

# Polish Roadmap to Industry 4.0

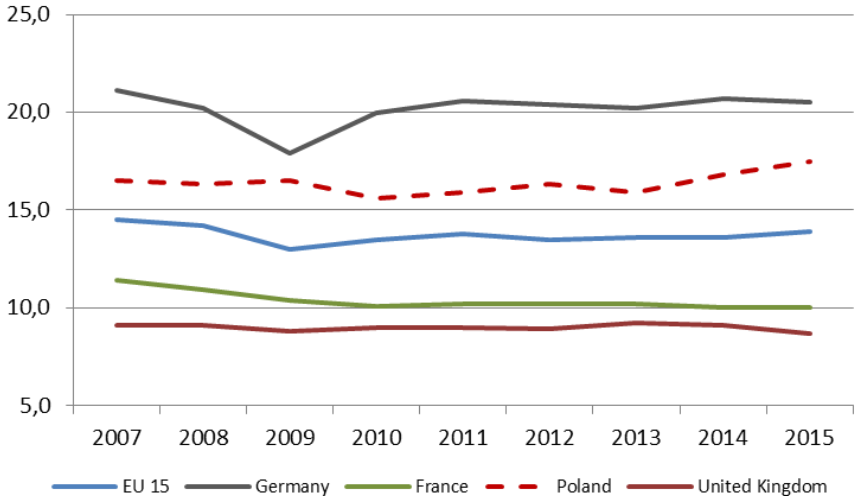


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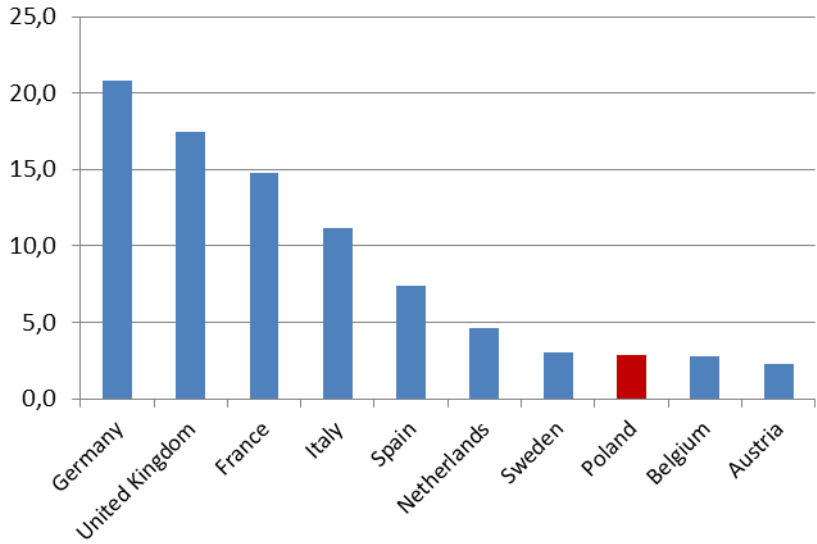
# Manufacturing Sector in Poland - Facts and Figures



## Manufacturing Value Added, % of GDP



## Country share in EU Manufacturing Value Added In %



### Poland is one of the most industrialized countries in EU

High share of industrial activity in Polish economy causes that transformation of this sector is a top priority for current government.

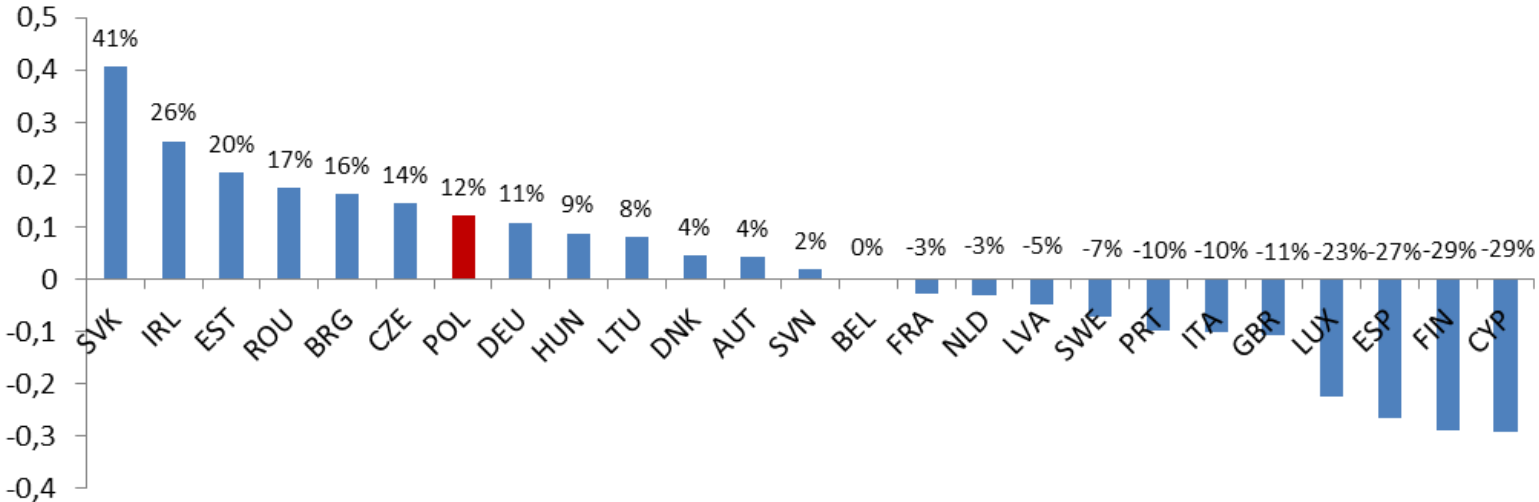
Source: Databank. The World Bank, Eurostat

