



The European  
e-Business  
Market Watch

Sector Report  
No. 14/October 2002

14

*e-business  
w@tch*



## ICT & e-Business in the Real Estate Sector

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European Commission  
Enterprise Directorate General  
e-Business, ICT Industries  
and Services

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### Acknowledgements

This report was prepared by *empirica Gesellschaft für Kommunikations- und Technologieforschung mbH* (Bonn, Germany), on behalf of the European Commission, Enterprise Directorate General. It is part of a deliverable in the context of the "European e-Business Market Watch" (short name: *e-Business W@tch*), which is implemented by *empirica GmbH* in co-operation with *DIW Berlin – German Institute for Economic Research* and *Databank Consulting* on behalf of the European Commission based on a service contract running from January 2002 until June 2003.

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Bonn / Brussels, September 2002

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## Introduction

European policy is in a number of areas, including economic, innovation and SME policies, increasingly focused on promoting the business techniques and new ways of working which will provide the economic and social foundation of the information society in Europe. To help policy makers define their programmes, and to monitor the effectiveness of these policies, some indication of progress and of areas requiring active support is essential. At the same time, many areas of European business lack information about the speed of technological update in European markets, which they expect to have a strong impact on their global competitiveness.

Despite the increasing number of studies and market research on electronic business, and particularly on electronic commerce, from a number of authors and research organisations in different European countries and world-wide, there is still a lack of reliable empirical information about the extent, scope, nature of and factors affecting the speed of e-business development in Europe at the sectoral level in an internationally comparative framework. It is the objective of this report to provide such information for the real estate sector.

This report has been published in the framework of the "European e-Business Market Watch" (the "*e-Business W@tch*"). This is a market observatory established by the European Commission, DG Enterprise. Laying the groundwork for a continuous facility), the *e-Business W@tch* monitors and assesses the maturity of electronic business in 15 industry sectors across all EU Member States over an 18-month period, including seven manufacturing and eight service sectors. At least two reports will be published on each sector during the life-time of the *e-Business W@tch*. The sectors and the publication schedule for these reports are as follows:

	Sector	1 <sup>st</sup> Issue Report	2 <sup>nd</sup> Issue Report
1	Food, beverages, tobacco	July 2002	January 2003
2	Publishing, printing and audiovisual services	October 2002	April 2003
3	Manufacture of chemicals and chemical products	July 2002	January 2003
4	Manufacture of Metal products	October 2002	April 2003
5	Manufacture of machinery and equipment	October 2002	April 2003
6	Manufacture of electrical machinery and electronics	October 2002	April 2003
7	Manufacture of transport equipment	July 2002	January 2003
8	Retail	October 2002	April 2003
9	Tourism	October 2002	April 2003
10	Credit institutions, investment firms, leasing enterprises	July 2002	January 2003
11	Insurance and pension funding services	July 2002	January 2003
12	Real estate activities	October 2002	April 2003
13	Business Services	October 2002	April 2003
14	Telecommunications and computer related services	July 2002	January 2003
15	Health and social work	July 2002	January 2003

The research presented in these Sector Reports is intended to help to benchmark progress and assess how electronic business development can be further enhanced at the European level or at Member State level with the objective of strengthening the competitiveness of European businesses. Special attention is paid to the SME dimension of e-business. More information about the *e-Business W@tch* is available at [www.ebusiness-watch.org](http://www.ebusiness-watch.org).

## Methodological note

The data presented in this report are based on the European e-Business Survey, a cornerstone of the monitoring activities of the e-Business W@tch. The fieldwork of this enterprise survey was carried out by INRA Germany GmbH in co-operation with its international partner organisations in June and July 2002 using computer-aided telephone interview (CATI) technology. The decision-maker in the enterprises targeted by the survey was normally the person responsible for ICT within the company, typically the IT manager. Alternatively, especially in small enterprises without a separate IT unit, the managing director or owner was interviewed. In total, about 10,000 interviews with decision makers in European enterprises were conducted. If not indicated otherwise, figures are presented as employment-weighted data. This means that figures should be read as "enterprises comprising ...% of employees". The reason for using employment weighting is that there are many more micro enterprises than non-micro enterprises. Therefore enterprise-weighted (but also unweighted) figures would effectively represent mainly the smallest firms and blur the economic importance in terms of market volume or number of employees.

The survey included all sectors and all Member States, but only in the four largest states (Germany, France, Italy and UK) were all sectors covered. The survey for the real estate sector was carried out in the following seven countries: Denmark, Germany, Finland, France, Italy, Portugal and the UK. A cross-sector comparison of key e-business figures (based on the EU4 which represent more than 60% of the market volume in any of the 15 sectors and in most sectors actually more than 70%) is available in a special annex to this report, the "Scoreboard of e-Business Indicators". The Scoreboard can be downloaded from the website ([www.ebusiness-watch.org](http://www.ebusiness-watch.org)).

Eurostat sources are used to present economic key figures of the real estate sector in chapter 1.2. The discussion of "applications, opportunities and barriers" in chapter 2.1.1 is based on literature listed in the reference section at the end of this report. The main part of this report, chapter 2.2, is an analysis of the findings from the first *e-Business W@tch* survey. The *e-Business W@tch* gratefully acknowledges contributions from Robert Thompson, director of the RETRI Group, who has been appointed as the sector expert for real estate activities.

## Real Estate Activities: Sector Profile & e-Business

### 1 Economic profile

#### 1.1 Definition and focus

The real estate sector comprises five activities: developing, dealing with, letting, broking and managing real estate. According to the NACE Rev. 1 classification, chapter 70, real estate activities are subdivided into three categories with further subcategories as shown in table 1-1:

*Table 1-1: Definition of the real estate sector in NACE Rev. 1*

NACE Code	Activity
70	Real estate activities
70.1	Real estate activities with own property
70.11	Development and selling of real estate
70.12	Buying and selling of own real estate
70.2	Letting of own property
70.3	Real estate activities on a fee or contract basis
70.31	Real estate agencies
70.32	Management of real estate on a fee or contract basis

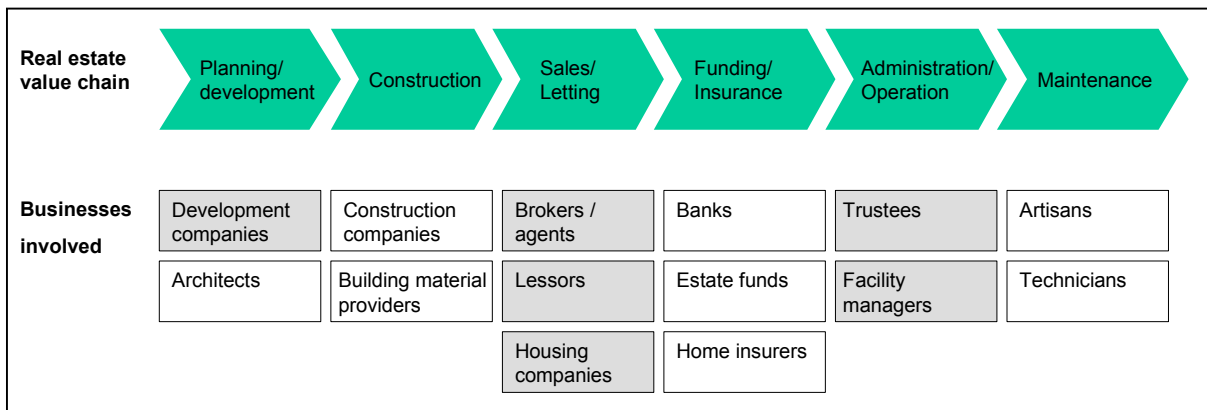
Class 70.11 includes bringing together financial, technical and physical means to realise real estate projects for later sale, whether for residential buildings or other. It excludes development and construction work of a real estate project by a construction unit, which is part of NACE 45.2. Class 70.12 includes buying and selling of self-owned real estate, that is apartment buildings and dwellings, non-residential buildings, and land.

Class 70.2 includes letting and operating of self-owned real estate such as apartment buildings and dwellings, non-residential buildings, including exhibition halls, and land. It excludes the operation of hotels, rooming houses, camps, trailer camps and other non-residential or short-stay lodging places, which are part of NACE 55.

Class 70.31 includes intermediation in buying, selling, renting and appraising real estate, and class 70.32 also includes rent-collecting agencies.

Real estate activities belong to the service sector and are to be distinguished from construction activities. Furthermore, other activities contributing to the construction sector such as architects or construction economists do not belong to real estate either but to business services. Finally, real estate banks and funds belong to the financial services sector. Thus NACE category 70 on which this report is focused comprises only parts of the real estate value chain as shown in figure 1-1.

Figure 1-1: Real estate value chain



Source: empirica, Stengel/Reinert (2001). Activities included in NACE 70 (real estate) marked grey.

### The importance of the real estate sector

The real estate sector is of particular interest for any study of e-business implications, and for the *e-Business W@tch* in particular, because it serves important economic and social functions and has a high PC penetration:

- **Economic and social role:** The real estate sector has fundamental significance for both businesses and private individuals. As regards business, real estate is one of the basic preconditions for running a business at all. In respect of tenants and owner-occupiers, because it deals with a basic need, this sector is important in social policy terms.
- **High level of PC usage:** In empirical terms, the real estate sector has the second highest share of employees working with computers. Only financial intermediation has a higher share. According to the European Survey on Working Conditions 2000 by the European Foundation for the Improvement of Living and Working Conditions, 77% of workers in the sector work with computers at least one quarter of the time, and 48% work with computers all the time.<sup>1</sup>

## 1.2 Economic key figures

### Number of companies

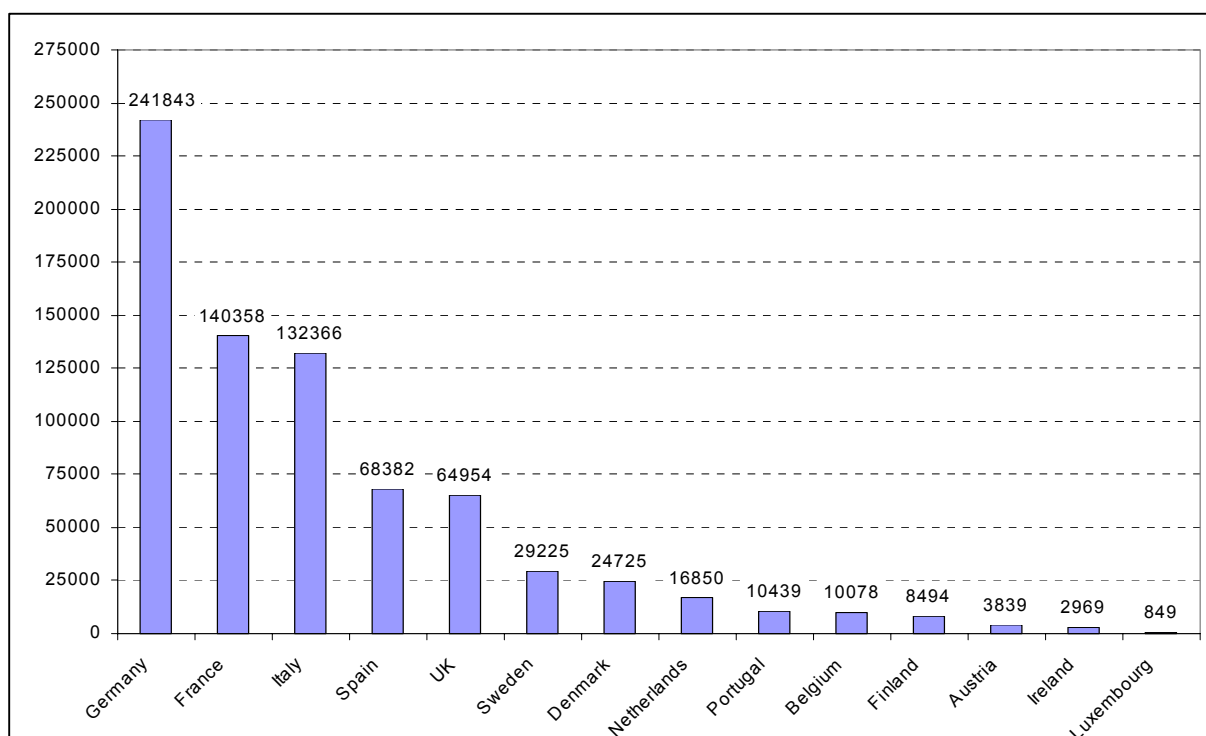
The real estate sector in the EU comprised around 755,000 companies in 1999.<sup>2</sup> Most of them were located in the large EU countries: Germany (242,000), France (140,000), Italy (132,000), Spain (68,000) and the UK (65,000). Missing data and apparent breaks in time series in several countries make it difficult to draw a consistent picture of the development of the number of companies in recent years. As a trend, the number of real estate enterprises has been increasing in almost all countries for which time series data are available (see table 1-2). This increase may reflect opportunities for new companies entering the market. One of the largest increases took place in Italy, where the number of real estate companies grew from 99,998 in 1995 to 132,366 in 1999. An exception is the Netherlands, where a decrease from 18,425 companies in 1996 to 16,850 in 1998 occurred.

<sup>1</sup> Paoli/Merllié (2001), p.8

<sup>2</sup> Excluding Greece for which no data are available.



Figure 1-2: Number of real estate enterprises in EU countries



Source: Eurostat. 1999 data; Ireland and Netherlands: 1998. No data available for Greece.

Table 1-2: Number of real estate enterprises in EU countries 1990 - 1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Austria	n.a.	2394	n.a.	n.a.	n.a.	3670	3943	3282	3898	3839
Belgium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	10078
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	24725
Finland	n.a.	n.a.	n.a.	n.a.	n.a.	6387	6378	9847	8154	8494
France	41871	49151	48739	54995	54163	55041	132235	69322	139087	140358
Germany	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	224925	233883	241843
Ireland	n.a.	n.a.	n.a.	n.a.	n.a.	1763	1957	2279	2969	n.a.
Italy	40927	40927	40927	41367	n.a.	99998	104961	120382	134404	132366
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.	648	657	784	817	849
Netherlands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	18425	18035	16850	n.a.
Portugal	2697	2674	2918	4310	4932	5476	9032	8965	8927	10439
Spain	n.a.	n.a.	n.a.	n.a.	44202	n.a.	54967	61472	n.a.	68382
Sweden	n.a.	n.a.	n.a.	30081	n.a.	n.a.	n.a.	28141	29250	29225
UK	n.a.	n.a.	61630	58986	59511	n.a.	n.a.	59027	59576	64954

Notes: n.a. = not available. No data at all available for Greece.

Source: Eurostat

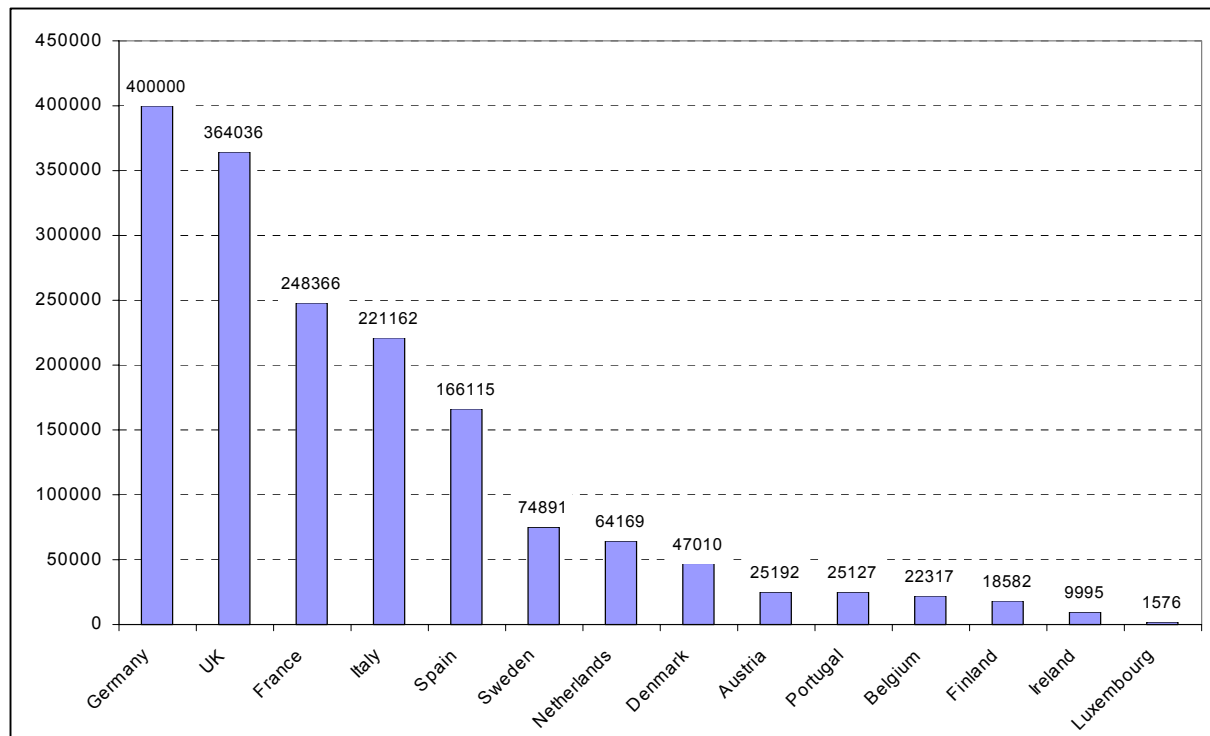
## Employment

In 2000, around 1.7 million persons worked in the EU real estate sector.<sup>3</sup> This figure not only comprises employees but includes work forms such as self-employment and freelancing. The number of employees is highest in the large European countries – see figure 1-3. In Germany 400,000 persons worked in real estate in 2000, followed by the UK (364,036), France (248,366), Italy (221,162) and Spain (166,115).

<sup>3</sup> Excluding Greece for which no data are available.

In the total of 165 million employed persons in the EU, the share of the real estate sector was about 1%. The share of real estate employees is particularly high in Sweden (1.8%), Denmark (1.7%) and the UK (1.3%) and particularly low in Portugal (0.5%) as well as Austria, Belgium and Ireland (0.6% each).

Figure 1-3: Number of people employed in real estate enterprises in EU countries



Source: Eurostat. 2000 data. No data available for Greece.

EI: trend extrapolation with 1995 – 1998 data; L: trend extrapolation with 1995 – 1999 data; UK: 1999 data.

Table 1-3: Number of people employed in EU real estate enterprises 1991 - 2000

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Austria	14763	n.a.	n.a.	n.a.	19762	19808	20810	25140	25218	25192
Belgium	n.a.	n.a.	n.a.	n.a.	19260	19829	19867	21479	21348	22317
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	45636	47010
Finland	n.a.	n.a.	n.a.	n.a.	17771	16800	22329	18985	19168	18582
France	152978	145648	236638	236501	237043	306338	302529	305874	308143	248366
Germany	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	393000	400000
Ireland	n.a.	n.a.	n.a.	n.a.	5653	5735	6890	9376	n.a.	n.a.
Italy	80452	80452	79486	n.a.	163411	165150	173863	203472	211213	221162
Luxembourg	n.a.	n.a.	n.a.	n.a.	1094	1146	1554	1357	1423	n.a.
Netherlands	n.a.	n.a.	n.a.	n.a.	52459	59975	57671	62250	n.a.	64169
Portugal	13498	12742	30439	17017	16781	26624	23559	27710	27773	25127
Spain	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	169465	166115
Sweden	n.a.	n.a.	n.a.	n.a.	n.a.	72556	72566	73534	73631	74891
UK	n.a.	244324	279421	285884	n.a.	n.a.	n.a.	344561	364036	n.a.

