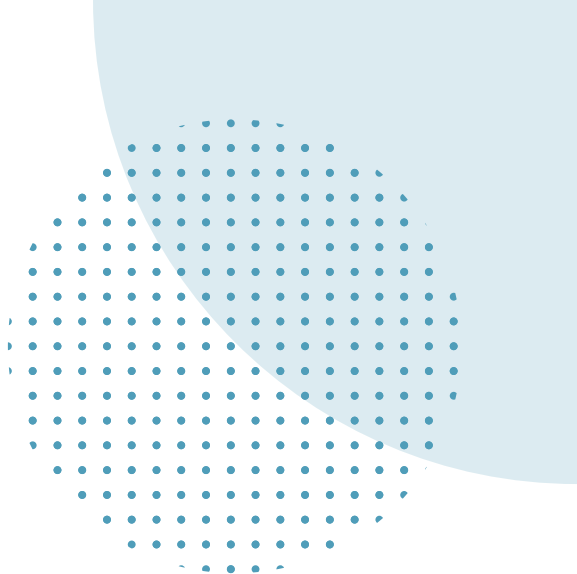**digitrajno izobraževanje**

DIGITAL EDUCATION ACTION PLAN (ANDI)

2021-2027

> **Introduction**

Digital education in Slovenia began in 1994 through systemic measures aiming at integrated introduction of the use of ICT in teaching and learning. Since then, Slovenia has been among the leading countries in the field of digital education, which has regularly been shown by international research. The foundations of sensible and efficient use of modern technology in education were laid by the **Computer Literacy programme**, which was carried out between 1994–2000 and was extended until 2006. In 1998, a job position 'ICT coordinator' was systemised in the field of primary education. Within the programme, regular promotion of progress and achievements in Slovenia and abroad has also been taking place since 1995.

In 2006, the **Programme Council for Informatisation of Education** adopted the **Informatisation of Education Action Plan**, by which new goals and concrete measures were set for all stakeholders, ensuring a further overall leap forward in digital education. A challenge emerged after 2006 as Slovenia no longer had a national programme in the field of digital education, but rather only the action plan and projects. Nevertheless, various projects were ensuring further qualitative and quantitative leap forward or overall thriving of individual fields of digital education.

Within the project **E-education** (2008–2013) (E-šolstvo (2008–2013)), the framework of teachers' pedagogical e-competences named '**e-competent teacher standard**' was developed. It is composed of six key teachers' competences: 1) knowledge and critical use of ICT; 2) searching, selecting and critically evaluating information and concepts; 3) remote communication and collaboration; 4) planning, performing and evaluating the use of ICT in teaching and learning; 5) safe use of e-contents, complying with legal and ethical principles of their using and downloading; 6) designing, creating, updating and publishing of contents on the internet. In that period, most teachers and principals participated in various training courses that included both, seminars and conferences (top-down approach) as well as forms of educational consulting, such as workshops and consultation in terms of pedagogical and technical support that took place at individual schools (bottom-up approach). In that period, an average of more than 10.000 teachers and students participated in e-communities (Moodle) for the purposes of school education.
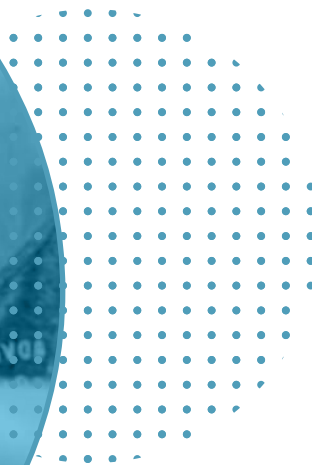
After 2015, only one sizeable project in the field of digital education is taking place, namely Innovative Learning Environments – **Pedagogy 1:1**, by which new didactical approaches of teaching and learning and learners' digital competences are being developed. In addition, Erasmus+ Action 3 projects are taking place, where various practices of digital education are being developed.

In 2020, the **European Commission** adopted the new **Digital Education Action Plan**, by which it proposed a set of initiatives for high-quality, inclusive and accessible digital education in Europe. The European Action Plan has two long-term strategic priorities: 1) Fostering the development of high-performing digital education ecosystem and 2) Enhancing digital skills and competences for the digital transformation.

The results of digital education will only be wide-ranging when active participation of various segments of society and the inclusion of the goals set in national documents (e.g. in the field of artificial intelligence, digital transformation, green transition, reading literacy, mental health and non-chemical addictions as well as safe and stimulative learning environment) are ensured.

The Programme Council for Digital Education was assigned a task in 2019 to prepare a new national digital education action plan. The creation of the document involved active participation of various stakeholders (pupils, students, teachers, principals, professors, researchers, union representatives, policy makers) at workshops, discussions and consultations by the working group of the Programme Council.

