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**COMMUNICATION FROM THE COMMISSION
TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE EUROPEAN
ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE
REGIONS**

**Adapting e-business policies in a changing environment:
The lessons of the Go Digital initiative and the challenges ahead**

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INTRODUCTION

In 2001, the European Commission launched the Go Digital initiative, with the objective of helping SMEs to better use the Internet as a business tool. This Communication reviews growth in the use of information and communication technologies (ICT) and e-business tools by European business, and notably small and medium-sized enterprises (SMEs), and the policy challenges that emerge from this picture. What has changed in recent years and what needs to be done in the future to help SMEs to “go digital”?

Whilst it is accepted that more needs to be done to stimulate the use of ICT by SMEs, the main policy challenge has changed from getting SMEs connected to the Internet to the effective and productive integration of ICT into business processes. Here SMEs are still lagging behind larger enterprises, which could impair their competitiveness and thus slow Europe's overall productivity growth.

In other words, the policy focus is shifting from promoting e-commerce to a more holistic view of e-business as a whole, which includes not only buying and selling over the Internet but also the productive use of ICT. This view is clearly reflected in the eEurope 2005 Action Plan objective of creating a favourable environment for e-business, which defines e-business as comprising both e-commerce (buying and selling online) and the restructuring of business processes to make best use of digital technologies. The new goal is to promote the take-up of e-business, with the aim of enhancing the competitiveness of European enterprises and raising productivity and growth through investment in ICT. This would complement efforts to integrate European markets through the digitisation of the economy, which remains a high priority.

The re-orientation of policy towards integrating e-business into normal business should be supported by the many national and regional e-business initiatives in order to spur progress towards the Lisbon target. Indeed, effective measures to assist SMEs in the process of business transformation have to be taken at national and regional, if not at local level. As part of the Go Digital initiative, many e-business initiatives in favour of SMEs have been analysed and assessed against different efficiency criteria, resulting in the identification of 19 examples of good practice to promote awareness and to encourage and facilitate the use of the Internet for SMEs. However, the shift towards e-business is posing new challenges for SME policies, which need to be addressed by future initiatives in this field.

This Communication presents the latest available statistical evidence on the use of ICT and e-business by SMEs and identifies the main e-business policy challenges at national and European levels, building upon the results of the benchmarking report on regional and national e-business policies and the most advanced e-business initiatives that could be found. The objective is to stimulate policy changes at national and European levels, by providing a policy framework for future actions and by preparing for more appropriate policy targets in response to the practical needs of European enterprises to transform their business processes. By raising these issues, this Communication is responding to Industry Council requests to *"intensify dialogue, exchange regularly experience, identify specific goals for e-business policies and to share best practices"*¹.

¹ Conclusions of the Industry Council 9938/02, of 6 June 2002

1. THE USE OF ICT AND E-BUSINESS BY EUROPEAN SMES

At the time when the eEurope 2002 Action Plan was adopted, there was only limited statistical information on e-commerce and ICT usage by European enterprises, in particular with respect to SMEs. For this reason, the Go Digital Action Plan² included a specific action concerning the measurement of the take-up of ICT and e-business. This action has resulted in the development of the *e-Business W@tch*³, which complements the Eurostat surveys on e-commerce and ICT usage by enterprises. The main results of these two statistical sources are summarised in this chapter and presented in more detail in the Annex.

1.1. ICT infrastructure and e-commerce uptake

Basic ICT infrastructure and access to the Internet are no longer considered major barriers to e-business uptake in Europe. According to Eurostat, over 90% of enterprises with more than 10 employees are using computers and almost 80% of them are connected to the Internet. The *e-Business W@tch* found a similar overall picture for small enterprises (0-49 employees): in mid-2002, more than 90% of them used computers and over 80% had access to the Internet. Practically all large enterprises (i.e. those with over 250 employees) are already connected. As most enterprises are now connected to the Internet, the usage of e-mail and web sites has become nearly ubiquitous in the world of business. In this respect, no major gaps between larger enterprises and SMEs exist anymore.

Basic connectivity indicators no longer reveal major gaps between sectors or regions. However, some regional differences still exist. In particular, small enterprises in Italy, Spain, and Greece are lagging behind on Internet access, although they are catching up. More importantly, the *e-Business W@tch* data show that there are still significant differences as regards the quality of Internet access. More than a quarter of the small enterprises still connect to the Internet with an analogue dial-up modem. Large enterprises, on the other hand, are well equipped with fixed network connections, using higher bandwidth and only about half are connected to the Internet at less than 2 Mbps. Thus, the percentage of enterprises with speed of connection higher than 2 Mbps could be an easy-to-monitor benchmark for the success of infrastructure related policies in the future.

Table 1: SMEs (10-249 employees) and large (250+ employees) enterprises' take-up rates (2001–2002)

% of Enterprises		Using computers		Using Internet		Making e-commerce purchases		Making e-commerce sales	
		2001	2002	2001	2002	2001	2002	2001	2002
EU	SMEs	92	92	67	79	25	25	17	10
	LARGE	97	99	81	97	47	37	42	17

Whereas the use of basic ICT and access to the Internet are reaching saturation levels, the divide between Northern and Southern Member States with respect to e-commerce activities still exists and is even widening. According to the Eurostat 2001 and 2002 surveys, enterprises in the Nordic Member States have maintained a momentum of growth. In

² COM(2001)136 final, of 13.3.2001, Communication on "Helping SMEs to Go Digital", action 2: measuring of take-up of ICT and e-business

³ <http://www.ebusiness-watch.org/marketwatch>

particular, the percentage of companies making e-purchases has, in some cases, almost doubled. Whereas in these countries more than 45 % of enterprises are buying online, only about 10% of those in Southern Member States are using the Internet for this most simple but very cost-effective form of e-commerce. Enterprises from the remaining Member States come closer to the Scandinavian pattern, although with slower growth. The most striking growth is in Austria, for which figures on e-commerce activity have almost doubled. This clearly shows that there is still growth potential for e-commerce to be further exploited by enterprises in most Member States.

Although the pattern of e-commerce take-up varies across Europe, the percentage of companies making e-purchases generally exceeds that of those engaging in e-selling activities by more than 2:1. Moreover, SMEs are using both channels less than larger enterprises, in particular for sales purposes. However, it is difficult to judge to what extent the Internet can be used as an additional distribution channel. In 2002, fewer enterprises were selling online than in 2001, indicating the difficulties of implementing commercially viable business models. It has to be acknowledged that many products are not suitable for e-commerce and that emerging conflicts between different sales channels are sometimes difficult to resolve. As a consequence, policy makers should be very cautious about setting targets for selling online. For online purchases, however, it should be expected that virtually all enterprises could benefit from engaging in e-commerce activities, in particular for maintenance, repair and operation (MRO) goods and services.

For business-to-business (B2B) transactions, the emergence of e-marketplaces seems to be of growing importance for both large companies and SMEs. Unlike the traditional e-commerce sites of individual companies, e-marketplaces bring together several buyers and sellers/suppliers. The *e-Business Watch* reports that about 5% of European enterprises in the four largest EU Member States (Germany, France, UK and Italy) used e-marketplaces in 2002 and, in addition, more than 3% plan to do so in 2003. Large enterprises are more likely to use e-marketplaces, but in many cases SMEs will have to follow. Whereas the overall impact of e-marketplaces is still relatively low, there are some industries, e.g. chemicals, transport equipment manufacturing and ICT services, where B2B e-marketplaces have clearly gained momentum. This indicates the importance of sound sector-specific analysis for the definition of e-business related policies in favour of SMEs.

The economic pressure for businesses to adapt varies from sector to sector. In some sectors, such as ICT services, business services, electronics and media & printing, the percentage of enterprises buying online is already very high and this type of transaction will soon become the norm. Sector-specific differences explain, to a large extent, the different patterns of Member States with respect to the take-up of e-commerce. Therefore, the general statistical picture is not sufficiently informative about the nature and significance of existing policy challenges. Enterprises compete in different markets and with different intensity. To be effective, e-business policies must address sector-specific and regional issues in a targeted manner.

1.2. From e-commerce to e-business: A new challenge for SMEs

E-commerce transactions, such as online selling and procuring, constitute an important element of electronic business. Until recently, statistics have focused on measuring and describing these new forms of transactions. In order to identify relevant policy measures to enhance the competitiveness of European enterprises, the analysis has to take more account of how ICT usage contributes to productivity and efficiency gains. In this respect, focusing only on e-commerce activity is clearly not sufficient.

While SMEs, in general, appear to be closing the gap in terms of ICT penetration and Internet connectivity, they still seem to find it harder and more costly than large enterprises to implement new technologies, due to the proportionately higher costs of investing in human capital and maintaining IT infrastructure and company websites. Statistics from the *e-Business Watch* suggest that the gap between small and large firms has now moved to the area of more advanced e-business applications. According to these statistics, for instance, less than 10% of those small enterprises that sell online have fully integrated the ordering process into the internal business organisation, while a third of the large enterprises have accomplished this task.

Statistics also show that large enterprises are currently the main users of the more advanced e-business solutions that underpin electronic business processes. Nearly a third of large enterprises have implemented an electronic Customer Relationship Management (CRM) system, but less than 10% of the small and not many more of the medium-sized enterprises have invested in these new ways of doing business electronically. In addition, 13% of large enterprises are users of an electronic Supply Chain Management (SCM) system, compared with only 3% of SMEs. It is nonetheless worth asking whether SMEs really need to use such sophisticated electronic systems and whether there are alternative, less costly ways for them to integrate business processes electronically.

In conclusion, it seems that the threat of a "digital divide" between larger and smaller enterprises in terms of simple Internet access and usage is no longer the most important policy issue. The question is rather how far SMEs need to move into e-business, bearing in mind that the critical factor is the extent to which e-business tools can enhance their competitiveness. Future policy discussion should therefore focus on how best to help SMEs to transform their businesses into "e-companies" rather than on how to promote e-commerce. In promoting e-business, due account has to be taken of economic realities, such as the difficulties that SMEs often experience in identifying and re-organising their internal processes, the higher relative costs they incur when investing in ICT, and problems in recruiting skilled e-business personnel and enhancing the e-business skills of their workforce.

