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1 Executive Summary

1.1 Objective of the deliverable

The objective of this deliverable is to report on the regional economic fabric of the 7 regions. The report uses a common template for the 7 regions so each partner can develop regional reports with the same structure and information, including a detailed SWOT analysis. This first report on the targeted regions will provide a baseline to support the development of the following reports on the regions later on:

- A contextual analysis of regional innovation policies and strategies in terms of Innovation-led growth paths (Deliverable 1.5).
- List of selected measures for good practice case studies (Deliverable 1.6)
- An inventory of R&D&I support measures and an impact analysis on regional SMEs, using primary and secondary data (Deliverable 1.7).
- Innovation pathways of SMEs in traditional sectors (Deliverable 1.8)

These reports will be complemented by a global analysis at EU level of R&D&I support measures and their impact on the transition of regions from traditional to knowledge based economies on WP2.

Resulting from this research study, a set of recommendations regarding more efficient R&D&I measures will be produced and validated at European level, while the participating regions will serve as a test bed for their implementation by including them in the Local Action Plans to be developed and implemented by the UNIC project.

1.2 Identifying a "traditional sector"

Our concern is with "traditional manufacturing sectors". We do not define "traditional" only - or even mainly - according to the standard OECD classification of industries as "high", "medium" or "low-tech".1 This approach does not capture the complexities of traditional industries nor does it show the dynamic nature of the firms. For instance, some traditional industries may be low-tech but others are not (e.g., automotive). Indeed, once we define industry at a level meaningful to practitioners - say, at the SIC 4-digit level - characterization of whole industrial sectors as "high", "medium" or "low-tech" may be misleading.

For example, pottery/ceramic products in SIC 262 includes sectors that may operate at different levels of R&D intensity (e.g., SIC 2621 – manufacture of ceramic household and ornamental articles - and SIC 2624 – manufacture of technical ceramics).2 Moreover, even

¹ These categories are defined by research and development 'intensities' – that is, OECD average shares of research and development expenditure in sales revenue – of, respectively, more than 10 per cent, between 0.9 and 10 per cent, and less than 0.9 per cent.

² In the British Standard Industrial Classification (SIC), which follows the same classification principles as the EU NACE classification, the principal pottery/ceramic products in SIC 262 comprise SIC 2621 – manufacture of ceramic household and ornamental articles, including table ware, kitchen ware, ornamental articles and toilet articles (excluding large sanitary fixtures); SIC 2622 – manufacture of ceramic sanitary fixtures; SIC 2623 and 2624 – manufacture of technical ceramics; and SIC 2626 –

the same 4-digit industry may include substantially different intensities with respect to R&D and other types of innovation activity (e.g., commodity earthenware producers and specialists in hotel ware).

Our preferred approach to defining "traditional industry" is multi-dimensional, reflecting not only measurable characteristics but also a range of concerns or anxieties.

We define as "traditional" those manufacturing industries with at least the majority of the following characteristics.

Long established. Traditional implies history. One interpretation would be that the industry should have been established at least during the inter-war years (1918-1939) if not before. This is sufficiently broad to include, say, the motor industry but to exclude, say, computing. Most of the industries in which we are interested have been established for much longer, such as leather.

Strictly speaking, age is both a necessary and sufficient condition for an industry to be classed as "traditional", which suggests the major theme of longstanding processes or products. However, we are also interested in industries with at least some of the following characteristics:

Once a - even the - main source of employment at the sub-regional level (possibly even the regional level in certain cases).

In the mature or declining phase of the industry life-cycle, with recent decline typically associated with globalisation. Because these industries are long established, knowledge has diffused and enabled production to develop in and/or be relocated to new locations with lower costs. This applies to at least some of our industries (e.g., ceramics) although not necessarily to all (maybe food processing?).

Labour intensive, so that relocation of production to low-wage economies has particularly serious consequences for manual employment in the (sub) regional context. Of course not all aspects of production may be out-sourced to low-wage economies such as design and marketing. However, a key element of the traditional nature of the industries is that some or most of the repetitive, low-skilled, manual work is indeed out-sourced from EU countries.

Major sources of wealth creation and employment in regional (or, at least, subregional) economies. In spite of recent decline, the traditional industries in which we are interested continue to be important to regional or, at least, sub-regional economies.

