

# Croatia: Increasing Innovation Potential



## Overview

Drawing upon International Bank for Reconstruction and Development (IBRD) funding since 2006, Croatia has increased the magnitude of commercialization of public research and private sector innovation and concluded research contracts in the value of 8.5 million euros, with more than 60 patent applications filed by Rudjer Boskovic Institute only. The access to Research and Development (R&D) funding (35 million euros) was expanded to about 80 small and medium-sized companies, which was important in the context of illiquid financial markets and as mitigation measures to the global economic crisis.

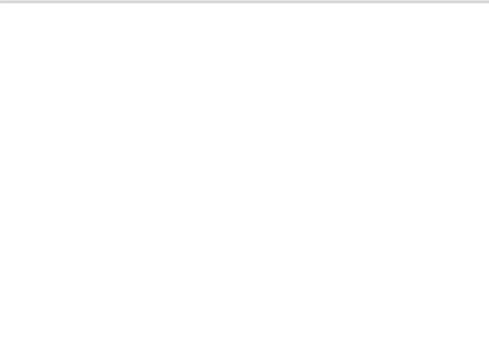
## Challenge

Rising living standards reduced the competitiveness of Croatia's labor-intensive industries, while inadequate science, technology, and innovation policies hampered the development of knowledge-based sectors. Poor innovation policies also limited the economic benefits that could come with the country's full accession to the European Union (EU). For instance, in 2002, there were only 48.8 patent applications to the European Patent Office per one million employees. When comparing the patenting culture with the culture of publishing in Croatia, there were about 100 published papers per one registered patent in 2006.

## Approach

The Science and Technology Project was conceived as the backbone of Croatia's innovation policy, and supports the creation of technology transfer offices in key public research organizations and universities, as well as their diversification toward contract-based research. The project subsidized research and development (R&D) by small and medium sized enterprises and their collaboration with public research organizations. Improved access to public R&D funds has been consistent with the Lisbon Agenda's objectives on increasing the R&D and innovation in the private sector and increasing national R&D expenditures. The project also funds cooperation of local researchers and industry with Croatian scientific diaspora and researchers from abroad, which

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**80**  
The number of small and medium-sized companies receiving access to R&D funding..

**8.5 million**

increases the mobility of highly qualified experts and transfer of knowledge with direct impacts on development.

## Results

There are more public research results commercialized, private R&D expenditures increased and research mobility improved, which are all contributing to improving Croatia's competitiveness and growth prospects.

Research and development institutions (RDIs) have commercialized more research outputs:

- Between 2006 and 2010, the Brodarski Institute (BI), a maritime technologies institute, shifted its focus from the public sector and concluded 30 new contracts with industry, in the value of 6.8 million euros, as compared to two contracts of 0.3 million euros in 2006.
- The Brodarski Institute's share of revenue from private companies increased to 39 % in 2010, from 22 % in 2006;
- Rudjer Innovations, a technology transfer office of Rudjer Boskovic Institute (the largest research and development institution (RDI) in Croatia), established in 2006 with project funds, has so far achieved solid commercialization results among which 10 licensing agreements, three patents and over 60 patent applications; and four spin-off (science-based) companies;

Small and medium sized companies (SME) increased development, use and adaption of technology:

- The project improved the capacity of the Business Innovation Center of Croatia (BICRO), a government innovation agency, to conduct R&D financing programs for SMEs. Thus far, 80 knowledge-based companies have benefited from BICRO programs consisting of soft loans for seeds capital for R&D in the pre-commercialization stage and matching grants for collaboration between SMEs and research organizations.
- So far, three companies supported by BICRO's program of soft loans have launched a new product or offered new services to the market, and one attracted venture capital fund investments for its start-up;
- Between 2006 and 2010, BICRO's program of technology centers/parks provided services to some 340 companies; of which 280 companies are tenants in the technology centers/parks as of mid-2010, benefiting from assistance in developing their businesses; and about 350 jobs have been created;
- There is more private (R&D) mobilized, with SMEs investments in BICRO and UKF Programs reaching about 12.0 million euros.

More collaboration of local researchers and industry with researchers from abroad, investing in highly skilled people and 'knowledge network':

- The project helped establish the Unity through Knowledge Fund (UKF) in 2006 to increase the country's scientific base and engage the Croatian scientific diaspora in the national economy.

# euros

The total value of Croatia drawing upon IBRD funding for the commercialization of public research and private sector innovation since 2006.

### MORE INFORMATION

- » Science and Technology Project
- » ECA Knowledge Brief - PDF
- » Smart Lessons 2010
- » Ministry of Science, Education and Sports

- In three years, the UKF financed 70 joint scientific and technology projects, thus increasing mobility of highly skilled people, improving knowledge transfer and connecting science with industry:
- 306 researchers are participating in the UKF projects, of which 110 are from abroad;
- 103 public research organizations participate in the projects, of which 73 are from abroad;
- More than 50% of projects are carried out with young researchers; 26 contracts have been concluded between researchers and industry, with about 550,000 euros invested by the business sector;
- In 2009, the European Regional Economic Forum and the International Labour Organization acknowledged the UKF as good practice in improving mobility of highly qualified experts, a critical factor for creating a knowledge-based economy.

## Partners

There is strong ownership by the Ministry of Science, Education and Sports in leading the project and the work with beneficiary organizations, including: Rudjer Boskovic Institute, the country's largest scientific institution, and its technology transfer office — Rudjer Innovations, created with project funds; Brodarski Institute, a marine research and advanced technologies institute; Business Innovation Center of Croatia (BICRO), a government innovation agency; the Unity through Knowledge Fund (UKF), established under the project; the University of Zagreb; and University of Rijeka — that joined the project at mid-term.

## Voices

“ We haven't felt the global crisis, and this can be seen from the fact that our number of employees rose last year from about 10 to 25, and we have doubled the revenue.”

— Saša Šarunić, is one of the two founders of the company  
*Pet minuta (Five minutes) from Zagreb*

## Toward the Future

The project supported the government to develop the “Science and Innovation Investment Fund Project,” a 8.5 million euros grant financed by the EU Instrument for Pre-Accession (with possibly an additional 7 million euros in late 2010), supporting commercialization of R&D results and technology transfer through grant schemes. The UKF also develops the program schemes to be financed by EU structural funds, i.e., the European Social Fund, when Croatia assumes membership, while BICRO is in process of accreditation for EU funds coordination. The synergy of government funds, EU funds and private sector financing are already under way under BICRO's program of technology centers, supported through the Bank-funded project.