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Lower Silesian Smart Specialisation Strategy – natural
resources and secondary raw materials

Michał Frycz

Senior specialist at the Marshal's Office of Lower Sielsia

Michal.frycz@umwd.pl

Lower Silesia – facts and figures

Area: 19 946,77 km²

Inhabitants: 2 902 400 (June 2017)

Unemployment rate: 6,1 %
(September 2017)

Workforce: 1 018 000 (5th place in
Poland)

GDP (2014) – 145,5 BLN PLN

8,5 % of national income

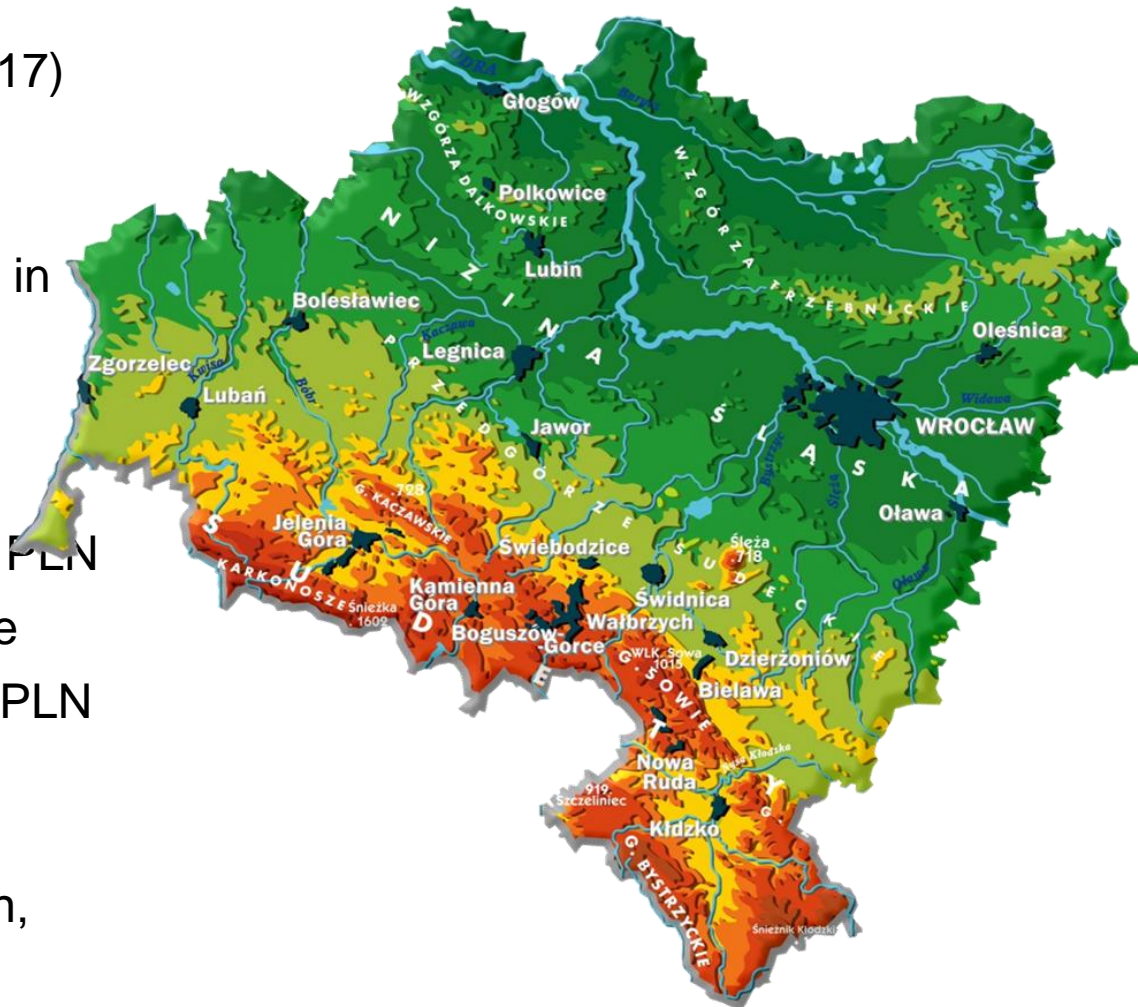
GDP per capita (2014) – 50 031 PLN

112 % of average national income

Average monthly salary: 4 385 PLN
(2016)

(4th place in Poland)

Main cities: Wrocław, Wałbrzych,
Legnica, Jelenia Góra, Głogów



Vision: CLOSE TO EACH OTHER – CLOSE TO EUROPE

Lower Silesia 2020 as an integrated regional community, competitive region, coherent, open, dynamic...

