, Wi-Fi coverage, cloud infrastructure, and other tools that support digital education.
It also entails investment in upgrading existing technologies and infrastructure and expanding their capacity to meet the continuously increasing technological demands.

● Digital Learning Content and Interactive Educational Materials and Tools
The use of digital tools and technologies for creating and implementing new and innovative methods of teaching and learning—such as interactive educational materials, virtual collaboration environments, and other digital resources—will make the educational 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) enhance students' active participation in the educational process and practical training.
Interactive learning fosters critical thinking, problem-solving, and collaboration among students.

● Development of E-learning and Online Courses
The development and implementation of high-quality online courses are planned, to be delivered through distance-learning platforms and learning management systems (LMS), such as Moodle, accessible to students 24/7.
This includes the creation of interactive and engaging online learning materials, as well as the provision of the necessary training and resources to ensure familiarity with and adaptation to new technologies and teaching methods.

● Data and Information Analysis
Digital platforms offer various possibilities for data collection, processing, and analysis.
The use of analytical tools and software solutions is envisaged to support the processing and

analysis of large volumes of data, improve and optimize workflows, and enable data-driven decision-making.
Data analysis provides valuable insights into student progress, engagement, preferences, and other factors.
This information can be used to improve and adapt the educational process, personalize learning, and support evidence-based decisions.

- **Developing digital skills**

Digitalization requires students, faculty, 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 learning materials, research and reference sources. Investments in digitization of library services and resources, including search and access software products, as well as e-books, journals, etc., available 24/7.

- **Improving and facilitating assessment and feedback**

It is envisaged to use digital tools and platforms for conducting online tests and assessments; providing faster and more effective feedback to students using automated assessment systems and feedback tools.

- **Cybersecurity and data protection**

It is necessary to ensure the security and protection of information and personal data by taking appropriate measures and creating strict data protection policies and procedures; investing in cybersecurity and training staff to reduce and prevent possible cyberattacks and data breaches.

- **Improving the effectiveness and efficiency of the administration**

Digitalization optimizes data management and leads to more efficient functioning of administrative processes. The automation of tasks such as registration, recording grades and organizing materials frees up time for teachers and improves administrative efficiency.
The implementation of digital technologies and tools in internal work processes (automation of routine tasks, workflow optimization, use of online communication and collaboration tools, data analysis, etc.) reduces time costs, improves the accuracy and quality of work, increases efficiency, productivity, and improves the working environment.

- **Digital data storage, document digitization and paperless document management**

Document digitization refers to the conversion of paper documents into electronic format and the transition from working with paper documents to electronic formats and electronic processes. It includes scanning paper documents and/or directly creating electronic documents. Digitized documents can be stored in electronic document management systems (e.g. Eventis) or in cloud storage services. They reduce document processing time, facilitate access to information and facilitate sharing, reduce the risk of information loss, improve security and compliance with legal regulations, thanks to better controllability and audit of access to documents.
Includes the use of electronic signatures (electronic identification) to verify the authenticity of documents, increase security, etc.

- **Professional development of teachers**

It is planned to provide training and support for teachers to develop their digital skills and competencies, training in the use of educational technologies, online learning methods and the design of interactive teaching materials.

- **Supporting research and innovation**

Digitalization provides new opportunities and expands the possibilities for scientific research, collaboration and innovation. Online access to scientific articles, databases and research tools facilitates the conduct of scientific research and the sharing of results. Virtual environments and platforms create opportunities for collaborative work and the exchange of ideas between scientists from different locations and institutions. It is planned to promote the use of advanced analytical tools, cloud computing and other technologies that support the scientific process and research work.

- **Integration of new technologies**

Digitalization provides opportunities for the integration of new technologies, such as virtual reality, augmented reality, augmented reality, blockchain and artificial intelligence. These technologies can be used to simulate work environments, and can contribute to improving learning, research and data management in educational environments, to support technical operations.