1.3. The need for comprehensive e-business indicators

Policy actions should be based on sound economic analysis and a clear identification of the challenges to be addressed. For this reason, all relevant statistical data should be used in a consistent manner in order to present the full picture. The "e-business index", as included in the list of eEurope 2005 benchmarking indicators⁴, aims to assess the readiness of enterprises to conduct business electronically. This index embodies a concept much wider than e-commerce. Here, e-business relates to both external and internal company processes, encompassing not only external communication and transaction functions, but also information flows within the company.

The e-business index should be considered as a first attempt to provide a better measure of the take-up of e-business, based on the availability, reliability and comparability of relevant data. The objective must be to identify those elements of e-business that have a measurable impact on productivity and growth and are thus directly related to the Lisbon strategy. The first results of the e-business index will be available in the second half of 2003.

⁴ Council Resolution on the implementation of the eEurope 2005 Action Plan, 5197/03 (OR.en), 28.01.2003

In addition, some Member States have launched their own initiatives to develop innovative indicators for “e-readiness” that can be used for defining and benchmarking policies. The UK Department for Trade and Industry, for example, has developed a sophisticated rating of e-business related activities in the framework of the "UK online for business" initiative. The rating includes a range of indicators on ICT use and it awards points depending on the degree of “sophistication” with which ICT is used within the business. Member States are encouraged to follow this example and to contribute to the debate on defining appropriate indicators and – consequently – targets for e-business policies.

2. A NEW APPROACH FOR E-BUSINESS POLICIES – THE NEED FOR SETTING QUANTITATIVE TARGETS

In recent years, many e-business policy initiatives have been launched to promote the use of the Internet by SMEs. Today, new challenges are emerging that require a review of existing policy initiatives and their re-orientation towards the facilitation of structural change. For this, clear policy objectives and, wherever possible, quantitative targets should be set in order to allow for greater efficiency and a continuous monitoring of the achieved results.

2.1. Towards better adapted and more innovative e-business policies for SMEs

The role of public authorities in promoting e-business is mainly to ensure a favourable e-business environment for enterprises. Enterprises benefit most from a reliable, stable and open business environment, which helps companies to take up e-business practices. An e-business friendly environment has the effect of lowering market access barriers and the costs and risks of ICT investment. In particular, SMEs need:

- a stable legal and regulatory framework, notably for cross-border trading;
- full liberalisation of the telecommunications market, resulting in lower prices for Internet access and improving the quality and speed of Internet access;
- e-government services, which reduce companies' administrative overheads and thus create an incentive for enterprises to engage in e-business.

At both European and national levels, many of the necessary steps have been taken to address these fundamental policy challenges. The legal framework for e-commerce has been widely established and the telecommunication markets are being rapidly liberalised across Europe. The eEurope initiative provides a framework for fostering e-government services and promoting broadband infrastructure and applications.

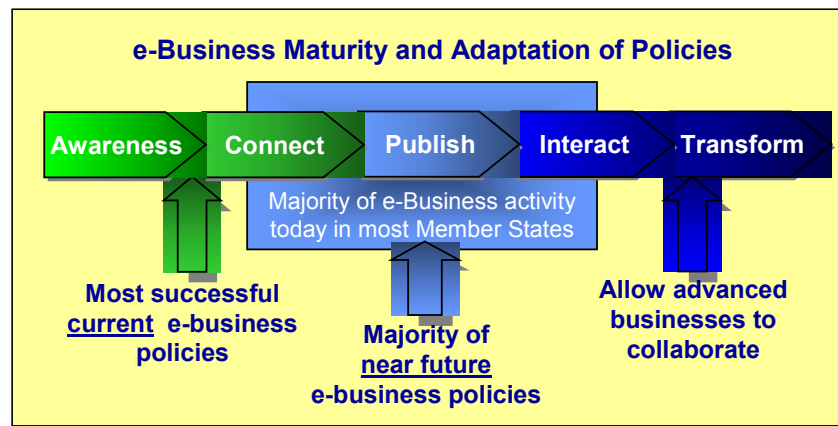
In addition to these “horizontal” policy initiatives, specific SME policies aiming to promote the use of ICT and e-business by SMEs are needed to accelerate the full integration of ICT in business processes in all Member States. As emphasised by the Communication on “Industrial Policy in an enlarged Europe”⁵, a key challenge for the EU is to ensure widespread take-up and efficient use of ICT in all industries and services, including SMEs, which are the backbone of the European economy. ICT take-up and diffusion among SMEs is critical for the competitiveness of the whole EU economy.

The statistical evidence suggests that the majority of European enterprises is generally aware of the challenges and opportunities resulting from the new forms of doing business electronically. In many cases, being aware and getting connected to the Internet were the first steps taken by enterprises, followed by communicating information to customers and business partners electronically. The next step now consists of enabling interactive business processes, including e-commerce transactions. Ultimately, it will be necessary to transform business processes as a whole, in order to automate the flow of information and to create virtual networks among enterprises. But most enterprises, both large and small, are still far away from this ultimate aim.

⁵ COM (2002) 714 of 11.12.2002: Communication from the Commission to the Council and the European Parliament “Industrial Policy in an Enlarged Europe”

E-business policies will have to move up the maturity ladder, too, along with the companies that constitute the target group. For instance, until recently the main focus of many e-business policies for SMEs was to raise awareness of the importance of getting connected to the Internet. Now that this goal has been widely accomplished in many regions, SME policies will have to adapt as well. Awareness-raising may still be justified in specific cases, e.g. to facilitate the effective use of e-marketplaces and public e-procurement by SMEs, but is not enough to address the barriers and obstacles to use ICT in a more productive manner. The message will no longer be "get connected to the Internet", but rather to address the importance of e-business integration.

Figure 1: From Awareness to Transformation – the e-Maturity Ladder



SMEs differ in their “e-maturity” across Member States, regions, and business sectors, as the statistical picture clearly demonstrates. Policies must be specific enough to reflect the situation of the enterprises they are targeting. Policy actions that are adequate for regions characterised by a lower degree of “e-maturity” will most probably not be adequate for more advanced regions. While the different stages of development make it difficult to design policies that are applicable throughout Europe, this provides a huge potential for learning from good practices, for instance by adapting policy measures that previously proved to be successful in another Member State or region.

Policy makers in Member States and regions are therefore encouraged to liaise with their colleagues in other regions and actively investigate which models can be further leveraged. For instance, e-business policies developed by the Nordic countries may soon become interesting for Southern ones, taking into account the time lags in the take-up rates of e-business across Europe. To stimulate dialogue between Member States, the Commission is setting up a “European E-business Support Network for SMEs”⁶. The objective is to bring together e-business policy makers at European, national and regional levels to foster the exchange of experience and information and to strengthen policy co-ordination, based on commonly agreed priorities for e-business policies. Member States are invited to support this initiative by promoting the active participation of all relevant policy initiatives at national and regional level in this network.

2.2. The need for better targets for e-business policies

Setting specific, measurable achievable, realistic and timely targets has proven to be one of the most difficult challenges, as demonstrated by the benchmarking study on national and

⁶ The European e-business support network for SMEs is part of the eEurope 2005 Action Plan. More information are available at: <http://europa.eu.int/comm/enterprise/ict/policy/e-bus-snfsme.htm>

regional e-business policies. The first wave of SME policies to promote the use of ICT and e-business were mainly based on general targets, such as the "number of SMEs to be connected to the Internet", the "number of employees to be trained", or the "number of consultancy days to be provided to SMEs". As policies move on to promote more sophisticated usage of e-business and eventually the full integration of e-business into the regular business practices, the definition of e-business policy objectives and appropriate quantitative and qualitative targets becomes more difficult but at the same time also more pertinent.

The most advanced e-business policies, as launched in some Member States, confirm the shift from general promotion of the use of ICTs and e-business tools to helping SMEs to that take full advantage of ICT to re-engineer, automate and streamline business processes. This often requires the use of more sophisticated policy instruments, such as assisting SMEs in the definition of e-business implementation plans or facilitating access to ICT solutions that respond to specific SME needs. Ideally, also such "second generation" SME policies should be based on clear objectives and targets in order to evaluate their results and to ensure that they meet the needs of SMEs. However, setting targets for them is not a trivial task, given the complexity of the issue at stake and the lack of experience in the field of promoting e-business beyond Internet connectivity. The targets will have to be a mix of quantitative and qualitative targets that seek to address levels of sophistication of e-business take-up rather than simple connectivity or electronic trading.

In such a dynamic environment as e-business, policies need to remain flexible and therefore the objectives and targets may need to be continuously adapted. For example, the lack of general awareness no longer seems to be a matter of great concern. Most SMEs are fully aware that e-business is or will soon become an important part of their business, in particular in their relations with large enterprises. Consequently, the targets for awareness campaigns and training may have to be redefined, responding to more sophisticated needs such as better awareness of the opportunities and risks of participation in e-marketplaces and focusing on managerial training.

