
OPPORTUNITIES AND CHALLENGES FOR OFFICIAL STATISTICS FROM E.U. COUNTRIES¹

**Evolutions and performances in various fields of information society
and business area from Romania and from other countries**

Abstract

The European Union, **through the Europe 2020** program, adopted by European Council in June 2010, aims at exploiting in the next decade the globalization potential in order to stimulate the economic growth and employment. At EU level it was defined the integrated industrial policy for globalization era, being pointed out the competitiveness and sustainability.

The strategy of Europe 2020 launches a new vision for Europe economy in the next decade (based on an extended coordination of economic policies) to generate an economic growth and an enhanced employment helping the Union economic and financial re-launch. The new strategy is focused on some key fields: knowledge and innovation, a more viable economy, a high level of employment and social inclusion.

Keywords: strategy, globalization, foreign branches, entrepreneurship, enterprises demography, financing source, research-development, innovation, business area.

One of important objectives set up by Europe 2020 strategy is the creation of a stable, coherent and proper business area for the development of private sector and of a real, durable and opened market economy. Europe needs a strong, competitive and innovating industry. Efficient economic development supposes a process of continuous modernization.

In Romania, the **National Institute of Statistics (INS)** provides operative statistical information necessary for decisional factors of economic and social strategy, assimilates statistical indicators specific to the market economy, implements research and calculation methodologies according to European and international standards and practice, carries out the cooperation with other national institutes of statistics.

1. Article topic was presented by Nina Alexevici, Florica Cîrstea, Virginia Balea, Georgeta Iacob, Maria Predonu and Rodica Dumitriu (INS Romania).

INS tries to develop and adapt statistics with new topics related to small and middle enterprises (IMM) and entrepreneurship, globalization and growth factors, increase in the IMM innovation capacity and innovation strategy, intellectual property a.s.o.

Globalization process, which registers growth and interconnection among nations, involves social, cultural and environment elements and goes beyond the issue of economic integration. Globalization has premises at level of which EU was created, respectively free circulation of goods, services and persons.

While globalization is a challenge for EU, as well as for many countries in the whole world, it is also a challenge for official statistics. Several European and international initiatives have been carried out to reflect better the dynamics of economies and society under globalization. Globalization dimensions cannot be easily quantified, but it is important that these phenomena should be better understood by means of adequate statistical measures.

EUROSTAT proposes a set of globalization indicators on which rely already existent data, but puts them in a new perspective – that of globalization. Selected indicators are far from being an exhaustive list and cover only partly the aspects related to the globalization.

Globalization phenomenon creates new needs of data and information. Statistics proposes to find new instruments to measure the activity of multinational business groups, of activities externalization. Internationalization of services was facilitated by technological progress, especially in the field of information and communications.

At EUROSTAT level and of member states, to carry out European register of business groups is a laborious activity, the register being an important instrument which determines some globalization characteristics on which the business statistics is to be built.

Among the fields existent in the business structural statistics which could be used to analyze the globalization, we refer to the following:

- Structure and activity of foreign branches (FATS) which shows the impact of foreign control over European economy;
- Business services, by means of which information about location of customers show the relative dimension of exports of business services against residents from other member states or outside EU;
- International externalization.

In Romania, there were identified 26467 groups of multinational enterprises (135 are controlled from inside, respectively 26332 are controlled from abroad).

The results from 2008 indicate that according to the weight in the number of employees, the first place is held by subgroups of enterprises controlled by legal persons or natural persons situated in Germany (15%), the second place is held by those controlled by Italy (12%), while 10% of subgroups of enterprises are controlled by France.

Romania as EU member state is part of globalization phenomenon and impact of globalization is measured both by statistics of foreign branches (FATS) and of international externalization phenomenon. In 2009, in Romania about 18 thou enterprises controlled by EU member states were active and little over 7000 controlled by countries outside EU such as USA, Japan, a.s.o.

The highest turnover was achieved by FATS enterprises under intra-community control (73.7%) and only 6.6% of other European countries. The weight of non-European countries was a little under 20%.

The breakdown of turnover according to the origin country of investor points out that Germany holds the highest weight 19.9% of total intra EU, followed by France 16.9% and Austria 11.9%. In case of gross value added to cost of factors, the highest weight is held by France 17.8% of total intra EU, followed by Germany 16.9% and Austria 16.3%.