Note: n.a. = not available. No data at all available for Greece.

Source: Eurostat

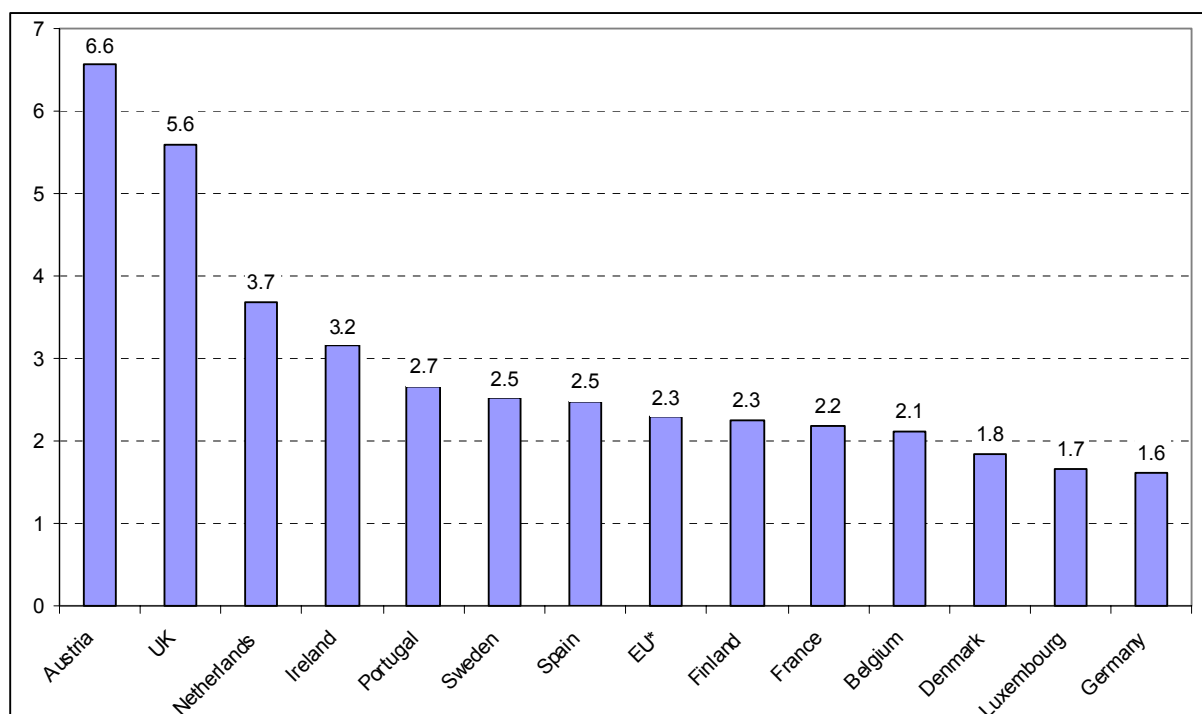
The share of self-employed is relatively high, with an EU average in the real estate sector of 18%. The rate is particularly high in Belgium (36%), Portugal (41%) and Italy 51%. Around half of the labour force in the EU real estate sector are women and 23% work part-time. 24% completed a higher education compared to 19% in the service sector as a whole (1997 data).

In the past ten years, the trend of the number of employees was to increase in most countries. Data for the whole of the nineties is only available for France, Italy, Portugal and the UK, while only in the UK the method of collecting data appears to have remained unchanged – see table 1-3. In the UK, the number of persons employed in real estate increased from 244,000 in 1992 to 364,000 in 1999. Similarly in Italy, the number increased from 163,000 in 1996 to 221,000 in 2000. In France, the number of employees remained stable at slightly more than 300,000 from 1996 to 1999 and then dramatically decreased to around 250,000 in 2000.

### Enterprise structure: very high share of small companies

The EU real estate sector is characterised by a very high share of small companies. Around three-quarters of them are run by a self-employed person with no employees, compared with an average of around 50% in the whole of the service sector. 98% of the companies in the real estate sector have less than 10 employees.

Figure 1-4: People employed per enterprise in real estate in EU countries



Source: Eurostat. 2000 data. No data available for Greece.

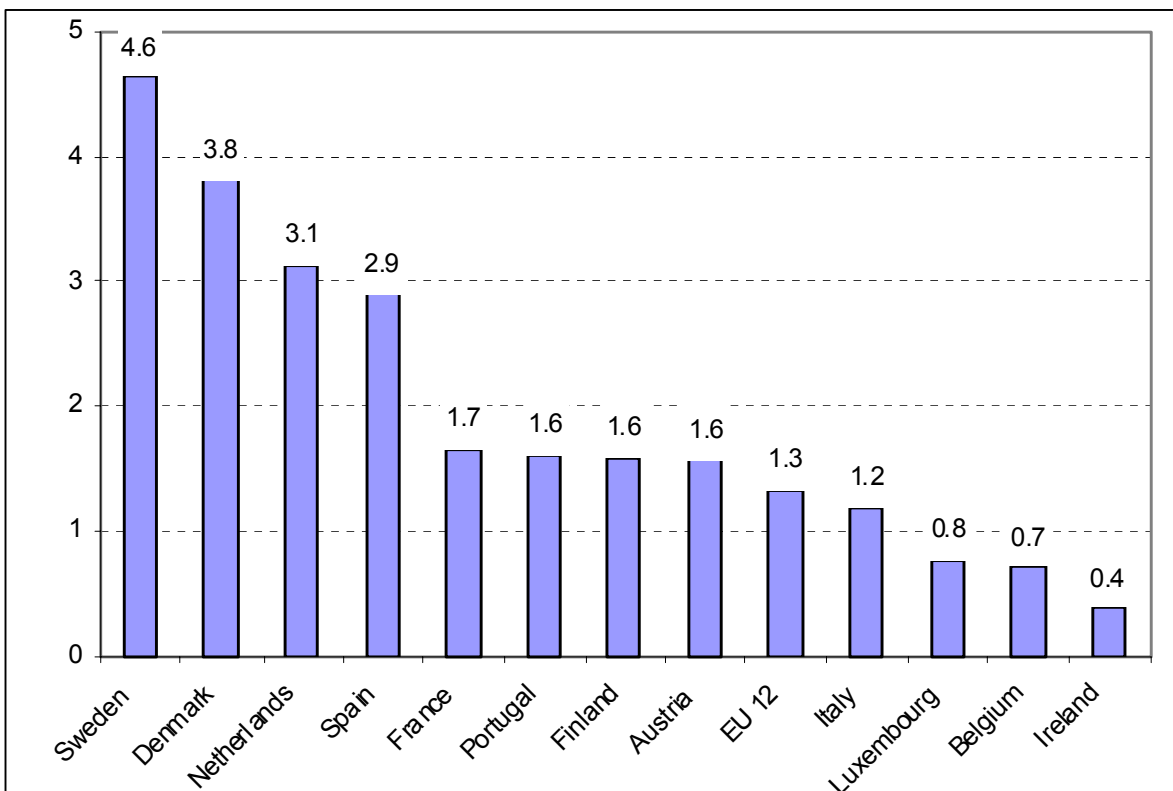
The high share of small enterprises is reflected in the low number of people employed per enterprise. The EU average in the real estate sector is 2.3 persons employed per enterprise (see figure 1-4). The ratio is highest in Austria (6.6), the UK (5.6) and the Netherlands (3.7) and lowest in Germany (1.6), Luxembourg (1.7) and Denmark (1.8).

Data on turnover and employment by company size class further express the importance of small businesses in real estate activities. Small companies (0 – 49 employees) accounted for 73.9% of the turnover and 82.3% of employment in real estate in the EU, medium companies (50 – 249) for 20.2% of the turnover and 10.8% of employment and large companies (250+) for 6% of the turnover and 7% of employment in 1997. It can be assumed that these figures have not changed significantly since then.

## Value added

The value added at factor costs of the EU real estate sector – excluding Germany due to methodological reasons as well as Greece and the UK due to missing data – amounted to 55,575 million Euro in 1999. The share of real estate value added in gross value added in the EU was 1.3%.<sup>4</sup> This is slightly higher than the share of persons employed. The importance of the real estate sector in terms of value added differs widely among the EU member states. The share of real estate value added in total gross value added is highest in Sweden (4.6) followed by Denmark (3.8) and the Netherlands (3.1). The share is lowest in Ireland (0.4), Belgium (0.7) and Luxembourg (0.8).

Figure 1-5: Value added in EU real estate enterprises in % of national gross value added



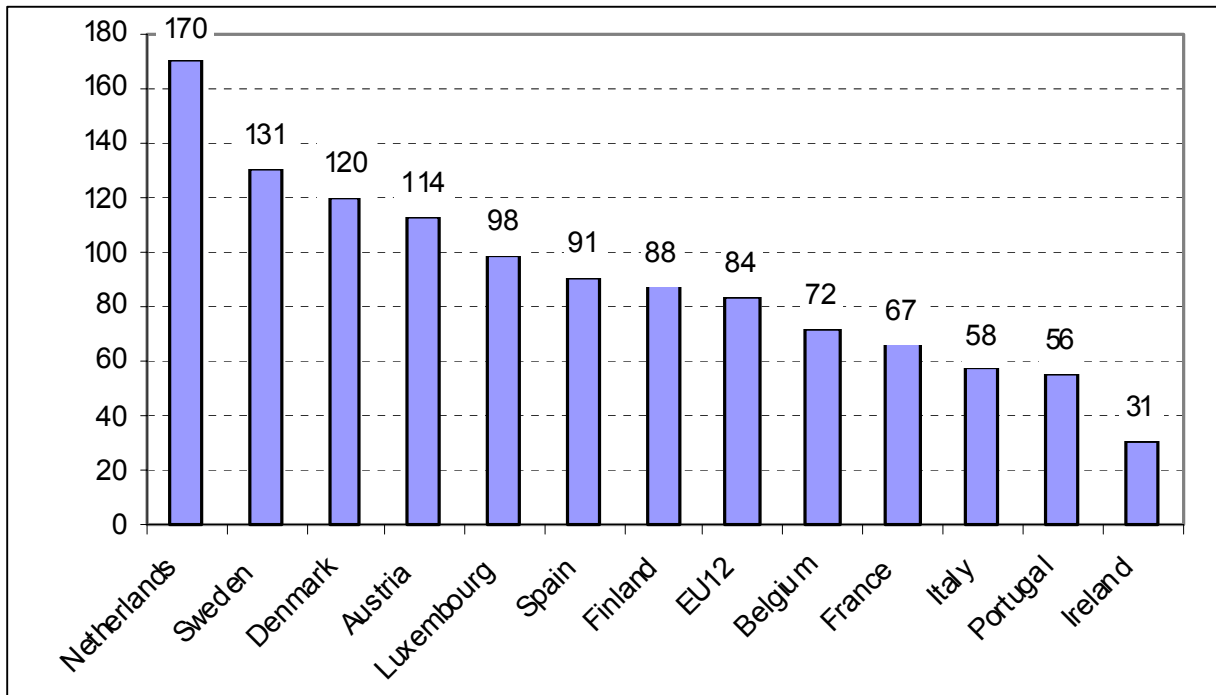
Source: Eurostat, 1999. Germany missing for methodological reasons. No data available for Greece and the UK.

## Productivity

The EU average of value added per person employed (i.e. the apparent labour productivity) was 84,092 Euro in 1999 (see figure 1-6). In comparison with other service sectors this is relatively high. Labour productivity was highest in the Netherlands (169,731), Sweden (130,573) and Denmark (119,984) follow. The lowest labour productivity is to be found in Ireland (30,817), Portugal (56,065) and Italy (57,744).

<sup>4</sup> Excluding Greece and the UK for which no data are available.

Figure 1-6: Value added per person employed in EU real estate enterprises (in 1000 Euro)



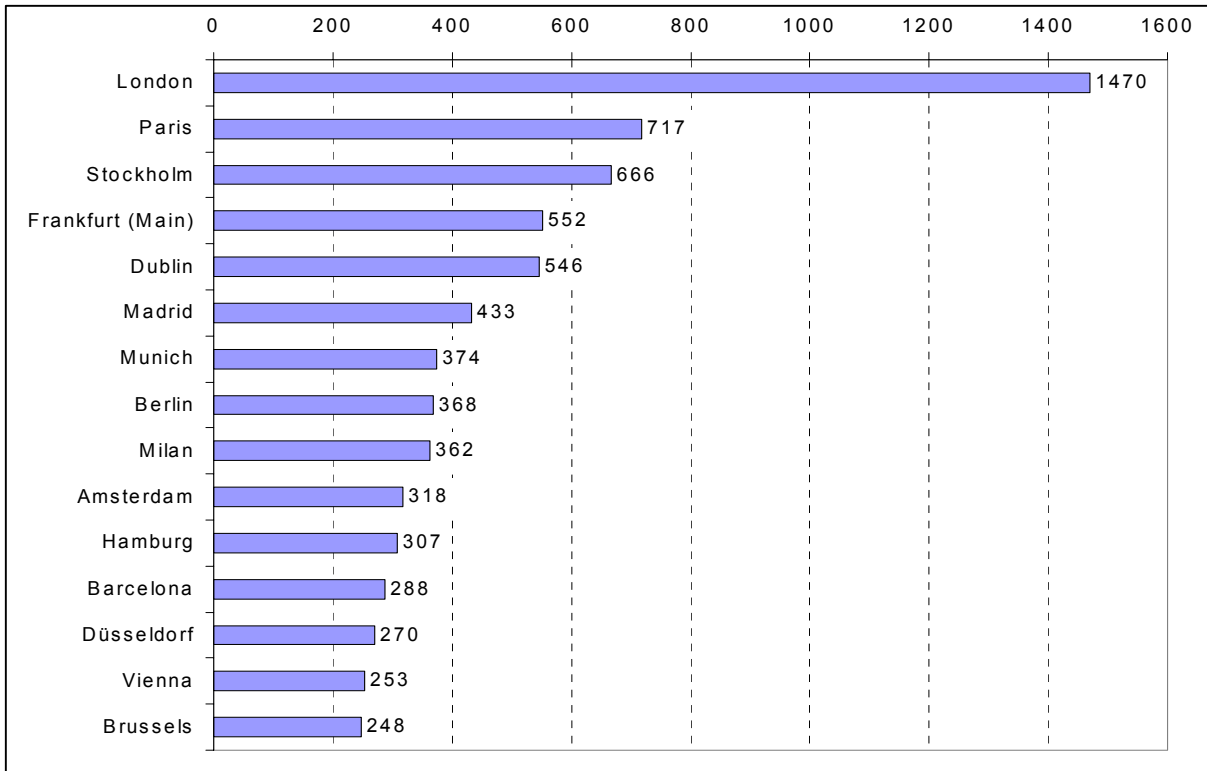
Source: Eurostat, 1999. Germany missing for methodological reasons. No data available for Greece and the UK.

### 1.3 General trends and business issues

In most EU countries, the number of purchases on the real estate market has increased since 1993, with the notable exception of Germany. Growth has been particularly strong in the UK, where almost twice as many transactions were carried out compared to France or Germany. A contributory factor here is Conservative government policy of transferring housing from public to private ownership.

The most expensive real estate location in the EU is London with an average rent of 1,470 Euro per square metre and year in January 2001 – see figure 1-7. The next most expensive cities are Paris (717), Stockholm (666), Frankfurt/Main (552) and Dublin (546).

Figure 1-7: Cities with most expensive rents in the EU  
(Euro per square metre and year)



Source: Jones Lang LaSalle European Research, January 2001

According to the 2001 annual report of the European Council of Real Estate Professions (Conseil européen des Professions immobilières, CEPI), the general trend of the real estate market for in EU countries is good – see table 1-4. Only Ireland reported a “weakening” real estate market; all other countries stated good conditions.

Table 1-4: Trend of the real estate market as assessed by estate agents’ associations

B	DK	D	E	F	EI	I	L	NL	A	FIN	S
good	good	good	good	good	weakening	good	good	good	good	good	good

Source: European Council of Real Estate Professions, Annual Report 2001. No data available for EL, P and UK.

### Current issues in EU real estate business

Clearly the importance and impact of issues will differ from market to market. However there is a list of macro-issues which affect the real estate sector throughout the EU:

- **Sustainability:** The real estate industry has a growing understanding that it has a role to play in the wider debate about sustainable development both by providing more sustainable buildings for people to live and work in, and by ensuring that the industry itself works in a sustainable way. This has implications for the development of new property and the operational management of the existing stock.
- **Connectivity:** The realisation that the provision of high bandwidth telecommunications to buildings is a key facilitator for business is growing amongst all the stakeholders in the industry. Again this has implications both for new development and existing stock.

- **Securitisation:** Real Estate remains an industry in which the core products are large, inelastic and illiquid. Despite some limited national examples, there is no Europe-wide equivalent of the US Real Estate Investment Trust. Such a vehicle is said to bring greater liquidity to the market and make the sector more easily tradeable. There are REIT-like vehicles in Belgium and to an extent Germany. The initiatives to create tax-transparent vehicles for property ownership are national rather than at EU level. Meanwhile, investing in securitised property requires the purchase of property company shares.
- **Valuation:** Comparability of valuations between national markets remains a live issue, particularly in the context of changes to reporting standards due over the next few years that will fundamentally change the way the value of property is treated in corporate accounts.
- **Regeneration:** The big issues of urban and rural regeneration are important to the real estate industry. The ability to provide commercially viable alternatives to obsolete building infrastructure is a significant factor in the generation of economic output.
- **Social responsibility:** Increasingly, investment in property is coming under the same governance pressures as other asset classes with respect to social responsibility.
- **Affordability:** The provision of affordable residential accommodation, particularly in urban environments, is an important factor in economic health. Without it, the lower paid strata of the workforce can be priced out of the labour market.

### Real estate market characteristics in the sample countries

The sample for the first survey of the e-business watch in the real estate sector included seven countries: the “big four”, included in every sector – France, Germany, Italy and the UK – plus Denmark, Finland and Portugal. A brief overview of basic characteristics of the real estate sector in the countries of the survey is meant to facilitate the assessment of the findings.

**Denmark** has one of the lowest residential property rates in the EU. Only 43% of the 2,430,000 dwellings in the country are occupied by their owners. The real estate market is dominated by a number of large chains, owned or run in connection with banks or mortgage banks. There is also a market for real estate agents, some of whom operate under the brand of marketing chains. In total, 12,000 property agents (employed and self-employed) are working in the sector. The large chains established highly computerised marketing systems with their own Internet platform including pictures, floor plans and financial key figures for each of the properties for sale. As regards recent market developments, a considerable appreciation in prices could be observed during 2001. Rent prices have increased by 2.7% and residential sales prices increased by 7.1%, compared with 2000. For 2002 no considerable price increase is forecasted.