Summary work program for digitalization:

Project / Task	Status	Expected start
Online acceptance of documents of prospective students	Complete	Q2 2021
Online exams/tests for foreign student applicants	Complete	Q2 2021
Online exams/tests in various disciplines for students (Where applicable and permissible.)	Complete	Q4 2020
Virtual classrooms and online teaching in various disciplines (Where applicable and permissible.)	Complete	Q3 2020
Training and courses with fully online teaching	Complete	2021
Online card payment of fees for prospective students (For medicine, dentistry and pharmacy.)	Complete	Q1 2023
Increasing university Internet connectivity from 1 Gbps to 10 Gbps (Capacity, capabilities, accessibility, services, security, reliability.)	Complete	Q3 2021
Increasing university Internet connectivity from 10 Gbps to 100 Gbps (Capacity, capabilities, accessibility, services, security, reliability.)	In Progress	2026
Increasing network capacity to 10 Gbps to the units (Equipment provided in the Rectorate. In process in other units.)	In Progress	Constantly
New optical routes to the Ministry of Finance have been built, allowing transmission of up to 100 Gbps	Complete	2025
LAN network reconfiguration and optimization (Redundancy, reliability, optimization, security, capacity, services.)	In Progress	Constantly
Updating and upgrading servers, network devices (Redundancy, reliability, optimization, security.)	In Progress	Constantly
Building a Data Recovery Center (DRC)	In Progress	2025

Project / Task	Status	Expected start
Server virtualization (Redundancy, reliability, optimization, security, archiving, availability.)	In Progress	Constantly
Phased renewal of computer equipment	In Progress	Constantly
WiFi coverage in the units (Coverage provided in the Ministry of Finance, Central Bank. In process in the Rectorate, the Ministry of Health, the Ministry of Health and the Ministry of Health.)	In Progress	Constantly
Installation of solar panels on RTB and CMB (Energy independence, reduction of energy costs.)	Not Started	2026
Introduction of IP-PBX / Digital PBX (Introduced to the Rectorate, CMB, RTB and FDM. Upcoming expansion.)	Complete	Q2 2023
Unified document management system in all units (Working in the Rectorate, Ministry of Health, Foz. Implementation in all units is pending.)	In Progress	Q3 2025
Unified accounting software in all units	Complete	Q3 2022
Introduction of an HR platform	In Progress	Q4 2025
Paperless document management (Gradual reduction in the use of haatiya and transition to electronically signed documents.)	In Progress	Constantly
Digitalization of work processes	In Progress	Constantly
Process optimization and efficiency	In Progress	Constantly
Administrative Information System - UAIS (Conditions, necessity, capabilities, scope, functionalities, requirements, public procurement, architecture, development, implementation, monitoring, improvements.)	In Progress	2025
Online services for students, doctoral students, and postgraduates	In Progress	Constantly
Increasing information security	In Progress	Constantly
Building a single identification (Conditions, organization, system, reliability, security.)	In Progress	Q2 2025
Connecting to eduGAIN	In Progress	Q3 2025
European Student Card	In Progress	Q3 2025
MyAcademicID (European Student Identifier)	In Progress	Q3 2025
Connecting to eduroam	In Progress	Q4 2025
Erasmus Without Paper (EWP)	Complete	Q1 2024

Project / Task	Status	Expected start
Training of employees and teachers (Digital skills, competitive advantage.)	Not Started	Constantly
Online Access Software Solutions (CMB)	In Progress	Constantly
Increasing and improving the quality of online resources (CMB)	In Progress	Constantly

General plan for digitalization:

1. Analysis of the current situation:
   - Conducting a detailed analysis of the current state of digital technologies and practices.
   - Identifying the strengths and weaknesses of existing systems, resources, and infrastructure.
   - Conducting surveys and interviews with students, faculty, administrative staff, and other members of the academic community to identify needs and expectations from digitalization.
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 digitalization.
   - Determining priorities and areas of focus for implementing digital solutions and practices.
3. Selection of appropriate technologies and tools:
   - Market research for digital solutions, platforms and tools that meet the needs and formulated goals.
   - Selection of appropriate software and hardware solutions for e-learning, data management, communication and collaboration.
   - Analysis of the integration of various tools and platforms to ensure synchronization and interaction between them.
4. Development of digital resources and materials:
   - Creating and adapting digital learning materials, resources, and content to meet the needs of students and educators.
   - Building libraries of online courses, video tutorials, interactive assignments, and other digital materials.
   - Implementation of web -based platforms and applications to support the learning process and collaboration.
5. Training and preparation of personnel:
   - Organizing 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 for sharing 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 digitalization against set goals.
   - Regular communication with students, faculty, and administrative staff to receive feedback and make corrections and improvements as needed.
7. Continuous development and innovation:
   - Constant monitoring of new technologies, trends and changes in the educational and technological sectors.
   - Continuing innovation and development of 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 fields of digital technologies, education, and scientific research.