Globalization phenomenon was and is leading to the growth of unemployment and inequities which could be counteracted by development of entrepreneurship – the only source which can create and develop new jobs

Entrepreneurship – should be considered as activity in the service of the company objectives and subordinated to its purpose – maximum profit being considered an engine of development, that taking the chances and responsibilities of a business.

Along time, especially since 1990, economies of countries began to develop determining an economic progress in Europe.

Entrepreneurship is regarded from several points of view, and policy should take into account that any entrepreneur as any product in its evolution graph on the market has a birth, a development, a climax, followed by decline and disappearance. All of them develop within a dynamic economy based on technology, research in the field of knowledge and in the sector of information and communication technology which lately played an important part for private enterprises.

Entrepreneurship is also regarded under social aspect (in which an important role is played by the weight of entrepreneur women) under durable aspect, as number of employees, minority aspect, ethnic, new enterprises on the market. An important aspect is related to the products and production process of enterprise, its opportunities and needs, as well as initiative and innovation activities.

In order to develop and keep on the market, enterprises should be constantly concerned with investment in technology, because, besides entrepreneurial spirit and innovating initiative, it is necessary a development of technological segment. Two major notions are taken into account: occupational aspect of private enterprises having in view self employed and risk for entrepreneur and entrepreneurial behavior, policies related to marketing strategies opportunities to penetrate the market. Enterprise should have in view lower costs, higher flexibility, focus of activity on quality products, but also there are taken into account the existent resources providing a good quality production and social and geographical criteria.

In order to analyze the evolution of entrepreneurship in Romania there are necessary the information about **business demography**. Statistical information regarding business demography are relevant for economic analyses being obtained by a new field of statistical research.

Business demography supposes the study of events of enterprise creation and close, evolution in time of newly created enterprises and of labour force involved in these events, their capacity to survive in time.

For the viewpoint of weight in the number of small and middle enterprises in total enterprises from industry, construction, trade and services in Romania, it is noticed a constant evolution during 2008-2010 (in average 99% per total). This constant evolution is also registered in case of turnover for small and middle enterprises (in average 60% per total) and of the staff number (in average 66% per total).

At level of European Union, according to EUROSTAT, the weight of small and middle enterprises in total in 2008 was (99.8%) by number, (57.4%) by turnover and 58.7% (by gross value added to cost of factors).

Regarding the creation rate (number of newly created enterprises related to total number of active enterprises, in the reference year, and survival rates (number of enterprises which survived in the reference year, related to newly created enterprises (1--4 years ago) before the financial crisis (2004-2008), Romania held the first places compared to EU countries, followed by a significant fall for the period characterized by the crisis.

Regarding the newly created jobs, in the same period, it is noticed an average of 2 persons employed in Bulgaria, Cyprus, Czech Republic, Romania and United Kingdom.

Following the observation of statistical data evolution along time, it was noticed that labour force dynamics due to the newly created enterprises or closed ones, does not represent a real indicator regarding the increase or decrease of labour market, because expansion or reduction of activity for the other enterprises active in the economy influence the labour market as a whole, leading to structural changes.

The most frequent reasons of difficulties related to the offer, regarding getting contracts, remain “lack of resources”, “without customers or payment with delay by the customers” and “limited access to credits”. The most frequent reasons of difficulties related to demand were in 2010 “too high competition” and “customers with low funds”.

Noticing the evolution of newly created enterprises founders/managers ratio by age category, small percentage variations were registered from one period to another. Regarding the ratio of young founders/managers (under 30 years), it resulted that it was in average 20% during 2007-2008, against total.

The distribution of enterprises by educational fund of founder/manger shows a structural change during 1995-2000 and 2001-2010.

The weight of new enterprises which make investments in their first year of activity ranges from 25% to 39% during 2002-2010.

The evolution of enterprises with high growth (HGE)(newly created enterprises 3 years ago and in the last years registered an annual growth of at least 20%), both by average number of employees and by turnover, pointed out an accentuated growth during 2006-2008 (climax 2007: 1510 enterprises by number of employees and 9776 enterprises by turnover) followed by fall because of the financial crisis (values under 2006 level).

Both at international and national level, in the last period, within business demography, it was pursued the evolution of gazelles (newly created enterprises five year ago and which had in the last three years an annual growth of at least 20%). Their evolution was in the same trend with the evolution of enterprises with high growth, the ratio being 1:5.