Retain capacity for innovation, hence the potential to continue as important sources of wealth creation and employment. This issue can be linked to the core competencies where firms will retain what can add value (make strategy) and outsource what the market can produce more cheaply and/or efficiently (buy strategy). Conversely, traditional industries may be ones in which "conditions of low

manufacture of refractory ceramic products (CSO, 1993). Related industries, but outside SIC 262, include the manufacture of ceramic tiles and flags (SIC 2630) as well as bricks, tiles, and construction products (SIC 2640).

technological opportunities limit innovative entry and restrict the innovative growth of successful established firms" (Breschi et al., 2000, p.393).

Recent and often dramatic decline is why we are especially concerned with traditional industries because traditional industries often remain important sources of wealth creation and employment in regional (or, at least, sub-regional) economies they are of concern to public policy; and capacity for innovation is likely to be both a feature of any industry that survives long enough to be classified as traditional and a necessary condition for a positive return on public sector support for these industries.

This potential for innovation may be more associated with particular industry groups (at the NACE/SIC 3-digit and/or 4-digit levels) firms than with the industry as a whole and, possibly, with SMEs rather than with larger and established industry leaders. Accordingly, we should also be careful to distinguish high-tech and dynamic industries or even firms within broadly defined traditional sectors.

Evidence of significant capacity to diversify from within a traditional industry towards new, high-growth activities: i.e., the possibility of high-tech and dynamic industry groups emerging within broadly defined traditional sectors. Sectors defined at the NACE/SIC 2-, 3- or even 4-digit level may be sufficiently heterogeneous to give rise to industry groups able to diversify into new technologies and products.

An example is the textile industry that as well as the "rag trade" has also witnessed the growth of technical textiles. The general point is to note significant diversification from within traditional industries towards new, high-growth activities.

Additional characteristics, although not necessary conditions, of traditional manufacturing industries might also be:

Substantial contribution to regional (or, at least, sub-regional) **exports**, even if the industry has recorded a deteriorating trade balance as part of overall decline associated with growing competition from imports.

Geographically concentrated; traditional industries may or may not be geographically concentrated and so constitute a "cluster". This characteristic can vary between industries where economies of agglomeration are useful for some industries, such as ceramics, but not others.

2 Saxony-Anhalt - Germany

2.1 Economic context of the region

<u>History</u>

The first important happenings for the regional development of Saxony- Anhalt took place during the Middle Ages. It started in 919 a. Chr. when Duke Henry was elected the first German king. Following a series of victories in battles, Henry was able to thwart his adversaries. Under the leadership of Henry and his ottonean followers, the region developed to a political, economic and cultural centre of the Empire. After the death of Henry, his son Otto I. became king of the empire. He developed Magdeburg to the centre of empire and imperial seat of residence. According to that the region became even more important than under Henry's leadership. After his death his followers couldn't continue his endeavors. Another important achievement of the Middle Ages was the codifications of the Magdeburg rights by Archbishop Wichmann (1115 - 1192), which contributed in the Magdeburg town law. Later on, in the 13th century the administrator Eike von Repgow composed the "Mirrow of the Saxons" an important law book dealing with civil and criminal law as well as with procedural an constitutional law. The 16th century started with the establishment of one of the oldest university of the German speaking regions, the University of Wittenberg. In the following years Wittenberg became an important city for Germany and the church as Martin Luther published his 95 thesis, which was followed by the momentous Reformation movement. In 1654 Magdeburg's mayor and natural scientist Otto von Guericke (1602 - 1686) conducted his famous hemisphere experiment before the Imperial Diet in Regensburg proved the existence of vacuums. His discovery of vacuum force led to the invention of the steam engine and the air pump, and laid the foundations for experimental physics. During the Prussian Province of Saxony, in the 19th century the industry of the region was booming. Magdeburg developed to a centre of mechanical engineering, the chemical industry especially the production of fertilizer and the mining of brown coal around Halle led to an increasing importance of the whole region. The copper industry around Mannsfield is probably the oldest industry of the region as bronze was already mined in the Bronze Age.

The food industry of Saxony-Anhalt started to grow in the 19th century as sugar was processed in 163 factories (356 factories in Germany). Because of the location of Magdeburg in the centre of the German empire the province of Saxony-Anhalt was connected to all important traffic systems.