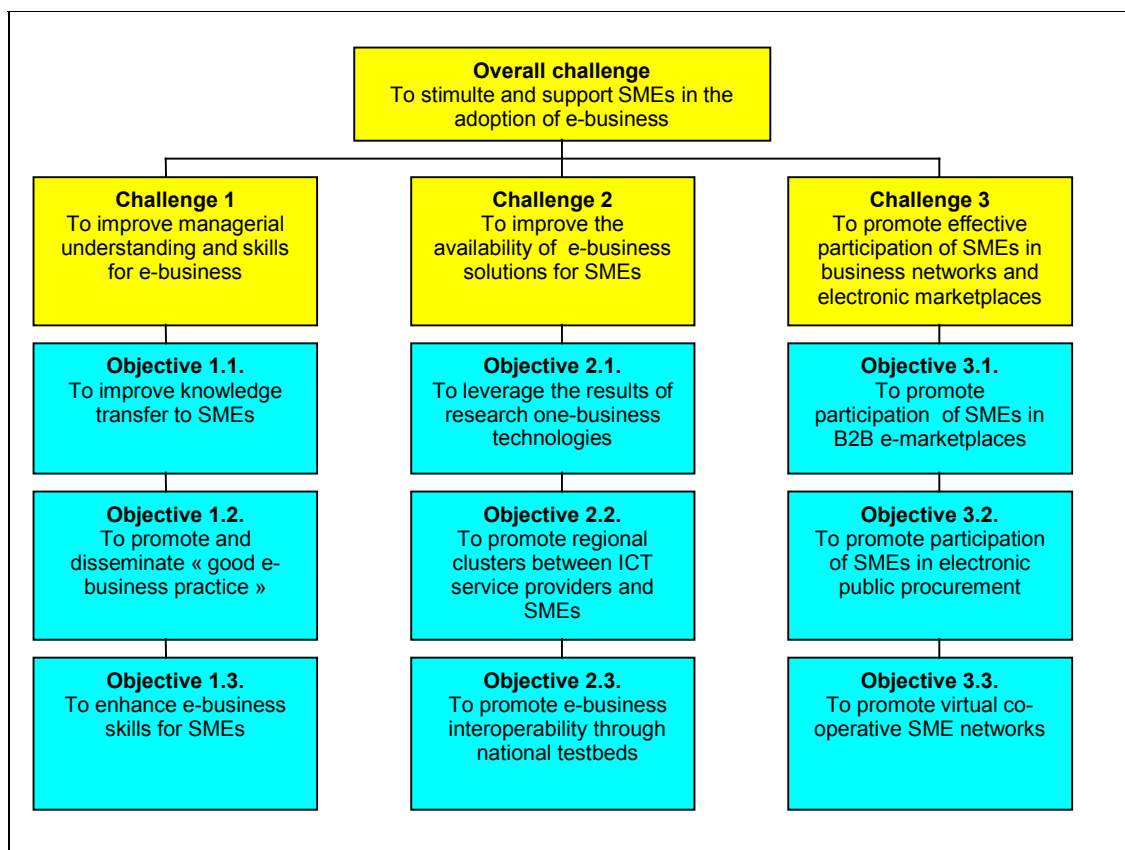
The overall e-business environment is changing constantly. Following this development and taking into account the practical experience of the most advanced Member States, the future e-business policy challenges for SMEs that need to be addressed are, in particular:

- to improve the managerial understanding and skills for e-business in SMEs,
- to promote the availability of SME friendly e-business solutions, and
- to facilitate effective participation of SMEs in electronic marketplaces and business networks.

Not all Member States, accession and candidate countries may face these policy challenges at the same time and in the same manner. The objective of a common policy framework as described further below is to facilitate the re-orientation of e-business policies, thus responding to the changing needs of enterprises. Only if the effectiveness of SME policies in support of e-business is improved across Europe will the Lisbon strategy be properly supported. According to the Communication on the productivity and competitiveness of the European economies⁷, the insufficient usage of ICT in business processes is one of the main reasons for the EU under-performance in labour productivity growth relative to the United States. This should stimulate co-ordinated actions in support of the productive use of ICT.

⁷ COM(2002) 262 final Communication from the Commission to the Council and the European Parliament on "Productivity: The Key to Competitiveness of European Economies and Enterprises", Brussels, 21.5.2002

Figure 2: A framework for SME specific e-business policies - Challenges and objectives



The open method of policy co-ordination, as established by the Lisbon European Council, encourages the Commission and the Member States to work together, learning from best practice and developing better policy in the light of all the relevant circumstances. The results of the first collective effort to set a number of quantitative targets at the most appropriate geographic level in enterprise policy are reflected in the “Better Environment for Enterprises” Communication⁸. Some Member States have also set themselves such targets (in Table 2 below) for policies improving access to ICT and this is to be welcomed. However, many of these targets still remain at general level and are therefore not fully responding to the changing e-business environment.

⁸

COM (2002) 610 Communication from the Commission to the Council and the European Parliament on “Better Environment for Enterprises”, of 7/11/2002

Table 2: Quantitative targets for policies facilitating access to ICT

MEMBER STATE	INDICATOR	CURRENT POSITION (YEAR)	TARGET (YEAR)
Germany	SMEs with e-strategy, % of total		20 % (2005)
Germany	Internet users, % of population		70 % (2005)
Spain	Internet access of enterprises (with more than ten employees)	92 % (2001)	97 % (2006), 99 % (2010)
Spain	Access to broadband	2,07 % (2002)	13,75 % (2006), 22 % (2010)
France	SME access to Internet, % of total	65 %	90 % (2006)
France	Household access to broadband, % of total	5 %	25 % (2006)
Ireland	Enterprise access to Internet, % of total	90 % (2000)	95 % (2006)
Ireland	Business telephone charges, relative to OECD countries	Top quartile (2002)	Top decile (2006)
Ireland	Household access to broadband	0 % (2000)	5 % (2006)
Netherlands	SMEs with on-line transactions, % of total		66 % (2005)
Portugal	Portuguese information on the Internet		Times 10 (2006)
Portugal	Number of people with basic ICT skills		2 mio. (2006)
Portugal	Household access to PCs		50 % (2003)

In the field of e-business, SMEs now face different problems from those they faced some years ago. This Communication encourages Member States to review their e-business policies, and to adopt, on a voluntary basis, new targets at policy level, as well as to refine specific policy initiatives in support of e-business. Whereas the policy targets should be included in the *Enterprise Policy Scoreboard* and regularly monitored according to the agreed procedures, more detailed performance criteria, as presented below, are mainly meant to improve the effectiveness of specific actions. However, they are important to facilitate the identification of good governmental practice in this field and to better assess the practical impact of e-business policies through ex-post evaluation.

Member States have committed themselves to set, wherever meaningful targets for e-business policies wherever possible. This is reflected in the Industry Council Conclusions⁹ inviting the Member States and the Commission to “*intensify dialogue, exchange experience regularly, identify specific goals for e-business policies and share best practices*” and to “*ensure that efficient coordination mechanisms exist both at national and European level and set specific goals for policies and actions in support of e-business in line with eEurope 2005*”. Such target setting has to happen at different levels:

- at political level in form of general targets, to facilitate and promote restructuring towards the knowledge economy. Germany's “*20% of SMEs to have an e-strategy by the year 2005*”, is a good example of such policy targets. Obviously the achievement of this target cannot be directly related to one or more public policy initiatives, but is rather subject to a variety of factors and market trends. Targets should take due account of the policy orientations adopted by the Council, the European Parliament, the Committee of the Regions and the Economic and Social Committee in relation to the Go Digital

⁹ Conclusions of the Industry Council 9938/02, of 6 June 2002;

initiative and the Commission's communication on the impact of the e-Economy on European enterprises¹⁰, and

- at an operational level, to apply, as widely as possible, the SMART principle (Specific, Measurable, Attainable, Realistic and Time-related) to targets for specific SME policies in support of e-business. In addition, operational targets should be directly attributed to specific policy activities. This distinguishes them clearly from policy targets at a general level that are impacted by many different factors. A good example of SMART targets set at regional level, is the Finnish case "South Karelia eBusiness for SMEs".

Table 3: The Finish case "South Karelia eBusiness for SMEs"

Quantitative targets	Dec 2003	Already reached (by January 2003)
Persons participated	950	549
of whom are women	300	372
New eBusiness – applications launched	600	380
eBusiness Plans of SMEs in database	1000	680

Source: Workshop on "Setting targets for e-business policies", Athens, 16-17 January 2003

2.3. The new challenges for e-business policies in favour of SMEs

The general e-business policy framework, as described in figure 2, should facilitate the setting of new and more ambitious targets for specific measures in support of SMEs without prejudging which measures should be taken and which targets are set by Member States and regions. This framework needs to be adapted to different circumstances and further refined with respect to the concrete targets to be followed. Thus, it serves mainly as a point of reference for further discussions on possible future targets for e-business policies in favour of SMEs. In addition, the general principle of facilitating cross-border transactions should be fully taken into account.

Challenge 1: To improve managerial understanding and workforce skills for e-business

The challenge of successfully implementing e-business within an enterprise is to integrate all e-business elements properly within an automated information processing system. For many firms, and SMEs in particular, this entails overhauling, adapting and optimising their current business processes, which is clearly a management task. The impact of e-business on different sectors of industry is mainly determined by the visionary power of entrepreneurs and their strategic decisions about how to use technology. The economic impact of ICT and e-business on enterprises determined not only by the available technology, but more importantly, by how enterprises are re-organised to harness the opportunities offered by e-business.

¹⁰ Communication on "The impact of the eEconomy on European enterprises: Economic analysis and policy implications" [COM(2001) 711]; Communication on "Helping SMEs to Go Digital" [COM(2001) 136]; Conclusions of the Industry Council 9938/02, of 6 June 2002; European Parliament Report on the Communication on the impact of the e-Economy on European enterprises [Final A5-0434/2002]; Opinion of the Committee of the Regions on the Communication "Helping SMEs to Go Digital" [COM-6/032]; Opinion of the Economic and Social Committee on the Communication "Helping SMEs to Go Digital" [INT/106];

While smaller enterprises usually lack the ICT expertise of larger organisations, they have an advantage in that they are much more flexible in taking decisions and implementing them. To exploit this advantage and facilitate informed decisions on how to integrate ICT and e-business tools into daily business processes, however, requires a proper understanding by the management of the issues at stake. This includes knowledge of both the technologies used for e-business purposes and the necessary business process re-engineering, but also a realistic understanding of the economic impact of the integration of these technologies throughout the value chain.