It is appreciated that an enterprise should have besides creative spirit, initiative as well as investments in highly advanced technology based on R&D activity in order to set up the target within the market and to be supported when taking correct decisions and good ideas to place investments bringing prosperity and profit.

Romanian economy was deeply affected by economic and financial crisis at European level, which can be annihilated intensifying the activities with investments in R&D and innovation.

R&D and innovation strategy for 2007-2013 period relies on the vision of Romanian society regarding the role of science, technology and innovation for the development of knowledge society in Romania having as objective the social and economic progress. Our country implemented the legislation and methodology used by EU countries in the field of research-development and innovation, transposing the stipulations in the national statistical system, being receptive to all the EUROSTAT novelties and requirements.

Pursuing the business area in Romania is one of important objectives of statistical researches carried out by the National Institute of Statistics in R&D and innovation field. Out of data and information for statistical researches, statistical indicators are obtained which represent a high degree of harmonization, being comparable with those from the European Union, being necessary to increase the economic competitiveness and develop the economy based on knowledge. Data and information in R&D field are disseminated each year, those regarding innovation are disseminated each two years.

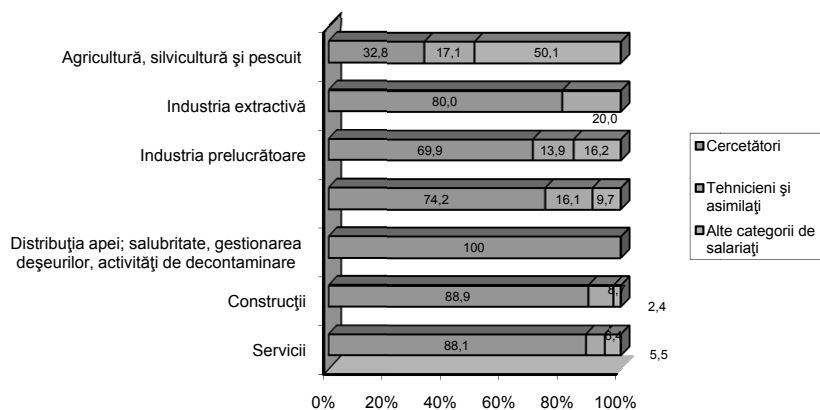
During economic and financial crisis period, enterprises from business area make efforts to keep and develop. Experiences from the past showed that investments in R&D represent the way to a sustainable development. One of the main economic indicators which measure the level of economy for a country is **research intensity** represented by weight of research expenditure in gross domestic product (GDP). Statistical data regarding R&D activity are important for decision makers for the most adequate measures to develop the economy and first of all the business area. Official statistics regarding R&D activity are carried out by annual statistical surveys being obtained data about human expenditure and resources for business area, according to the European Commission Regulation on science and technology statistics.

Out of the last statistical survey for 2010, the weight of R&D expenditure for enterprises belonging to the business area was 0.18% in GDP. Out of total expenditure for R&D activities amounting to 2413467 thou lei, 924780 thou lei represented expenditure of business area.

The main financing sources of research activity for business area were those from inside the enterprise or group of enterprises (62.6%) followed by public funds (30.0%). Financing from abroad for research and development of private enterprises was 7.0%.

By **economic activity**, the weight of researchers in total R&D employees in the enterprise sector was over 50% in the following sectors: manufacturing, mining and quarrying, production and supply of electricity, gas, steam and air conditioning, water distribution; sanitation, waste administration, decontamination activities, construction and service sector.

Weight of employees from R&D activity, from enterprise sector, by occupation and economic activity, on 31.XII.2010



At national level, out of statistical data regarding R&D activity, competitiveness indicators can be calculated showing the level of financial resources allocated for R&D activity in the national economy, compared to European and even world economy.

For business area, to determine the economic activity with high technological intensity, at international level, it is used a classification of manufacturing of high technology, medium high technology, medium low technology, low technology.

In 2010, technological intensity with the highest weight was registered for economic activities with medium-high technology within manufacturing.

Indicators of technological intensity from manufacturing, in 2010

	percentages
Weight of R&D expenditure from high technology activities, in total R&D expenditure	1.4
Weight of R&D expenditure from medium high technology activities, in total R&D expenditure	12.0
Weight of R&D expenditure from medium low technology activities, in total R&D expenditure	1.2
Weight of R&D expenditure from low technology activities, in total R&D expenditure	0.9

Economic globalization changed world economic order during

an extremely short period of time, bringing new opportunities and new challenges. To compete, Europe should become more inventive, should react better the needs and preferences of customers and should approach global and environment challenges, should innovate more.

