Report 2006 emphasizes that the price of creation of invention and its patenting are extremely high[282]. The Report 2006 also reveals the continuing active discussions that local educational institutions are able to initiate neither new research activities nor favourable conditions for innovative activities mostly because of the lack of financial resources that could be given for such activities[283].

Last but not least aspect to be mentioned are IP studies at the national universities in general. Taking Lithuania as an example, it can be agreed with the opinions that, although, IP courses and seminars (covering all IP rights) are contained in the curriculum of the local universities, shortage of IP studies within non-legal curriculum is considered as one of the weak points in IP studies in Lithuania. Such drawback can be solved by incorporating relevant IP courses within technical orientated subjects at the universities[284].

III. Local research and innovation

1. Research and development areas

On the basis of data on expenditure on R&D structure by field of science and types of research, it is obvious that, for example, in Lithuania technological, agricultural, medical and physical sciences receive much of attention. The same tendency is seen in both the institutions of higher education and universities as well as the Government sectors[285]. In the business sector the expenditure on R&D in the fields of manufacture of chemicals and chemical products as well as machinery and equipment comprises a relatively high percentage[286]. According to the Report 2006, the local and foreign industries involved in the research projects are basically focused on research on substances, electronic and laser technologies, information technologies as well as on database of geophysical research. Contemporarily, the foreign companies are more focused on the fields of innovations which, as rightly pointed out in the Report 2006, have an actual applicability abroad. This is also the case for both Latvia[287] and Estonia[288].

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282 *E.g.*, the patenting of one biochemical product was financed by one local company and amounted to 50,000 Euro. See *Ibid*, p. 4.

283 Due to this, it should be also mentioned that under the Order of the Minister of Economics of Lithuania as of 15 March 2005 the most parts of the costs related to patenting could be compensated, however, there were no guarantees that such compensation could be actually provided. In 2008 a possibility to deduct the expenditures invested into R&D for 3 times instead of one was additionally enacted, as reported in *Mizaras*, Current Key Aspects of Intellectual Property in Lithuania (ATRIP Congress (2008)), p. 2.

284 Such information and opinions were expressed by *Ibid*, pp. 6-8.

285 *Note:* business sector is not covered here. Statistics, *Research Activities in LT (2006)*, p. 25.

286 *E.g.*, as referred in *Statistics Department of Lithuania (2008)*.

287 See more at *Latvian Research Landscape (2008)* which also contains the National Concept of R&D in Latvia for 2002-2010 (EV).

288 See *Statistics Department of Estonia (2008)*.

The innovative activities in the Baltic countries can also be reflected in the means by which the companies protect their IP rights. For this purpose, the numbers related to the registered IP rights could be used as the comparable statistical data. The figures from the corresponding registers of the State Patent Offices in Estonia, Lithuania and Latvia in the years of 2007, also 2008 demonstrate quite even and similar figures for registered IP rights for all three Baltic countries. Namely, according to the Lithuanian statistics, at the end of 2007 there were in total 729 patents, 33, 939 trademarks and 507 designs in force in Lithuania[289]. It is reported, accordingly, that in Estonia (data as of 30 June 2008) there were in total 1,415 patents, 30,738 trademarks, and 986 designs in force[290]. Such total numbers are not provided for Latvia, but it is indicated that in 2007 there were 4,891 trademarks registered, 803 patents and 97 designs in total[291].

Additionally, as reported for Lithuania, in the period 1994 – April 2007, 3,090 national patents have been issued, and 737 patents and 3,325 European patents (since 1 December 2004) were valid[292]. Those numbers could be also compared with the ones in the field of trademarks and designs, as referred above, and also with the number of, for instance, patent cases that were actually considered. As far as patent rights are concerned, it should be emphasized that generally there is a modest number of patent cases that reached the Supreme Court of Lithuania after 1994, since the time the Lithuanian Patent Law came into force. It is partially reasoned by the fact that the Lithuanian patent system exists for 14 years only and that the Lithuanian inventors apply for a few patents in Europe and Lithuania[293]. Similarly, during 15 years of the national patent system in Latvia, 18 patent cases have been solved; and there is no relevant statistics provided for Estonia[294].

2. Foreign and local investments in local IP industries

With a reference to the mentioned need of foreign investments in the field of promoting local innovations and in consideration of the fact that the survey on the section of FDI in the Baltic countries is directly related to the analysis of certain legal provision on IP enforcement, it is to be mentioned that general FDI in all Baltic

289 The numbers are taken from *Lithuanian Patent Office Information (2008)*.

290 The numbers are taken from *Estonian Patent Office Information (2008)*.

291 The numbers are taken from *Latvian Patent Office Information (2008)*. *Note:* for all three countries information regarding patents covers the patents granted on the basis of national fillings and PCT national phase entries by the state of domicile or establishment of the first applicant or assignee; regarding TMs and designs it includes national and foreign applicants.

292 See *Report of the Council of the European Union Work Group on Intellectual Property (Patents) (2007)*.

293 There were only 5 patent cases considered at the Supreme Court of Lithuania and 10 patent cases in the appellation instance since 1994. There is no statistics about the patent cases at the first instance courts provided, as can be observed in the *Report of the Council of the European Union Work Group on Intellectual Property (Patents) (2007)*, pp. 2, 3.

294 See *Report of the Council of the European Union Work Group on Intellectual Property (Patents) (2007)*, pp. 3, 5.

countries is constantly growing[295]. This statement could be supported by the rates given on the percentage of GERD financed from abroad in the Baltic countries as well[296].