Moreover, SMEs need to continuously update the professional skills of their employees, in order to cope with the new ICT and e-business related issues and the organisational changes they bring about. SMEs, however, usually find it more difficult to provide continuous training schemes for their employees, as training costs and the related opportunity costs are often considered unaffordable.

E-business policy actions can help by facilitating access to knowledge resources that can offer practical assistance to firms. This includes, for instance, improving knowledge transfer from experienced business support organisations to SMEs, providing incentives to SMEs to make use of professional IT and e-business services, showcasing good practice examples, and helping SMEs to improve the managerial understanding of e-business issues and enhance their employees' e-business skills.

Objective 1.1: *To improve knowledge transfer to SMEs through SME support networks*

E-business policies for SMEs should preferably be channelled through trusted intermediaries and multipliers such as Chambers of Commerce, professional associations, SME support networks, Euro Info Centres, competence centres or other special institutions. These organisations can effectively reach their target groups, because SMEs trust them and they are efficient in passing messages on market developments.

Usually, such SME support networks are one-stop-shops for SMEs, where they can get information on practically all areas relevant to their business activities, including information or advice on legal, technical and market issues. Although ICT and e-business issues are playing an increasingly prominent role within their advisory activities, they can not be expected to replace professional IT and e-business services when it comes to helping SMEs to define and implement their individual e-business strategies. When SMEs reach this level of maturity, they should understand that e-business may entail significant re-organisation in order to take advantage of new technologies and render them more productive and competitive.

The ultimate responsibility for undertaking business process re-engineering remains with SMEs themselves. However, e-business centres may help to facilitate the diffusion of advanced e-business solutions. Support networks can also act as intermediaries between SMEs and ICT service providers. They may help SMEs to define optimal e-business strategy, referring them to more specialised consultants if necessary.

To provide this kind of guidance, SME support networks themselves need a good knowledge of ICT and e-business as well as good organisational skills to use complementary resources or to guide SMEs to those who know. Support networks fulfil a very important role in advising SMEs on the issues at stake, the options available and where they can find further support for more detailed information or consultation if needed. This kind of advisory work should be done by e-business instructors or advisers who have been specially trained to understand the

needs of smaller firms in order to provide practical assistance. Continuous train-the-trainer schemes are important to ensure that this expertise is continuously available.

Moreover, some Member States and regions are striving to assist SMEs in integrating e-business processes, by providing incentives to seek the professional advice of IT and e-business consultants, of their own choice, that help companies to implement an e-business strategy. The incentives to engage professional expertise range from offering SMEs a reimbursement of 50% of the costs for a business consultant (limited to a set number of consulting days), to providing special tax incentives for e-business related consultation services. In doing so, however, public policies should be extremely cautious not to interfere with the market, for example by offering for free business services that are already commercially available, or by favouring specific e-business consultants over their competitors in the market. Competition rules have to be respected.

Activities	• To establish and maintain a well-defined SME support network, taking into account the sector-specific and regional needs of the SME fabric. • To promote networking and exchange of experience among e-business competence centres at regional, national and European level. • To launch an e-business related "train-the-trainer" programme within SME support networks in order to educate e-business instructors. • To set up a financial incentive mechanism to facilitate the e-business transformation of SMEs, by enabling them to call on the services of professional IT e-business companies.
Possible targets	• Number or % of SMEs that are expected to use subsidised professional business services. • Number or % of e-business advisers in SME support networks that are expected to participate in a train-the-trainer programmes. • Number or % of SMEs that are expected to contact the support network and be advised and coached on e-business issues. • Number or % of SMEs that are expected to participate in e-business events, organised by the support network. • Number or % of SMEs that are expected to start using e-commerce applications as a result of consultation with SME support networks. • Number or % SMEs that are expected to develop an e-business transformation plan as a result of consultation with SME support networks. • Number of e-business competence centres that are expected to participate in the European e-business support network for SMEs, with regional or national support.

Objective 1.2: To promote and disseminate good e-business practices among SMEs

For SMEs to be able to take informed decisions on their e-business strategies, it is important that they have sufficient and correct information on the impact of e-business, including a realistic cost-benefit analysis of the potential move towards e-business. The information currently available on best practice is biased towards large companies. Many of the e-business examples and case studies are from large companies, if not global players, and hence are likely to be dismissed by small enterprises as irrelevant. Case studies tend to have a much higher recognition if they are selected from the same sector, region or country, and size of enterprises.

In addition, with e-business as with the take-up of other new technologies, large companies are usually frontrunners, i.e. they take more risks, but are also likely to benefit most from the

potential gains. Risk considerations and insufficient information often prevent smaller companies from pursuing e-business strategies that they would otherwise choose. From these considerations, it can be argued that case studies presenting good practice examples, selected from smaller enterprises and explaining how this successful practice has been achieved can raise awareness and ideally trigger the willingness to follow the example. Examples should reflect recent findings on what constitutes successful integration of e-business applications and should be as specific as possible in describing how a company has achieved its targets.

The benchmarking study on national and regional e-business policies for SMEs has demonstrated that the promotion of good practice, e.g. by showcasing at events, awards or simply by distributing information material, continues to be an important component of e-business development policies. This applies regardless of the level of development of a country or region in the e-economy. However, it is suggested that closer co-operation and networking amongst policy practitioners, through the cross-border exchange of good e-business practices and experiences, would nonetheless be beneficial.

Activities	• To collect e-business good practice examples, selected from SMEs, and disseminate them widely (through the Internet and in printed form). • To reinforce cross-border networking and exchange of examples of good practices among various e-business policies. • To organise e-business workshops for SMEs where selected good practices are presented and where e-business advisers are available.
Possible targets	• Number of SMEs that are expected to participate in events disseminating good e-business practices for SMEs. • Number of SMEs that are expected to visit web-sites with good e-business practices for SMEs.

Objective 1.3: *To enhance the e-business skills of SMEs*

In general, SMEs face greater difficulties than large companies, both in recruiting ICT and e-business specialists to cope with the associated organisational changes and to train their employees to acquire the skills required to implement these changes. Improving the e-skills of the general workforce is critical to the successful implementation of e-strategies in businesses. There are different paths to this goal, but in most cases a combination of different ways of learning (or “blended learning”), both formal and informal, will be the most effective, typically consisting of traditional training, self-learning and learning-on-the-job.

Large firms often have established special IT training schemes for continuous training, either by organising their own programmes or by sending their employees to IT training provided by training organisations. Smaller firms often cannot provide such opportunities and have to rely on learning-on-the-job and self-learning activities of their employees. So e-learning techniques and applications, as a complement to traditional ways of learning, may be especially important to SMEs in managing the e-business skills requirements of their personnel.

Many initiatives and programmes have been launched in all Member States to address the skills challenge and to improve the skill base of the workforce¹¹. Additional policy actions

¹¹ The Commission established in 2001 the ICT Skills Monitoring Group with e-skills experts from the Member States, which analysed the e-skills gap issue and identified and described policy responses at national level. This work resulted into a final report on “E-business and ICT skills in Europe” <http://europa.eu.int/comm/enterprise/ict/policy/ict-skills/es-br.pdf>

could further support life-long-learning for SMEs, e.g. by facilitating the participation of employees of SMEs in special IT and e-business management courses, through vouchers, or by supporting the development and raising awareness of e-learning technologies and applications. Moreover, a dialogue between all relevant stakeholders on the certification of skills developed through informal and on-the-job training should be fostered. Competition rules have to be taken duly into account.

Activities	• To encourage SMEs to participate in ICT related continuous training programmes. • To increase awareness of the benefits that e-learning technologies can offer for SMEs employees. • To provide incentives to SMEs to start using e-learning methods to train their employees. • To encourage closer collaboration among universities, training institutions, e-learning service providers and SMEs, with a view to improving the understanding of e-learning needs of SMEs and resulting in the development of suitable e-learning applications. • To facilitate the continuous development of e-business skills within SMEs through informal learning, best practice and the sharing of knowledge.
Possible targets	• Number or % of SMEs that are expected to participate in e-skills related training activities. • Number or % of SMEs that are expected to use e-learning methods.

Challenge 2: To improve the availability of e-business solutions for SMEs

The main challenge for many businesses in the years to come, and particularly for SMEs, will be to further integrate e-business into their business processes. The ambition is that e-business will no longer be considered separately from the overall business strategy. Rather, e-business should become an intrinsic part of the normal business processes, which will increasingly be supported by digital information and communication technologies and carried out on electronic networks.

This is a difficult task to manage, particularly for SMEs, as the costs of implementing and maintaining the required applications are considerable. Although the cost of the initial investment for ICT equipment has dropped in recent years, maintenance and service costs remain critical for many SMEs. Uncertainty about the return on the initial investment and the rising cost of maintenance services may reduce their willingness to make the necessary investments. In addition, SMEs have to be prepared to outsource ICT services and be ready for the organisational changes required by e-business. However, such specialised ICT services may not be available in all regions at reasonable costs.

SMEs have different needs with respect to ICT applications from large companies. They need cost-effective solutions that can be up and running quickly and that are scalable, interoperable, affordable, and preferably based on open-source solutions. Although ICT application providers usually offer simpler modules of their solutions for smaller firms that require less complex and industry-specific functionalities from their IT solutions, the cost barrier as well as the organisational challenges to implement these solutions are still significant.

Objective 2.1: *To better leverage the results of research on e-business technologies*

Many SMEs face a dilemma: implementing e-business management software should be quick and easy to learn, but at the same time must be affordable enough to represent a justifiable investment today. The question is whether there will be sufficient affordable solutions for SMEs that meet common business needs, such as customer/supplier relationships management, accounting, reporting and logistics, that are interoperable with the e-business solutions of suppliers and clients. These IT solutions need to be secure, trustworthy and interoperable and also respect the legal framework under which enterprises are operating.

While policy has only a limited leverage on the kind of IT solutions offered by the market, research may help to stimulate the development of SME-specific modules by developing user friendly, affordable and interoperable technical solutions for SMEs. SMEs can benefit in particular through their participation as technology users in e-business research programmes, as they have the opportunity to collaborate with large ICT firms in order to define user requirements, test technologies developed and fully exploit them in their real business environments.