OBJECTIVE: MODERN ECONOMY AND HIGH QUALITY OF LIFE IN ATTRACTIVE ENVIRONMENT:

- ❑ Concentration of innovative manufacturing and service entities cooperating with developed research sector
- ❑ Intense development of a modern tourism based on the interregional and trans – boundary cooperation
- ❑ Creating attractive places to live for residents with increasing qualifications and developed civil culture

Mission and vision

Lower Silesia – an inspiring place for innovation

- Lower Silesia is among the Polish innovation leaders
- Lower Silesia is a region of high living standards and exceptional possibilities
- Lower Silesia is a region with favourable conditions for the creation, diffusion and absorption of innovations
- Lower Silesia – a region with consistent and flexible higher and continuous education system directed at economy needs
- *Wrocław Metropolitan Area* – the leading centre of regional economic and innovative development

Strategic objectives

Strategic objective 1:

Strengthening of innovative skills and attitudes, which are of key significance for the knowledge based economy

Strategic objective 2:

Increased chance for the success of innovative business projects

Strategic objective 3:

Increase of innovative potential of Lower Silesia region scientific institutions

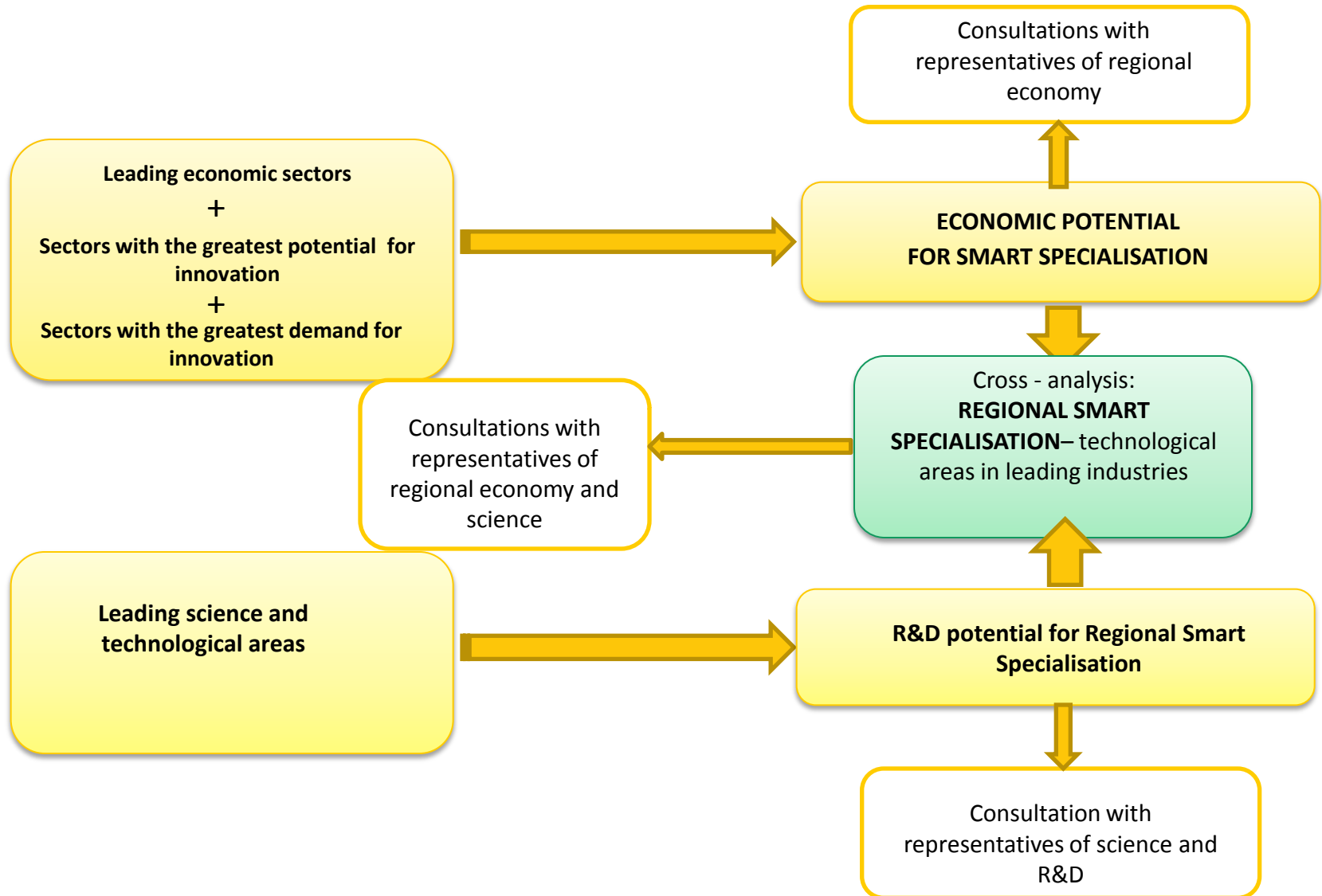
Strategic objective 4.

