LIFE project no LIFE14ENV/LV000174
LIFE Fit for REACH

Activity A1

Specific Baltic criteria

Description of specific Baltic situation

The chemicals industry in Europe is entering a period of significant change and restructuring of their business models or technological transformations. The current landscape shifts the chemicals innovations towards incremental advances targeted at new solutions for particular problems and increased commercialization of alternative manufacturing technologies. Chemicals and chemistry products are part of the processing industry in countries and boosting the external competitiveness of industry, investment and innovation are the crucial drivers.

Substitution of hazardous substances in industrial production processes and products are in focus to make them useable for the Baltic target group. In this key, the criterion "Baltic factor" incorporates the chemicals landscape development trends in the cross-section of processing industry. Broadly speaking, the "Baltic factor" can represent the Member States progress towards greater competitiveness, as evaluated on three indicators of labour productivity, exports and innovation (in the past five years). By the current level of competitiveness the Baltic States falls in the group of countries with *modest but improving competitiveness* being successful in improving their performance and narrowing the gap with stronger Member States, however, still performing relatively poorly on productivity and innovation (EC, 2014:7). While Estonia and Lithuania are assessed as *moderate innovators*, Latvia falls within the group of *modest innovators* with the innovation performance well below that of the EU average (Innovation Union Scoreboard, 2015). Another facet of the "Baltic factor" is expressed by the consumer perception towards chemical substances and attitude towards their safety, as well as product preferences (Flash Eurobarometer 361: Chemicals, 2013).

We have selected additional indicators to describe the "Baltic factor" in evaluation of substitution cases. Our selection of indicators reflects chemicals and processing industry, SMEs and innovations, economic effects and consumer perception on chemical substances and products containing chemical substances. A set of 17 parameters describe the status in Estonia, Latvia and Lithuania assessed by the background values in other EU Member States (Table 1). By this approach we evaluate the modest, moderate or high levels that characterize the development. The Baltic score is derived by arbitrary levelling of values from individual countries. Methodology and definitions of the indicators are listed in the Annex.

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Table 1: Selection of indicators to describe the "Baltic factor"

modest moderate high

Indicator	Country score			Baltic score
	Estonia	Latvia	Lithuania	
Chemicals and processing industry				
Share of processing industry in gross value added (GVA)				
R&D expenditure in the business sector				
Non-R&D innovation expenditure share of total turnover				
Labour productivity per person employed in manufacturing				
Employment in knowledge-intensive activities				
Energy intensity in industry and energy sector				
The carbon intensity indicator (CO2 emissions in industry)				
Small and medium sized enterprises (SMEs) and innovations				
SMEs innovating in-house (% of all SMEs)				
SMEs product or process innovations (% of SMEs)				
Innovative SMEs cooperating (% of all SMEs)				
Economic effects				
Trade integration in the single market				
Exports of medium and high-tech products				
Sales share of new innovations (% of turnover)				
Consumer perception on chemical substances and products containing chemical substances				
Consumer perception on safety of chemical substances				
Consumer perception on proper testing of products				
Consumer perception on safety of products manufactured in EU				

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Consumer perception on chemicals to a better environment					

Conclusions

Processing industry plays a prominent role in the economy of the Baltics. By the gross value added (GVA), the contribution is 15% in Estonia and 14% in Latvia which is close to the EU average. In Lithuania, the share of 21% to the manufacturing sector is considered as large compared to the EU average (EC, 2014). However, as it is seen from the results in indicators table the Baltic States fall mainly under the modest score regarding development in business sector (chemicals and processing industry; SMEs and innovations). Low-tech and medium-low-tech industries prevail in the sector and labour productivity still remains relatively low. Positively, that the increasing trend has been observed over last years and higher productivity is accounted in technology-driven sectors (EC, 2014).

Investment into innovation is the most crucial factor here for Baltic SMEs. The introduction of new products (goods or services) and processes is still not very common in their manufacturing activities. Medium and high-tech product export is quite low but this is quite obvious because the challenges faced by SMEs seeking to enter third markets are proportionally more difficult than for large companies. R&D expenditure in the business sector in the Baltic States is lower than the average in EU countries but this is particularly important in the science-based sector (pharmaceuticals, chemicals, some areas of electronics).