In the 20th century, in the Merseburg - Bitterfeld - Dessau region the modern chemical industry and other sectors that became an area where innovation plays a pivotal role were developed. Thus as early as in 1930, Hugo Junkers constructs the first light metal aircraft in Dessau. In 1936 the Buna works are founded following the introduction of synthetic rubber, AGFA in Wolfen produces the first colour film in the world and the productions of ammonia by BASF leads to the expansion of the Leuna works.¹⁾²⁾

¹⁾ cf. http://www.sachsen-anhalt.de/LPSA/index.php?id=20712

²⁾ Mathias Tullner, Geschichte des Landes Sachsen-Anhalt,3. überarbeitete und erweitere Auflage, Landeszentrale für politische Bildung Sachsen-Anhalt, Magdeburg 2001

As the Second World War draws to an end, the cities of Magdeburg, Dessau, Halberstadt, Merseburg and Zerbst, all located in Saxony-Anhalt, are largely destroyed in air raids. The swearing in of the first Federal Government on 20 September 1949 completes the establishment of the Federal Republic of Germany. This is followed on 7 October by the foundation of the German Democratic Republic. Germany is now divided into two states. On 3 October 1990, Germany is reunified. Saxony-Anhalt is re-established as a state. After the collapse of the GDR, Saxony-Anhalt has been almost completely deindustrialised. Complete industrial branches such as mining or the brown coal sector, where 1960 one tenth of the world production had been created, lost their position. At the same time the employment in the agriculture sector decreased.¹⁾²

Facts and Figures

The state of Saxony-Anhalt, comprises 20.447 square kilometres and has 2.381.872 inhabitants (2008 – compared to 1995 -13%2)) which equates a density of population of about 116 inhabitants per square kilometre. $^{3)4)}$

Over the last decades Saxony-Anhalt records a decreasing birth rate and an increasing emigration especially of highly educated students. The following graphic illustrates the dramatic structural changes of inhabitants in Saxony-Anhalt.



Figure 1: Age structure of Saxony-Anhalt in 1990 and 2008⁵⁾

¹⁾ cf. http://www.sachsen-anhalt.de/LPSA/index.php?id=20712

²⁾ Mathias Tullner, Geschichte des Landes Sachsen-Anhalt, 3. überarbeitete und erweitere Auflage, Landeszentrale für politische Bildung Sachsen-Anhalt, Magdeburg 2001

³⁾ cf. Regionalstatistik 2009, Industrie- und Handelskammer Halle-Dessau (IHK), October 2009

⁴⁾ cf. http://www.sachsen-anhalt.de/LPSA/index.php?id=21182

5) Sachsen-Anhalts Wirtschaft im Wandel der Zeit –

Ministerium für Wirtschaft und Arbeit- Referat 16, Octobre 2009

Saxony-Anhalt is located in the centre of Germany. Magdeburg, the state capital and seat of government, is located in the northern half of the state. The largest city, Halle (Saale) is located in the south of Saxony-Anhalt and has 229,000 inhabitants. A well-constructed federal highway system, four motorways and an excellent rail-network is complemented by the airport Leipzig / Halle as well as important shipping lanes on the Elbe and Saale rivers and the Mittelland and Elbe-Havel canals.¹⁾



Figure 2: Location of Saxony-Anhalt in Germany¹⁾ Figure 3: Saxony-Anhalt²⁾

The landscape of Saxony-Anhalt is very diverse, starting from the plain areas in the northern Altmark to the Harz Mountains, where the Brocken is the highest mountain with 1141 meter. The "National Park upper Harz", the Bio reserve "Central Elbe" and the "Saale-Unstrut Valley" (The most northern wine region in Europe) are nature protection areas. The Elbe one of the most important central European shipping routes is passing Saxony-Anhalt in a length of 303 km. The biggest lake is the Arendsee with a size of 510 hectares.³⁾

¹⁾ http://www.sachsen-anhalt.de/LPSA/index.php?id=21182

²⁾ http://www.kit-initiative-deutschland.de/UserFiles/image/Karte_Sachsen-Anhalt.gif

³⁾ http://cdu.eckpunkt.de/karten/images/sachsenanhalt_karte_neu.gif

- 4) SWOT Analysis and Benchmarking Study Saxony-Anhalt, Part I, isw Gesellschaft für wissenschaftliche Beratung, June 2004
- 5) http://www.sachsen-anhalt.de/LPSA/index.php?id=21182

Saxony-Anhalt has two universities, the Martin Luther University Halle/Wittenberg and the Otto von Guericke University Madgeburg as well as eight Universities of Applied Sciences that offer high quality education. In addition that there are important research institutes like the Leibniz Gemeinschaft, the Max Planck Society, the Helmholtz Society and the Fraunhofer Society.⁴⁾

The gross domestic product of Saxony-Anhalt increased in 2008 by 3.9 percent to 53,6 billion euros. Whereas the main fields of industrie in Saxony-Anhalt are: Chemistry / plastics industry, mechanical and process plant engineering, food industry, automotive supply industry, renewable energies and logistics.

