

1 . E X E C U T I V E S U M M A R Y





Results of the 3rd Report on the Benchmarking of the Information Society in Emilia-Romagna show strengths and weaknesses of the regional information society.

The ICT sector in Emilia-Romagna is in an ongoing state of stagnation, as for the whole regional economy. On the one hand, data indicate an increase in the number of ICT firms in financial crises; on the other hand, we observe a persistent de-industrialization of productive units and a higher number of new-to-market firms with a non-societal form. At the same time, strong de-localization of productive structures of ICT firms outside the Region occurs with the risk of undermining future developments of the sector in the regional territory.

Indeed, things go better when we look to other features of the regional ICT productive system. Firstly, the number of small and medium enterprises (SMEs) in the Region is higher than the national average. Since organizational flexibility is an important feature for ICT firms development, and SMEs are usually more flexible and dynamic than large ones, the industrial structure of the ICT sector in Emilia-Romagna seems adequate. Secondly, results testify strong entrepreneurial attitudes of ICT regional workers (23.2% of ICT workers in Emilia-Romagna are professionals; the national average is 20.7%), a constant level of ICT employment and an increasing specialization of regional ICT firms in information services. Finally, the R&D personnel of ICT firms, their expenses in research and development and the share of ICT-skilled workers are all higher than the national average.

When we consider the firm level in three sectors – ICT, Tourism and Mechanical manufacturing – data point out good technological endowments of regional firms. Several shortcomings in the deployment of ICT for managing productive processes and relations with customers can be stressed as well.

Precise insights on ICT in regional firms can be grasped by using sector-oriented and dimensional clusters. ICT firms are those that more strongly use PCs and the Internet, more frequently surf the Web through broadband connections and experiment innovative technological solutions like VOIP or wireless LAN. Moreover, firms of the ICT sector strongly invest in ICT-education for employees, frequently adopt e-learning programs for workers and are willing to use e-procurement or e-government services. Nevertheless, firms of the Tourism sector are leaders in the deployment of web-based platforms to receive payments and orders or to advertise their products. They also offer more sophisticated e-commerce solutions than ICT firms to customers. Finally, mechanical manufacturing firms are generally in a visible delay in the adoption of ICT and in the organization of an e-business model. However, they are heavy users of ERP solutions and on line banking services. Considering dimensional clusters, we notice a predictable correlation between firm's dimension and technological endowment. Nevertheless, SMEs, even with smaller and simpler technological infrastructures, are very innovative in shaping their e-business model and more willing to adopt ICT-mediated solutions than large ones. For instance, small firms have the highest percentage of on line transactions and the highest percentage of profits from on line sales. Similarly, medium size firms use more wireless connection, SCM systems and e-payment methods.

Lights and shadows also characterize ICT adoption and utilization patterns in primary and secondary schools. In Emilia-Romagna almost all schools have a PC and an Internet connection with an overall number of 70.000 PCs (73.3% of these computer are connected to the Internet). Unfortunately, on average, we have only 9 PCs and only 6.6 computer connected to the Internet for 100

students and a weak tendency to use ICT during lectures. The situation is slightly better in technical-secondary schools, but the data suggest that much more has to be done to bring ICT in the educational system. The number of ICT laureates in Emilia-Romagna is stable and the percentage of ICT students with respect to the overall student population in the Region is 23.5% (slightly lower than the national average). The percentage of ICT laureates in the region with respect to the overall number of ICT laureates in Italy is also constant and is about 10.5%. The scientific production on ICT is largely higher than the national average and this testifies the high quality of regional universities and the existence of a well-performing network system between firms, research centers and universities.

On the side of ICT infrastructures, in Emilia-Romagna the 87% of the regional territory has been covered with xDSL infrastructures and the percentage of regional citizens that can access to the Internet with bandwidth larger than 2Mbps is remarkably increased from 2004 (more than four times). Broadband services are usually provided by the market incumbent and competition between alternative broadband conduit operators (like UMTS, Wi-Fi or cable) is weak. This can be explained in terms of low diffusion of wireless or cable networks and of small dimension of regional providers which frequently are not able to attract consumers.

Finally, the deployment of ICT by the regional citizens is good especially for young, skilled and rich users. They surf the Internet almost every day, from home, via desktop PCs and for several reasons. Nevertheless, the issue of the digital divide is far from being evaded. Some districts (like the Ferrara one) suffer from the lack of adequate broadband infrastructures and whole groups of the regional population (like the elderly or women) are actually e-excluded.