Competitiveness is influenced by business area, which is at its turn created by regulation framework, both at national and European level creating an unique market, an effective policy of competition and a flexible industrial policy. Stimulation of competitiveness can be achieved by achieving more products and innovating services.

Innovation in business area represents a vital ingredient in the growth of productivity, competitiveness and potential of modern economy growth.

Official statistics regarding innovation in business area comprise specific indicators which can measure competitiveness in big, middle and small enterprises from the whole industry and some services from Romanian economy. In order to observe data comparability at EU level, respective indicators are obtained by a common methodology for all EU member states and rely on a common questionnaire CIS (Community Innovation Survey). This questionnaire is meant to monitor the progress of innovating activity in Europe and allows a better understanding of innovation process and analyzes the innovation effects in the economy (competitiveness, employees, economic growth, use of intellectual property rights).

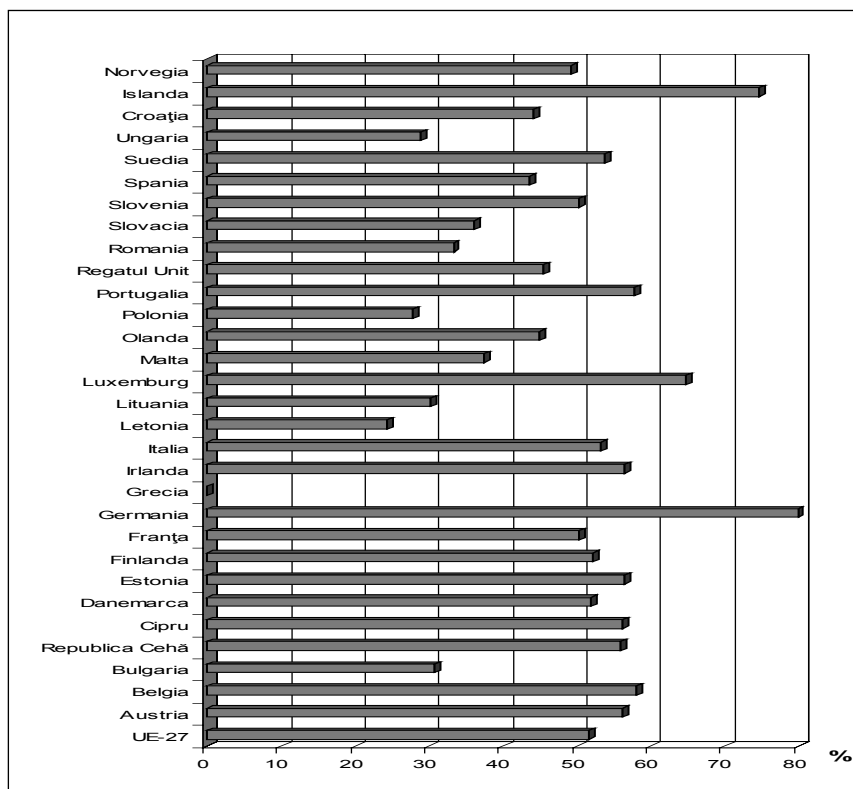
The survey is every two years. Up to now six surveys were carried out. The last survey is to provide data for 2008-2010 period.

During 2006-2008, according to the last published data, in EU member states (except Greece) 51.6% of enterprises from industry and services reported innovating activity. In Romania, enterprises with innovating activities hold a weight of 33.3%.

During 2006-2008, the highest weights of enterprises which developed innovating activities were registered in Germany (79.9%), Luxembourg (64.7%), Belgium (58.1%) and Portugal (57.8%) and the lowest innovating weights were registered in Poland (27.9%), Hungary (28.9%), Lithuania (30.3%) and Bulgaria (30.8%).

Innovation means in fact the introduction in the enterprise of a new or significant improved product or process, a new or significant improved organization or marketing method.

**Weight of innovating enterprises in EU, in total enterprises,
during 2006-2008 (Source EUROSTAT)**



In the measuring of innovative activity from enterprises there is distinguish between enterprises with technological innovation (product or process innovation) and enterprises with non-technological innovation (organizational or marketing innovation).