The European Community's Sixth Framework Programme (FP6) for research, technological development and demonstration activities attaches great importance to the participation of small and medium-sized enterprises. At least 15% of the budget of the seven Priority Thematic Areas of the "Integrating and Strengthening" Specific Programme (EUR 1,700 million) will be dedicated to SMEs. A further EUR 430 million will be allocated to Horizontal Research Activities involving SMEs. This means a total of almost EUR 2,200 million over the next four years, representing the largest financial instrument supporting research and innovation for SMEs in the world.

Another part of the budget of FP6 will be devoted to support the development of open source software and interoperable e-business solutions. This activity should improve the economics of implementing e-business solutions and lower barriers to entry. SMEs should be the primary beneficiaries of such open and interoperable solutions, which will also facilitate the integration of SMEs within e-business networks and electronic exchanges.

The positive example set by the European Community's Sixth Framework Programme to give high priority to the development of SME friendly ICT solutions could be further enhanced by research programmes of the Member States. However, research results have to be better disseminated to SMEs. To this end, better co-operation between national and European research programmes, on the one hand, and SME support networks on the other, should be encouraged to better bridge the gap between science and business.

Activities	• To launch RTD projects that address the use of e-business solutions for SMEs and SME intermediate organisations. • To increase the take-up of results from RTD projects by developing, inter alia, , specific knowledge transfer and training mechanisms and schemes in order to enable an SMEs workforce to use/exploit ICT technologies in a quick and cost-effective manner. • To activate existing SME support networks and intermediaries which would support transfer of results (technology and knowledge) from RTD projects by widely disseminating them through best practice and targeted training actions.
Possible targets	• Number or % of SMEs that are expected to participate as users in RTD projects. • Number or % of SMEs (of those who have participated in RTD projects) that are expected to use the results of RTD projects in their real business environment, after the demonstration phase would have ended.

Objective 2.2: *To promote regional clusters between ICT service providers and SMEs*

The ICT supply sector has a crucial role to play in helping SMEs to go digital. Most European SMEs use local ICT suppliers. However, there is evidence that ICT providers often fail to meet the specific requirements of smaller firms. This is due to a lack of understanding by many SMEs of what e-business can deliver and how to realise those benefits, and a failure of ICT providers to understand the e-business needs and expectations of SMEs, particularly those working in specialised sectors.

In some European regions, effective mechanisms have been established to bring together SMEs and ICT service providers to stimulate networking and facilitate a constructive dialogue between them. Based upon this positive experience, further efforts should be made to promote regional clusters between SMEs and ICT service providers. Competition rules have to be taken duly into account.

Activities	• To promote closer collaboration among ICT service providers, SMEs and SME intermediary organisations, with a view to stimulating networking and the exchange of knowledge and experience with regard to the development of e-business solutions adapted for SMEs.
Possible targets	• Number of SMEs and ICT service providers that are expected to participate in regional or local networking events. • Number of SMEs that are expected to have a better understanding of the opportunities of ICT, as a result of the networking events. • Number of ICT providers that are expected to offer customised e-business solutions, as a result of the networking events.

Objective 2.3: *To promote e-business interoperability through national test-beds*

The goal of truly automated supply and demand chains can be attained only with the participation of SMEs. However, most SMEs may not have the means to follow technological developments, let alone to decide to test expensive and often experimental technical solutions without proof of concept and clear indications of return on investment. Enterprises, especially SMEs, need a business roadmap and ready-to-use examples of practical e-business solutions.

A national test-bed or, even better, a network of national test-beds for e-business, preferably based on open source software solutions, would provide for a practical venue for SMEs to develop their e-business processes. The aim should be to create communities with fully operational e-business networks of public and private business, resulting in a model for other communities. Successfully carried out and documented for learning purposes, such an initiative would increase confidence in e-business and provide a roadmap to be followed by others.

Only a holistic approach, involving all the major building blocs of e-business, can demonstrate the full benefits of e-business. To implement such an ambitious task is primarily the responsibility of the private sector, with support from business organisations and standardisation bodies. However, national and regional authorities can play an important role in bringing together the different economic players and stimulating consensus building. The cross-border dimension of electronic transactions should be taken into account, so as to avoid a fragmentation of markets, stemming from different national interoperability schemes. The different interoperability test-beds should work closely together at European level, in order to exchange experience and to shape common business practices to be followed, as widely as possible, by both the private sector and public authorities.

Activities	• To select regional or national test-beds, based on open source software, for the purpose of creating large scale e-business communities, serving as a proof of concept for enterprises and public authorities to utilize. • To develop a community model for e-business, comprised of the respective building blocs required. • To develop an assessment methodology, enabling business communities to evaluate their e-business maturity and to decide upon necessary actions to be taken in order to become an e-business community.
Possible targets	• Number or % of enterprises that are expected to participate in regional or national interoperability test-beds. • Number or % of enterprises that are expected to use e-signatures, make online tax declarations or are engaged in e-procurement.

Challenge 3: To facilitate effective participation of SMEs in e-business networks

Conducting electronic transactions via specialised e-marketplaces for businesses - the so-called B2B e-marketplaces - may represent an efficient and cost-effective way to trade goods and services, both within and across national borders. By creating on-line communities of buyers and sellers, e-marketplaces can facilitate transactions over large geographical areas and with previously unknown business partners, thus generating cost savings through increased market transparency and a more efficient transaction process. Many SMEs are still sceptical about using e-marketplaces and participating in virtual collaborative networks.

However, in some cases SMEs may not have the choice between participation and non-participation as large enterprises are conducting more and more transactions exclusively by electronic means. Public authorities, too are increasingly using electronic means to purchase goods and services. Therefore, SMEs have to be both mentally and technologically prepared to participate in e-marketplaces, including electronic auctions, and to take advantage of better electronic networking. SME policies can help by raising awareness and providing better information about how to use Internet tools in the most effective manner, taking due account of the economic, technical and legal barriers for SMEs.

Objective 3.1: To promote participation of SMEs in B2B e-marketplaces

B2B e-marketplaces can offer important opportunities for SMEs to access new markets and find new business partners. In particular, the use of e-marketplaces for online procurement may soon become the norm for many products and services. In some industry sectors, where large companies are setting up e-marketplaces to procure goods and services, SMEs and their suppliers may well be forced to participate in them in order to stay in business.

In general, SMEs are using Internet platforms operated by large companies or independent operators. As a result, they need neutral and unbiased information about existing B2B e-marketplaces, providing reliable data on their economic importance and the relevant trading rules, in order to decide what is the most advantageous solution for them. Furthermore, trust and confidence in electronic transactions are of major importance for facilitating participation of SMEs in B2B e-marketplaces. Reverse auctions have been identified as a matter of great concern for many SMEs¹².

¹² Commission staff working paper on "B2B Internet trading platforms: Opportunities and barriers for SMEs – A first assessment" [SEC(32002) 1217]

Self-regulation has to play a major role in promoting fair and reliable business practices in the new electronic environment. Developing codes of conduct is, by definition, the responsibility of market players. They should be inclusive, reflect consensus among all stakeholders, and should preferably be developed at European level, thus contributing to the completion of the Internal Market. E-marketplaces have the potential to facilitate cross-border transactions, thus further stimulating the Internal Market. To facilitate cross-border electronic transactions, national business associations and e-business support networks should raise awareness about the legal rules that apply, taking due account of existing European initiatives in this field.

Activities	• To promote awareness campaigns and training specifically focused on the benefits and risks for the participation of SMEs in B2B e-marketplaces; • To raise awareness on B2B e-marketplaces by providing neutral information on B2B e-marketplaces, business partners, business cases, legal rules and codes of conduct on fair business practices in B2B e-marketplaces; • To encourage the development of feedback mechanisms, such as “hotlines” to allow for complaints by SMEs on unfair behaviour in B2B e-marketplaces, and the provision of appropriate assistance to deal with such complaints; • To facilitate cross border electronic transactions, by providing information to SMEs on legal rules related to e-business, in all Member States.
Possible targets	• Number of SMEs that are expected to participate in targeted awareness campaigns and training on B2B e-marketplaces. • Number of SMEs that are expected to use information services on B2B e-marketplaces, as provided by publicly funded e-business initiatives. • Number of national/regional e-business initiatives that are expected to provide links to European initiatives on information services for e-business, such as the e-business legal portal – ELEAS project¹³.

Objective 3.2: *To promote participation of SMEs in public electronic procurement*

Many Member States have already started applying electronic public procurement techniques at national level. The legislative package of public procurement directives, to be adopted later this year, will set clear rules at European level for carrying out procurement procedures electronically. This will give new impetus to electronic public procurement across Europe.

Electronic public procurement systems will have a profound impact both on demand and on the way procurement is carried out by the public sector. Electronic tendering, electronic marketplaces and auctions are features that will also increasingly be employed by public authorities, as they become more extensively engaged in e-business activities. Potentially, electronic public procurement offers increased opportunities for SMEs at regional, national and European levels. SMEs traditionally supplying the public sector or interested in entering this market will have to adapt to this new environment and learn how to use the new tools. If they are not familiar with the new procedures and the technical infrastructure required to enable them to submit their offers, they risk being excluded from public procurement opportunities.

Public policies have an important role to play. Firstly, by setting up schemes that are transparent, reliable and effective and do not discriminate against SMEs. Secondly, by launching specific awareness and training campaigns to provide information and guidance, in particular to SMEs, so that they can effectively participate in such e-procurement activities. Particular attention should be given to industries that have traditionally lagged behind in e-skills and may therefore find it more difficult to adjust to the new environment. Equally, it is

¹³ <http://europa.eu.int/comm/enterprise/ict/policy/legal-portal/eleas-proposal.pdf>

important that e-procurement systems are designed in such a way as to enable businesses progressively to adapt to the new environment.

