

Executive summary

Croatia's higher education system has been undergoing profound change in recent years. The government has proposed a comprehensive modernisation agenda, building on its 2020 National Reform Plan and supported by Croatia's National Plan for Recovery and Resilience 2021-2026. A key part of the modernisation agenda relates to enhancing digitalisation in higher education, by improving digital infrastructure and widening access to high-quality digital education. Croatian public authorities requested assistance from the European Union's Technical Support Instrument (TSI) for provision of support and advice, to enable public authorities and higher education institutions to successfully integrate digital technologies. The OECD was asked by the Croatian Ministry of Science and Education and the Directorate-General for Structural Reform Support of the European Commission to deliver the requested support.

This report brings together the outputs of the project activities. It finds that Croatia ranks behind its European Union counterparts in many aspects of digital readiness. At the same time, Croatia is investing heavily in connectivity and establishing a favourable regulatory environment for digitalisation in the wider economy. Some strong central supports for digital education transformation also help to enhance digital readiness. It is, however, likely that more policy action will be needed if Croatia is to continue to improve the perception, accessibility, and take-up of digital education, including online and hybrid education.

An assessment of digital maturity of Croatia's higher education institutions drew on a digital maturity survey developed by the OECD and CARNET, and interviews with institutions and stakeholders conducted during an OECD fact-finding visit in May 2022. The key findings with respect to the elements of digital maturity identified in the analytical framework (leadership, infrastructure, competence and culture) are as follows:

Digital leadership

- Institution leaders view digitalisation as a concept that goes far beyond online education.
- Most institutions have established digitalisation strategies, but stakeholder engagement in their development seems limited.
- Limited public investment is perceived by institution leaders as a key barrier to successful digitalisation.
- There is a lack of clarity regarding responsibility for digital transformation within some institutions.

Digital infrastructure

- Institution staff express satisfaction with their internet connections provided by CARNET, but many need improvements to their on-campus networks.
- Some institutions have strong concerns about the adequacy of their current digital technologies.
- Institutions rely on in-house support staff, and some experience severe difficulties in maintaining ICT support services.
- Institutions would benefit from a more centralised provision of some software and services and expressed a pressing need for certain types of audio-visual equipment.

Digital competence and culture

- Some initiatives are in place to develop digital competence, but a more systematic approach would be beneficial.
- Many existing pedagogical practices for online and hybrid education lead to deficits in the social element of learning and lower student engagement.
- Students have access to various digitalised services, but institutions could make more effort to involve them in digitalisation planning.
- In Croatian institutions, certain aspects of an innovative digital culture are more advanced than others.

As part of Croatia's National Plan for Recovery and Resilience, significant investments in digital infrastructure are expected. The OECD's review showed that some higher education institutions in Croatia have strong capacities for infrastructure project planning and management, while others require more support and guidance from public authorities. To address this, the report proposes general recommendations for Croatian authorities regarding digital infrastructure investment, including tailoring investment strategies to institutional capacity, allocating public investment to support innovative approaches, and promoting partnerships and co-ownership of investments with beneficiaries.

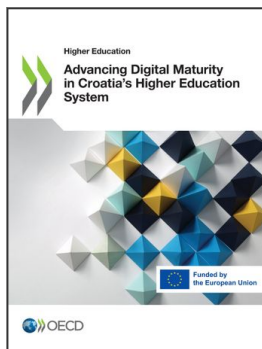
The report also recommends evaluating potential infrastructure investment choices according to centrally defined criteria. These criteria include social impact, quality impact, alignment with systemic goals, technology lifecycle, environmental impact, future cost implications, interoperability, stakeholder consultation, and risk mitigation strategies related to the infrastructure under consideration for funding. As well as the general criteria, the report provides specific principles for investing in different categories of digital higher education infrastructure.

The project activities included a review of emerging standards, supports and practices that can improve the quality of digital higher education. There are substantial variations in the extent to which higher education institutions in Croatia are making effective use of digital technologies. Recent updates to Croatia's regulatory framework for higher education streamline the role of the ASHE to both develop and assess quality assurance criteria for digital education, including online programmes.

In Croatia, as elsewhere, post-pandemic reflections are no longer focused narrowly on online or hybrid education, but on strengthening competence for digital education across all modes of delivery. The pandemic experience has shown that digital technologies alone cannot create a high-quality education programme; they are one of many resources that institutions and their staff can use to innovate curricula and pedagogical approaches.

Quality digital higher education relies on robust quality standards from transnational organisations and quality assurance agencies. More often than not, effective implementation of these standards requires public supports, including guidance for institution-level strategic development, support for sharing good practices, funding, and opportunities to build staff expertise and promote collaboration. However, standards and supports provided from outside the institution cannot drive improvements alone. Institutions must integrate these standards and supports effectively into their own strategic processes and work to improve digital capacity and culture both individually and collectively.

Croatian institutions currently have limited time and space to innovate in teaching and learning, while academic staff have limited extrinsic motivation to do so. To build momentum for change public authorities can create a national focal point and establish long-term objectives for digitalisation in higher education, supporting institutions to work together on improving digital education quality. The activities of the e-Universities project provide a sound starting point for the transformation of digitally enhanced teaching and learning, but more support will be required after the termination of this programme to sustain and build on the progress achieved.



From:
Advancing Digital Maturity in Croatia's Higher Education System

Access the complete publication at:
<https://doi.org/10.1787/c3c8d452-en>

Please cite this chapter as:

OECD (2023), "Executive summary", in *Advancing Digital Maturity in Croatia's Higher Education System*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/beb771d1-en>

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