During the drafting of the ANDI Action Plan, the following deficiencies were notably pointed out:

› the lack of integrated digital competences and basic knowledge of learners in the field of computer and information science;

› great differences in teachers' competence of using digital technologies;

› the lack of overall and well-founded solutions in the field of didactical use of digital technologies during classes;

› great dispersion of projects, insufficient collaboration, the lack of national coordination and priorities in digital education;

› increasing inequality, unequal opportunities and a widening digital gap between all key stakeholders;

› the lack of infrastructure and efficient platforms;

› the need for the establishment and upgrade of major projects that integrally addressed primarily pedagogical digital competences of teachers.

THE DIGITAL EDUCATION ACTION PLAN COVERS SIX PRIORITIES (Figure 1).

NATIONAL COORDINATION National coordination of digital education and Centres for digital education

DIDACTICS Digital pedagogy, research and development, national and European frameworks of digital competency

REFORM OF CURRICULA, STUDY PROGRAMMES AND JOB POSITIONS Curricular reform, renovation of educational and study programmes and job positions

STAFF EDUCATION AND TRAINING

Pre-service and in-service training of education staff, management staff and other educators

SUPPORTIVE ECOSYSTEM

Infrastructure, platforms, tools and services, e-contents, proposals and outlines for adaptation and management of educational institutions, evaluation, equal opportunities, participation of parents and other stakeholders, cybersecurity

EDUCATION IN SPECIFIC CIRCUMSTANCES

Protocols, instructions and guidelines for education in specific circumstances

Detailed measures were defined during the drafting of the ANDI (Annex 1).

The COVID-19 epidemics provided an additional impetus for educational systems to adopt digital skills and technologies as part of the educational process. It revealed how valuable the role of teachers is and also that remote learning brings many new opportunities as well as challenges. The educational system in Slovenia has proven to be able to properly adapt to new reality.

The presented Action Plan provides a firm foundation for digital education, based on which we will be able to successfully carry out the activities for our common future together with all stakeholders in education.

Igor Pesek, PhD
head of Digital Education Service

> # The vision of digital education

> The vision of digital education in Slovenia is an established education and training system that prepares an individual for high-quality life in a digital and green society comparable to the most successful countries.

The vision can be achieved through a thoroughly considered transformation of the education system, taking into account strengths and weaknesses of various teaching and learning strategies in physical as well as digital environment. By using the best combinations of classical and digital teaching and learning approaches, it will be possible for the people to acquire knowledge and key competences that are required for creative participation in an equitable and resilient society. Also, an interdisciplinary approach and close collaboration with various stakeholders from the local, regional and national environment, the European Union and the wider international community are of crucial importance for successful transformation of education.

> **What is digital education in the context of the Slovenian Digital Education Action Plan?**
>
> »Digital education is education in creative physical and/ or virtual learning environment in which digital technology is used sensibly, safely and interactively with a goal of raising the level of knowledge and competences of all participants (everybody engaged, involved, participating in) of education.«

> The implementation of the Action Plan

The implementation of the Slovenian Digital Education Action Plan is carried out in six key priorities

1. National coordination of digital education

2. Digital pedagogy

3. Reform of education and study programmes and job positions

4. Pre-service and in-service Education and training of education staff, management stuff and other educators and life-long learning

5. Digital education supportive ecosystem

6. Protocols for education in specific circumstances

The priorities of the action plan as well as the purpose and key goals within individual priorities are specified hereafter. Annex 1 lists the measures required for each priority that will be supplemented until 2027, while concrete projects to be carried out within individual or several measures will also be announced.

1. National coordination of digital education

The purpose of this priority is permanent and broad-based national coordination of digital education in terms of content, organisation and finance, which is the task of the Digital Education Service at the Ministry of Education, which closely participates in directing the operation of centres run by various stakeholders (public and private as well as non-profit institutions). Externally, the national coordination acts as a national meeting point where stakeholders contribute various content, which enables the users to have access to or obtain information on services they require at a single location.

The main goals are as follows:

1. to provide national coordination of digital education and implementation of the ANDI (a content-related, organisational and financial hub) at the Ministry of Education and its national and international integration;

2. to establish or upgrade and ensure the operation of centres at public institutions, universities, research institutions and other stakeholders (NGOs, businesses, societies) that plan and carry out activities for educational institutions in coordination with the Hub;

3. to upgrade digitalisation teams at every educational institution that carry out broad-based planning, monitoring and evaluation of digital education activities.

2. Digital pedagogy

The purpose of this priority is identification of good practices, teaching and learning strategies, their further development and their integration, along with the findings of relevant scientific research, into integrated didactics of digital education.