**France:** With an overall population of 60 million inhabitants and some 28,000,000 dwellings – of which nearly half (45%) are rented – France represents one of the largest real estate markets within the EU. Overall, 17,000 property agents and some 8,000 real estate managers are active in the field. During 2001 prices have generally increased compared with 2000. With respect to rent level, an increase of 3.5% took place while sales prices increased even higher, by 6.5%. For 2002, prices are estimated to remain stable. The French National Real Estate Federation (FNAIM) maintains a computer database which include the properties advertised by 8,000 affiliated agencies. Whether they are aimed at the housing or the tertiary sector and for sale or rental, these properties are available for consultation on the Internet ([www.fnaim.fr](http://www.fnaim.fr)). The database is sectioned at local level and can be accessed through a software programme that was developed by FNAIM itself.

**Germany:** Comprising 36 million dwellings, the German real estate sector is the largest in the EU. At the same time, Germany has the lowest residential property rate among the EU Member States – only 40% of all dwellings are occupied by the owner. As regards invested capital Germany represents one of the most significant national markets in the EU. About 27% of the

entire capital invested in properties throughout the EU is invested here. For instance, in 2000, about 17.3 billion Euro were invested by institutions such as insurers, pension funds and real estate funds. Office properties have attracted most capital. However, the overall market is currently suffering from a sluggish economy (0.6% GDP growth in 2001) and high unemployment rates (2001: 9.4%). According to a recent market study, market volumes – measured in terms of overall space rented – for commercial properties decreased by about 12% in 2001. At the same time, investments in the residential building sector decreased by about 20%. East Germany – i.e. the new German Länder – suffers from structural problems in particular. Here, about one million flats are empty and half of them are not even habitable. Prices have remained quite stable during 2001. Compared with 2000, rent prices increased by only 1% while prices for residential sales dropped by 2%. With regard to 2002, no considerable price changes are forecasted.

**Italy** – alongside other EU Member States – continues to experience the effects of an economic slowdown. As regards the real estate market, this situation has resulted in a noticeable reduction of office occupier demand. Nevertheless, recent market forecasts show continuing interest and confidence in the investment and development sectors of the Italian property market. Investors are expected to respond to the rental growth experienced across the different sub-markets throughout 2001. Overall, the Italian real estate sector is characterised by a relatively high residential property rate. Currently, 26,400,000 dwellings exist of which three-quarters are occupied by the owner. The European Council of Real Estate Professionals (CEPI) has estimated that currently 20,000 real estate agents are active in the field. Both rents and sales prices increased between 4 – 8% during 2001, and a further increase of 5 – 10% has been forecast for 2002.

**Finland:** Since the economic crises in the beginning of the 1990s, the development in the Scandinavian property markets has been positive with increasing rents, decreasing vacancy levels and decreasing yields. According to a recent forecast by PriceWaterhouseCoopers the market is estimated to continue in this positive direction owing to a positive economic climate and a strong growth, especially in the main cities. With respect to the Finnish market in particular, Helsinki – with 20% of the Finnish population – represents the largest sub-market. Across the country, 2,400,000 dwellings currently exist of which almost two thirds (63%) are occupied by the owners. In total, 3,000 property agents and another 4,000 property managers are active in the field. Prices remained stable during 2001, and no considerable price increase is expected for 2002. However, recently introduced legislation concerning the question which party ultimately has to pay the broker's commission leaves some uncertainties about the rental market in particular.

**Portugal:** The Portuguese economy has continued to record strong economic growth in recent years, which appears to have had a positive impact on the real estate sector. The construction sector has been very dynamic in the field of housing, producing slightly more than 100,000 dwellings per year (2001), which means more or less 10 dwellings per 1000 inhabitants – twice the European average. As a result more than 235,000 contracts per year were signed between credit institutions and private individuals to acquire dwellings in the system of self-ownership. Moreover, the office and retail markets continue to perform an upward trend – despite the economy slowing down meanwhile. In particular, the expansion of the supply sector has fuelled demand for strategic distribution space and a number of high quality developments. Increased letting activities in the office sector resulted in an annual take-up of 145,000 square metres (2001), continuing the upward trend since the late 1990s. However, it is estimated that this could be lower in 2002 due to limited supply. As the Portuguese real estate market is rather tight, investors are currently aiming at forward acquisitions. Since there are only few major developers in the country this is rather difficult.

**United Kingdom:** The UK economy has been the most resilient one in Europe with official figures suggesting that economic output grew by 2.4% in 2001, close to its long-term rate. Against this background, there has been considerable interest from foreign investors in acquiring residential and commercial property within the UK in recent years. Although this may have been temporarily affected by international events, particularly in the central London market, the relative ease with



which foreigners may acquire interest in property and the continuing return on investment and capital growth is likely to drive this market. Since early 2001, however, the major London office markets have seen rising vacancy rates, and other regional markets (e.g., the Thames Valley region), have been affected by the downturn of the technology sector, which is considered as the major space occupier in this area. With respect to the residential market, the ongoing lack of property on the market is now a major influence of price inflation. House price inflation is being driven by the continued shortage of homes for sale. Although the average number of homes for sale per surveyor rose slightly to 65 in August 2002, this is six below the same period of last year and way below the long-term average of 119. All signs indicate that this shortage is likely to continue for some time. The residential lettings market in England and Wales continues to be dominated by buy-to-let investors buying into the market.

## 2 Usage of ICT & e-business

### 2.1 The role of ICT and e-business in real estate

#### 2.1.1 Applications, opportunities and barriers of real estate e-business

##### Internet increases transparency of the real estate market

The real estate market is characterised by a particular lack of transparency. Information about the supply of properties is often poorly structured and would-be purchasers and tenants have difficulty finding the information they need about properties in which they are interested. One reason for this situation is that the goods offered – houses, flats and offices – are largely non-standardised and have yet to meet individual needs and requirements to be sold or let. Thus, the real estate market could benefit strongly from a more widespread use of ICT. In particular, the Internet can facilitate the identification of suitable properties by providing detailed information on :

- **basic object characteristics** such as location, price, furnishings and facilities;
- **visualisation** of properties through ground lines, sketches, pictures or even virtual walks through buildings;
- **environmental** information such as distance to kindergartens, schools, restaurants, sports facilities and cultural centres;

Furthermore, the Internet can provide additional information to facilitate the decision to buy or rent real estate goods or to conclude a contract:

- **market information** such as price comparisons of real estate properties in the region;
- **financial services** links to funding opportunities and home insurance;
- **removal** information such as links to removal service providers;
- **legal assistance** such as contract templates and information about court judgements;
- **checklists** of “to dos” in the course of buying or renting real estate and removals.

Such in-depth information allows an advance decision if a personal visit is worth while, and it may prove to be a valuable means of customer retention. The customer can look for suitable objects whenever he wants and he can remain anonymous until he decides to contact the supplier. Real estate companies can find potential customers who are better informed and thus require less time for consulting and who are more likely to actually conclude a contract. The real estate agents can spend more time on “valuable” customers.

Offering real estate goods in the Internet has become quite prevalent. Standardised software for constructing real estate Internet platforms is already available. Visualising software is still quite expensive, so that virtual visualisation on the Internet is likely to be used only for large objects such as business buildings.

In practice, simply putting newspaper advertisements on a website has not proved successful, as shown by the unsuccessful attempt of the portals [www.d-immo.de](http://www.d-immo.de) and [www.immoseek.de](http://www.immoseek.de).

##### Real estate websites can be beneficial to offline business

Providing information on the Internet does not mean that the whole business process must be conducted online. The Internet can serve as an additional means of communication, being beneficial to offline real estate business in numerous ways:

- acquiring new customers who are prone to use the Internet;

- reducing costs in the form of money, time and effort because customers can collect basic information themselves without contacting agents;
- increasing average expenses by customers;
- decreasing the time between initial personal contact and contract conclusion,
- drawing conclusions to market trends by analysing click rates of offers, information websites and links,
- contributing to brand name creation.

However, if Internet presentations are meant to serve these functions they need to be professional – that is frequently updated, designed in a user-friendly manner, and free of errors.

### **E-business in real estate planning and development**

Real estate development can also benefit from e-business applications. Platforms with calls for tenders can define standardised forms and processes for a construction endeavour. Collaboration tools for project management may enable all partners involved, e.g., housing companies, architects, artisans and construction companies, to communicate through the Internet. The partners may share a common databank with information on the project such as plans and current state of realisation. Platforms such as build-online.com that offer software for the European construction and real estate industry can facilitate such processes.

There are also strong links with public sector websites dedicated to planning. As an example, in the UK, Westminster Borough Council, a local authority in Central London, provides all its structure plans and zoning information on-line to facilitate access to information for developers. However, this kind of transparency enabled through website information may of course also be used by "anti-developers".

### **Brokerage supply and demand on the Internet**

Some real estate firms use the Internet not only for information provision, but for comprehensive brokerage and service. Web-based brokers are trying to attract real estate companies by promising to supply them with contacts to individuals looking for housing. There are already numerous examples, many of them in the USA, like [homestore.com](http://homestore.com), [homes.com](http://homes.com), [citimortgage.com](http://citimortgage.com), [homeadvisor.com](http://homeadvisor.com), and [realtor.com](http://realtor.com). Examples in the EU are [planethome.com](http://planethome.com), [PropertyGate.com](http://PropertyGate.com) and [estatepool.com](http://estatepool.com) (to be found at [immopool.de](http://immopool.de)). These websites offer property in several EU states or even outside Europe. However, the share of objects sold through the Internet is still very small; in Germany it is estimated to be less than 5%.

Initially, agencies were quite reserved about the Internet because they feared for their most important capital: object lists, contact addresses and profiles of potential customers. However, agencies are not becoming superfluous at all because the Internet is usually not used to sell, but to initiate. After pre-selecting objects on the Internet, potential customers still require further consulting and viewing the object at site.

The potential of Internet offerings is not uniform throughout the sector. It can be expected that the Internet will be more important for the mass-market of relatively small buildings transacted for individual housing than for the large buildings purchased by businesses. This is because of the relatively high value and complexity of business transactions, requiring comprehensive negotiations. However, there are already examples of brokers for business real estate like [loopnet.com](http://loopnet.com) and [bouygues-immobilier.com](http://bouygues-immobilier.com).

Marketing expenses for establishing a web-based real estate brokerage are said to be high. Thus probably only a small number of providers will survive with their business model. Only the largest providers are likely to establish a brand name that customers will remember. In this respect, those providers who are already well known in traditional real estate brokerage have an advantage over newcomers. Some sector insiders mention critical masses of objects up to six-digit figures in order to be able to maintain web-based real estate platforms.

**Comprehensive real estate information and brokerage: homestore.com**

Homestore.com is a home-related information destination with a mortgage financing emphasis and is the US market leader in real estate portals. The firm's databank of real estate objects is enriched by highly informative content. Homestore.com intends to be an information scout. It offers visitors a comprehensive online database of property listings and real estate service providers, virtual tours, photos, resources, advice, decision support tools. For example, the potential customer can compare real estate prices in the region he/she wants to move, check conditions of funding rent or purchase, and search for removal companies.

Moreover, Homestore's professional software division provides real estate professionals with customer relationship and inventory management tools. Additional online and offline assets from Homestore are meant to enable advertisers to reach consumers before, during and after a move. In summer 2001, homestore.com gained three-quarters of the "eyeball minutes" on real estate portals. Eyeball minutes are calculated by multiplying the number of website visitors with the average time spent on the website.

Source: Böhm (2001), <http://www.homestore.com>, own research.

**E-business can support facility management**

Facility management, that is the management of real estate and related services including commercial, technical and infrastructure-related issues, can be supported online. E-business applications internal to the housing company can support tasks such as client data administration and bookkeeping. Service applications can support maintenance, cleaning and remote control of facilities. Such services can be integrated into an Internet-based customer care centre beneficial for both the administrators and the tenants. Some examples:

- **Cost monitoring and billing** can be supported by IT applications that have online access to metering e.g. of water or fuel consumption in apartments. This data is fed into monthly bills and is already used for online feedback to tenants about costs incurred.
- **Service providing:** After-sales service in real estate is increasingly delivered via ICT, particularly e-mail correspondence with tenants and owners and call centres. These technologies are providing new means for Customer Relationship Management. New services based on smart home technology are also emerging to meet increased demand for security, comfort and energy conservation.
- **Maintenance** can become easier with ICT use. Through an Internet portal of his/her facility management company, a tenant may be able to describe a certain malfunction, e.g., a broken tap, in detail. The description is transferred to the housing company which then contacts an artisan. At the same time it may be discovered, through automatic warehouse check, that a certain device is currently unavailable. Even more simply, the tenant may be enabled to have broken facilities repaired on his/her own by ticking pre-defined boxes online. The housing company only monitors the transaction and becomes active only when necessary, e.g. when invoices have to be paid.
- **IT caretakers** for business offices are a special service offered by some real estate companies within their overall offer of building related services offered to business customers. Unlike the traditional caretaker, the modern IT concierge is in charge of all issues relating to the information and telecommunication infrastructure of a building, going into action whenever the network strikes or work places need to be moved around the building.

E-business in general and service providing in particular do not only take place via the Internet, but also through special intranet and extranet solutions in real estate business:

- **Intranets** are currently being used in the sector to facilitate fault reporting, run facility management services and help outsiders and insiders find the right contact within the company. In general, the larger the organisation the more it can benefit from intranet solutions.
- **Extranets** or standards-based virtual private networks (VPN) are already enabling housing providers to link much more closely with their suppliers, particularly maintenance contractors, reducing costs and increasing the speed of response to tenants and owner needs.

There is also a lot of growth in the provision of community portals, based upon a specific building or development that not only provide facilities' management information about the estate, but also information and services for the workforce within that building. For example [vicinitee.com](http://vicinitee.com) provides this service to around twenty buildings in central London.

#### ***Moulins Habitat – electronic communication network in social housing***

Moulins Habitat is a public social housing company owned by the City of Moulins in the Auvergne region of central France. It owns almost 4,000 flats and a few special homes, managed and maintained with a staff of 90 people.

In early 2001, Moulins Habitat introduced an electronic communication system between the housing company and its tenants: keeping tenants informed about developments in the company and of work carried out, as well as of tenants' water and electricity consumption, their financial position and the state of their repair requests. For this purpose, a web-based network is being established which can be accessed by PC or by special set-top boxes provided by Moulins Habitat. The firm can use a modern optical fibre cable system which was originally installed to provide cable television.

Moulins Habitat designed a web portal to facilitate access to local services, employment research and housing services such as utilities and news. Furthermore, a tenant and client extranet delivers services like online information about tenants' accounts, updated every night, and water consumption, repair requests and information about the status of the request and the person in charge of it.

The new system changes the process for handling requests dramatically. Each caretaker can receive tenants' requests by e-mail on his PC, and he can immediately send orders to suppliers or in-house workforce. The objectives of the electronic communication system are to attract new young clients, to retain current clients and to reduce maintenance and administration costs.

*Source: CECODHAS News, Spring 2002, Special Edition @work4homes.*

#### **Still, real estate does not really play a forerunner role**

Although internal employee use of PCs is perhaps surprisingly widespread in the real estate sector, the sector is not to be seen as a forerunner in ICT use and e-business applications which involve electronic interactions with clients and suppliers. A recent survey comparing website offers concluded that the websites of real estate brokers and of housing providers were unsatisfactory or poor. Less surprisingly and in common with many other sectors, most real estate B2B e-commerce platforms have not yet reached profitability; this market is still in an experimental phase.

In general, the real estate sector is taking up innovations rather late compared to other sectors, because products are quite heterogeneous, transaction volumes are high, and innovation cycles are long. Beside these macro-level impediments, real estate businesses report about impediments at the firm level. As found out in a KPMG study in 2000 covering questionnaires from 194 German real estate firms, numerous factors impede the application of e-business in real estate firms:

- lack of personal capacities within the companies (53% of respondents noted this barrier);
- Internet access among buyers and tenants is not sufficiently widespread (51%);
- security issues of the Internet (45%);
- clerical staff lacks PC know-how (42%);
- lack of compatibility of downstream systems (39%).

Further impediments were capacity bottlenecks of existing systems (36%), implementation costs (30%), and know-how deficits on the management level (29%).

### **Barriers and opportunities for SMEs**

Regarding online information, broking and service, one reason for the low level of adoption of ICT in external e-business could be the market structure. Small and very small companies find it difficult to release enough resources to build ICT and e-business solutions themselves. This problem will soon be addressed by standardisation of e-business solutions in a way suitable at least for SMEs. The world's largest supplier of enterprise resource planning (ERP) software, SAP, whose products are to date only affordable by large enterprises, has now started to target smaller companies across all sectors and, also recently, has initiated co-operation with Deutsche Pfandanstalt, a key supplier of IT services to housing providers in Europe.

Small and medium-sized agencies can benefit from e-business through joining agency platforms. An example is [immonet.de](http://immonet.de) provided by the Ring Deutscher Makler, a German real estate agency association. Furthermore, e-business enables SMEs to optimise sales controlling and reduce costs. Information on customers can be stored and analysed and support the selection of preferred customers and service levels.

### **Indirect impacts of e-business on the real estate sector**

E-business plays a role not only directly in terms of e-business application within the sector itself, as discussed in this report, but also indirectly in terms of quantitative and qualitative space requirements:

- E-commerce may reduce the need for retail space as more and more customers buy online and do not necessarily wish to go to a brick-and-mortar store. As a consequence, rental rates may decrease.
- E-commerce may lead to a relocation of business space as location may become an aspect of minor importance for online shops. Location may be more bound to logistic aspects of goods delivery, requiring locations with good traffic connection, as opposed to locations in proximity to customers.

As a study of the impacts of e-commerce on the UK retail property, conducted by the College of Estate Management, concluded preliminarily, "retail space is still required, but may change in its intensity and type of use ('shops as display areas') as online sales grow". In a survey of investors, developers and surveyors, 89% of respondents expected that "rental values and capital values could all be depressed by e-commerce". The authors of the same study assumed that "online B2B is growing rapidly and is likely to also have an impact on inter-firm relations and space requirements".