Development of cooperation in the economy in the innovation area

Strategic Framework for Smart Specialisations of Lower Silesia



PROCESS OF IDENTIFYING SMART SPECIALISATION



WORK SCHEDULE 2015

February

- Preliminary version of the document „The strategic framework for smart specialisation of Lower Silesia Voivodeship”
- The establishment of working groups on regional smart specialisations

March

- Recruitment for working groups

April

- The appointment of six working groups

April-
May

- Three rounds of meetings of working groups – working on document „The strategic framework for smart specialisation of Lower Silesia Voivodeship”

June

- The adoption of the worked out version of the document

June-
July

- Public consultation of the document

August

- The adoption by the regional board of the final version of the document

Chemical and pharmaceutical industry

Spatial mobility

High quality food

Natural resources and recyclable materials

Machines and equipment manufacturing, material processing technologies

Information and communication technologies ICT)

AREAS OF LOWER SILESIA SMART SPECIALISATIONS

CHEMICAL AND PHARMACEUTICAL INDUSTRY (biomaterials, genetic engineering, nanocarriers, drug delivery systems)

SPATIAL MOBILITY (auto parts, airplane and components for aviation production)

HIGH QUALITY FOOD (biotechnology, bioactive food components and prevention of lifestyle diseases, food technology, biomedical preparations)

NATURAL RESOURCES AND RECYCLABLE MATERIALS (photonic technologies, nanotechnology, measurement technology, raw materials as functional additives for composites, polymers, advance waste recovery technologies, sensors in the control systems of technological processes of extraction)

MACHINES AND EQUIPMENT MANUFACTURING, MATERIALS PROCESSING TECHNOLOGY (nanotechnology, polymers, material technologies for equipment used in extreme conditions)

INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) (programming, mobile applications, internet of things)

- 1. Natural resources (acquisition, advanced processing and use):**
 - a) technologies for acquisition, processing and use of mineral resources,**
 - b) technologies for acquisition of new products from the main mineral,**
 - c) integrated systems for monitoring of threats in the vicinity of mining plants,**
 - d) technologies for acquisition, purification and use of ordinary, thermal and mineral waters,**
 - e) technologies for acquisition, processing and use of wood and plant materials in innovative products,**
 - f) new therapeutic and spa services based on the use of natural resources.**

2. Technologies for useful materials recovery, recycling and waste treatment.

3. Advanced materials:

- a) new forms of raw materials (powders, microstructures, nanostructures, amorphous materials, etc.),**
- b) composite materials,**
- c) intelligent materials,**
- d) materials for industrial applications,**
- e) design and development of technology for manufacturing materials of functional properties.**

NATURAL RESOURCES AND RECYCLABLE MATERIALS = Lower Silesia SMART SPECIALISATION

strong global enterprises

natural resources wealth in the region, including deposits of extrusive igneous rocks (e.g. basalt),

flourishing research units and R&D institutions as well as modern infrastructure

chain of laboratories operating by research units and R&D centres

business environment institutions and industrial parks operating in the region

strong business environment institutions to attract businesses from outside Lower Silesia

great consolidation of R&D environment

DIAGNOSIS AND DEVELOPMENT TRENDS OF THE LOWER SILESIAN SMART SPECIALISATION - NATURAL RESOURCES AND RECYCABLE MATERIALS

Content of the diagnosis

- 1) **Characteristics of the industry**
- 2) **Institutions supporting the industry**
- 3) **Analysis of the effectiveness of public intervention**
- 4) **Innovative potential in the industry**
- 5) **Identification of factors of smart specialisations sector of natural resources and recycable materials**
- 6) **SWOT Analysis**

Raw material sector in Lower Silesia

Strengths

- Access to rich natural resources;**
- Strong traditions in acquiring and exploiting mineral resources;**
- Development potential of the industry;**
- Effect of a strong player - KGHM Polska Miedź S.A;**
- Attractiveness of the region as a place to live for professionals;**
- Proximity of western and southern Polish border;**
- European funds from the current budget perspective;**
- Range of scientific research and teaching of the region.**

Weaknesses

- Large thematic diversity of all branches of the economy within DIS**
- Natural and secondary raw materials;**
- No scientific facilities for certain IS branched;**
- Inadequate promotion;**
- Competition from other regions;**
- Location of a part of deposits on the protected areas or the constructed areas;**
- Insufficient transport infrastructure in terms of local roads;**
- Low innovation level;**
- Depletion of raw materials.**

Raw material sector in Lower Silesia

Opportunities

Increasing demand for innovative products/services;

Increase in wealth of the society;

Development of new environmentally friendly technologies.

Threats

High costs of marketing;

Variable and incomprehensible legal conditions;

Moving the business to other countries or regions;

Moving of highly skilled professionals to other labour markets;

Production of used machines and tools outside Poland;

Trends volatility;

Increasing labour costs;

High costs of running business;

Competition from the companies using imported mineral raw materials - (mainly from China).

FUTURE CHALLENGES

- 1) Finding technological & development niches**
- 2) Better use of european funds**
- 3) Improving cooperation between business and science**

- 1) Crisis in developing economies**
- 2) Breakthrough technologies**
- 3) Black swans**
- 4) Circular economy approach and its impact on the industry**



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Thank you!

Questions welcome



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