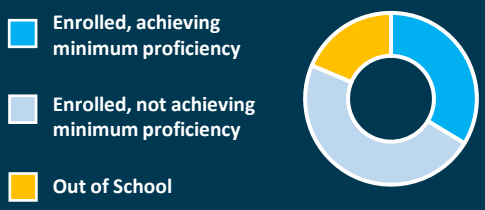
Bosnia and Herzegovina

Connectivity in Education Country Brief

A Crisis of Learning in Education…

In Bosnia and Herzegovina, there exists a crisis of learning in education. This is exemplified by out-of-school rates in the country, as well as those not achieving minimum proficiency. While 422,645 children and adolescents are enrolled in primary and secondary schools, **66,824**[1] **between the age of 6 and 17 are out-of-school**. Additionally, approximately **58.6% of children and young people do not achieve minimum proficiency** in foundational skills needed for further learning and skills development.[2,3]



… becomes acute.

When the COVID-19 pandemic disrupted in-person learning in Bosnia and Herzegovina starting in March 2020, the importance of devices and connectivity for the education system was placed in stark relief — as were the inequitable access to such crucial tools.

Increasing Importance of ICTs for Education

All strategies for continuing education during COVID-19 depended on ICTs as a medium for delivery. But **unequal preexisting infrastructure** in households and schools is also a major driver of the longer-term crisis of learning. Access to **connectivity** and **devices** is a **crucial enabler** of the learning process, particularly in:

1. allowing a more effective administration of education systems, and
2. developing digital skills to prepare students for the future workforce

COVID-19: Strategies for Distance Learning[4]

Television Broadcasting to transmit lessons

Separate online platforms for the Bosnian and Croat language curricula in the Herzegovina-Neretva and Central Bosnia cantons

What's been done?

Government Strategies Addressing Challenges

In 2003, the Parliamentary Assembly of Bosnia and Herzegovina adopted the "Framework Law on Primary and Secondary Education," which covered aspects related to the levels of education, common curricula, standards in education, the right and obligations of parents, the role and responsibilities of schools, and other details pertinent to school management. Accordingly, the framework also established the general goals of education in the country in creating a value system for the national, historical, and cultural, and religious traditions of the country.

The **Policy of Electronic Communications Sector of Bosnia and Herzegovina (2017-2021)**, which is aligned with the Digital Agenda of Europe, elaborates on the expansion of broadband infrastructure in less developed and populated areas. In the context of Internet connectivity in schools across the country, the policy's action plan explicitly focuses on technical preconditions for the implementation of broadband Internet access to all users, especially schools and educational institutions. However, **no additional detail or specific programme for the delivery of school connectivity is identifiable in the country.**

The document "**Priorities in integrating entrepreneurial and digital competence into education systems in Bosnia and Herzegovina 2019–2030**" aims to bring digital skills competencies in line with the European Digital Competence Framework (DigComp).

Many solutions involve digital technology.
This, in turn, requires both **connectivity** and **devices**.

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What Gaps Remain?

Connectivity and Devices at Home[5]

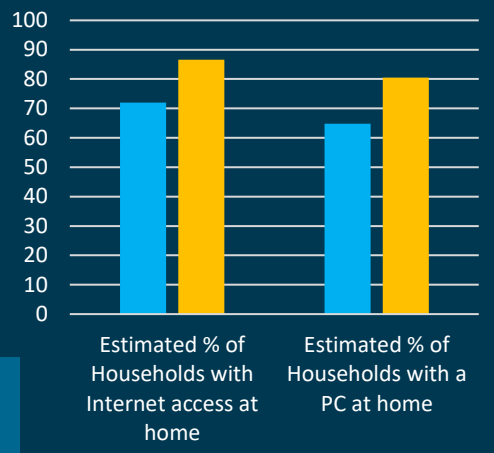
375,651

BiH households are not in possession of a PC

298,814

BiH households do not have access to the Internet

Contextualizing the Gaps

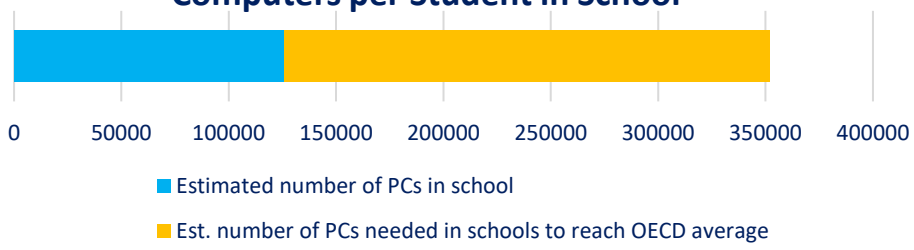


Exacerbating pre-existing inequalities:

The persistent lack of PCs in households is particularly significant when lockdowns triggered by COVID-19 facilitated the transition of economic activity to the digital sphere and transferred both education and work to the household.

Connectivity and Devices at School

Computers per Student in School[6]



212,884

computers are needed in BiH to reach the OECD average of 0.83 PCs per student.