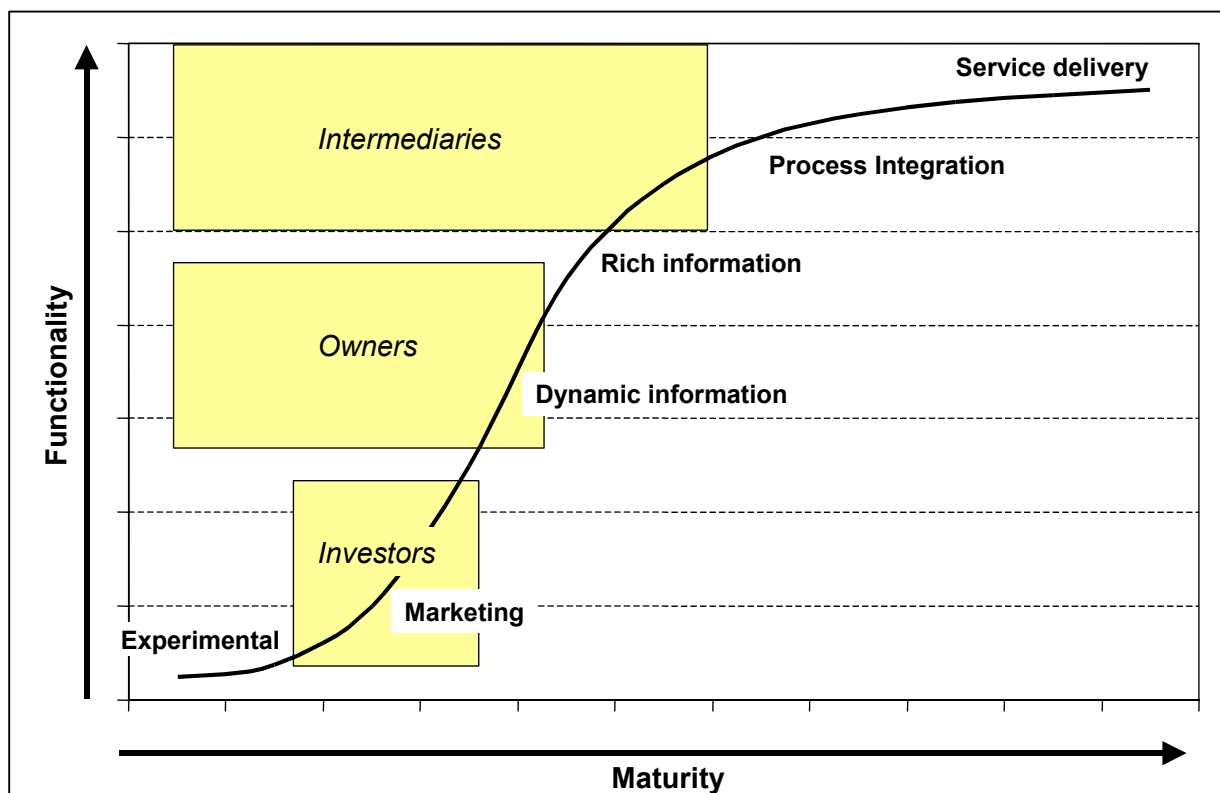
## 2.1.2 Expert statements on the current state on e-business in real estate

As a supplement to the analysis of ICT and electronic business in the real estate sector, the *e-Business W@tch* presents in this chapter an assessment by Robert Thompson, Executive Director of the RETRI Group, UK. Mr Thompson has been appointed by *e-Business W@tch* as an expert for e-business in the real estate. He has researched and published on the specific use of information and communication technologies by this sector.

### How intensely do European real estate companies apply e-business? Do they lag behind US firms?

As a generality, the answer is yes – European real estate firms lag behind their US counterparts. However, there are differences within subsectors of the real estate industry and geographical differences.

Figure 2-1: E-business maturity versus functionality in real estate



Source: RETRI Group

A rough taxonomy of the industry would split it into Property Investors, Property Owners and Property intermediaries. Figure 2-1 sets these against my generic model of e-business maturity:

- The Property Intermediaries lead the way in Europe and particularly the UK, but the subsector has a very long tail. Whilst the leading firms are committed to realise the benefits of e-business, there are a lot of firms who are unwilling to participate or, worse still, have begun and given up. The real estate web is littered with out-of-date abandoned sites. The leading firms are beginning to integrate core corporate processes into their e-business models.
- Some property owners were also quickly into e-business but even the leaders have not progressed beyond making dynamic information available to their potential clients.
- Property investors generally are not committed to the e-business model, their participation being limited to brochure-style websites.

There are also significant differences in maturity between northern and southern Europe. This is not as simple as drawing a line between the two since, for instance, there are good examples of Spanish e-business implementations. However, the penetration of e-business is much less deep. Of course, this reflects the relative levels of penetration in PC ownership between north and south.

### **What benefits could real estate firms draw from applying e-business more comprehensively?**

First some context. The basic real estate product is large, illiquid and relatively inflexible. The industry that has grown up around it has inherited many of the same characteristics culturally and operationally. This is an industry in which agreements are expressed in terms of numbers of years. In the UK for example, although not as common as it once was, leases are regularly solicited for 25 years. Compare this with the technology industries where a product lifecycle of over four years would be uncommon. Real estate is changing anyway, but e-business holds the potential to accelerate the delivery of massive benefits in cost efficiency throughout the business cycle – specifically in the attraction and retention of clients. All the stakeholder groups will benefit from e-business:

- Potential clients will be able to identify and contract to property more easily and get a better service as an occupier;
- Suppliers will benefit from better communication;
- Potential employees will be able to identify positions more easily and get better communication when they have joined; and
- Owners will benefit from the reduced costs and greater efficiency apparent in an integrated e-business model.

For the individual firm this is ultimately a question of competitive advantage. As the industry changes, early adopters will gain advantage. Once critical mass has been achieved however there is a competitive penalty for those who do not adopt. Currently we are at the stage where any industry player that doesn't have a website is at a competitive disadvantage. As far as the intermediaries are concerned there is a gap emerging between the big, full service firms and the rest of the market as they begin to exert their financial muscle by continuing to invest. Likewise the more forward thinking property owners are investing in on-line building services – and thereby gaining advantage. Property investors continue to lag behind this development with no clear leaders emerging.

### **What subjects currently dominate e-business application in real estate firms?**

The applications focus differs between the subsectors:

- As far as the intermediaries are concerned the focus is upon the development of extranets with key clients. This is seen as a key tool in the retention of business. At the leading edge the integration of functions like CRM, procurement and recruitment is beginning to be developed.
- Property owners are focused firmly upon building and tenant services. Participation in the provision of broadband communications and the development of building portals dominate.
- Property investors are interested in the development of real estate marketing tools. Exchange systems like Propex dominate their e-business thinking. (It is worth mentioning that the majority of these firms are part of much larger investment organisations. Any real estate e-business strategy will be subservient to the overall strategy of the parent company.)



### **To what extent is the real estate market “European”, and what role does the Internet play in the coalescence of the European real estate market?**

The real estate market reflects the development of the EU in that it is much more “European” than it used to be. There is an extent to which any such collection of different languages, cultures, legal codes, currencies and fiscal structures can never be a truly single market, but harmonisation is measured in generations, not business cycles.

The real problem here has tended to be the different levels of market information available in different countries. This is changing slowly. From an investment perspective it is possible to compare the returns from, for example, shopping centres anywhere in the EU using a reasonably common basis. Progress is being made on common standards for valuation and genuinely pan-European portfolios are growing in number. However, there is some way to go before we have a single European real estate market. The internet is playing a key harmonisation role in a number of areas:

- Making market information available. This has galvanised cross-border investment both in terms of intra-European investment and inward investment, particularly from the USA.
- Giving access to research. The low threshold costs of electronic publishing have made available market research across the EU.
- Giving the market structure and credibility. The locational focus of real estate has tended to make it a parochial and localised industry. The internet has raised that horizon giving local signposts to Europe-wide activity. The intermediaries have worked hard in this area making the availability of their European network of offices apparent to local investors.

### **The real estate sector is characterised by a high share of SMEs. What opportunities and what risks does e-business imply for them in particular?**

The opportunities for small firms are clear:

- There is a famous Peanuts cartoon with Snoopy typing at a computer. The caption is, “On the internet nobody knows you are a dog”. Because size is not apparent on the net, they can compete on a level footing with firms of any size.
- Companies can deliver information-rich content to a much wider audience at marginal cost, thus expanding their potential client base.
- “Soft” services can be delivered electronically again at marginal cost. As the service side of the real estate industry becomes more commoditised this will become a genuine e-commerce opportunity.

There are risks however:

- The core real estate product remains “hard” and only available in large lot sizes. This physical component will continue to shape the industry.
- Typically small companies survive through niche practices – their niche may be geographic or specialist. The aspatial nature of the internet facilitates greater competition in these niche areas.
- Although entry and operating costs are relatively low, increasingly competition will be with firms perhaps better able to invest in e-business.

### **What barriers prevent real estate companies from applying e-business more comprehensively?**

Because of the structure and history of the real estate industry noted before, real estate companies have never been at the forefront of the adoption of new business practices. Almost without exception all the heroes of real estate are the wheeler-dealers that work entirely through

instinct. This is reinforced by legends of the best deal or the biggest party. As a result they have never developed a culture of systematic self-analysis. For many in the real estate industry e-business is just another management fashion that can safely be ignored.

A second barrier is the technology itself. Typically e-business is being driven by the IT functions within the real estate companies. Rather than the business placing demands upon IT, the process is supply-led with investment being focused on technology rather than return. This lack of a strategic imperative makes it vulnerable to downturns in the business cycle.

### **Could legal frameworks be improved in order to make real estate companies apply e-business more comprehensively?**

The European real estate sector has no shortage of arcane legal quirks amongst its constituent member countries and the internet has been characterised by the lack of a legal framework at all! In any event it is markets that make things happen, not legal frameworks. As we move towards greater standardisation of data and methodologies the concept of a pan-European real estate market will become ever stronger. Under the strong light of a European perspective, local legal problems will wither because of market pressure. The adoption of the e-business model facilitates this.

Of course there are some legal barriers – basic differences between the Napoleonic and Anglo-Saxon legal codes ensure that these will remain. However, as far as e-business adoption is concerned they pale into insignificance alongside issues of language and culture for example. There is of course the potential for legal frameworks to make the adoption of e-business much more difficult, particularly in respect of the internet. Generally I am not one who see any attempt to regulate the internet as a direct assault on freedom. I think that regulation is an essential part of the maturation process.

This is a vast difference between the US and Europe. Generally European governments have a rather schizophrenic attitude towards e-commerce in particular. They can see that it is potentially a great driving force towards a truly “single market”, and they understand that it is very important for the economic future of Europe. However, many of those governments have a long tradition of intervention and regulation of commerce, in particular leaning towards protection of consumers and small businesses, and the “unregulated” nature of the internet makes them very nervous. Generally speaking, the issues highlighted in the e-commerce directives have been brought into force sensibly and have clarified the framework in which e-business operates within the EU. However, the ham-fisted implementation of the copyright directive shows how thin the line is between success and failure in this area.

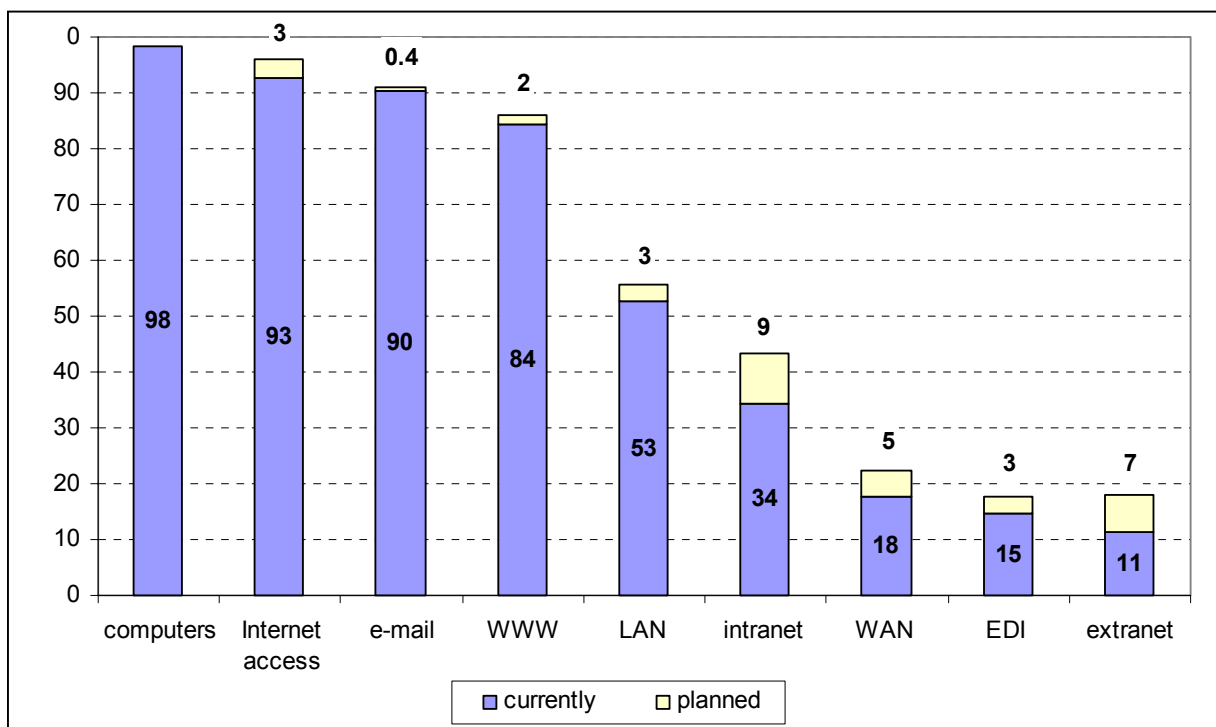
E-mail: bob.thompson@dial.pipex.com

## 2.2 Diffusion of ICT and e-business applications

### 2.2.1 ICT infrastructure

*Altogether.* The EU real estate sector is characterised by a highly developed ICT infrastructure. Computers are used in virtually all companies (99%) in the seven sample countries. Internet access (93%), the use of e-mail (91%) and the world wide web (WWW) (84%) are very common, and Local Area Networks (LAN) (53%) are quite frequently used – see figure 2-2. Intranet (34%), Wide Area Network (WAN) (18%), Electronic Data Interchange (EDI) (15%) and extranet (11%) are not so common. Within the next twelve months, enterprises report that the technologies most intended to be introduced are intranet 9% and extranet 7%.

*Figure 2-2: ICT use and usage plans in EU real estate enterprises  
(In % of real estate enterprises in the sample countries)*



Employment-weighted, i.e. figures should be read as "enterprises representing ...% of employees".

Table 2-1: ICT use and usage plans in EU real estate enterprises by country (in%)

	Internet access		E-mail usage		WWW usage		Intranet usage	
	currently	planned	currently	planned	currently	planned	currently	planned
EU4	93	3	91	0.4	85	2	34	9
EU7	93	3	90	0.4	84	2	34	9
DK	98	0	97	0	98	0	50	9
D	96	0	95	0	91	0	30	3
F	90	7	86	1	79	3	33	15
I	99	0	99	0	79	4	40	3
P	83	3	79	0.9	69	0	34	6
FIN	95	0	93	0	89	0	41	3
UK	89	6	88	0	86	2	39	13
	Extranet usage		LAN usage		WAN usage		EDI usage	
	currently	planned	currently	planned	currently	planned	currently	planned
EU4	11	7	53	3	17	5	14	3
EU7	11	7	53	3	18	5	15	3
DK	24	7	65	1	20	8	29	2
D	9	5	53	1	7	5	10	2
F	19	10	51	3	23	4	25	3
I	6	4	46	7	6	6	6	1
P	17	7	52	2	25	3	20	2
FIN	12	6	53	0	17	2	17	3
UK	5	5	57	4	30	4	9	5
Notes: Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees". Computation base: all real estate enterprises								

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

**Sector comparison:** In comparison with the other sectors of the survey, the real estate sector is in the medium group of ICT users considering the “basics”: computer use, Internet access, e-mail use and WWW use. However, as regards intranet, LAN, EDI, WAN and extranet use, the real estate sector has some of the lowest shares.

**Countries:** The use of ICTs in real estate shows some remarkable national features – see table 2-1. Generally, there are common differences between Northern and Southern Europe in ICT use. Denmark is the country with the highest share of ICT application in five cases: WWW, LAN, intranet, EDI and extranet. On the other hand, Portugal performs the lowest share for three basic ICTs: Internet, e-mail and world-wide web. Italy also has a striking performance as the country with the highest share of Internet and e-mail users but with the lowest share of LAN, WAN and EDI users. France has remarkably high shares of ICT application plans, e.g., 15% of the real estate enterprises plan to introduce an intranet, 10% an extranet and 7% internet access. The UK is top in WAN use (30%), but at the bottom in extranet use (5%). Germany is only remarkable due to the lowest share of intranet use (30%) of all countries. Finland is remarkable for always taking a medium position in ICT application, which is slightly surprising because Finish enterprises in general are known for their top-level ICT use. Data from a general establishment survey in 2001 revealed higher levels of Internet access as well as e-mail, intranet and EDI use than the 2002 survey in real estate.<sup>5</sup>

**Company size classes:** ICT use increases by company size class. For every single technology, the share of users is smallest in small companies and largest in large companies (see table 2-2). Considering the basic ICT infrastructure, small and medium-sized real estate companies do not

<sup>5</sup> See Lilischkis (2002), chapter 4.3.

lag much behind the large ones. All enterprises with more than 50 employees use computers, and the share is 98% in enterprises with up to 50 employees. The share of large enterprises having access to the Internet as well as using e-mail and the world wide web is also 100%, while the according shares are slightly smaller in medium-sized enterprises (Internet: 97%, e-mail: 96%, WWW: 94%) and even smaller in companies with less than 50 employees (Internet: 92%, e-mail: 89%, WWW: 82%). The high shares even in small companies show that real estate enterprises are equipped with the basic tools of the information society. The differences in the use of intranet, LAN, WAN, EDI and extranet are larger, but this may simply be due to the large share of enterprises with no or very few employees who do not need such technologies.