Activities	- To launch specific awareness campaigns and establish dialogue with SMEs, with a view to implementing the forthcoming legal framework for e-procurement, better defining the technical infrastructure required for SMEs participation in public e-procurement and maximising opportunities and benefits from the digitisation of the procurement process. - To launch specific training programmes, in collaboration with business organisations, SME associations, SME support networks, etc. to support SME efforts to become familiar with electronic public procurement and participate actively in new electronic business.
Possible targets	- Number or % of SMEs to be expected to be trained in electronic public procurement technologies and systems. - Number or % of SMEs to be expected to be familiar with rules for public e-procurement. % of SMEs share in electronic public procurement

Objective 3.3: *To promote virtual collaborative SME networks*

E-business applications provide SMEs with new opportunities to set up collaborative networks. In some sectors, SMEs specialised in different parts of the production chain have started establishing collaborative networks, thereby achieving overall cost savings, through economies of scale and increased efficiency.

ICT-supported collaborative networks will play an important role in future business models for many SMEs, providing new opportunities to stay competitive. SME collaborative networks can act as virtual business entities in e-marketplaces, both for procuring and selling purposes. They can also be very effective in targeting electronic public procurement markets. Examples of co-operative networks can be found, for instance, in the wood processing industry in Northern Italy and Austria where different businesses have joined networks to market their services together.

Many of these collaborative networks are regional in character and based on close co-operation among former competitors, in order to operate as a new unit on the market. This requires SMEs to overcome their inherent resistance to sharing knowledge with others. Furthermore, it has always been part of the business strategy, particularly in traditional trade and craftsmanship, to keep the entire production process in-house, including components, rather than outsourcing parts of it. This can be a barrier to collaborative networks, which are usually established to enable the specialisation of small businesses. Thus smaller firms may experience a clash between the more traditional entrepreneurial self-understanding and what constitutes their role in an e-business network.

Policy actions can provide support for the establishment of e-business networks for SMEs, e.g. by financially supporting pilot projects through which smaller enterprises can test how to benefit from a collaborative network without taking too much risk. However, this should not result in intervention in the market, by favouring one business community over another, or by providing indirect subsidies to certain e-marketplaces. Competition rules have to be taken into account.

Activities	- To promote collaborative platforms for SMEs for online buying and selling. - To launch pilots for collaborative networks for SMEs.
Possible targets	- Number of SMEs to be expected to use collaborative SME platforms to buy and sell online, due to public support. - Number of SMEs to be expected to participate in pilot actions on collaborative networks for SMEs.

3. CONCLUSIONS

This communication addresses the need to re-orient e-business policies to new challenges. Member States and regions are invited to review their e-business strategies in support of SMEs, by setting new and more innovative targets in this field.

- First, at political level, the quantitative targets related to ICT and e-business, resulting from the open consultation process and published in the *Enterprise Policy Scoreboard*, should be further completed and, where necessary, reviewed by the Member States. General references to SME access to the Internet should, wherever possible, be further qualified in order to better reflect the need to promote the use of more advanced infrastructure and a more productive use of ICT by European enterprises. Key challenges to be further addressed are the improvement of managerial skills for e-business, the availability of SME-friendly e-business solutions and a better use of advanced e-business applications by SMEs. The Member States are therefore invited to review their policy targets for ICT and e-business, building upon the elements of the “e-business index”, as included in the list of eEurope 2005 benchmarking indicators.
- Secondly, at operational level, specific e-business initiatives in favour of SMEs should be based, wherever possible, on clear quantitative or qualitative targets that serve to measure their practical impact. To make them effective, Member States should monitor such actions closely and regularly assess them against pre-defined performance indicators. As the e-business environment is constantly changing, e-business policies for SMEs need to adapt as well in order to address the new challenges adequately.
- Thirdly, the efficiency of e-business policies would benefit from a better exchange of experience among Member States and regions. The *European E-business Support Network for SMEs*, established by the Commission as part of the eEurope 2005 Action Plan, will provide a platform to bring together regional, national and European e-business initiatives, with a view to facilitating exchange of experience and agreeing, on a voluntary basis, future policy priorities and targets. Member States are invited to fully support this initiative, by sharing information and expertise in the field of e-business policies.

This communication should be regarded as a further step to stimulate progress towards the ambitious goal, set by the March 2000 Lisbon European Council, of making Europe the world’s most competitive and dynamic knowledge-based economy by the end of the decade. In order to attain this goal, further efforts have to be made in all Member States to enhance the efficiency of e-business policies in favour of SMEs. The setting of clear and ambitious targets plays a crucial role in creating the right framework conditions to enable European enterprises to enhance their competitiveness.

As a follow-up to this communication, the Commission will prepare, by the end of 2004, a report on the progress made in support of e-business for SMEs. In particular, it will review which targets have been set by the Member States to further promote the take-up of e-business and the progress made in this respect. Furthermore, it is envisaged to analyse the extent to which successful e-business strategies have been further leveraged, as a result of the collaboration within the European E-Business Support Network.

ANNEX: The statistical picture

1. THE EUROSTAT “COMMUNITY ENTERPRISE SURVEYS ON ICT USAGE”¹⁴

Table 1: SMEs (10-249 employees) and large (250+ employees) enterprises' adoption rates (2001–2002)

% of Enterprises		Using computers		Use Internet (have web access)		Making e-commerce purchases (see remark 2)		Making e-commerce sales (see remark 2)	
		2001	2002	2001	2002	2001	2002	2001	2002
B	SMEs		NA		NA		NA		NA
	LARGE		NA		NA		NA		NA
DK	SMEs	95 ^{a,b}	98 ^a	86 ^{a,b}	95 ^a	36 ^{a,b}	45 ^a	27 ^{a,b}	24 ^a
	LARGE	100 ^{a,b}	100 ^a	99 ^{a,b}	100 ^a	66 ^{a,b}	80 ^a	46 ^{a,b}	36 ^a
D	SMEs	96 ^c	94 ^a	67 ^c	83 ^a	35 ^c	38 ^a	28 ^c	16 ^a
	LARGE	96 ^c	100 ^a	77 ^c	98 ^a	51 ^c	40 ^a	48 ^c	17 ^a
EL	SMEs	84	89	50	68	5	12	6	10
	LARGE	98	99	84	96	8	26	13	16
E	SMEs	91	95	66	82	9	6	6	2
	LARGE	100	100	97	98	20	15	24	7
F	SMEs		NA		NA		NA		NA
	LARGE		NA		NA		NA		NA
IRL	SMEs		88 ^a		64 ^a		10 ^a		9 ^a
	LARGE		97 ^a		96 ^a		60 ^a		32 ^a
I	SMEs	86 ^a	95 ^a	66 ^a	74 ^a	10 ^a	7 ^a	3 ^a	4 ^a
	LARGE	99 ^a	100 ^a	94 ^a	95 ^a	21 ^a	14 ^a	8 ^a	7 ^a
L	SMEs	90	97	54	78	18	23	8	12
	LARGE	99	97	70	96	28	22	27	12
NL	SMEs	93 ^e	NA	77 ^e	NA	38 ^e	NA	36 ^e	NA
	LARGE	94 ^f	NA	88 ^f	NA	47 ^f	NA	39 ^f	NA
A	SMEs	92	93	76	84	14	31	11	21
	LARGE	100	100	91	100	30	56	26	29

¹⁴

With the active support of the Commission, Eurostat launched in 2001 a pilot survey to measure e-commerce and ICT usage by European enterprises. This survey was conducted in co-operation with the National Statistical Institutes of EU Member States and in co-ordination with the relevant work of the OECD. In the context of this survey, more than 100,000 European enterprises in 13 Member States (and Norway) were contacted and the response rate was close to 50%. The survey, has been repeated in 2002 in all 15 Member States (with a sample size exceeding 135.000 enterprises) and will be regularly conducted in the next years.

a = excluding NACE J (financial sector);

b = including NACE F (construction) and 93 (other service activities);

c = only NACE G (commerce) and H (hotels and restaurants);

d = including NACE F (construction sector);

e = only small enterprises (10-49);

f = medium and large enterprises (50+);

g = average of all available countries, weighted by the number of SMEs;

h = average of all available countries, weighted by the number of 250+ enterprises.

% of Enterprises		Using computers		Use Internet (have web access)		Making e-commerce purchases (see remark 2)		Making e-commerce sales (see remark 2)	
		2001	2002	2001	2002	2001	2002	2001	2002
P	SMEs	89	NA	72	NA	11	NA	6	NA
	LARGE	99	NA	94	NA	21	NA	19	NA
FIN	SMEs	98 ^{a,d}	99 ^a	91 ^{a,d}	96 ^a	34 ^{a,d}	51 ^a	13 ^{a,d}	16 ^a
	LARGE	100 ^{a,d}	100 ^a	97 ^{a,d}	100 ^a	45 ^{a,d}	70 ^a	26 ^{a,d}	27 ^a
S	SMEs	96	99	90	95	31	58	11	13
	LARGE	100	100	99	100	37	83	19	27
UK	SMEs	92 ^d	88	62 ^d	71	32 ^d	28	16 ^d	11
	LARGE	100 ^d	98	90 ^d	94	50 ^d	36	35 ^d	17
EU	SMEs	92	92 ^g	67	79 ^g	25	25 ^g	17	10 ^g
	LARGE	97	99 ^h	81	97 ^h	47	37 ^h	42	17 ^h

Source: European Community pilot surveys on e-commerce and ICT usage by enterprises 2001. Community enterprise survey on ICT usage 2002 (data from Eurostat on 04.03.2003).

Remarks:

1. Sectors NACE DGHJK, unless otherwise indicated (D-Manufacturing, G - Commerce, H - Hotels and restaurants, I - Transport, storage and communication, J - Financial sector, K - Business services).

In 2001: Sector **H** (hotels and restaurants) = NACE 55.1 ... 55.5. (55.1 = hotels; 55.2 = camping sites and other provision of short-stay accommodation, 55.3 = restaurants, 55.4 = bars, 55.5 = canteens and catering).

