Computer’s June issue features the application of information and communication technologies to support international development (ICT4D) among some of the world’s poorest communities.

By contrast, we include two additional articles that describe the very different experiences in Brazil and Ireland, countries with economies that have seen the significant advantage of becoming players in globalization and the development of significant ICT industries.

BRAZIL

Brazil, the fifth largest and fifth most populous country on earth, faces significant challenges. Large parts of Brazil, most notably the Amazon, are sparsely populated, completely lacking in basic infrastructure, and hardly ripe for exploiting an ICT industry. Despite having a full literacy rate of only 28 percent, one of the lowest rates in the developed world, Brazil has embraced the computer science industry and is a leader in the field. Sociedade Brasileira de Computação (SBC), the Brazilian Computer Society—one of the world’s highly respected societies and a member of the International Federation for Information Processing (IFIP)—this year celebrates its 30th anniversary. The SBC has been instrumental in Brazil’s prominence in computing and related technologies and in the establishment of a significant research community within Brazil. Without exception, computer science departments in Brazilian universities rank highly, and several can certainly be classified as world class.

In “Grand Research Challenges in Computer Science in Brazil,” Claudia Bauzer Medeiros, a past SBC president, describes the society’s approach of identifying five key grand challenges to focus the Brazilian computer science research community’s efforts. The result is a thriving research community that is very visible on the world stage.

IRELAND

Ireland, on the other hand, is a very small country with a small population. In the 1990s, it became known as “the Celtic Tiger” for its prominence and rapid growth, analogous to China’s sustained growth in many other areas. Ireland exploited its geographic position, highly educated work force, use of English (the ICT industry’s lingua franca), and availability of tax incentives to jump-start a localization and outsourcing industry. Yet, Ireland now finds that it is no longer “cheap” in terms of its workforce, a problem that has begun to affect even India at this stage. It became evident that an industry based on localization and outsourcing would not continue indefinitely and that Ireland—transformed from one of the poorest EU countries to the second richest in the world (after Luxembourg) based on per capita gross domestic product—must reinvent itself to exploit its position and keep at the forefront of advanced technologies.

The Irish government has thus significantly increased its investment in software-related research, as Kevin Ryan describes in “Engineering the Irish Software Tiger.” New government-funded research centers—including Lero—The Irish Software Engineering Research Centre, described in this article—aim to make Ireland a world leader in the software field.

Other countries, and particularly smaller economies, might benefit from the vision and experience of both Brazil and Ireland, realizing that their goals, top-class tertiary education, and significant investment in research are essential to securing a place on the global ICT stage.

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