Table 2-2: ICT use and usage plans in EU real estate enterprises by company size (in %)

	Internet access		E-mail usage		WWW usage		Intranet usage	
	currently	planned	currently	planned	currently	planned	currently	planned
EU7	92	4	89	0.5	82	2	28	8
0 – 49	92	4	89	0.5	82	2	28	8
50 – 249	97	2	96	0	94	0	54	14
250+	100	0	100	0	100	0.1	78	11
	Extranet usage		LAN usage		WAN usage		EDI usage	
	currently	planned	currently	planned	currently	planned	currently	planned
EU7	10	5	45	4	10	5	13	1
0 – 49	10	5	45	4	10	5	13	1
50 – 249	14	17	84	0.2	33	5	18	7
250+	28	12	94	0	73	2	23	13

Notes: Enterprise-weighted data. Computation bases: all real estate enterprises

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

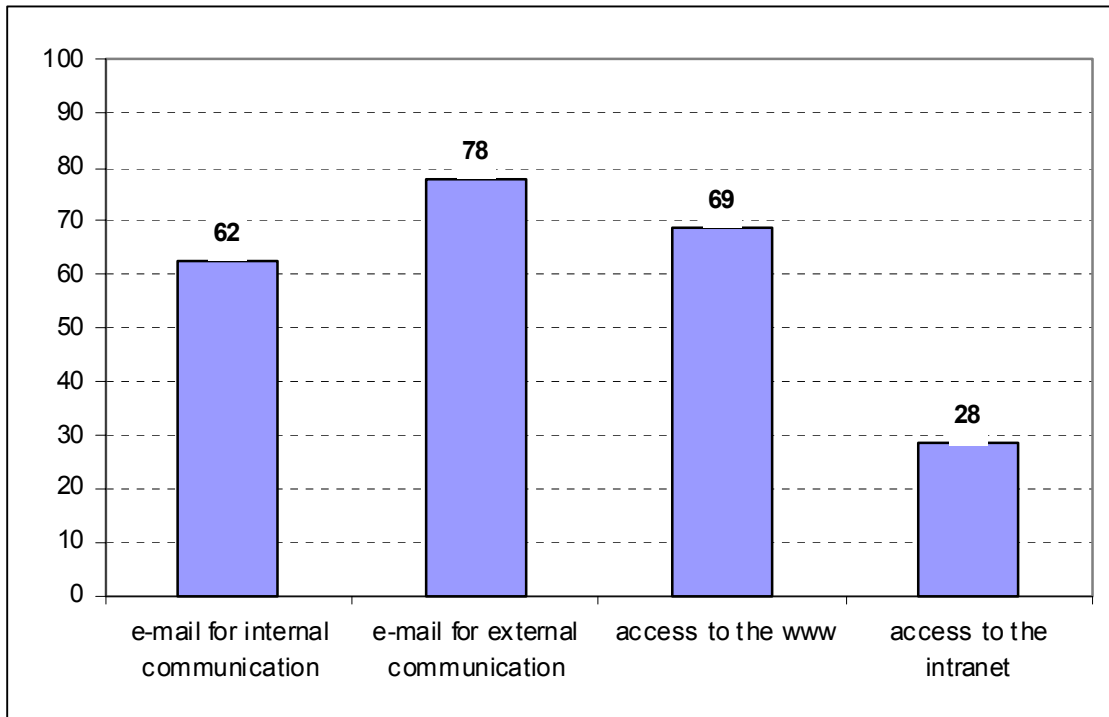
## 2.2.2 ICT access and skills

**Altogether:** The share of real estate enterprises in which the majority of employees has access to ICTs is generally high – see figure 2-3. The average of real estate enterprises allowing their employees access to e-mail for internal communication is 62% of all real enterprises, the share of real estate enterprises allowing the majority access to e-mail for external communication is 78% of all enterprises using e-mail, and 69% of real estate enterprises allow the majority of their employees to use the WWW. However, intranet access appears to be somewhat restricted, with only 28% of real estate enterprises having an intranet allowing the majority of their employees to use it.

**Sector comparison:** Real estate businesses are medium in allowing access to e-mail for internal and external communication as well as the WWW, but low in allowing access to the intranet. The moderate shares of ICT access are in contrast to the real estate sector's top position in the average size of the IT or web department: 125 in 1000 real estate employees (12.5%) are mainly occupied with maintenance of IT and networks, which is even higher than in telecommunications and computer services (11.7%). This is due to the large share of small enterprises and even one-person enterprises in real estate. Small companies tend to have a larger share of IT and network employees in all sectors.

**Countries:** The Northern countries are more advanced in ICT access in real estate (see table 2-3). Finland is the sample country with the highest shares of enterprises allowing the majority of their employees access to internal e-mail (82%) and external e-mail (89%) as well as to the WWW (86%). Majority access to e-mail for external use and to the WWW is lowest in Portugal (71% / 58%) and France (70% / 60%). Majority access to the intranet is highest in Denmark (42%) and lowest in Germany (25%). It seems that ICT skills could be more developed in some countries simply by allowing a higher share of employees to use ICTs.

Figure 2-3: Real estate enterprises allowing the majority of employees access to ICTs  
(In % of all real estate enterprises)



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

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

Table 2-3: Staff access to ICTs in EU real estate enterprises by country (in%)

	Enterprises with majority of office workers having access to ...			
	e-mail for company internal communication	e-mail for external communication	the world wide web	an intranet
EU4	62	78	69	28
EU7	62	78	69	28
DK	78	79	83	42
D	60	84	75	25
F	61	70	61	27
I	54	83	64	28
P	54	71	58	31
FIN	82	89	86	34
UK	71	77	73	35

Notes: Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".  
Computation base: all real estate enterprises.

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

**Company size classes:** The share of enterprises allowing the majority of their employees to use ICTs increases by company size (see table 2-4) for each technology. The differences between company size classes are largest for e-mail for internal communication and for intranet use. Thus ICT skills development in SMEs lags behind large companies.

Table 2-4: Staff access to ICTs in EU real estate enterprises by company size (in%)

	Enterprises with majority of employees having access to ...			
	e-mail for internal communication	e-mail for external communication	WWW	intranet
EU7	56	77	68	22
0-49	56	77	68	22
50-249	85	81	70	49
250+	93	89	75	64

Notes: Enterprise-weighted. Computation base: all real estate enterprises.

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

## 2.2.3 e-Commerce

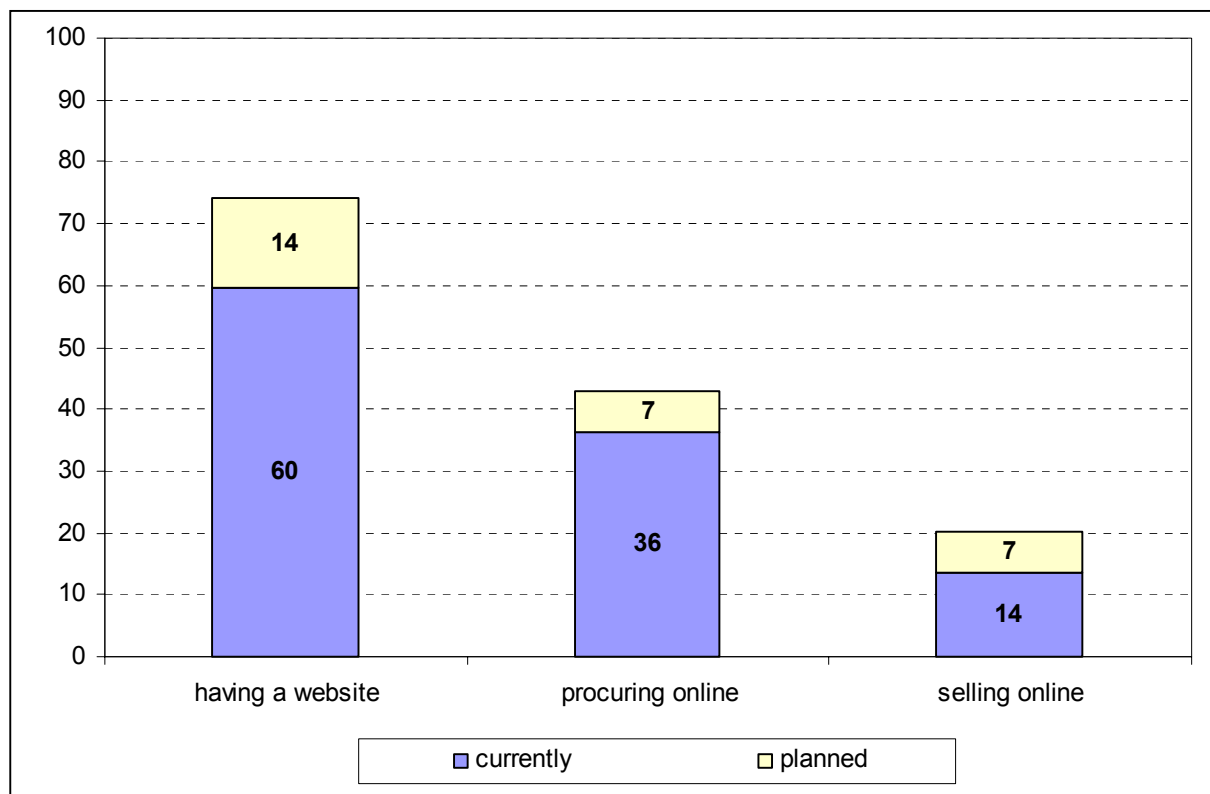
### E-commerce activities

**Altogether:** E-commerce activities appear to be a current challenge in real estate enterprises. 60% of the enterprises have a website, 14% plan to introduce one within one year – see figure 2-4. Almost all of those which have a website present their products and services on the site (95%). Selling online is not very widespread, with only 14% of real estate enterprises and 7% planning to do so. Online procurement is much more common, but still only one third (36%) of real estate enterprises pursues this practice.

**Sector comparison:** Real estate has a low share of enterprises with a website, a fairly high share in product presentation on the website, a medium share in selling online and a low share of online procurers. The low share of enterprises without a website appears to be particularly unfavourable. However, the share of website plans in real estate is one of the highest, and the relatively high share of product presentation among those who have a website indicates that enterprises are aware of the important role of the Internet to increase market transparency in real estate. As regards online sales, many real estate firms – above all public housing providers – do not sell at all but only rent, so that the average level of online sales can be considered a good result.

**Countries:** The highest share of enterprises with a particular activity is always to be found in a Nordic country, as shown in table 2-5: Denmark has the highest share of real estate companies with a website (79%) and with online procurement (60%); Finland has the highest share of enterprises informing about products (100%) and selling online (24%). Notably low shares are to be found in Portugal (42% with a website, 92% providing information, 20% practising online procurement, but a high share of planned online selling); France (46% with a website, 90% informing about products, 15% procuring online); Italy (6% selling online, 17% procuring online), and in one case the UK (5% procuring online).

Figure 2-4: E-commerce practices in EU real estate enterprises  
(In % of real estate enterprises)



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

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

Table 2-5: E-commerce activities in EU real estate enterprises by country (in%)

	Having a website		Information about products on website		Selling online		Procuring online	
	currently	Planned	currently	planned	currently	planned	currently	planned
EU4	60	14	95	n.a.	13	7	36	7
EU7	60	14	95	n.a.	14	7	36	7
DK	79	8	97	n.a.	17	4	60	4
D	68	11	96	n.a.	21	4	58	2
F	46	22	90	n.a.	14	10	15	13
I	62	6	94	n.a.	6	9	17	5
P	42	20	92	n.a.	13	12	20	7
FIN	56	12	100	n.a.	24	3	52	1
UK	67	12	98	n.a.	5	5	46	5

Notes: Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

Computation bases: website, selling online, procuring online: all real estate enterprises; information on website: real estate enterprises with a website

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

**Company size classes:** While the share of enterprises with a website and with online procurement practice is higher among large companies, small companies perform better than large ones considering website presentation and online sales (see table 2-6). It seems that SMEs are in some respect more adaptive to e-commerce practices than large companies.



Table 2-6: E-commerce activities in EU real estate enterprises by company size (in%)

	Having a website (1)		Information about products on website (2)		Selling online (1)		Procuring online (1)	
	currently	Planned	currently	planned	currently	planned	currently	planned
EU7	56	15	96	n.a.	15	7	35	7
0-49	55	15	96	n.a.	15	7	35	7
50-249	75	13	93	n.a.	11	4	40	7
250+	87	10	90	n.a.	10	8	44	0.3

Notes: Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".  
Computation bases: (1) all real estate enterprises; (2) real estate enterprises selling online

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

### Characteristics of selling online

*Altogether:* Considering the low figures for e-commerce in real estate, one could expect that the majority of those enterprises selling online conducts only a small portion of their sales through the Internet. However, this is not the case. In the sample countries, in 25% of those real estate enterprises selling online the share of online sales is less than 5%. In 28% of the enterprises, the share is 5 – 10%, in 24% the share is 11 – 25%, in 15% the share is between 26 – 50%, and 8% conduct more than 50% of their sales online. It appears that many of those enterprises selling online regard this practice as an important distribution channel. Further characteristics of online sales in real estate include:

- 11% of real estate enterprises selling online enable online payment;
- 28% of online sellers take part in electronic market places;
- 59% of online sellers in real estate have been conducting this practice for more than two years, 31% between one and two years and 10% for less than one year;
- 79% of real estate online sellers practise online sales to consumers, 51% to other businesses and 29% to the public sector.

*Sector comparison:* In sector comparison, real estate activities perform oddly. The share of real enterprises selling more than 50% and between 25 and 50% of their turnover online is relatively high, and the share of enterprises practising online sales for more than two years is the highest of all sectors. On the other hand, the share of real estate enterprises enabling online payment is the lowest of all sectors and the share of e-marketplace participants is the third lowest after business services and finance. The low share of online payment enablers may be due to the large sums to be transferred. Most credit limits would be exceeded by the purchase sums of even a modest apartment. However, the real estate product is not just buildings. In fact the real estate sector handles a whole range of products from shopping centres to advice. Clearly some of these are more suitable for online sales than others.

### Characteristics of procuring online

*Altogether:* Most enterprises practising online procurement procure only a small share of their goods online: 45% of real estate enterprises in the sample countries procuring online conduct less than 5% of their total procurement online. In the class of 5 – 10% of total procurement the share is 31%, in the class of 11 – 25% it is 17%, and in the class of 26 – 50% it is 7% of enterprises.

*Sector comparison:* The real estate sector has a relatively low share of "less than 5%" online procurers but a high share of "5 – 10%" online procurers. Together with the food, beverage and tobacco sector, real estate is the only sector where no enterprises with more than 50% of total procurement conducted online were identified.

**Countries:** Due to a small numbers of cases, a detailed analysis by country is not meaningful. Denmark is the only country where enterprises procuring more than 50% of their total procurement online were found. In Portugal no enterprise procuring more than 25% of their goods online was identified.

**Company size classes:** It appears that SMEs tend to procure more goods online than large enterprises do (see table 2-7).<sup>6</sup> In the sample countries, the share of companies purchasing 5% or more of their procurement online is 59% in the class of 0 – 49 employees, 52% in the class of 50 – 249 employees and only 39% in the class of more than 250 employees.

*Table 2-7: Online share of total procurement in EU real estate enterprises by company size (in%)*

	> 50%	26 up to 50%	11 to 25%	5 up to 10%	Less than 5%
EU7	0.02	9	18	32	41
0-49	0.02	9	18	32	41
50-249	0	7	4	42	48
250+	0	0.4	23	16	61

Notes: Enterprise-weighted. Computation basis: Real estate enterprises procuring online.

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

## 2.2.4 Barriers to e-commerce

### Barriers to selling online

**Altogether:** The highest barrier to online selling in the real estate sector is that “goods and services do not lend themselves to selling online” (see figure 2-5). 57% of the all interviewees in the real estate sector agreed completely to this statement and 17% agreed somewhat. Two further statements were agreed by more than 50% of the interviewees: “Revenues of online sales are still low” (29% “completely” and 30% “somewhat”) and “customers are hesitant to buy online” (30% / 28%).

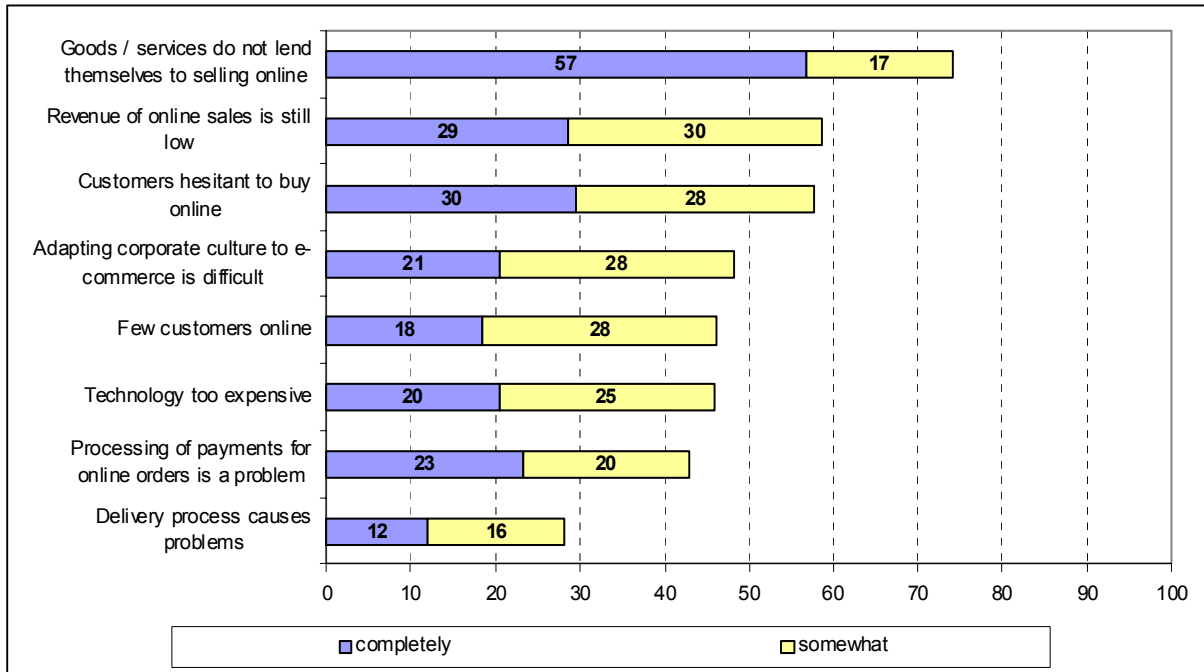
**Sector comparison:** The share of real estate interviewees agreeing completely to “goods and services do not lend themselves to selling online” is one of the highest. “Customers are hesitant to buy online” performs the second highest share of “agree completely” answers compared with the other sectors. However, “revenues of online sales are still low” is an even more important barrier in all other sectors except health and social services.

**Countries:** The assessment of barriers to selling online varies widely (but not extremely) between the sample countries (see table 2-8). For example, the statement “goods or services do not lend themselves to selling online” was agreed by 82% of UK interviewees and by 52% of Finnish interviewees. The answers follow patterns in some respect: Finland is below the average of agreement in almost all cases, France tends to be above average. Portugal’s shares of answers “completely” are always below average and the shares of answers “somewhat” are always above average.

**Company size classes:** Summing up all shares of complete or some agreement, the three enterprise size classes are closely together (see table 2-9). Agreement to the most important barrier, “goods or services do not lend themselves to selling online”, is higher among large companies (83%) than among small (73%) and medium-sized ones (71%).

<sup>6</sup> Due to a small number of cases, a more detailed discussion of breakdown by size classes is not meaningful.