In 2002: Sector **H** (hotels and restaurants) = NACE 55.1 ... 55.2 (55.1 = hotels and motels, with restaurant; 55.2 = camping sites and other provision of short-stay accommodation).

In 2001: Sector **J** (financial sector) = NACE 65 ... 67 (65 = financial intermediation, except insurance and pension funding, 66 = insurance and pension funding, except compulsory social security, 67 = activities auxiliary to financial intermediation).

In 2002: Sector **J** (financial sector) = NACE 67 (activities auxiliary to financial intermediation).

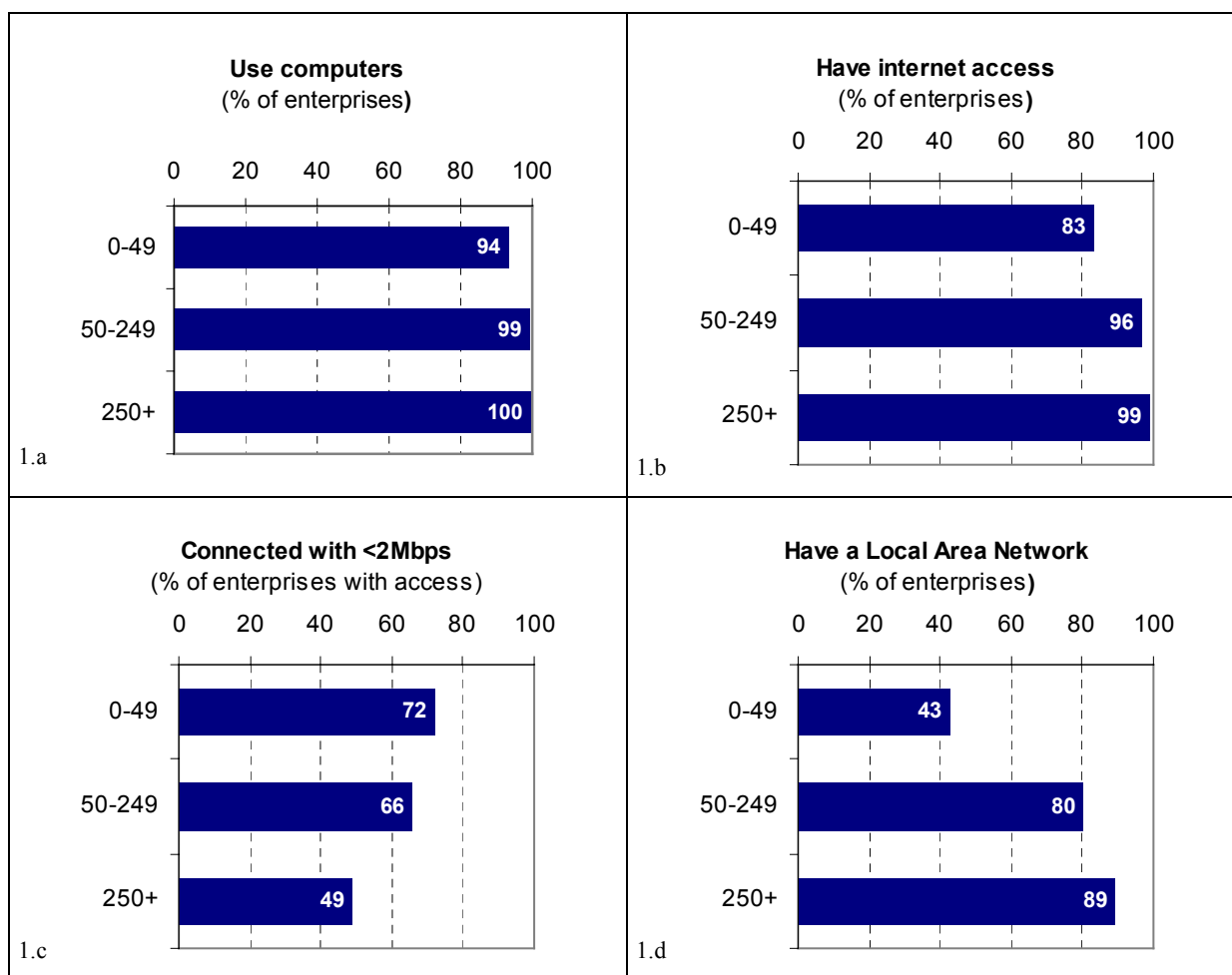
2. In 2001: Sales/purchases via Internet **or** other networks. **In 2002:** Sales/purchases via Internet **only** due to changes in the survey questionnaire between the two years

3. Percentages are enterprise- weighted - i.e. "...% of enterprises ..."

4. If for some period or country data is not available, the cell is left empty – **NA: Not available YET**.

2. THE *E-BUSINESS W@TCH* SURVEY AND SCOREBOARD¹⁵

Chart 1: ICT Infrastructure



¹⁵

The Commission launched in late 2001 the European e-Business Market Watch (the *e-Business W@tch*) to monitor and analyse the up-take of electronic business across different sectors of the European economy and to provide sound economic analysis in order to improve the understanding of e-business impacts at the sectoral level. The results of the *e-Business W@tch* are presented regularly in quarterly reports and summarised in two synthesis reports in a Scoreboard of e-business indicators and in the relevant web-site: www.ebusiness-watch.org