The average income level in Saxony-Anhalt in 2007 was about 14.332 euro per inhabitant/year. In 2008 the immigration rate was 1,8 percent and the unemployment rate was 14,0 percent.



Figure 3: Available Income per Person²⁾

cf. Business Location Saxony-Anhalt, IMG Investment and Marketing Corporation of Saxony-Anhalt
 Zahlen Daten Fakten 07/2009, Statistisches Landesamt Sachsen-Anhalt

The government of Saxony-Anhalt is putting a lot of effort into innovation strategies and development. Thus they designed eight strategic guiding principles to improve the economy of Saxony-Anhalt and to reduce economic differences to western Germany¹):

- Expanding existing innovation focus and acting on new topics
- Perfecting innovation-oriented infrastructure and supporting established work
- structures (cooperation, networks, cluster approaches)
- Strengthening and stabilizing contributions of universities and universities of applied sciences and non-university research facilities as innovation and economic factors
- Improve processes in the knowledge and technology transfer
- Training skilled workers specifically for requirements of the industry and further qualifying them
- Support and strengthen innovative knowledge- based business formations during the launch phase (www.egoinnovativ.de)
- Further developing inter-agency integrated use of land funding
- Continuing interlocking of land funding with federal government competitions and specifically using EU funding

___1) Innovation Location Saxony-Anhalt, Corporation Saxony-Anhalt Investment and Marketing, 2009

2.2 SME profiling in the region

2.2.1 SME situation in the region

SMEs are important for the German economy. Thus Saxony-Anhalt prioritises its EU fundings (2007-2013) on the growth of SMEs. In addition to the goal of increasing growth and employment, building upon existing strengths is also being consistently supported. The state is focusing most on research, development, innovation, education, promotion of investment and reducing financial hurdles for companies. The measuring sticks for all of its activities are growth and employment.²

In 2008 a total of 80.742 companies existed. 99,7 % of these companies were SMEs structured according to employees as followed^{2):}

0-9 employees	70357 companies	
10-49 employees	8092 companies	
50-249 employees	2023 companies	

Caption of economic branches for the following illustrations:

- B Mining
- C manufacturing industry
- D electrical power supply
- E water supply, effluent- and waste disposal and disposal of environmental pollution
- F building and construction industry
- G trade, maintenance and repairing of vehicles
- H Transportation and storage
- I hotel and restaurant industry
- J information und communication
- K Financial and insurance services
- L Real Estate
- M freelance, academic and techniqual services
- N other economic services
- P education
- Q health care and social affairs
- R art, entertainment and regeneration
- S other services







Percentage of companies

Figure 5: economic banches of Saxony-Anhalt due to the number of employees¹⁾

1) Statistische Berichte, Unternehmen und Arbeitsstätten, Auswertung aus dem Unternnehmensregister, Statistisches Landesamt, Dez. 2008

As shown in the figures above the most companies in Saxony-Anhalt are in branches of the building and construction industry (15,5%) as well as in trade, maintenance and repairing of vehicles (20,6%). The manufacturing industry to which our traditional sectors are belonging has 7,1% of companies compared to all companies of Saxony-Anhalt.

In Figure 5 the structure of the companies according to the number of employees is presented and underlines the fact that 99.7% of all companies are SMEs in Saxony-Anhalt.

2.2.2 SME in traditional sectors

Especially businesses from traditional sectors always played an important role for the economy of Saxony-Anhalt and its reputation in history. Already at the beginning if the German state the location in the middle of the empire has led to an economic centre of interest. Due to historical influences this important role of Saxony-Anhalt's economy changed a lot and needed to be re-established. A lot of SMEs in the traditional sector developed and generated a lot of jobs.