Rather high concern and quite negative perception on chemical substances and products containing chemical substances is observed among the Baltic consumers; moreover, the poor image of chemicals has been confirmed repeatedly (Special Eurobarometer 360, 2011; Flash Eurobarometer 361, 2013; Special Eurobarometer 416, 2014). Such cautious position is notably different from that compared to the northern neighbouring countries; higher trust in safety of chemicals and products containing chemical substances and manufactured in EU has been found in Finland and Sweden (Flash Eurobarometer 361, 2013). This finding indicates that the industry and SMEs in Baltics may face the challenge to persuade consumers. Targeted communication and dissemination shall focus on strategy to explain efforts by the industry in attempt to increase the chemicals and product safety in order to dissolve the miss-trust from the Baltic consumers.

References

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Flash Eurobarometer 361 (2013): Chemicals. European Commission.

Special Eurobarometer 360 (2011): Consumer understanding of labels and the safe use of chemicals. European Commission: http://ec.europa.eu/public_opinion/index_en.htm

Special Eurobarometer 416 (2014): Attitudes of European citizens towards the environment. European Commission: http://ec.europa.eu/public_opinion/index_en.htm

The Innovation Union Scoreboard (2015): Report. European Commission: http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards/index_en.htm

The Innovation Union Scoreboard (2015): Annex H. Performance per indicator. DG for Internal Market, Industry, Entrepreneurship and SMEs, European Commission

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Annex

Methodology and definitions of the indicators

Name of Indicator	Definition	Score
Share of processing industry in gross value added	Contribution of manufacturing as a percentage of gross value added. Manufacturing sectors include: wood, paper and printing; food, beverages and tobacco; metals; chemicals, pharma, petroleum, minerals and rubber; electronics, electrics and machinery; textiles, apparel and leather; cars and transport; other. [Source: EC, 2014:16; data source - Eurostat]	0-10% - modest 10-20% - moderate >20% - large
R&D expenditure in the business sector	R&D expenditure in the business sector as % of GDP; captures the formal creation of new knowledge within firms; particularly important in the science-based sector (pharmaceuticals, chemicals, some areas of electronics). [Source: Innovation Union Scoreboard, 2015:H10; 2.1.1] EU28=1.29%, EE=0.76, LV=<0.25, LT=<0.25	0-0.5% - modest 0.5-1.0 – moderate >1 - large
Non-R&D innovation expenditure	Non-R&D innovation expenditure as % of total turnover; several components of innovation expenditure (investment in equipment and machinery, acquisition of patents and licences) measure the diffusion of new production technology and ideas. [Source: Innovation Union Scoreboard, 2015:H11; 2.1.2] EU28=0.69%, EE=~1.6, LV=1.4, LT=~1.1	0-0.5% - modest 0.5-1.0 – moderate >1 - large
Labour productivity per person employed in manufacturing	Labour productivity per person employed in manufacturing (1000 PPS). EU28=55.2, min=28.6, max=146.1 EE=28.6, LV=34.6, LT=52.4	<40 – modest 40-60 – moderate >60 - good
Employment in knowledge-intensive activities	Employment in knowledge intensive activities (manufacturing and services) expressed as % of total employment. EU28=13.9, min=6.5, max=20.5 EE=10.8, LV=10.3, LT=9.1	<10 – modest 10-15 – moderate >15 - good
Energy intensity	Energy intensity in industry and the energy sector, expressed in kg oil eq./euro GVA; reference year 2005. Five sectors in particular stand out as energy intensive industries: iron and steel industry and non-ferrous metals; manufacturing of paper and paper products; manufacturing of non-metallic minerals; manufacturing of chemicals and chemical products;	0-0.2 – good, 0.2-0.3 – moderate >0.3 - modest