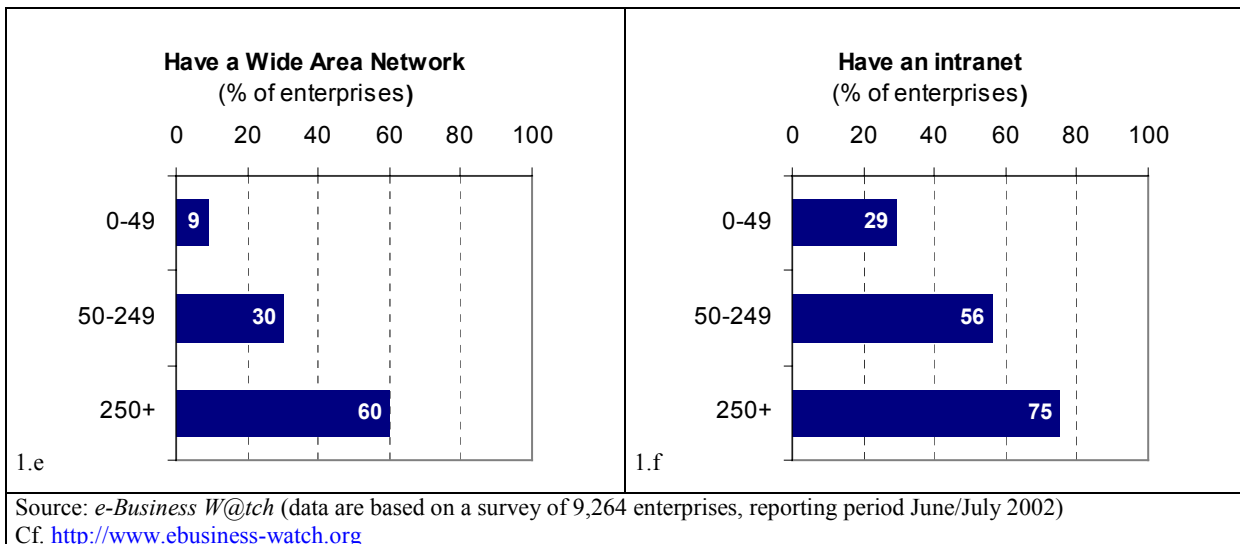


Chart 2: E-Commerce Indicators

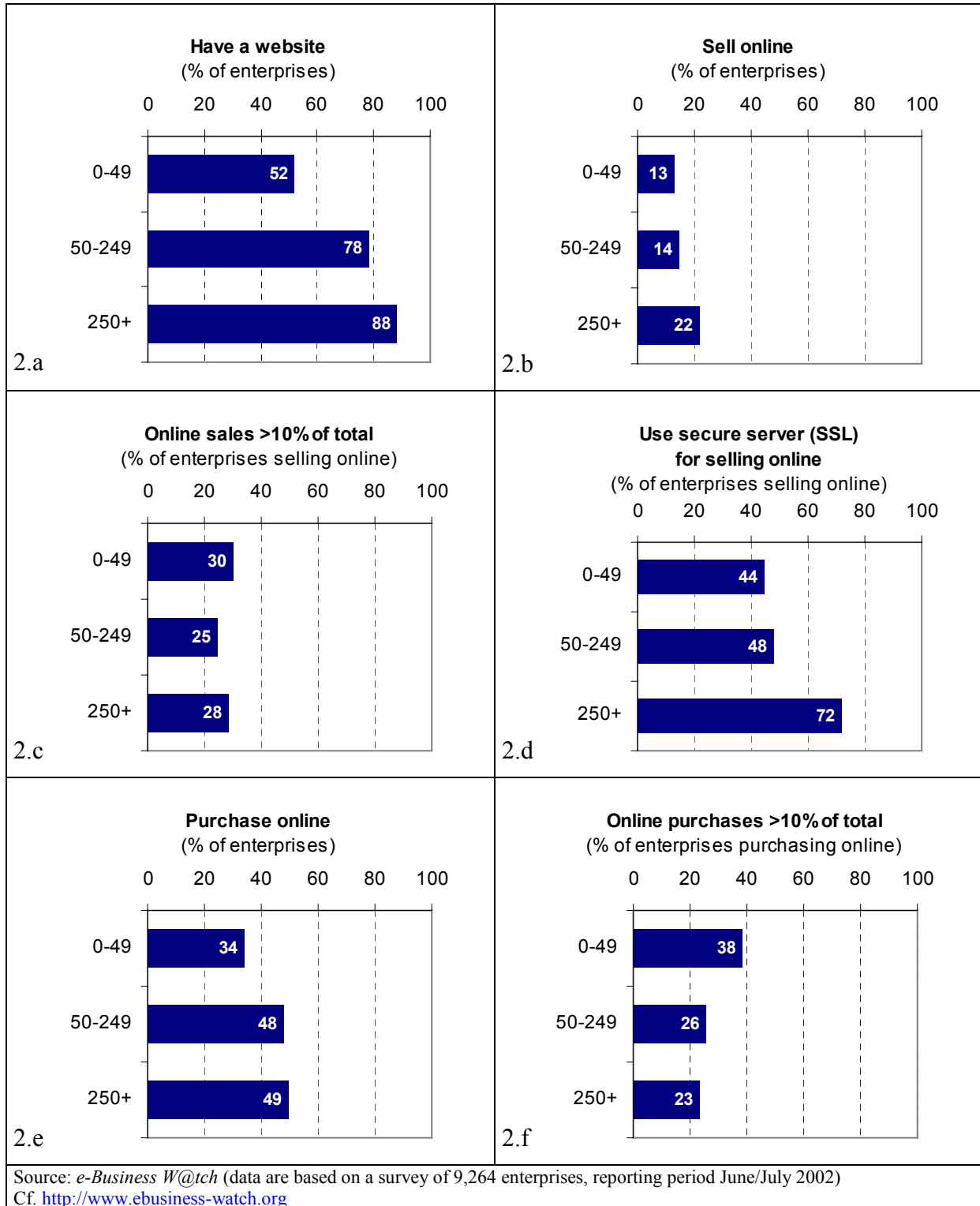


Chart 3: E-Business Integration Indicators

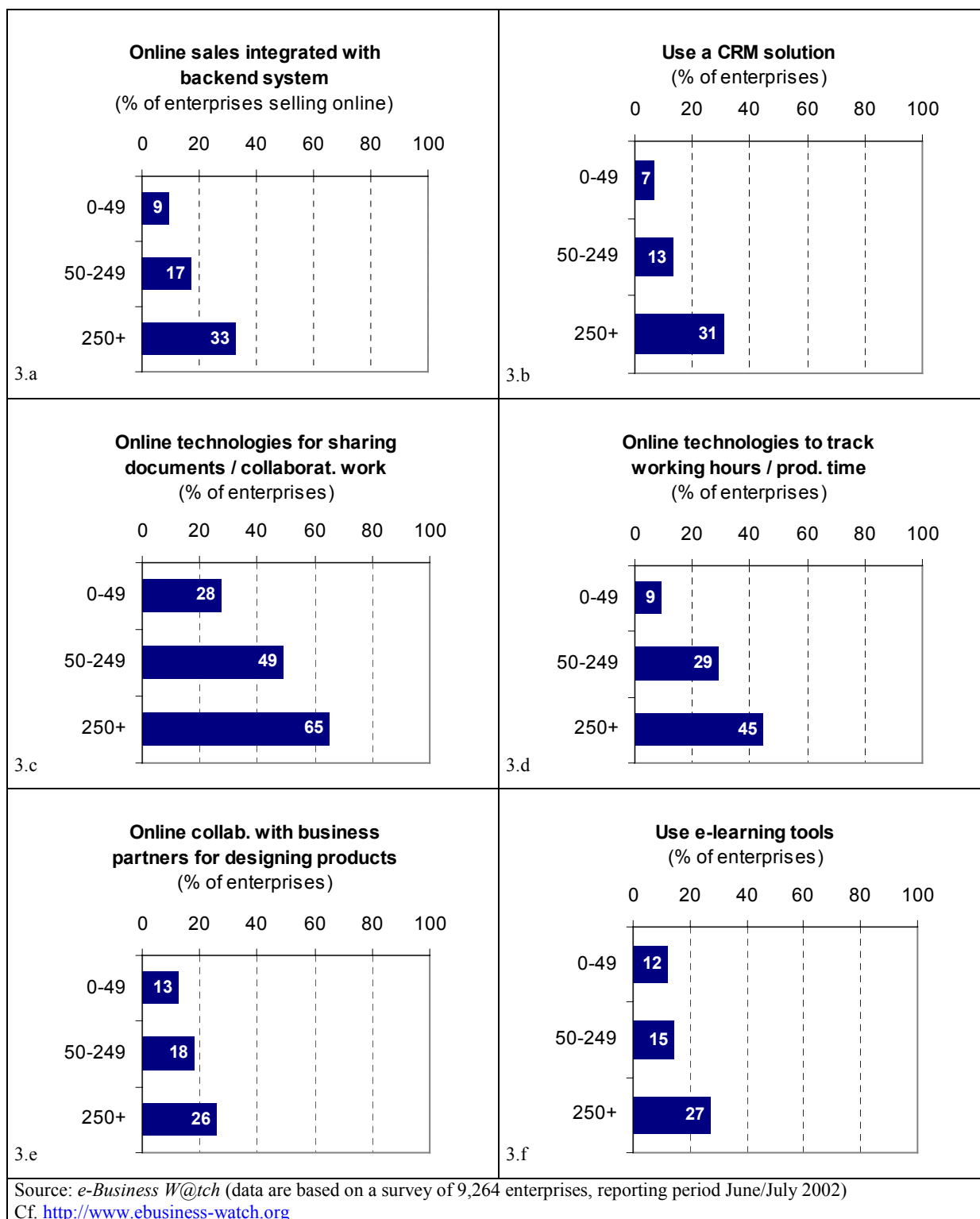
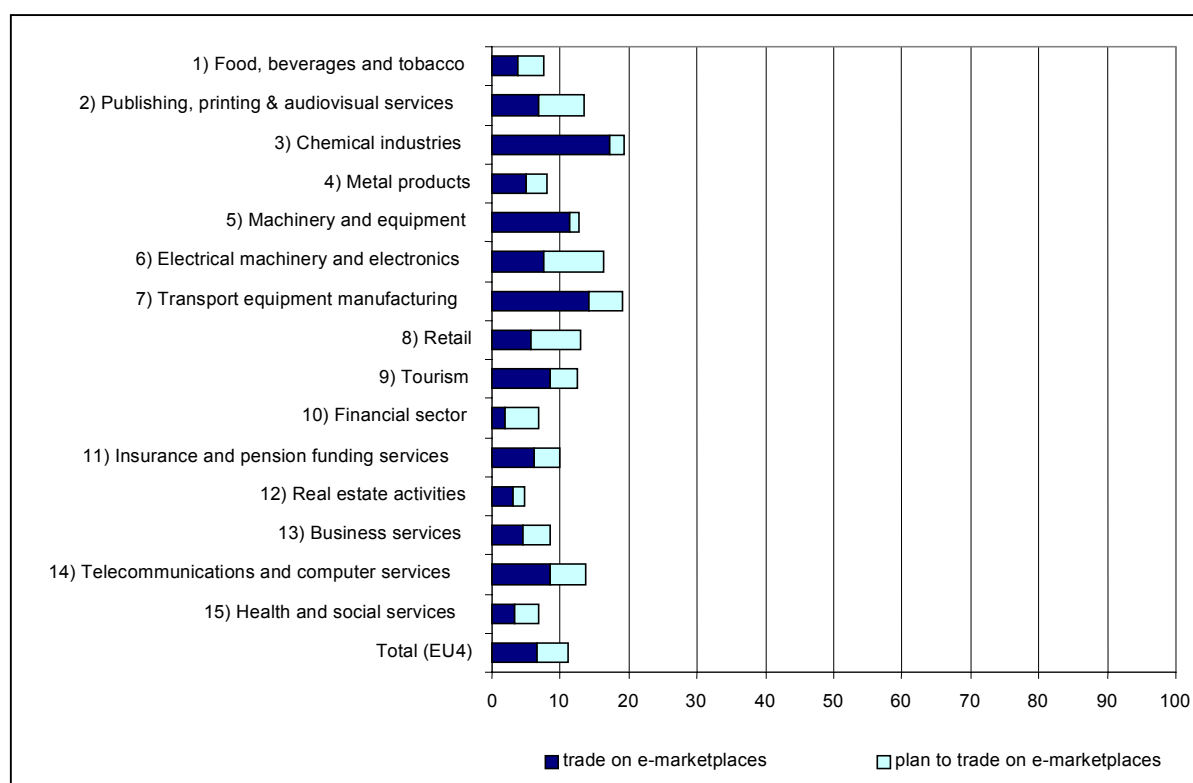


Chart 4: Participation in B2B e-marketplaces



Source: *e-Business W@tch* (data are based on the results of the survey conducted in June-July 2002) - Computational base: all enterprises (EU-4, employment weighted)

Cf. <http://www.ebusiness-watch.org>

Chart 5: Size of IT and web department (staff per 1000 employees)

	No. of employees mainly occupied with maintenance of IT and networks (per 1000 employees)	No. of employees mainly occupied with maintenance of company web site (per 1000 employees)
0 – 49 employees	124,4	69,7
50 – 249 employees	40,7	10,8
250+ employees	20,3	2,6
Total (EU-4)	123,4	68,7

Data are EU-4 totals, comprising Germany, France, Italy and the UK. The total number of interviews (= N for "all enterprises") carried out in the EU-4 was 5917. In this table, figures are presented as enterprise-weighted data.

Source: e-Business W@tch (e-Business Survey 2002)

Chart 6: The IT skills gap is mostly felt by SMEs

% of enterprises that	Have recruited or tried to recruit specialised IT staff in the past 12 months	(of those) Have experienced great difficulties	(of those) Have experienced some difficulties
0 – 49 employees	11.6	21.8	23.4
50 – 249 employees	27.5	13.5	32.1
250+ employees	50.2	12.4	37.0
Total (EU-4)	29.3	14.4	34.3
Data are EU-4 totals, comprising Germany, France, Italy and the UK. Total number of interviews (= N for "all enterprises") in the EU-4 was 5917.			
Data are employment-weighted – i.e. should be read as ‘enterprises comprising ...% of employees’.			
Source: <i>e-Business Watch</i> (e-Business Survey 2002)			