Sector and SIC (2003) [†] Main traditional sector characteristics		Food	Metallurgy / Mechanical engineering	Automotive
1.	Long established	Yes	Yes	Yes
2.	Main source of employment (at least in certain sub-regions) [‡]			
		Yes	Yes	Yes
3.	Mature and declining	Yes	Yes	No
4.	Labour intensive (relative to the average for manufacturing industry in the region)			
	, , , , , , , , , , , , , , , , , , ,	Yes	Yes	?
5.	Main source of wealth creation (at least in certain sub-regions)	Vee	Vee	Ves
		Yes	Yes	Yes
6.	Innovation capacity	Yes	Yes	Yes
1.	high-growth activities	?	Yes	Yes
8.	Export-led contribution	No	Yes	Yes
9.	Cluster location (relevant for at least significant industries within the sector)			
		Yes	Yes	Yes

Table 1. Traditional manufacturing sectors in the Saxony-Anhalt: traditional characteristics matrix *

* Indicative only: some cells are based on informed guesses rather than research.

Source: sector analyses + sector table 2(see below)

Mechanical/Metallurgy - C24

In the history of Saxony-Anhalt especially the region around Mannsfield was important for the metal industry as copper was already mined in the Bronze Age.

The Mechanical/Metallurgy of Saxony-Anhalt is characterised by working industry which is above average compared to other countries.¹⁾

Mechanical engineering C28

Saxony-Anhalt has been the source of much innovation during the course of a long tradition of mechanical engineering, which dates back to the early days of industrialisation. Following a difficult period of restructuring in the early 1990s, mechanical engineering is once again a growth industry in the state, thanks to wide-ranging investment, and the development of new products and new markets.

In Saxony-Anhalt, the industry typically comprises medium-sized enterprises specialising in meeting the particular needs of the customer, with the emphasis on low-volume production, an extensive range of product-related services and high quality assurance standards.

A broad range of innovative products is available, from agricultural machinery to specialised equipment for high-precision production processes in the aerospace industry. Key specialisations include hoists and conveyors, the manufacture of pumps and compressors, the machine tool industry and the construction of windpower plants.¹⁾

Successful companies in Saxony-Anhalt are²:

- ENERCON GmbH
- SKET Maschinen- und Anlagenbau GmbH
- FAM Magdeburger Förderanlagen und Baumaschinen GmbH
- MAP Werkzeugmaschinen GmbH
- Laempe & Mössner GmbH
- G.M.W. Präzisions GmbH & Co. KG

Core areas of R&D in Saxony-Anhalt:

- Virtualisation of products and processes, strategic product planning
- Individual, customised, product integrated solutions up to complete solutions (for example Virtual Development and Training Centre, www.vdtc.de)
- Product development and innovation centre for integrated manufacturing cell of rotation conditioning

- cf. http://www.sachsen-anhalt.de/LPSA/index.php?id=22601
- cf. http://www.invest-in-saxony-anhalt.com/Automotive.87.0.html?&L=1 cf. http://www.mahreg.de/
- 1) 2) 3) 4)
- cf. http://www.sachsen-anhalt.de/LPSA/index.php?id=22601

Automotive industry C29

Saxony-Anhalt has a strong tradition in the automotive supply industry:

Magdeburg has long been a centre of German plant and machine construction, foundry technology has important historical links with the Harz region, and Dessau enjoys a reputation for high standards in the field of automotive engineering. Companies collaborate with the universities in Magdeburg and Halle with universities of applied sciences and eminent scientific societies and in the MAHREG-Automotive skills network in their pursuit of gaining a competitive edge through innovative materials and processes (such as lightweight construction and diecasting technology).

The Core competencies are: light metal casting, engineering services, powder metallurgy, high performance composites, custom machines and lightweight construction.1)2)

One important network for the automotive branche of Saxony-Anhalt is, as already mentioned MAHREG Automotive. It was initiated by the registered association Sachsen-Anhalt Automotive e.V. and is one of the InnoRegio-initiatives giving "innovative impulses for the region", which was started by the Federal Ministry of Education and Research (BMBF).

The competence network MAHREG has transformed into a brand name for automotive competencies of Saxony-Anhalt and represents a wide range of products and services of suppliers located in Saxony-Anhalt and the 68 members of MAHREG.