Although Denmark, Sweden, and Germany[297] usually lead among the investing countries in Lithuania, the bulk of investments flow from Russia as well[298] by confirming the above discussed "geopolitical code" of Russia towards the East-Baltic[299]. Since 2002 Germany is one of the leading investing sources in Latvia as well. The leading positions of investors are usually taken by Estonian, Sweden and Denmark companies, though[300]. The landscape of foreign trade in Estonia seems to be different: in the last years the main partner in export and import remained Finland[301]. The part of the industry of the Baltic countries which finance R&D sector has been constantly growing in Estonia and Latvia, whereas it has been slightly decreasing in Lithuania[302].

What concerns the investment areas, it is important to overview the disposition of FDI by economic activities in the Baltic countries in order to asses how much of the foreign investments flow into IP-related fields. The statistical data of Lithuania shows that the foreign countries mostly invest in the areas of manufacturing industry, including manufacture of chemical products, financial intermediation, transport, storage and communication[303], whereas, Lithuanian companies mainly invest into wholesale and retail trade abroad and manufacturing by focusing on the markets of neighbouring countries such as Latvia or Russia[304]. The investments in the area of

295 From 1997 to 2006, FDI in LT was approx. seven times more; it also grew 19,6 % since the beginning of 2007 until beginning of 2008, as reported in *Statistics Department of Lithuania (2008)*. In EST, FDI increased 7 % comparing 2006 with 2007, as provided in *FDI Information (WB Group) (2008)*. In LV, the number concerning FDI inflows reached 1,6 Billion USD in the past years, as indicated in *FDI Information (WB Group) (2008)*.

296 See more in *Eurostat Information (2008)*.

297 According to the statistical data, investments from Denmark made 15-17 % of all investments in year 2003-2006, whereas investment from Sweden amounted to 13-15 % thereof in the same period. The part of investments by German companies made 9-11 % in 2003-2006, as referred in *Statistics, FDI in LT (2006)*, pp. 12, 13. In 2007, the mostly invested were Latvia, Sweden, Russia in Lithuania; see in *Statistics Department of Lithuania (2008)*.

298 *E.g.*, in 2007 investments from Russia made 9,6 % of total FDI in LT, see *Statistics Department of Lithuania (2008)*.

299 See overview in supra § 3A.

300 See *FDI Information (WB Group) (2008)*.

301 Finland, Sweden, Russia are leading investors in Estonia in 2006-2007, *FDI Information (WB Group) (2008)*, also *Statistics Department of Estonia (2008)*.

302 See *Eurostat Information (2008)*. Notably, in R&D intensity growth ranking table of the EU 27 countries Cyprus was leading with 10% and Estonia was followed by Latvia with 7%, as indicated in *Statistics Department of Estonia (2008)*.

303 Within manufacturing (34,5 % of all investments), most of investment in LT fall per oil refinery products and manufacture of chemical products – 48,6 % in 2006, see *Statistics Department of Lithuania (2008)*.

304 Interestingly, although Estonian investments made only 7 % of all investments in LT in 2006 and Latvian investments are not indicated statistically, Lithuanian enterprises invested 34,1 % in Latvian market in 2006. As statistically referred, Latvia, Ukraine and Russia were the main targets of Lithuanian investors in 2003-2006; see *Statistics Department of Lithuania (2008)*.

raw materials and products of chemical industry as well as life sciences are in the scope of foreign investors in Estonia as well[305]. The similar distribution of FDI is observable in Latvia; however, foreign projects are quite modest in the fields of chemicals, electronics or life sciences[306].

Notably, the tendency of growing of FDI into the R&D sector of the Baltic countries is clearly visible; however, the numbers of such investment in view of general FDI made are still modest[307]. Moreover, it should be mentioned that general FDI in the local regions of the Baltic countries is much less than in the capitals[308] which allows forming a view that the regional politics in relation with promoting innovations and research should be better implemented.

IV. Factors promoting the local research and innovation

1. Promoting activities in the Baltic universities

As rightly pointed out in the *Vilnius University Report on Applied Sciences and IP*, the most important factors inducing activities on innovative research on the level of educational institutions would be:

(1) strategic management in the field of technological science[309];
(2) reorganization of scientific forces;
(3) guaranties of priorities of applied research;
(4) country-wide coordination of innovative activities.

Such factors can be likewise applicable to the educational research institutions of other two Baltic countries. It is also important to have a frequent co-operation among the Baltic universities and research institutes and private enterprises[310]. The

305 See *Statistics Department of Estonia (2008)*.

306 Since 2002 the part of investments in the chemicals sectors in LV amount to 5 % and in life sciences sector – to 1 % only, see *FDI Information (WB Group) (2008)*.

307 For instance, FDI in the field of R&D, computers and related activities grew 175 % from 2003 until 2006 in LT, see *Statistics Department of Lithuania (2008)*.

308 *E.g.,* the investments in Vilnius County are almost five times and bigger than in other regions of LT, see *Ibid*. Comparably, the highest number of registered IP rights in 2007 in Lithuania (patents, trademarks, etc.) also refers to Vilnius County, as provided in *Lithuanian Patent Office Information (2008)*.

309 One of the main reasons of the weak management is the fact that universities are not holders, but trustees of their IP rights in Lithuania. Main part of university inventions are sold to foreign partners or published without patenting, as referred by *Mizaras*, Current Key Aspects of Intellectual Property in Lithuania (ATRIP Congress (2008)), p. 2.

310 One of the highest innovation cooperation levels within the EU in 2002-2004 was found in LT (56 % of all innovative enterprises), however, one of the lowest – in LV (18 % only). Private-public co-operation on innovation was most frequent in, *inter alia*, LV and LT as well, see *Eurostat Information (2008)*.