Figure 2-5: Barriers to selling online in EU real estate enterprises  
(Agreement in % of interviewees from real estate enterprises)



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

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

Table 2-8: Barriers to selling online in EU real estate enterprises by country (in %)

	Few customers online		Customers hesitant to buy online		Goods/services do not lend themselves to selling online		Processing of payments for online orders is a problem	
	completely	somewhat	completely	somewhat	completely	somewhat	completely	somewhat
EU4	19	28	30	28	58	17	24	19
EU7	18	28	30	28	57	17	23	20
DK	11	16	18	31	55	17	4	15
D	16	19	15	32	62	14	20	12
F	14	44	46	31	52	23	29	28
I	41	10	38	12	53	5	19	15
P	9	37	18	31	27	34	8	35
FIN	19	13	19	28	34	18	8	15
UK	18	25	25	26	65	17	24	19

	Technology too expensive		Revenue of online sales is still low		Delivery process causes problems		Adapting corporate culture to e-commerce is difficult	
	completely	somewhat	completely	somewhat	completely	somewhat	completely	somewhat
EU4	21	25	29	30	12	16	21	28
EU7	20	25	29	30	12	16	21	28
DK	23	28	30	16	10	13	27	25
D	11	24	29	36	12	6	20	19
F	22	30	23	32	12	29	25	32
I	21	16	32	16	16	14	26	21
P	14	38	8	37	4	20	15	34
FIN	14	20	22	12	9	13	17	20
UK	32	24	37	26	11	14	13	37

Notes: Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".  
Computation basis: all real estate enterprises

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

Table 2-9: Barriers to selling online in EU real estate enterprises by company size (in %)

	Few customers online		Customers hesitant to buy online		Goods / services do not lend themselves to selling online		Processing of payments for online orders is a problem	
	completely	somewhat	completely	somewhat	completely	somewhat	completely	somewhat
EU7	20	28	32	25	55	18	24	18
0-49	20	28	32	25	55	18	24	18
50-249	19	28	19	45	58	13	23	24
250+	11	21	20	34	75	8	14	28

	Technology too expensive		Revenue of online sales is still low		Delivery process causes problems		Adapting corporate culture to e-commerce is difficult	
	completely	somewhat	completely	somewhat	completely	somewhat	completely	somewhat
EU7	20	24	29	30	11	15	22	24
0-49	20	24	29	30	11	15	22	24
50-249	19	27	33	30	16	23	24	32
250+	19	38	21	37	17	18	8	50

Notes: Enterprise-weighted. Computation base: All real estate enterprises.

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

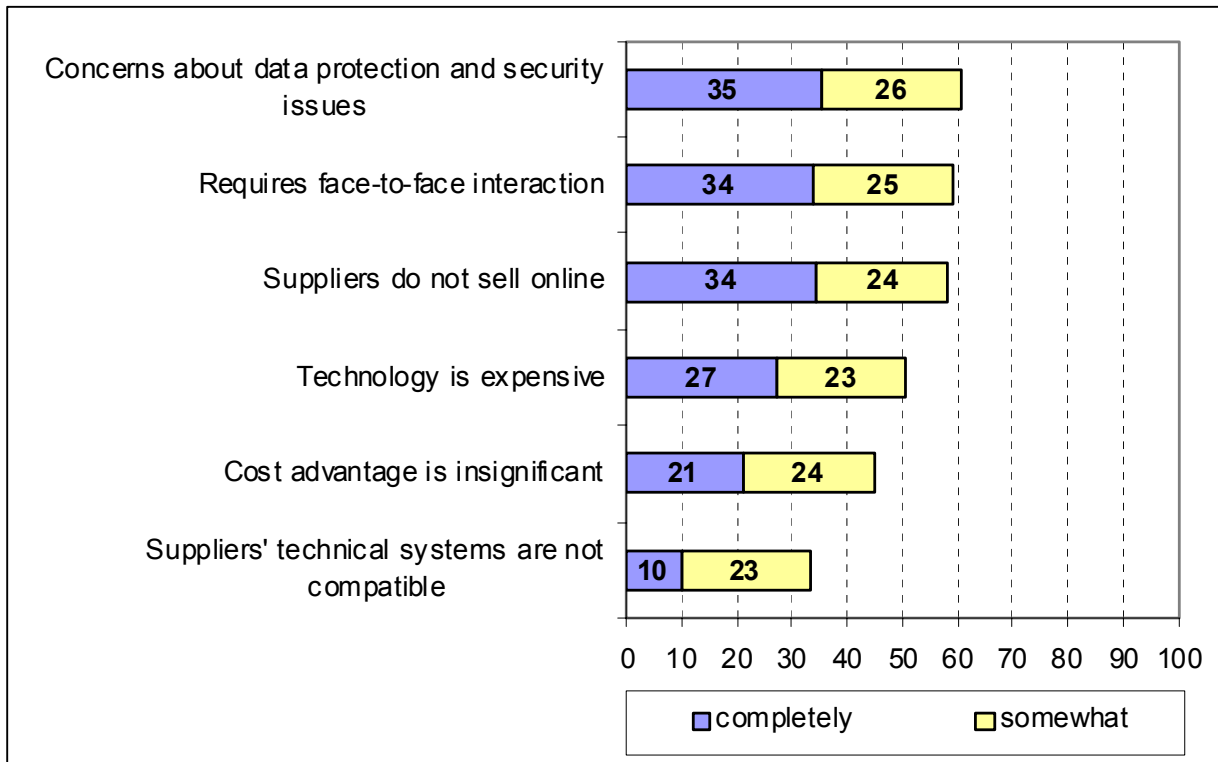
**Barriers to procuring online**

*Altogether.* Three of the six pre-formulated barriers to procuring online were agreed by more than 50% of the interviewees in the real estate sector: “concerns about data protection and security issues” (35% completely and 26% somewhat); “purchasing requires face-to-face interaction with suppliers” (34% / 25%); and “suppliers do not sell online” (34% / 24%). At the other end of the scale, incompatibility of technical systems is not seen as a severe problem (10% / 23%) – see figure 2-6.

*Sector comparison:* Regarding complete agreement, the concerns about data protection and security are the second largest of all 15 sectors surveyed. Furthermore, considering concerns about expensive technology, the real estate sector has one of the highest shares. This may only partly be due to the high share of very small companies in real estate, because large real estate enterprises are even more concerned about technology costs than SMEs.

*Countries:* Similar to online sales barriers, the assessment of barriers to procuring online differs by country, as shown in table 2-10. In Denmark and Finland as well as in Germany, the share of agreement to a barrier is mostly below the sample country average. In France, the share of agreement is always above average. Portugal has particularly low shares of answers of “completely” and high shares of “somewhat”, while it is the other way round in Italy. The UK has a particularly high share of interviewees who express concerns about data security (51% “completely” and 23% “somewhat”). This may be due to particularly British fears of other people prying into private affairs.

*Figure 2-6: Barriers to procuring online in EU real estate enterprises  
(Agreement in % of all interviewees from real estate enterprises)*



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

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

Table 2-10: Barriers to procuring online in EU real estate enterprises by country (in%)

	requires face-to-face interaction		suppliers do not sell online		concerns about data protection and security issues	
	completely	somewhat	completely	somewhat	completely	somewhat
EU4	35	24	35	23	36	25
EU7	34	25	34	24	35	26
DK	32	25	26	26	17	28
D	37	24	36	12	24	23
F	36	31	33	36	37	33
I	48	15	39	16	38	14
P	13	48	21	48	20	41
FIN	38	19	34	16	13	22
UK	22	20	33	22	51	23

Table 2-10 continued

	technology is expensive		Suppliers' technical systems are not compatible		Cost advantage is insignificant	
	completely	somewhat	completely	somewhat	completely	somewhat
EU4	28	23	10	23	21	24
EU7	27	23	10	23	21	24
DK	22	20	11	19	29	23
D	17	21	7	17	24	19
F	29	34	7	31	16	32
I	33	15	16	10	24	10
P	12	29	7	19	4	22
FIN	12	9	12	12	23	18
UK	39	16	17	29	24	29

Notes: Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".  
Computation basis: all real estate enterprises.

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

Table 2-11: Barriers to procuring online in EU real estate enterprises by company size (in%)

	requires face-to-face interaction		suppliers do not sell online		concerns about data protection and security issues	
	completely	somewhat	completely	somewhat	completely	somewhat
EU7	36	23	35	21	35	25
0 – 49	36	23	35	21	35	25
50 – 249	32	25	37	26	30	27
250+	25	41	31	40	44	27

	technology is expensive		Suppliers' technical systems are not compatible		Cost advantage is insignificant	
	completely	somewhat	completely	somewhat	completely	somewhat
EU7	28	23	11	22	23	23
0 – 49	28	23	11	22	23	23
50 – 249	17	23	9	23	17	32
250+	35	29	6	29	10	22

Notes: Enterprise-weighted. Computation basis: all real estate enterprises.

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

**Company size classes:** The share of large companies agreeing to a barrier is the largest of the three size classes in all cases except “cost advantage is insignificant” (see table 2-11). For small companies, concerns about data protection (60%) and the requirement of face-to-face interaction (59%) are the most important barriers to procuring online; for large companies it is concerns about data protection (71%) and the fact that suppliers do not sell online (71%). The single most important barrier for medium-sized companies is that suppliers do not sell online (63%).

## 2.2.5 Internal e-business applications

### Online business processes

**Altogether:** Online collaboration with business partners with ICTs other than e-mail<sup>7</sup> is practised by only a minority of real estate enterprises (see figure 2-7). The appropriate questions were posed to enterprises with Internet access. The highest shares are found for electronic exchange of documents with customers (38%) and suppliers (37%). Online negotiation of contracts takes place fairly often (23%). Online collaboration with business partners to forecast product demands (11%) or for designing products (9%) as well as online management of capacity and inventory (7%) are rare.

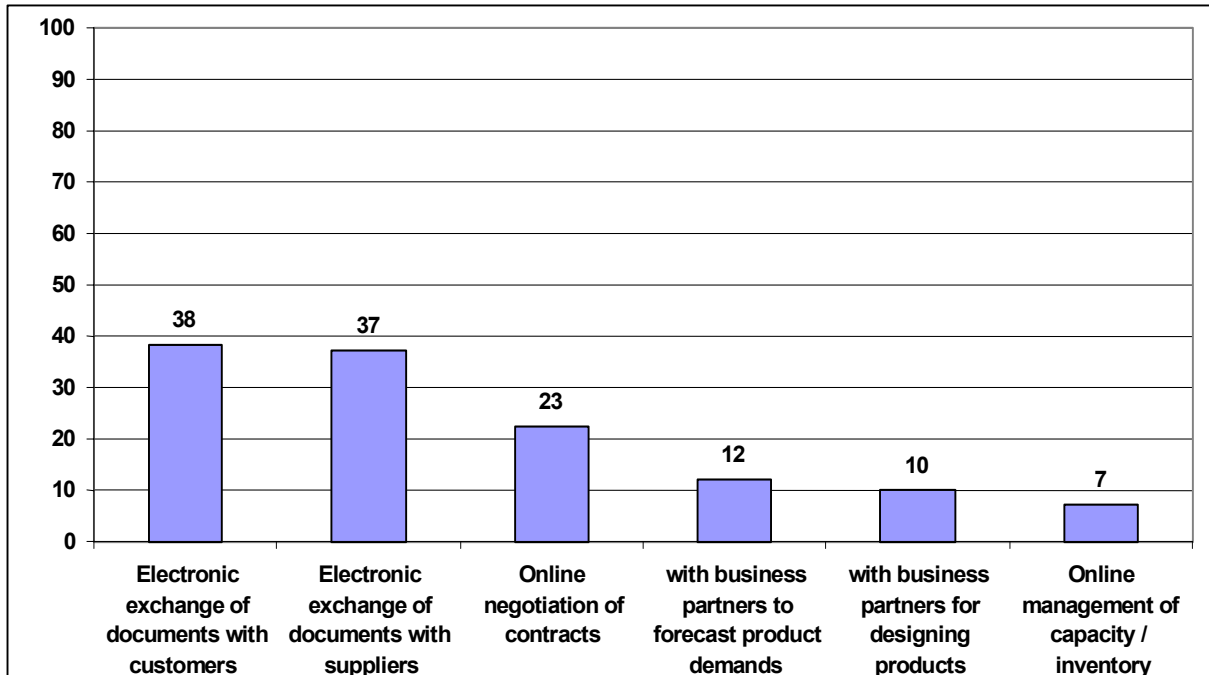
**Sector comparison:** Real estate lags behind in four of six online business processes. Real estate has the lowest share of all sectors in online collaboration for designing products and in management of capacity/inventory, the second lowest share in the exchange of documents with suppliers, and a fairly low share in forecast of product demands. On the other hand, real estate reveals an average share in the exchange of documents with customers and the third highest level of online negotiation of contracts.

**Countries:** The highest shares of enterprises practising online collaboration are performed by Portugal (24% designing product online, 35% forecasting of product demands online, 15% managing capacity/inventory online), the UK (50% exchanging documents with suppliers electronically), and Denmark (62% exchanging documents with customers electronically, 35% negotiating contracts online). Germany has the lowest shares in most cases – see table 2-12.

**Company size classes:** The share of large companies practising online collaboration with business partners is highest of the three size classes as regards designing products, online management of capacity/inventory, electronic exchange of documents with suppliers, and online negotiation of contracts (see table 2-13). The importance of exchange of documents with suppliers reflects the relatively high usage of online procurement among large companies. The share of enterprises exchanging documents electronically with customers is highest among small companies, reflecting the high share of online sales in this size class.

<sup>7</sup> E-mail was excluded to prevent artefacts of e-business usage. An example for an online collaboration tool is a “restricted area” in a website where business partners can communicate.

Figure 2-7: Online collaboration with business partners in EU real estate enterprises  
(In % of real estate enterprises with Internet access)



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

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

Table 2-12: Online collaboration in real estate enterprises by country (in%)

	Online collaboration with business partners for designing products	Online collaboration with business partners to forecast product demands	Online management of capacity / inventory	Electronic exchange of documents with suppliers	Electronic exchange of documents with customers	Online negotiation of contracts
EU4	9	11	7	37	38	23
EU7	10	12	7	37	38	23
DK	12	11	8	47	62	35
D	7	5	3	26	39	21
F	11	21	10	41	38	23
I	10	11	4	34	29	19
P	24	35	15	41	48	21
FIN	17	15	6	37	33	22
UK	10	7	10	50	42	27

Notes: Collaboration with online technologies other than e-mail.

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

Computation base: All real estate enterprises having access to the Internet.

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



Table 2-13: Online collaboration in EU real estate enterprises by company size (in%)

	Online collaboration with business partners for designing products	Online collaborating with business partners to forecast product demands	Online management of capacity / inventory	Electronic exchange of documents with suppliers	Electronic exchange of documents with customers	Online negotiation of contracts
EU7	9	12	7	35	38	23
0-49	9	12	7	34	38	23
50-249	12	12	6	42	36	18
250+	17	12	10	50	35	26

Notes: Collaboration with online technologies other than e-mail. Enterprise-weighted.  
Computation base: All real estate enterprises having access to the Internet.

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

### Use of special applications

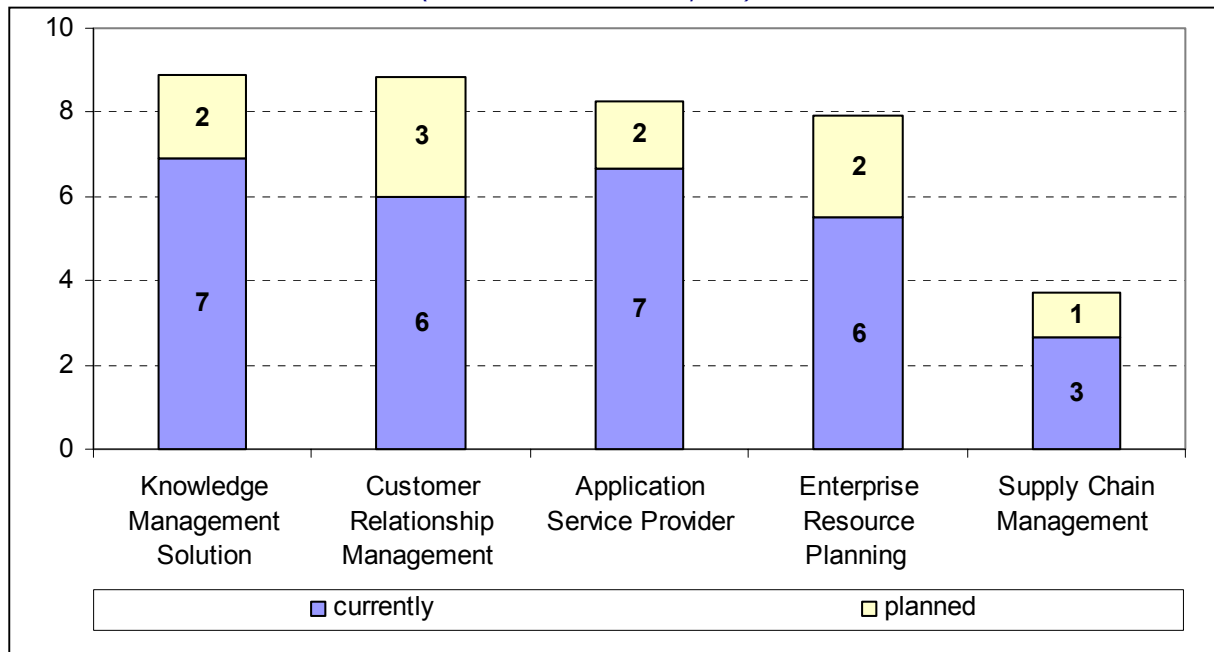
**Altogether:** Specific e-business solutions are used only by a minority of real estate enterprises – see figure 2-8. A Knowledge Management Solution (KMS) is applied by 6.8% of EU4 real estate enterprises, an Application Service Provider (ASP) by 6.4%, a Customer Relationship Management (CRM) solution by 5.7%, an Enterprise Resource Planning (ERP) system by 5.2% and a Supply Chain Management System (SCM) by 2.6%. CRM is the application most often planned to be introduced, namely by 2.8% of the enterprises. The low shares may be due to the high share of SMEs in real estate which may shy away from the high investment costs of special e-business solutions or for which special solutions are simply not economic. For example, it may not pay for a real estate broker with a few employees to invest in a CRM solution when his customers change constantly.

**Sector comparison:** Real estate reveals the third lowest share of SCM users, the second lowest share of CRM and ASP users, and, together with the health and social services sector, the lowest share of ERP users.

**Countries:** There is no clear pattern of countries applying special applications more often than others (see table 2-14). In contrast to other findings of ICT use, Portugal performs very well, showing the highest share of enterprises with CRM (13.4%) and ERP (12.4%). Denmark and Finland also tend to have high shares of application. The UK and Italy are among the countries with the highest shares in some applications (UK: SCM and ASP, Italy: KMS and ERP) but among the countries with the lowest shares in other applications (UK: KMS and ERP, Italy: SCM and ASP). France is below average except for SCM and lowest in ASP. Germany is below average except for KMS.

**Company size classes:** As it could be expected due to investment costs, special applications are much more widespread in large companies than in SMEs (see table 2-15). For example, ASP is used in 22% of enterprises with more than 250 employees, but in 11% of enterprises with 50 – 249 employees and only in 4% of enterprises with less than 50 employees.

Figure 2-8: Usage of specific e-business solutions in EU real estate enterprises  
(In % of all real estate enterprises)



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

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

Table 2-14: E-business solutions in EU real estate enterprises by country (in%)

	Supply Chain Management		Customer Relationship Management		Knowledge Management		Application Service Provider		Enterprise Resource Planning	
	current	planned	current	planned	current	planned	current	planned	current	planned
EU4	3	1	6	3	7	2	6	2	5	2
EU7	3	1	6	3	7	2	7	2	6	2
DK	4	2	12	8	7	4	12	3	12	0.5
D	n.a.	n.a.	4	1	7	3	6	0.4	5	1
F	4	3	4	3	5	0.7	1	2	4	4
I	1	1	9	2	16	0	4	3	10	3
P	3	2	13	4	5	3	13	3	13	4
FIN	4	0.9	13	0.9	16	2	8	0.8	10	0.8
UK	6	0	9	5	4	4	16	3	4	0.7

Notes: n.a. = not available. Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees". Computation base: All real estate companies.