Resulting from the intensive work up till now, the network was able to generate numerous MAHREG-projects, such as application of information and communication technologies, the utilisation of modern network-management-methods including constant qualification or the usage of new materials and procedures (micro system technology, nano technology and others).³⁾

Core areas of R&D in Saxony-Anhalt:

- lightweight technology
- material development technology for high performance material, development of sandwich materials and enhancements of aluminium materials
- development and testing of modern power engine
- electric mobility electric power engine and accumulator technology

1) cf. http://www.invest-in-saxony-anhalt.com/Automotive.87.0.html?&L=1

Food industry C10/C11

The food industry in Saxony-Anhalt is its most important business sector in terms of turnover and employment, and consequently plays a pivotal role in the state's industrial structure. It owes this success to the state's highly-productive agricultural industry and to the premium-quality primary products on its doorstep.

Around 1.2 million hectares are used for agriculture, of which around 85% is arable land (the highest proportion in Germany). The agriculture is specialized on grain cultivation as it is planted on more than half of the arable land (especially wheat and barley).²)

Traditional brands are manufactured by the following companies, amongst others:

- Abtshof Magdeburg GmbH
- Burger Knäcke AG Burg
- Halko Halberstädter Würstchen- und Konservenfabrik GmbH
- KATHI Rainer Thiele GmbH Halle
- MITTELDEUTSCHE ERFRISCHUNGSGETRÄNKE GMBH & CO KG(Leisslinger)
- Libehna Fruchtsaft GmbH Raguhn
- Röstfein Kaffee GmbH Magdeburg
- Rotkäppchen Sektkellerei GmbH & Co. Freyburg
- Salzwedeler Baumkuchen
- Zörbiger Konfitüren GmbH
- Hasseröder Brauerei GmbH Wernigerode

1) cf. <u>http://www.img-sachsen-anhalt.de/Food-Industry.93.0.html?&L=1</u>

2.3 SWOT Analysis

2.3.1 Strengths, Weaknesses, Opportunities and Threats

Strongth	Woaknossos
Strength	Weakilesses
 location of Saxonoy-Anhalt in the middle of Germany/Europe re-emergence of new companies after Germany has been reunified a good economic structure of cluster and networks research and development and its good cross-linkage of research institutes Mechanical/Metallurgy/mechanical engineering good linkage between companies and research institutes¹¹ regional networks for example SMAB Sondermaschinen & Anlagenbau Automotive regional networks for example MAHREG and ACOD Food production regional networks for example Netzwerk Ernährungswirtschaft 	 a lot of micro-enterprises a lot of extended workbenches without R&D in Saxony-Anhalt population decrease and emigration of educated stuff (no attractive major enterprises) conditions for R&D and the transfer is compared to the other districts of Germany improvable but the achievements are thec worst in Germany (Figure 6) labor productivity is compared to other districts of Germany low³ Mechanical/Metallurgy/mechanical engineering lag of qualified employees in the future due to population decrease and emigration
	Food production o lag of qualified employees in the future due to population decrease and emigration
Opportunities	Threats
 end of structural funds – internationalisation by new funding instruments a lot of start-up support decrease of administrative district→ decrease of bureaucracy 	 production of goods in East Europe/China competition Mechanical/Metallurgy/mechanical engineering international competition
Mechanical/Metallurgy/mechanical engineering ○ crosslinkings to universities and research institutes → futher innovative developments Automotive ○ crosslinkings to universities and research institutes → futher innovative developments	 Automotive international competition Food production discount products from large companies may reduce competitiveness of local products

|--|

- 1) Maschinen-und Anlagenbau, Investitions-und Marketinggesellschaft Sachsen-Anhalt
- 2) Das Ernährungsgewerbe in Sachsen-Anhalt, Nord LB, Dez. 2009
- 3) Wirtschaft Sachsen-Anhalt, Stärken-Schwächen-Analyse, Nord LB, Sept. 2007



Figure 6: conditions and success of R&D of German districts compared¹⁾

2.3.2 Final considerations

The prospects of innovation are promising in Saxony-Anhalt. To assure the growth of innovation the government needs to face the problems of population decrease and emigration. In addition they should put further effort into innovation and R&D especially to enable SMEs to use R&D. Otherwise there will be a lack of educated employees which will lead to innovation decrease. Furthermore Saxony-Anhalt needs to focus on competitive products and services as well as on implementing innovation in companies.