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# Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 16-Apr-2023 | Report No: PIDA35998



**BASIC INFORMATION**

**A. Basic Project Data**

Country Croatia	Project ID P180755	Project Name Digital, Innovation, and Green Technology Project	Parent Project ID (if any)
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date 18-Apr-2023	Estimated Board Date 22-Jun-2023	Practice Area (Lead) Finance, Competitiveness and Innovation
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Finance	Implementing Agency Ministry of Science and Education	

Proposed Development Objective(s)

The project development objective is to advance research and innovation with a digital and green focus through enhancing institutional infrastructure and research performance of research organizations and firms.

Components

- Programs for digital and green research and innovation
- Enabling institutional conditions for digital and green research and innovation

**PROJECT FINANCING DATA (US\$, Millions)**

**SUMMARY**

<b>Total Project Cost</b>	115.00
<b>Total Financing</b>	115.00
<b>of which IBRD/IDA</b>	115.00
<b>Financing Gap</b>	0.00

**DETAILS**

**World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	115.00
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Environmental and Social Risk Classification

Moderate



Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

## B. Introduction and Context

### Country Context

- 1. Despite Croatia's significant gains in living standards over the last two decades, its income continues to lag the European Union (EU) average and growth potential remains low.** Croatia's gross domestic product (GDP) per capita in purchasing power parity (PPP) terms reached 70 percent of the average EU-27 level in 2021—up from about 50 percent in 2001. Nevertheless, structural headwinds—related mainly to limited improvements in productivity and an aging population—continue to weigh on Croatia's potential growth. The COVID-19 pandemic derailed Croatia's growth path and caused the deepest recession in the country's history, given its dependence on tourism. The country also suffered from two earthquakes in 2020, with significant damage to infrastructure in the capital, Zagreb, and Sisak-Moslavina county. The reopening of the economy and a large fiscal stimulus package in 2021 led to a rapid rebound. Still, the near-term growth outlook remains challenging given a sharp tightening in financing conditions, high inflation, and subdued external demand from key trading partners in the euro area.
- 2. Raising economic resilience and growth will require continued and sustained reforms that enhance productivity.** Croatia recently made several positive steps to further integrate into the European and global economy that advances the growth environment. Croatia simultaneously adopted the euro as its national currency and joined the Schengen area in 2023. Eurozone accession is expected to provide access to more affordable liquidity in the long run, albeit in the context of geopolitical uncertainty that may dampen the immediate effects of Euro adoption. Being part of the Schengen area further facilitates the free movement of people, goods and services with Croatia's most important trading partners. While these are positive developments, Croatia continues to face challenges related to the business environment, competition between firms, investment, and the negative economic impact of a declining and aging population. Low firm productivity in Croatia reflects insufficient R&D investments and innovation and technology adoption, lagging managerial and organizational practices, as well as constraints on competition.
- 3. Digital and green research and technologies provide a strong growth opportunity for Croatia's service-oriented economy.** These technologies are pushing markets toward less dependence on physical proximity, increased automation, and rising investments in intangible capital—all of which could raise productivity in Croatia's services sectors.<sup>1</sup> Investment in digital and green innovation may propel service providers to pursue more lucrative segments and branch out of the domestic market, bringing increased trade and intra-sectoral diversification. These developments are also pertinent to Croatia's aspiration to reduce its reliance on tourism-related services.

<sup>1</sup> Nayyar, Gaurav et al. 2021. *At Your Service? The Promise of Services-Led Development*. Washington, D.C.: World Bank.



## Sectoral and Institutional Context

4. **Research, development, and innovation (RDI) drive productivity.** The link between public spending on RDI and aggregate productivity flows through two main channels: through public research organizations and through firms. Public research organizations that achieve research excellence create the preconditions for the commercialization of research through spin-offs, patents, and licensing. Public investments through the research sector can also generate positive spillovers through research excellence and technology and knowledge transfer, if the research is effective and articulated with private sector demand. The other channel goes through firms. Firms can improve their production processes and increase efficiency and productivity by investing in research and development (R&D); creating new products, services, or technologies; or adopting existing ones. Croatian firms that invest in R&D have 2 percent higher productivity growth compared to firms that do not, and a 1 percent increase in business investment in R&D is associated with productivity growth of 0.6 percent. This relationship is especially strong among smaller and younger firms.