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

Table 2-15: E-business solutions in EU real estate enterprises by company size (in %)

	Supply Chain Management		Customer Relationship Management		Knowledge Management		Application Service Provider		Enterprise Resource Planning	
	current	pld.	current	pld.	current	pld.	current	pld.	current	pld.
EU7	2	1	5	2	7	1	4	0.5	5	2
0-49	2	1	5	2	7	1	4	0.5	5	2
50-249	2	0.2	6	8	5	4	11	5	6	3
250+	8	0.2	18	4	9	7	22	11	13	8

Notes: Computation base: All real estate companies. pld. = planned

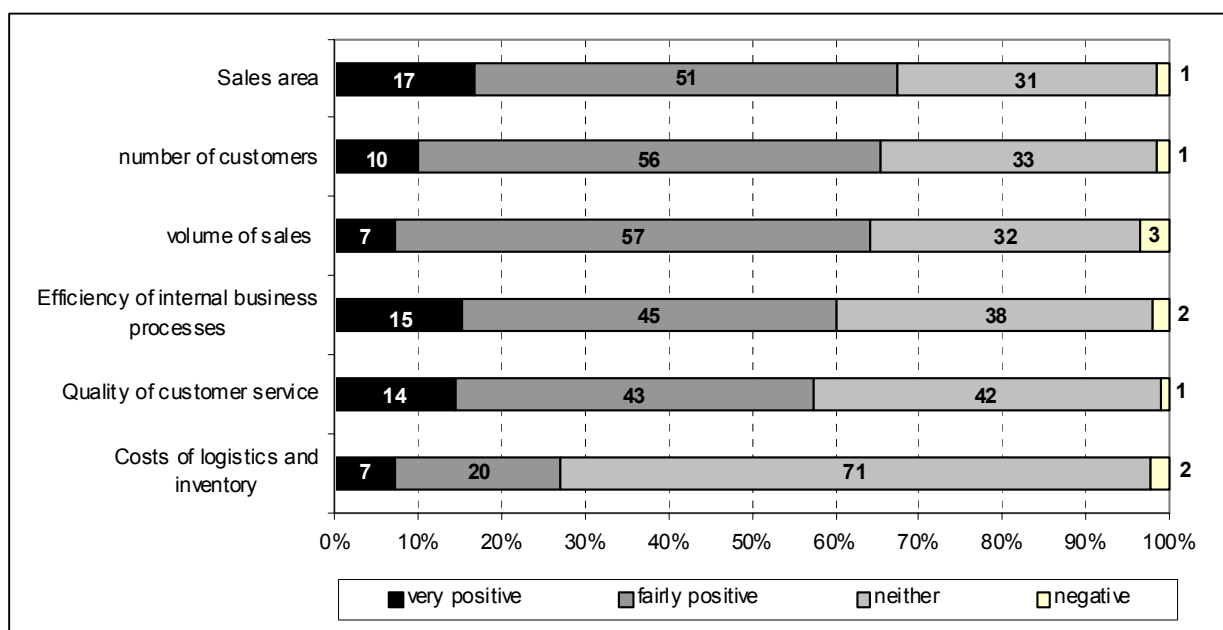
Source: e-Business W@tch (European e-Business Survey 2002)

## 2.2.6 Impact of e-business

### Impact of online sales

*Altogether*. Enterprises selling online were asked about impacts of their online sales. All except one of six pre-formulated impacts revealed positive assessments of more than 50% of the interviewees (see figure 2-9). Most positive was the impact of online sales on the sales area (17% answered “very positive”, 51% “fairly positive”), closely followed by “number of customers” (10% / 56%) and “volume of sales” (7% / 57%). Only a small share of interviewees – below 5% – reported fairly negative or even very negative impacts.

Figure 2-9: Impact of online sales in EU real estate enterprises  
(In % of real estate enterprises selling online)



Source: e-Business W@tch (European e-Business Survey 2002). Employment-weighted data.

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

*Sector comparison*: The impacts of selling online in the real estate sector tend to be more positive than in other sectors. As regards “number of customers”, the share of positive answers in real estate is the highest of all sectors. The share of answers “very positive” and “fairly positive” is below the average of the 15 sectors in only two cases: “quality of customer service” and “costs of logistics and inventory”.

**Countries:** The impact of online sales by country should be interpreted cautiously because of the small number of interviewees.<sup>8</sup> The share of interviewees from Germany, France and Portugal reporting very positive impacts was below 10% in most cases, while the share of Danish, British and Italian interviewees reporting very positive impacts is always 20% or more.

*Table 2-16: Impact of online sales in EU real estate enterprises by company size (in %)*

	volume of sales					number of customers				
	Very positive	fairly positive	neither	fairly negative	very negative	very positive	fairly positive	neither	fairly negative	very negative
EU7	8	58	31	4	0	9	58	32	0.2	0
0-49	8	58	31	4	0	9	58	32	0.1	0
50-249	0.2	57	43	0	0	15	25	45	15	0
250+	1	40	59	0	0	2	60	38	0	0
	Sales area					quality of customer service				
	Very positive	fairly positive	neither	fairly negative	very negative	very positive	fairly positive	neither	fairly negative	very negative
EU7	17	50	32	0.1	1	15	40	45	0	0.2
0-49	17	50	32	0.1	1	15	40	45	0	0.2
50-249	14	50	36	0.2	0	18	71	1	10	0
250+	4	68	25	3.5	0	2	77	19	2	0
	efficiency of internal business processes					costs of logistics and inventory				
	Very positive	fairly positive	neither	fairly negative	very negative	very positive	fairly positive	neither	fairly negative	very negative
EU7	17	46	38	0.4	0	7	18	74	0.7	0
0-49	17	46	38	0.4	0	7	18	74	0.7	0
50-249	0	44	36	20	0	0	34	49	17	0
250+	5	62	33	0	0	2	52	42	4	0

Notes: Enterprise-weighted data. Computation basis: All real estate companies selling online.

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

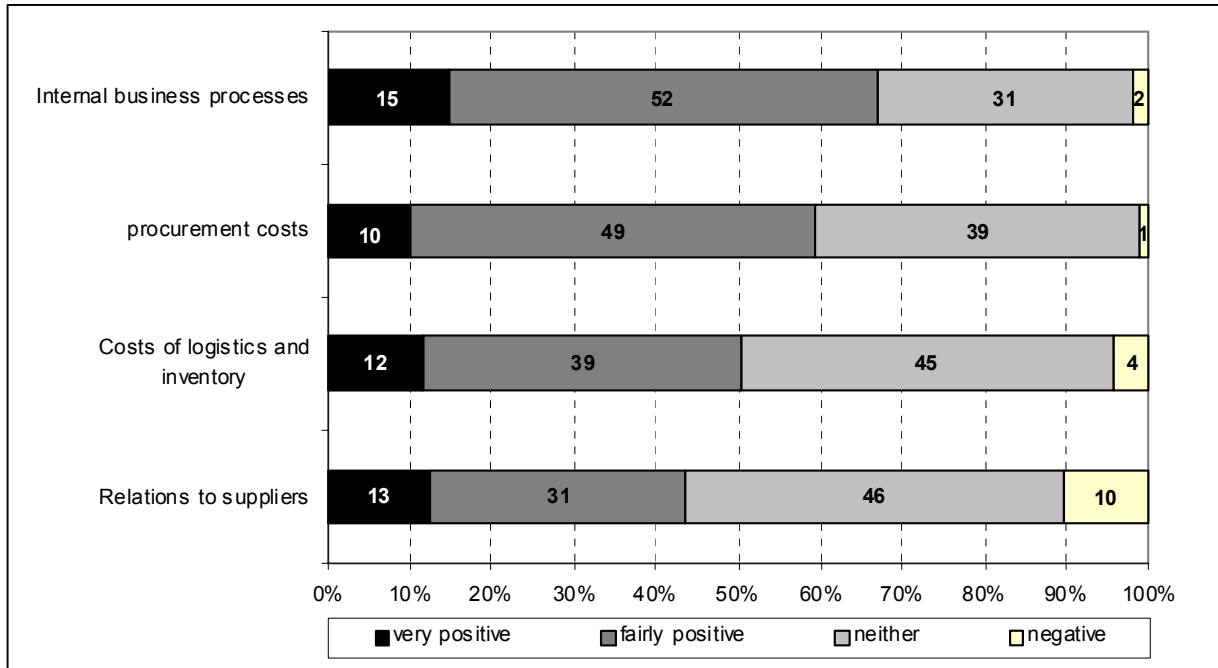
**Company size classes:** In one case (volume of sales), the share of interviewees from small enterprises reporting positive impacts is much higher than the equivalent share of interviewees from large enterprises; the share is similar in three cases (number of customers, sales area, and efficiency of internal business processes) and much smaller in two cases (quality of customer service and costs of logistics and inventory) – see table 1-16. Medium-sized companies perform particularly well in quality of customer service, but their share reporting positive impacts is lowest in three of six cases: number of customers, sales area, and efficiency of internal processes. The high share of small and also medium-sized companies increasing their sales through online selling is an encouraging finding for SMEs not yet practising e-sales.

### Impact of online procurement

**Altogether:** Real estate enterprises procuring online were asked about the impacts of this practice. All except one of four pre-formulated impacts revealed positive assessment by more than 50% of the interviewees. Most positive was the impact of online procurement on internal business processes: 15% “very positive” and 52% “fairly positive”. Procurement costs were influenced very positive in 10% and fairly positive in 49%; the according figures for costs of logistics and inventory are 12% and 39%. Relations to suppliers improved in 43% (13% very positive, 30% fairly positive), with a notable share of 11% of the interviewees reporting negative impacts.

<sup>8</sup> Less than 10 interviewees in Italy and the UK.

Figure 2-10: Impact of online procurement in EU real estate enterprises  
(In % of real estate enterprises procuring online)



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

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

**Sector comparison:** Real estate activities are close to the average in all impacts except one: as regards the impact on costs of logistics and inventory, the real estate sector reveals the third highest share of positive assessments.

**Countries:** A few features of answers by country are notable (see table 2-17). In Portugal, no interviewee reported very positive impacts as regards relations to suppliers, internal business processes and costs of logistics and inventory. The relatively high share of negative impacts on relations to suppliers is largely due to German interviewees, where 18% reported negative consequences.

**Company size classes:** Small real estate enterprises appear to benefit more from procuring online than large enterprises as regards procurement costs and costs of logistics and inventory, while the benefits are equal as regards relations to suppliers and internal business processes (see table 2-18). This finding can be regarded as encouraging small enterprises to practise online procurement. The share of reports of positive impacts among medium-sized companies is smallest in three cases and similar to large companies in one. There might be particular difficulties of online procurement in this size class. It might also be the case that online procurement is no problem per se but that medium-sized companies find it most difficult to invest, particularly those that do not aspire to become large companies.

Table 2-17: Impact of online procurement in EU real estate enterprises by country (in%)

	procurement costs					Relations to suppliers				
	Very positive	fairly positive	neither	fairly negative	very negative	very positive	fairly positive	neither	fairly negative	very negative
EU4	10	49	39	1	0	13	30	46	8	3
EU7	10	49	39	1	0	13	31	46	7	3
DK	9	32	59	0	0	8	25	65	2	0
D	15	52	30	2	0	9	16	57	12	6
F	0	31	69	0	0	18	38	36	9	0
I	0	54	46	0.6	0	14	57	29	0	0
P	21	63	16	0	0	0	63	37	0	0
FIN	11	44	39	5	0	11	38	46	5	0
UK	6	53	41	0	0	17	46	36	0.8	0

	Internal business processes					Costs of logistics and inventory				
	Very positive	fairly positive	neither	fairly negative	very negative	very positive	fairly positive	neither	fairly negative	very negative
EU4	15	53	30	1	0.8	12	39	45	2	2
EU7	15	52	31	1	0.8	12	39	45	2	2
DK	12	44	43	0.8	0	9	21	71	0	0
D	9	55	33	2	0	7	39	48	3	3
F	26	49	25	0	0	12	36	52	0	0
I	23	38	39	0	0	23	15	62	0	0
P	0	75	25	0	0	0	34	50	17	0
FIN	17	21	61	0	2	9	14	66	11	0
UK	18	53	27	0	3	17	47	33	0	3

Notes: Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".  
Computation basis: All real estate companies procuring online.

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

Table 2-18: Impact of procuring online in EU real estate enterprises by co. size (in%)

	procurement costs					Relations to suppliers				
	Very positive	fairly positive	neither	fairly negative	very negative	very positive	fairly positive	neither	fairly negative	very negative
EU7	10	51	37	2	0	15	30	45	7	3
0-49	10	51	37	2	0	15	30	45	7	3
50-249	4	48	48	0	0	3	24	57	12	3
250+	16	38	45	0.3	0	6	39	45	10	0

	Internal business processes					Costs of logistics and inventory				
	Very positive	fairly positive	neither	fairly negative	very negative	very positive	fairly positive	neither	fairly negative	very negative
EU7	14	54	29	2	0.8	13	40	43	2	3
0-49	14	54	29	2	0.8	13	40	43	2	3
50-249	14	42	44	0	0.3	6	36	54	4	0
250+	18	49	32	0	0	5	36	57	1	0

Notes: Enterprise-weighted data.  
Computation basis: All real estate companies procuring online.

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

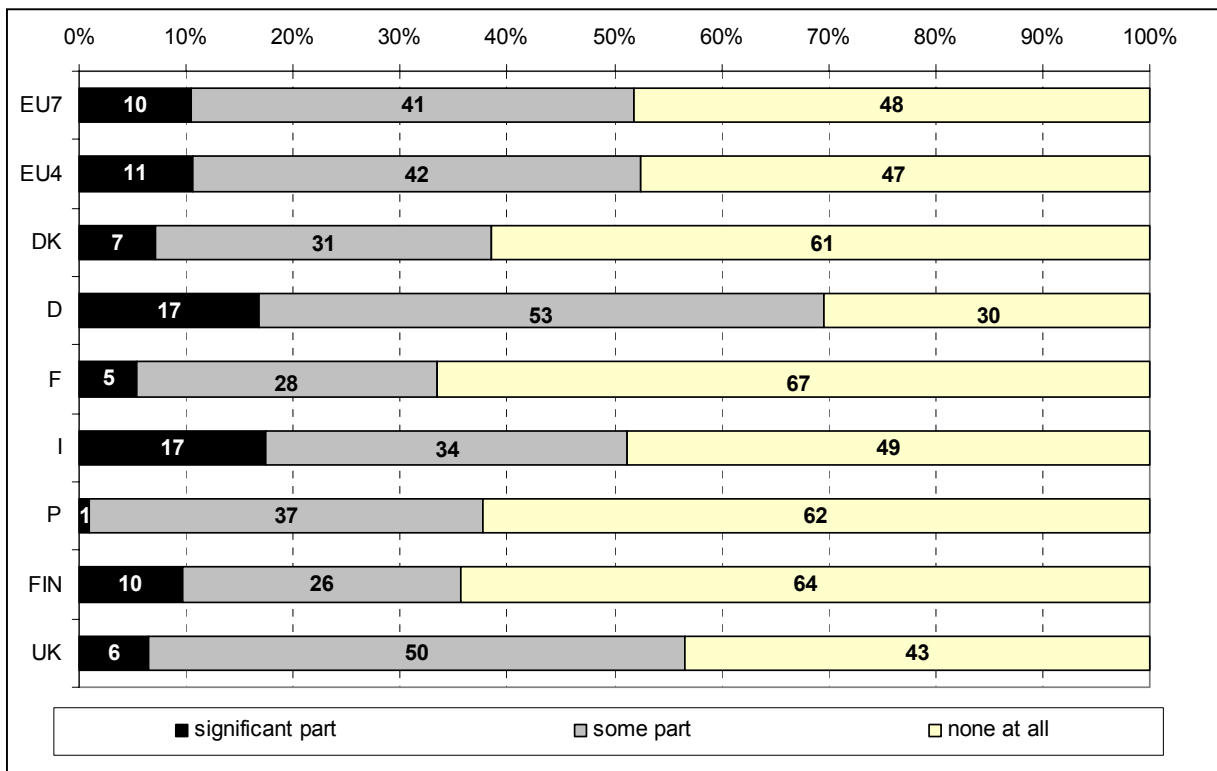
### Importance of e-business today

**Sector comparison:** In slightly more than half of the real estate enterprises in the sample countries (51%), e-business already constitutes a part (sometimes significant) of the way the companies operate today – see figure 2-11. One may interpret the glass to be half full or half empty, but in any case real estate is average in answers of “significant part” and slightly below average in “some part” in sector comparison.

**Countries:** The importance of e-business differs widely by country. 60% of German real estate enterprises say that e-business constitutes a part (sometimes significant) of operations, followed by the UK (56%) and Italy (51%). Importance of e-business is lowest in France (33%). In Portugal, only 1% of the interviewees said that e-business has a significant part. The significance of e-business is rated astonishingly low in Finland (36%) and Denmark (38%).

**Company size classes:** Considering that the real estate sector has a particularly high share of SMEs, the take-up of e-business in real estate may be regarded as astonishingly high (see table 2-19). In fact, the share of small enterprises in which e-business plays an important role is 11% which is larger than in medium-sized (8%) and in large (6%) enterprises. The according shares for “some part” are 41% for small, 42% for medium-sized and 44% for large enterprises.

Figure 2-11: Significance of e-business in EU real estate enterprises  
(In % of all real estate enterprises)



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

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

Table 2-19: Significance of e-business in EU real estate enterprises by company size (in %)

	Importance of e-business in company operations today		
	Significant part	Some part	None at all
EU7	11	41	47
0-49	11	41	47
50-249	8	42	50
250+	6	44	50

Notes: Enterprise-weighted data. Computation basis: All real estate companies.