Mapping School Connectivity…

Assessing the level and quality of broadband in schools, and proactively addressing infrastructure gaps, is increasingly important as students return to the classroom. This will ensure that connectivity is leveraged to deliver educational content and to manage the education system in an efficient manner, and that digital skills development is thoroughly included in curricula.

… Remains a Challenge

Bosnia and Herzegovina is not endowed with a nation-wide broadband mapping system for telecommunication infrastructure or services. Mapping the location of schools has also long been a challenge of Bosnia and Herzegovina. The scattered availability of statistics and a lack of up-to-date, comprehensive, country-wide surveys and data collection systems in several sectors remain one of the core challenges for effective evidence-based decision-making at the school level. This also presents a challenge to understanding how to best locate schools in relation to the populations served.

Filling the Device Gap in Schools

Low-Range Estimate[7]

$15.6 million

to reach the OECD average of 0.83 PCs per student.

High-Range Estimate[8]

$180.9 million

to reach the OECD average of 0.83 PCs per student.

To bridge learning gaps, devices are only as important as as the connection that supports them and the access to high quality content and learning they enable. Investment in school and household connectivity as well as content development and robust digital education is vital and must be considered alongside device provision.

Strained Budgets

In BiH, personnel costs account for over **90%** of education spending, compared to an EU average of **77%**, leaving very little room to invest in learning materials and equipment, provide training for teachers, or upgrade school learning environments.[9]

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Looking Ahead

Particularly in the context of the COVID-19 pandemic, Bosnia and Herzegovina has successfully leveraged partnerships with International Organisations toward achieving appropriate levels of devices and connectivity in education. Two key examples are outlined below.

UNICEF delivered learning materials (ECD kits, school-in-a-box, televisions/receivers for distance learning, tablets) to government counterparts (MoE), children—including those in the most disadvantaged families and in boarding schools for children in contact with the law—and at refugee reception centres, **supporting over 100,000 children** in Bosnia and Herzegovina with distance or home-based learning by the end of 2020.

UNICEF provided **Internet access to 1,968 children** in Republika Srpska to ensure their learning continuity.

ITU and UNICEF are committed to helping the Government of Bosnia and Herzegovina and other stakeholders achieve national objectives. School connectivity is widely recognized as a means to a more efficient administration of educational systems, a building block in supporting innovative ways to distribute education content and increase access, and — most importantly — a fundamental prerequisite to endow pupils with the digital skills necessary to thrive in the job market. The achievement of appropriate device and connectivity levels, both at school and in the home, thus remain priorities of both the ITU Office for Europe and UNICEF Regional Office for Europe and Central Asia. Both offices cherish the opportunity to engage with partners and provide support through **technical assistance**, **capacity building** and **research**, as well as **knowledge exchange**.

International Telecommunication Union
Telecommunication Development Bureau (BDT)
ITU Office for Europe
Place des Nations 1211
Geneva 20
Switzerland

By phone:
+41 22 730 5111

By email:
eurregion@itu.int

UNICEF
Regional Office for Europe and Central Asia
Palais des Nations
CH-1211 Geneva 10
Switzerland

By phone:
+41 22 909 5111

By email:
ecaro@unicef.org

Endnotes

[1] ITU calculation based upon World Bank data. Calculation based on the 2013 enrollment rate of 88% for primary education and 85% for secondary education in the Federation of Bosnia and Herzegovina, enrolment rates of 89% for primary education and 79% for secondary education in Republika Srpska, and the 2018 number of enrolled students in each category. See: https://documents1.worldbank.org/curated/en/719981571233699712/pdf/Bosnia-and-Herzegovina-Review-of-Efficiency-of-Services-in-Pre-University-Education-Phase-I-Stocktaking.pdf

[2] Data from UNESCO UIS Database. http://data.uis.unesco.org

[3] UNICEF calculation of the number of students in primary, lower and upper secondary not achieving minimum proficiency in math; Data for Bosnia and Herzegovinais calculated using the latest figures available from UIS and PISA.

[4] See: https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/bosnia_and_herzegovina_report_2020.pdf

[5] ITU WTID Database.

[6] PISA 2018 Results (Volume V); OECD 2020 (Figure V.5.4 School computers per student, school characteristics and reading performance).

[7] This estimate is calculated using the cheapest smartphone available in the region, at $73.60 per device. Price estimate is taken from A4AI price data, averaging the cost of the cheapest smartphones available in Georgia, Turkey and Ukraine. Although Smartphones are used as a proxy for the cheapest way to access online educational content and represent a baseline cost, they are not ideal for sustained learning nor comparable to PCs for educational purposes.

[8] This estimate is calculated using using a price of $850 per computer and monitor, which is a UNICEF price estimation of a high-end computer and monitor more suitable for learning. It thus represents the most expensive end of the spectrum.

[9] See: https://data.worldbank.org/indicator/SE.XPD.SECO.PC.ZS?locations=EU-AL