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	manufacturing of pharmaceuticals. [Source: EC, 2014:38;270; data source – Eurostat] EU28=0.179, min=0.076, max=0.594 EE=0.253, LV=0.356, LT=0.419	
The carbon intensity indicator	CO2 emissions in industry (including construction), from industrial processes and from solvent and other product use in industry; and CO2 emissions in energy sector, expressed in kgCO2/ euro GVA; reference year 2005. [Source: EC, 2014:270; data source – EEA, Eurostat] EU28=0.871, min=0.324, max=5.531 EE=4.112, LV=1.258, LT=1.367 Member States with important service sectors and high value added manufacturing tend to have a lower degree of CO2 intensity	0– 1.5 – good, 1.5-3.0 – moderate >3.0 - modest
SMEs innovating in-house	SMEs innovating in-house as % of all SMEs; measures the degree to which SMEs that have introduced any new or significantly improved products or production processes have innovated in-house. [Source: Innovation Union Scoreboard, 2015:H12; 2.2.1] EU28=28.7%, EE=~27, LV=<15, LT= <15	0-15% - modest 15-30 – moderate >30 - good
SMEs product or process innovations	SMEs introducing product or process innovations as % of SMEs; technological innovation, as measured by the introduction of new products (goods or services) and processes, is a key ingredient to innovation in manufacturing activities. [Source: Innovation Union Scoreboard, 2015:H19; 3.1.1] EU28=~30%, EE=~33, LV=~15, LT= ~15	0-20% - modest 20-35 – moderate >35 - good
Innovative SMEs cooperating	Innovative SMEs cooperating with others as % of all SMEs; measures the degree to which SMEs are involved in innovation cooperation; measures the flow of knowledge between public research institutions and private firms, and between firms and other firms. [Source: Innovation Union Scoreboard, 2015:H13; 2.2.2] EU28=10%, EE=>15, LV=<5, LT= ~7.5	0-7.5% - modest 7.5-15 – moderate >15 - good
The single market	Trade integration in the single market; shows the relative openness to trade of MS. The ability of the single market to work as an integrated area that is favourable to entrepreneurship and commerce is essential to growth and innovation in European industry, in particular for SMEs. [Source: EC, 2014:43; data source – Eurostat]	0-25% - modest 25-50% - moderate >50% - high

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	EU28=25.98; min=14.28, max=69.43 EE=59.95, LV=44.23, LT=48.70	
Exports medium & high-tech products	Medium and high-tech product exports as % of total product exports; measures the technological competitiveness – the ability to commercialize the results of research and development (R&D), and innovation in the international markets; also reflects product specialization by country. [Source: Innovation Union Scoreboard, 2015:H23; 3.2.2] EU28=53%, EE=42, LV=30, LT=30 The challenges faced by SMEs seeking to enter third markets are proportionally more difficult than for large companies. So far, only about 14 % of SMEs in the manufacturing sector export goods to other Member States and about 10 % export goods to countries outside the EU. In general, exporting SMEs are more competitive, since they also tend to be more productive, more innovative and have a more skilled workforce. The EU seeks to encourage a business-friendly environment, eliminate non-tariff barriers with third countries, harmonise standards and strengthen the rule of law (EC, 2014).	0-30 – modest 30-60 – moderate >60 - high
Sales share of new innovations	Sales of new-to-market and new-to-firm innovations as % of turnover; measures the share of turnover accountable to new or significantly improved products (includes new products to the company and new products to the market). [Source: Innovation Union Scoreboard, 2015:H25; 3.2.4] EU28=12.4%, EE=8, LV=5, LT= 5.5	0-7.5% - modest 7.5-15% - moderate >15% - high
Consumer perception on safety of chemical substances	The safety of chemical substances on the EU market today (2012) compared to 10 years ago [Source: Eurobarometer 361:51] EU27=61%, EE=46, LV=41, LT= 42 EU15 countries are overall more likely to express the view that chemical substances on the EU Market today are safer than they were 10 years ago than are NMS12 countries (65% and 49% respectively).	<50 – modest 50-70 – moderate >70 - high
Consumer perception on proper testing of products	Proper testing of products containing new chemical substances in the EU, respondents “agree” [Source: Eurobarometer 361:59] EU27=65%, EE=64, LV=68, LT= 57	<60 – modest 60-70 – moderate >70 - high
Consumer perception on safety of products manufactured in EU that contain	Products manufactured in EU contain safer chemical substances than products imported from countries outside EU [Source: Eurobarometer 361:54]	<40 – modest 40-50 – moderate >50 - high

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chemical substances	EU27=49%, EE=34, LV=30, LT= 28	
Consumer perception on chemicals to a better environment	New chemical substances can help in contributing to a better environment [Source: Eurobarometer 361:40] EU27=43%, EE=45, LV=44, LT= 40	<40 – modest 40-50 – moderate >50 - high

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