### Assessment of benefits of e-business for real estate SMEs and large companies

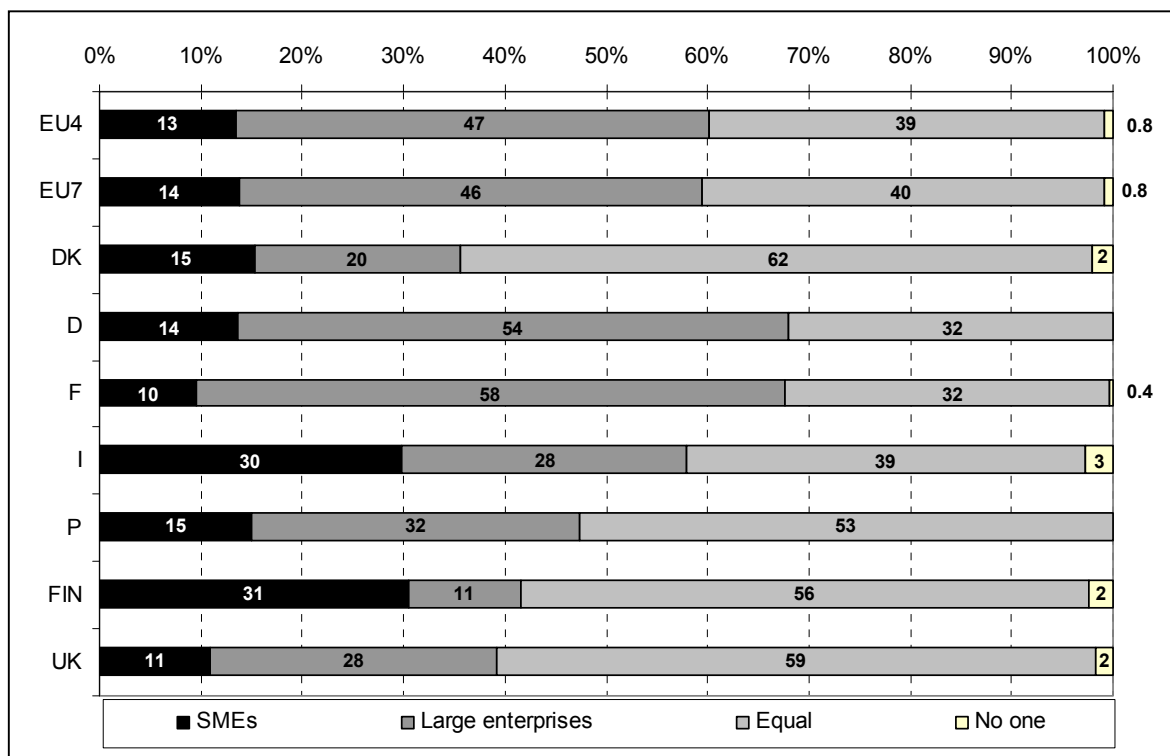
**Altogether:** In the sample countries, a relative majority of 46% of the interviewees expresses the opinion that large enterprises are the beneficiaries of e-business (see figure 2-12). 40% believe that both will benefit equally, 14% say that SMEs are the beneficiaries and only 0.8% says that no one will benefit.

**Countries:** The answers vary widely by country, as shown in figure 2-12. In Finland, 31% say that SMEs are the beneficiaries of e-business, much more than large enterprises (11%). A high share of interviewees regarding SMEs as the winners of e-business (30%) is also found in Italy. The other extreme is France, where 58% hold the opinion that large enterprises benefit and only 10% say that SMEs benefit. In Germany, too, a large share of interviewees regards large enterprises as the benefactors (54%). Denmark and the UK have the highest shares of interviewees saying that both will benefit equally (62% and 59%).

**Company size classes:** The large share of interviewees considering large companies as the beneficiaries may be influenced by the high share of SMEs in the sample (see table 2-20). SME representatives may tend to take the position as disadvantaged vis a vis large companies in general. In any case, the majority seeing large companies in a better position is not overwhelming. The assessment of benefits of e-business finally confirms the findings in previous chapters that SMEs may well benefit from e-business.



Figure 2-12: Assessment of beneficiaries of e-business in EU real estate enterprises  
(In % of all interviewees in the real estate sector)



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

Employment-weighted, i.e. figures should be read as "enterprises representing X% of employees".

Table 2-20: Assessment of beneficiaries of e-business in EU real estate enterprises by company size (in %)

	SMEs	Large enterprises	Equal	No one
EU7	15	49	35	0,7
0-49	15	49	35	0,7
50-249	13	38	47	2
250+	2	31	67	0

Notes: Enterprise-weighted. Computation basis: All real estate companies.

## 3 Summary and conclusions

### 3.1 Overview of important findings

#### **Economic profile of the real estate sector: high share of small companies**

The real estate sector is of particular interest for any study of e-business implications, and for the *e-Business W@tch* in particular, because it serves important economic and social functions, it allows a joint study of public and private businesses and it has a high PC penetration.

The real estate sector in the EU comprises around 755,000 companies. The number has increased in almost all countries for which time series data are available, maybe reflecting opportunities for new companies entering the market. Around 1.7 million persons work in the EU real estate sector, which is 1% of total employment in the EU. The share of real estate employees is particularly high in Sweden, Denmark and the UK and particularly low in Portugal, Austria, Belgium and Ireland. In the past ten years, the trend was for the number of employees to increase in most countries. The EU real estate sector is characterised by a high share of small companies: around three-quarters of them are run by a self-employed person with no employees. Labour productivity is highest in Germany, followed by the Netherlands, Sweden and Denmark. The lowest labour productivity is to be found in Ireland, Portugal and Italy.

#### **Status of e-business application: a wide potential of opportunities**

The real estate market is characterised by a particular lack of transparency and could thus benefit strongly from a more widespread use of ICT. In particular, the Internet can facilitate the identification of suitable properties by providing detailed information on basic object characteristics and the environment, as well as through visualisation. The Internet can also provide additional information such as price comparisons, financial services links, removal information, legal assistance and checklists.

Web-based brokers are trying to attract real estate companies by promising to supply them with contacts to individuals looking for housing. However, the share of objects sold through the Internet is still very small. The potential of Internet offerings is not uniform throughout the sector. It can be expected that the Internet will be more important for the mass-market of relatively small buildings transacted for individual housing than for the large buildings purchased by businesses. Marketing expenses for establishing a web-based real estate brokerage are said to be high. Thus there will probably be only a small number of providers which survive with their business model.

E-business applications internal to a housing company can support facility management tasks such as client data administration, e-mail correspondence with tenants and owners, and bookkeeping. Service applications can support maintenance, cleaning and remote control of facilities. Such services can be integrated into an Internet-based customer care centre beneficial for both the administrators and the tenants. There are already notable examples of such applications.

The real estate sector is not a forerunner in ICT use and e-business applications. In general, the sector is taking up innovations rather late, because products are quite heterogeneous, transaction volumes are high, and innovation cycles are long. Impediments at the firm level are a lack of personal capacities within the companies, lack of Internet access among buyers and tenants, security issues regarding the Internet, clerical staff lacking PC know-how, and lack of compatibility of downstream systems.

### Survey findings in sector comparison: real estate tends to be below average

In sector comparison, the real estate sector does not take a clear position as an e-business frontrunner or laggard but tends to be below average or even at the bottom. Real estate activities are top in practising online sales for more than two years and in size of IT department, and they have a relatively high share of enterprises presenting products on their website. On the other hand, real estate activities are very low in the use of special ICTs like intranet and WAN, in enabling online payment, in conducting business processes online and in applying special e-business solutions. In detail:

- **ICT infrastructure:** The real estate sector is in the medium group of ICT users considering the “basics”: computer use, Internet access, e-mail use and WWW use, but as regards intranet, LAN, EDI, WAN and extranet use, real estate has some of the lowest shares.
- **ICT access and skills:** Real estate businesses are average in allowing their employees access to e-mail for internal and external communication as well as the WWW, but low in allowing access to the intranet. Still, the real estate sector takes the top position as regards average size of the IT or web department.
- **E-commerce practice:** Real estate has a low share of enterprises with a website, a fairly high share in product presentation on the website, a medium share in selling online and a low share of online procurers. The share of real enterprises selling more than 25% of their turnover online is relatively high, and the share of enterprises practising online sales for more than two years is the highest of all sectors. On the other hand, the share of real estate enterprises enabling online payment is the lowest of all sectors and the share of e-marketplace participants is the second lowest. Real estate is one of two sectors where no enterprises with more than 50% of total procurement conducted online was identified.
- **E-commerce barriers:** The share of real estate interviewees agreeing completely to “goods and services do not lend themselves to selling online” is one of the highest. “Customers are hesitant to buy online” performs the second highest share of “agree completely” answers. “Revenues of online sales are still low” is a more important barrier in all other sectors except one. Regarding complete agreement to barriers of online procurement, the concerns about data protection and security are the second largest of all 15 sectors. Considering concerns about expensive technology, the real estate sector has one of the highest shares. This may be due to the high share of very small companies in real estate.
- **E-business applications:** In sector comparison, real estate lags behind in four of six online business processes, performing worst of all sectors in designing products and in management of capacity/inventory, but revealing the third highest level of online negotiation of contracts. Real estate reveals the third lowest share of SCM users, the second lowest share of CRM and ASP users, and the lowest share of ERP users.
- **E-business impacts:** The impacts of selling online in the real estate sector tend to be more positive than in other sectors. As regards “number of customers”, the share of positive answers in real estate is the highest of all sectors. Real estate activities are close to the average in all impacts of online procurement except “costs of logistics and inventory”, where the sector reveals the third highest share of positive assessments. Considering the significance of e-business in the firms’ operations today, real estate is average in answers of “significant part” and slightly below average in “some part”.

### Survey findings broken down by country: hints to a north-south gap

The first *e-Business W@tch* survey revealed some notable national features of the real estate sector. There are some hints of a North-South gap between Denmark and Finland on the one hand and Portugal on the other. Important findings by country:

- **Denmark** performs the highest shares of ICT use except WAN. ICT access is very high except external e-mail. Denmark has the highest share of enterprises with a website and of online procurers and is above average in information provision and online sales. Agreement to barriers of online sales and procurement is below average in most cases. Shares of electronic exchange of documents with suppliers and customers and online negotiation of contracts are the highest of all countries, and the use of most specific e-business solutions is high. Impacts of online procurement are assessed less positively than in other countries. Despite Denmark's top position in real estate e-business, almost three-quarters of the interviewees stated that e-business is not at all significant.
- **Finland** is above average in Internet, e-mail, WWW and intranet use as well as average in the other ICTs, and top in ICT access except intranet. The share of online sellers is the highest of all countries and online procurement is well above average. Agreement to barriers of online sales and procurement is always below average. Online collaboration practice is average in most cases, and the shares of special e-business solutions are above average. Impacts of online procurement are rather moderate. Only one third of the interviewees assessed e-business as playing a role in the firms' operations today.
- **France** has below-average use of WWW and e-mail but performs quite well in other ICTs. France has a low access to external e-mail and WWW as well as low shares of e-commerce practice except an average application of e-sales. Agreement to barriers of online sales tends to be above average, agreement to barriers of online procurement is always above average. Online collaboration is average or above average, but the application of special e-business solutions is low. Accordingly, the share of interviewees stating that e-business play a role in today's operations is the lowest of all countries.
- **Germany** has average shares of ICT use except a low share of intranet use; Germany is in the top group in e-mail and WWW access as well as e-commerce practice. Agreement to barriers of online sales and procurement tends to be low. Germany is low or lowest in online collaboration. The share of users of special e-business applications is one of the smallest. Nevertheless, more than two thirds of the interviewees assess e-business to play a role in the company even today, which is the largest number of all countries.
- **Italy** has a fairly high share of companies with Internet access as well as e-mail and intranet users but a low share of extranet, WAN, LAN and EDI users. The share of companies with websites is average, but online selling and procuring are quite rare. Agreement to barriers of online sales and procurement tends to be below average. Online collaboration tends to be slightly below average. Italy is among the countries with the highest shares of KMS and ERP use, but among the countries with the lowest shares in SCM and ASP. Around half of the interviewees say that e-business plays a role in their company's operations.
- **Portugal** has particular deficiencies in the use of basic ICTs: Internet access, e-mail use and WWW use, and also low shares of ICT access and e-commerce practice. However, Portugal is performing best in online collaboration and very good at using special applications. Agreement to barriers of online sales and procurement is average or below average in most cases. E-business does not play a role in most companies and has a significant part in only 1%.
- The **United Kingdom** performs particularly high shares of use of WAN and low shares in extranet and EDI; high access to internal e-mail and intranet, a high share of companies with websites and of companies procuring online, but the lowest share of online sellers. Agreement to barriers of online sales is diverse, and agreement to barriers of online sales is above average in four of six cases. The share of companies exchanging documents with suppliers is particularly high, as is the share of companies expressing concerns about data security in e-commerce. The UK performs high shares of SCM and ASP but low shares in KMS and ERP. E-business plays a role in more than 50% of the companies.

### Survey findings by company size class: SMEs lag behind, but not always

The survey findings broken down by company size classes – enterprises with 0-49, 50-249 and 250+ employees – reveal that SMEs generally lag behind large companies, but not in all respects. Large companies have higher shares than SMEs in ICT use and ICT access, website provision and online procurement practice, most practices of online collaboration with business partners and all specific e-business solutions. On the other hand, SMEs perform better than large companies as regards using the website for product presentation, online sales practice and amount of goods procured online as well as electronic exchange of documents with customers. More detailed findings involve:

- **ICT infrastructure:** For every single technology, the share of users is smallest in small companies and largest large companies. Considering the basic ICT infrastructure, SMEs do not lag much behind the large ones. The differences in the use of intranet, LAN, WAN, EDI and extranet are larger, but this may simply be due to the large share of enterprises with no or very few employees which do not need such technologies.
- **ICT access and skills:** The share of enterprises allowing the majority of their employees to use ICTs increases by company size for each technology. The differences are largest for e-mail for internal communication and for intranet use.
- **E-commerce practice:** While the share of enterprises with a website and with online procurement practice is higher among large companies, small companies have a higher share than large ones in website presentation and online sales. In companies purchasing online, the share of companies purchasing 5% or more of their procurement online is 59% in small companies, 52% in medium-sized companies and only 39% in large companies.
- **E-commerce barriers:** The size classes are closely together in agreement to barriers of online sales. Agreement to the most important barrier, “goods or services do not lend themselves to selling online”, is higher among large companies (83%) than among small (73%) and medium-sized ones (71%). The share of large companies agreeing to a barrier of online procurement is the largest of the three size classes in all barriers except “cost advantage is insignificant”.
- **E-business applications:** The share of large companies practising online collaboration with business partners is highest in designing products, management of capacity and inventory, exchange of documents with suppliers, and negotiation of contracts. The share of enterprises exchanging documents electronically with customers is highest among small companies. The special applications of Supply Chain Management, Customer Relationship Management, Knowledge Management, Application Service Provider and Enterprise Resource Planning are much more widespread in large companies than in SMEs.
- **E-business impacts:** The share of interviewees from small enterprises reporting positive impacts of online sales is much higher than the according share of interviewees from large enterprises in volume of sales and much smaller in quality of customer service and costs of logistics and inventory. Medium-sized companies report particularly good results in quality of customer service. Small enterprises appear to benefit more from procuring online than large enterprises as regards procurement costs and costs of logistics and inventory, while the benefits are equal in relations to suppliers and internal business processes. The share of medium-sized enterprises reporting positive impacts is low in all cases. The share of small enterprises in which e-business plays an important role is larger than in medium-sized and in large enterprises.

## 3.2 Economic implications

### Limited but notable impact on real estate value chains and business practices

In the opinion of many serious and important market players, telecommunication, Internet and e-business will neither have a remarkable impact on real estate business and real estate savings nor on supply and demand. In the real estate sector, key aspects of traditional business communication can possibly never be completely substituted by ICT. It is not possible today and difficult to imagine for the future how a majority of prospective purchasers could do without going to visit the property in question before purchase. Furthermore, legal requirements like concluding a building transaction by a notary can hardly be fulfilled through the Internet.

Real estate activities may be considered as a typical sector in which – due to the nature of the sector – particular parts of the ideal e-business sequence are of limited practical importance, e.g., online sales and online payment. Nevertheless, there is seen to be enormous potential for accelerated use of e-business techniques in the real-estate sector, particularly to improve the transparency of the market, support fluidity in transactions between tenants, housing providers and their suppliers, and improve service for tenants and owners.

### Opportunities and threats for SMEs and new businesses

E-business offers particular opportunities for small and medium-sized enterprises. Since size is not apparent on the Internet, SMEs can potentially compete on a level footing with firms of any size. Companies can deliver information-rich content to a much wider audience at marginal cost thus expanding their potential client base. SMEs appear to take advantage of this opportunity: As the survey findings reveal, the share of small enterprises reporting positive impacts of online sales on number of customers and sales area is similar to large companies and is even higher as regards sales volume.

Since the real estate sector is characterised by a large share of small companies, entry barriers are relatively low. New companies with special e-business practices may challenge the traditional market. The increasing number of real estate firms in the EU points in this direction.

However, the Internet also endangers the traditional domain of SMEs. Small companies typically survive through practices in geographic or specialist niches. The aspatial nature of the Internet facilitates greater competition in these niche areas. Furthermore big firms might gain more importance in real estate by using their financial power. Investing in e-business technologies can be very expensive, putting SMEs at a disadvantage.

## 3.3 Policy implications

Desk research and empirical findings of the first *e-Business W@tch* survey allow the formulation of a preliminary set of policy implications for improved e-business application in the EU real estate sector. Further research for the second report will allow for elaboration on these implications.

### Developing technical applications

The real estate sector has a particular need for secure transaction processes due to the high value of the objects and the large amounts of money transferred in the case of sales. In sector comparison, complete agreement to concerns about data protection and security are the second largest of all 15 sectors surveyed. Furthermore, costs of available technology for online procurement are regarded as very high in sector comparison. While it is unclear if this judgement of real estate interviewees is due to reservations against e-business technology in general, the development of special transaction modules for the real estate sector could further accelerate e-commerce use in real estate. This is mainly an issue for the software industry. However, real

estate associations and public entities can form public-private partnerships to conduct pilot projects for testing, improving and spreading e-business technology in real estate.

### **Generation and transfer of specialised knowledge**

Research and education organisations can contribute to e-business penetration in the real estate sector. Research for this report suggests that in public research there is a lack of experts for e-business in real estate. Student education as well as political and business consulting in the field of real estate may benefit from promoting real estate e-business in university research and teaching. Experts from private and public real estate firms, for example alumni, could be invited as e-business lecturers in their sector. Networks of excellence between public research institutions and real estate firms could be established and promoted in order to transfer knowledge about technology and business practice.<sup>9</sup> An example is the Finish Institute for Real Estate Economics, founded in 1993 by the Turku School of Economics, the Finnish Real Estate Federation and the Real Estate Association of Helsinki.<sup>10</sup> Entrepreneurial networks of universities, companies, associations and local development agencies can assist graduates in starting an own real estate business. An example is the “GO!” SPRING<sup>11</sup> project at the Ruhr-University Bochum in Germany, promoting start-ups from universities with a particular focus on facility management firms. One of the supporting companies produces software for construction engineering.

### **Encouraging SMEs to apply e-business**

The finding that small and medium-sized real estate enterprises generally do not lag behind large companies suggests that no “urgent action” measures are necessary. However, SMEs may benefit from the communication of good e-business practice by political bodies, chambers of commerce and real estate associations. SMEs not yet applying e-business practices may learn from peer examples how to benefit from selling and procuring online as well as integrating e-business into internal processes.

### **Country-specific activities advisable**

The differences between countries in e-business use in real estate revealed in the first *e-Business W@tch* survey suggest policies targeted at specific countries. In particular, Portuguese real estate companies could benefit from particular measures. However, to some extent the level of e-business activity in French, German, Italian and British real estate companies is low, too, and Finnish real estate enterprises perform lower shares of ICT use than the total of enterprises. Thus specific promotion measures in these countries may be advisable. The situation in Denmark appears to be quite satisfactory.

<sup>9</sup> This implication is similar to a statement formulated in a previous report on the insurance sector. Both sectors have similarities with regard to being quite conservative and not taking up new technologies very quickly.

<sup>10</sup> See <http://www.kti.fi>.

<sup>11</sup> See <http://www.go-spring.de>.

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