The main goals are as follows:
1. to prepare integrated didactics of digital education "Theory and Practice", which shall serve as the basis for all content-related and other systemic documents at all education levels, in formal as well as informal education;
2. to use national and European frameworks of digital competences and to actively participate in their upgrading;
3. to further develop, test, examine, pilot-test and implement digital education didactics through development-research activities.

3. Reform of education and study programmes and job positions

The purpose of this priority is to reform education programmes and other regulations in order to enable the inclusion of new basic contents of **computer and information science** (CIN), including artificial intelligence and cybersecurity, and learners' digital competences in syllabi, curricula, catalogues of knowledge and skills or study programmes at all levels. We would also like to supplement or upgrade the catalogue of job positions, regulations relating to job positions with limited content and job positions intended for organisational and technical support to digital education.

The main goals are as follows:

1. carry out a curricular reform across the entire education vertical:
    a. to include integrated development and assessment of digital competences in all curricula and catalogues of knowledge and skills, including standards of knowledge;
    b. to introduce a new subject and to upgrade existing subjects with basic CIN contents;
2. to reform study programmes to include digital competences and basic CIN contents in study programmes;
3. to supplement regulations for education professionals in all education programmes and other publicly valid programmes in the field of education to include pedagogical digital competences;
4. to upgrade regulations and descriptions of tasks for the job position of 'digital coordinator' (hereinafter: ROID) at elementary schools and to permanently introduce the new job position of ROID at secondary schools and other educational institutions, public institutions, public research institutions, faculties and adult education centres;
5. to ensure integrated technical support to pedagogical processes and maintenance of digital technology at institutions.

4. Pre-service and in-service Education and training of education staff, management stuff and other educators and life-long learning

The purpose of this priority is to reform and upgrade the system of basic education of education professionals and other educators and the system of further education and training of assistants to include pedagogical digital competences and basic CIN contents.

The main goals are as follows:

1. to include integrated development of pedagogical digital competences and basic CIN contents in all pedagogical study programmes;
2. to set up and upgrade further education and training of education professionals and other educators in order to ensure the acquisition of integrated digital pedagogical competences;
3. to set up learning communities at various levels of education system for permanent and regular exchange of experiences and (mutual) evaluation of good practices carried out by learners, education professionals and other educators and management staff;
4. to ensure further education of higher education teachers and assistants and to set up a system enabling university teachers and assistants to develop digital competences;
5. to set up further education and training for the overall raise and (self)assessment of pedagogical digital competences of consultants and other employees of public institutions;
6. to ensure in-person and remote didactical, professional and technical support and assistance to learners, educators, researchers and parents.

5. Digital education supportive ecosystem

The purpose of this priority is to ensure an integrated, effective, operational, safe and motivational support ecosystem for every stakeholder in education. In addition to national coordination of digital education and education and training of education professionals, management staff and other educators, the following sub-priorities are integral part of the ecosystem:

> 5.1. infrastructure,
> 5.2. platforms, tools and services,
> 5.3. educational e-contents,
> 5.4. management of institutions in the field of education,
> 5.5. internal and external evaluation of progress in the implementation of the ANDI,
> 5.6. ensuring equality and equal opportunities,
> 5.7. involvement of parents,
> 5.8. involvement of other stakeholders,
> 5.9. cybersecurity,
> 5.10. legislation and regulations to encourage digital education.

The goals by sub-priority are as follows:

5.1. Infrastructure:

> to equip learners, education professionals and other educators with modern digital technology at all education levels;
> to ensure high quality broad-band connectivity and high-capacity and safe network infrastructure in educational institutions, public institutes, adult education centres and higher education institutions;
> to comply with modern standards and guidelines in equipping, construction and refurbishment of institutions in accordance with digital strategies of institutions.

5.2. Platforms, tools and services:

> to consolidate and integrate contents, catalogues and tools, e-services into an integrated environment (Slovenian education network) from the perspective of educators and learners at all levels of education and training;
> an individual's virtual environment for personalisation and participative learning and teaching;
> to provide a platform for entry and integrated processing of data for the purposes of management and administration of educational institutions.

5.3. Educational e-contents:

> to upgrade the existing and to create new e-contents in all areas of education and to provide their regular maintenance;
> to provide e-contents to support education in further training of education professionals;
> to promote creation and use of open-access educational resources (OER) and to develop efficient business models to provide OER and licensed e-materials.

5.4. Management of educational institutions:

> at every educational institution - to set up or upgrade an e-team including all key stakeholders;

> at every institution - to draw up and regularly upgrade its digital strategy, encompassing a short-term and long-term plan or priorities for all key areas and to promote it within and outside the institution;

> to monitor the progress and consequently to upgrade the priorities and activities while using efficient and integrated tools;

> to regularly raise awareness among educators and researchers, learners, parents and others about usefulness and efficiency of digital education;

> to upgrade collaboration of various stakeholders in the field of management of digital institutions.