For technological innovation (product and process), the highest weights had Germany (63.8%), Portugal (50.1%), Belgium (47.9%) and Estonia (47.9%) and the lowest ones were registered by Romania (19.7%), Poland (19.8%) and Latvia (20.1%).

The most of non-technological innovators (innovators of new organization methods, new business practices, new marketing methods) were Germany (69.0%), Luxembourg (54.6%), Cyprus (48.0%), Czech Republic (47.0%) and the least in Latvia (14.9%), Bulgaria (18.4%), Poland (20.1%), Hungary (21.9%). In Romania the weight of non-technological innovators was 26.8% under European average of 40.1%.

The weight of innovators is proportional with size of enterprise: over half (58.9%) of big enterprises are innovative enterprises, 40.8% are middle enterprises and 29.8% are small enterprises.

The trend is explained by the fact that a big enterprise has more financial possibilities and has at disposal human resources and can produce a wide range of products and services.

To measure innovating activities, one of the most important indicators refers to the novelty of innovations, respectively enterprises which implemented or developed new products for the enterprise or new ones for the market. Romania registered a high weight of innovative enterprises with new products for the enterprise (55.6%), while indicator with new products for the market registered a weight of 24.8%.

Cooperation of enterprises with one or several partners to carry out innovative activities through partnership with other enterprises, universities or public research institutes at national or international level represents an important statistical indicator to commensurate the way of innovations achievements.

During 2006-2008, the highest weights of cooperation innovation were obtained by Denmark (56.8%), Belgium (48.8%) and Estonia (48.6%). Romanian enterprises registered the lowest weight of cooperation within EU-27 (13.8%).

At level of European Union, to carry out innovative activities, enterprises from old member states spend more for R&D activities, while innovative enterprises from new states entered the EU, invest in equipment, outfit, software, patents, license or know how. The weight of research expenditure for innovation were 65.7% in Finland, 60.8% in Austria, 60.4% in France, 57.8% in Sweden, 49.9% in Germany. In Romania, the weight of research expenditure for innovation was 8.4%.

Purchasing machinery, equipment and software was the main activity in Romania involving enterprises for innovating activities. The main information source for innovation remains that within the enterprise.

Innovation statistics measures the results of innovative enterprises pursuing the objectives achieved. The main objective for innovative enterprises during 2006-2008, both at EU 27 level and in Romania, was to improve the quality of goods and services.

**Main objectives of innovative enterprises
during 2006-2008 from various countries**

	Extend the range of goods and services	Replace products or old products	Entering new markets	Increase in market weight	Improve quality of goods and services	Improve flexibility of goods and services	Increase capacity of goods and services	Improves health and work security	Reduce labour costs by unit of product
Austria	55,1	41,4	42,8	49,4	62,5	37,1	28,3	18,0	21,3
Belgium	48,4	32,4	27,1	39,8	48,7	28,1	25,7	16,1	21,1
Bulgaria	30,7	24,9	29,7	29,6	35,8	16,7	18,4	23,4	18,2
Czech Republic	46,7	34,9	24,0	32,2	47,0	27,3	24,0	18,5	28,8
Cyprus	63,4	66,4	45,1	62,0	77,3	64,4	61,4	40,5	37,0
Denmark	25,0	27,7	23,8	33,4	30,3	18,8	18,5	11,1	30,0
Estonia	36,5	35,8	24,1	32,3	50,8	31,1	33,9	18,7	21,3
Finland	41,2	29,3	29,6	37,9	43,0	30,2	23,7	13,1	30,2
France	56,3	35,1	40,9	47,9	49,7	25,0	25,7	20,8	22,7
Germany	54,3	34,6	46,1	42,5	54,7	36,5	28,5	21,0	26,5
Greece						:	:	:	:
Ireland	46,3	31,8	40,5	48,4	48,8	30,9	28,7	23,7	38,9
Italy	43,7	26,9	27,0	28,2	50,0	24,9	27,1	28,0	18,3
Latvia	12,2	9,3	11,3	8,9	12,6	7,4	10,3	8,0	6,9
Lithuania	30,3	26,4	26,5	32,8	42,8	26,6	27,7	17,6	28,3
Luxembourg	68,8	36,9	47,5	59,5	69,5	44,4	34,6	29,5	20,5
Malta	41,6	22,3	31,0	34,0	45,7	29,4	27,4	19,3	27,4
Netherlands	32,4	18,6	28,1	34,2	36,3	21,7	17,5	11,3	14,7
Poland	50,5	37,8	36,1	42,3	54,3	26,7	36,9	27,8	25,5
Portugal	42,0	34,5	39,8	44,5	58,3	38,6	39,7	35,2	41,0
Romania	50,0	34,4	35,5	34,1	55,5	30,6	32,2	27,5	24,4
Slovakia	45,5	27,8	22,5	34,7	50,1	32,0	26,5	21,9	15,6
Slovenia	79,0	48,8	45,3	61,2	73,6	42,9	41,9	34,3	54,6
Spain	33,7	26,3	25,7	28,7	42,3	31,4	35,9	20,4	22,1
Sweden	43,9	32,0	28,3	45,2	45,2	28,3	25,5	16,1	34,1
Hungary	62,1	46,5	56,1	61,3	65,7	49,6	37,2	34,8	27,8