5. **RDI outcomes are modest, especially in digital and green research and innovation.** The research sector has struggled to produce high-quality research and to establish effective linkages with the private sector, owing to a chronic lack of funding, dated infrastructure, and ineffective governance and institutional framework. As a result, Croatia stands out compared to other countries in terms of overproduction of low-quality publications, with the highest average of uncited papers in Europe. Participation in competitive international R&D funding is low and Croatian research organizations and firms have struggled to access the competitive and prestigious Horizon 2020 funds. In the digital and green space, research and innovation is particularly limited: only 9.5% of patents are in environment-related technologies and, between 2015 and 2018, the Croatian research sector produced almost no patents related to Industry 4.0 technologies. Past attempts to reform the financing of public research organizations and create proper incentives for research excellence did not trigger major changes in the system as the funding model remained in essence input-based. A performance-based funding reform is currently underway to address these shortcomings, but systemic fragmentation remains an obstacle to efficient implementation.

### C. Proposed Development Objective(s)

#### Development Objective(s) (From PAD)

The project development objective is to advance research and innovation with a digital and green focus through enhancing institutional infrastructure and research performance of research organizations and firms.

#### Key Results

The project will build the capacities and resources of institutions to deliver digital and green research and innovation, complement and enhance the effectiveness of EU funds, and finance digital and green research and innovation. Firms and researchers will benefit from better public services, more resources to conduct digital and green research and innovation, and more effective government support, while institutions will improve the effectiveness of their policies.



**D. Project Description**

6. **The project is structured into two components.** Component 1 aims to strengthen institutional capacities and support the efficient use of EU funds. Component 2 aims to cover the gaps in research and innovation funding and improve the targeting of research and innovation support to digital and green technology.

7. **Component 1 activities focus on strengthening institutional capacities and bolstering the effectiveness of EU funds.** Subcomponent 1.1 aims to improve the institutional capabilities and infrastructure for RDI, including through strengthening the capacity to deliver on the green and digital mandates. Subcomponent 1.2 provides complementary resources to enhance the effectiveness of research and innovation financing, aiming to boost the effectiveness of EU funds for research and innovation.

8. **Component 2 provides financing to accelerate the digital transformation and green transition of the economy through research and innovation.** The financing addresses critical gaps in the current program mix that inhibit digital and green research and innovation. These gaps are reflected in the types of projects that can be financed and the design, implementation, and governance of the available instruments. The choice of instruments is informed by evidence-based recommendations for addressing market and system failures that hold back innovation.

Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Assessment of Environmental and Social Risks and Impacts

9. **Environmental and social risks are moderate.** The project is classified as Moderate Risk for social, and environment due to planned infrastructure interventions, as well as activities supported through grant schemes. Taking in account the nature of the project, small to large size of sub-projects and the experience of the implementing body in managing similar activities, EU regulatory setting and well-functioning institutional setting moderate risk is expected for both social and environment at Appraisal stage. Project will fund civil works expected to be small to medium scale with environmental and social risks typical for construction works. The Project also supports R&D subproject grants, which may include research, whose environmental and social implications will be assessed and monitored. However expected environment and health risks are expected to be low to moderate with appropriate mitigation measures in place.



## E. Implementation

### Institutional and Implementation Arrangements

10. **A Project Implementation Unit (PIU) in the Ministry of Science and Education will implement the project.** The Ministry of Science and Education, its Directorate for Science and Technology, and the Croatian Science Foundation will be the primary beneficiaries of the project's capacity-building efforts.

11. **A Project Steering Committee (PSC) will provide strategic guidance and inter-ministerial coordination.** It will have representatives from the Ministry of Finance and the Ministry of Science and Education, as well as other ministries and agencies involved in the green and digital agenda, such as the Ministry of Economy and Sustainable Development, the Croatian Science Foundation, and the Croatian Agency for SMEs, Innovations and Investments (HAMAG-BICRO).

## CONTACT POINT

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**APPROVAL**

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