5.5. Internal and external evaluation of progress in implementation of the ANDI:

> to regularly monitor the implementation of ANDI activities on a biennial basis;

> to determine indicators of the effectiveness of implementation of measures;

> to actively participate in international and national research as regards learners' competences;

> to regularly research and monitor competences and attitudes of educators;

> to use data from existing research sources as regards digital society;

> to assess technical equipment and support on a regular basis;

> to conduct a comparative analysis of digital education policies;

> to promote evaluation and monitoring results and to connect with others.

5.6. Ensuring equal opportunities:

> efficiency of digital education in ensuring equal opportunities for all learners' groups;
> to take account of gender differences in all areas of digital education while stimulating increased inclusion of girls and women in STEM and computer science;
> to reduce inaccessibility of digital technology for learners;
> to take account of other (didactical) aspects of equal opportunities while paying regard to diverse capabilities of learners;
> efficiency of digital education in ensuring equal opportunities to all groups: educators, consultants, researchers and others.

5.7. Involvement of parents:

> to regularly provide information to parents about the digital strategy and priorities of educational institutions for individual school years;
> to provide trainings for parents on topical issues related to digital education;
> to encourage dialogue between parents within e-communities.

5.8. Involvement of other stakeholders:

> to ensure permanent collaboration between educational institutions, cultural institutions and education and research institutions and external stakeholders;
> to encourage the dialogue between various stakeholders at all levels of education: local, regional, national, EU and international.

5.9. Cybersecurity:

> to raise competences in the field of safe and ethical use of digital technologies by all stakeholders;
> to ensure safe environment and to implement security policy;
> to carry out efficient prevention in the field of cybersecurity and promotion of cybersecurity;
> to actively engage in collaboration in Slovenia, EU and internationally.

5.10. Legal bases to promote digital education:

> to introduce changes that will accelerate education digitalisation at the level of educational institutions, higher education and public institutions and their founders (municipalities, the state);
> to unify and simplify administrative and legal procedures in education;
> to upgrade regulations in the field of learners' and employees' records and regulations that will ensure the teachers to independently select efficient and safe digital tools;
> to upgrade standards of constructing and equipping educational institution buildings;
> to ensure sustainability of the results of the ANDI Action Plan.

6. Protocols for education in specific circumstances

The purpose of this priority is to develop protocols for **quick transition to remote teaching and responding to other special circumstances** that include all key stakeholders and the entire vertical.

The main goals are as follows:
1. to establish a single information and coordination point at the local and national level;
2. adapted (temporarily) regulations for efficient management of educational institutions while conducting classes in specific circumstances;
3. to draw up detailed protocols, instructions or guidelines for the conduct of all stakeholders.
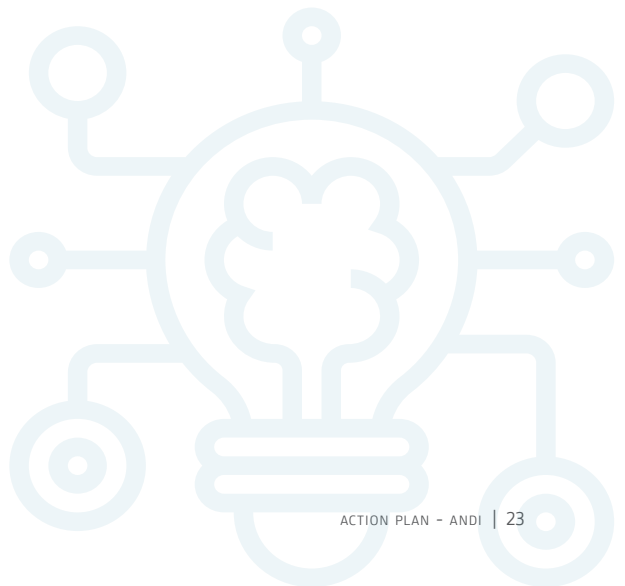
> **Final thoughts about the ANDI Action Plan**

The Digital Education Action Plan as presented here reflects a great effort of the Ministry of Education, particularly the Programme Council for Digital Education, to draw up a document that is both progressive and, to the fullest extent possible, harmonised with various stakeholders involved in education of children, pupils, students and adults.

The Action Plan shall be seen as a dynamic process in the sense of an open dialogue in order to tackle challenges brought about by digital changes and to contribute, together with the proposed measures, to the achievement of the planned goals. There is no doubt that, through education and research, all stakeholders at all levels of the Slovenian education system will be prepared for changed living and working conditions, which will strengthen our innovative power and thus contribute to our common wellbeing.

digitrajno izobraževanje

**DIGITAL EDUCATION
ACTION PLAN
(ANDI)**

2021-2027

Annex 1: List of measures by individual areas

REPUBLIC OF SLOVENIA
MINISTRY OF EDUCATION