During 2006-2008, EU enterprises implemented and developed **innovations with benefit over environment**. Enterprises had innovations as result of: need to align existent regulations regarding environment protection, need to introduce new regulations in the field, availability to governmental allowances or other financial facilities for environment protection, market demand through customers for innovations regarding environment protection or implementation of voluntary good practice codes on environment protection within activity sector.

Most of innovations for lower costs with raw materials used were registered in Germany (38.8%) and Portugal (37.8%). In Romania, the weight was 31.3%. Important innovations for lower energy consumption per unit of product were also implemented in Germany (46.4%) and Portugal (41.5%).

Germany and Ireland implemented most of innovations for reduction of CO₂ emissions in enterprise (38.5%, respectively 33.1%) and in Romania the weight was 22.7%. The most interesting states for innovations to replace materials with less polluting or less dangerous substitutes were Portugal (41.3%) and Ireland (30.9%), while in Romanian enterprises this type of innovations was carried out by 21.1% of enterprises. Reduction of soil, water and air pollution, constituted the most important activity for Portugal (46.2%) and Germany (41.7%). In Romania, this activity was carried out by 31.5% of enterprises.

Business area influences comparativeness both at national and international level.

Providing a solution from decision makers, by which economic competitors could innovate, using rights of intellectual property, represents an incentive for those from business area to invest in innovative products and processes.

Information society is characterized by explosive increase in digital information available by means of products of information and communication technology (TIC).

In May 2010, European Commission adopted the communication “Digital agenda for Europe”, strategy for a digital economy until 2020. There are pointed out policies and actions aiming at maximum benefit of digital era for all sectors of society and economy.

At European level, statistics on information society monitor the following aspects: an European unique information space; innovation and investments in TIC research; a complete European information society.

Statistics of information society has two components: use of TIC products in enterprises and electronic trade; use of TIC products by persons and in the households.

Use of TIC products and e-commerce in enterprises cover enterprises with at least ten employed persons and whose main activity is in one of manufacturing sectors: electricity, gas, water, sewerage and waste management, construction, wholesale and retail and market services. Access online by wide band is considered essential for the development of advanced services, such as e-business, e-governance or e-learning.

The main indicator refers to TIC products access, their use and especially internet, electronic trade, interconnection of systems at business level etc.

According to 2010 information (the most recent ones), the ratio of EU 27 enterprises with access online exceeded 90% in all member states, except Romania (79%), Bulgaria (85%) and Cyprus (88%). About 2/3 (67%)

of enterprises at European level have their own site while in each of member states over half of enterprises held own website; Romania (35%), Bulgaria (37%) and Latvia (47%).

Conclusions

EUROSTAT (Statistical Office of European Union) set up as objective for the next years to create a common legal framework to collect, compile, transmit data and disseminate European statistics regarding the structure, economic activity, competitiveness, global transactions and performances in business sector – FRIBS (Framework Regulation Integrated Business Statistics).

The project puts into practice the principles set up by *Communication of Commission to European Parliament and Council regarding production methods of European statistics: a vision for the next decade (COM(2009)404)*.

FRIBS project taking place during 2012-2015, has as objective the integration, rationalization, flexibility and reduction of reply task in the field of business area statistics in EU. It provides a common infrastructure to compile and produce statistics addressed the business area and at the same time to improve the data relevance and quality.