### Low productivity level

Low share of Polish manufacturing sector in EU28 Value Added suggests high potential for raising labor productivity. Implementing Industry 4.0 solutions seems to be a natural choice at this level of development. It is also potentially big market for suppliers of Industry 4.0 solutions.



## Change in manufacturing sector Added Value Between 2007 and 2014

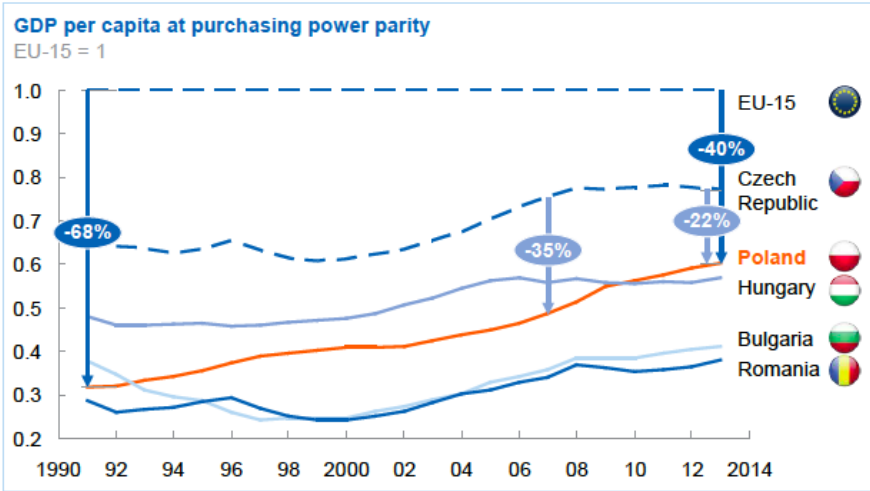


### Rising potential of manufacturing sector

Poland is one of the biggest countries with such a rapid growth of added value in manufacturing sector. Polish industry was also relatively resistant to global crisis which presents well preparation for change and flexibility of Polish managers. This is a good forecast of rapid transformation.

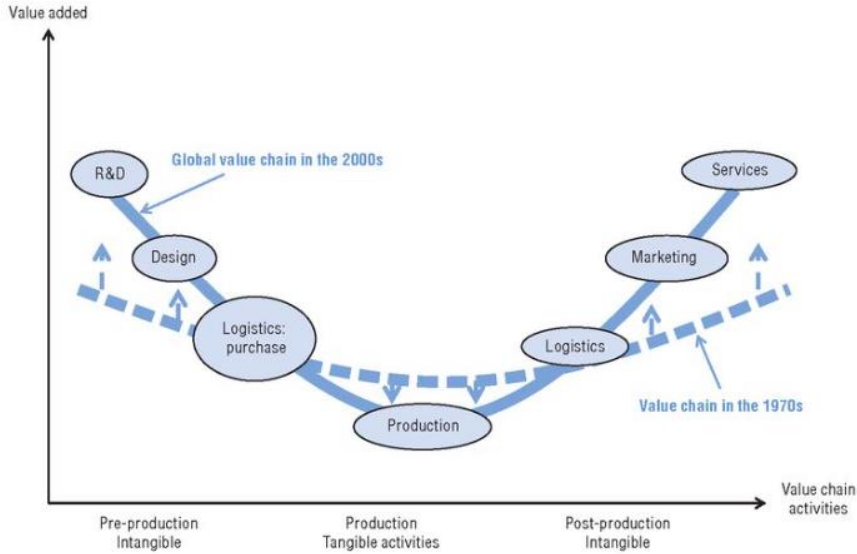


## Productivity % of EU 15 productivity



Note: EU-15 = Germany, France, United Kingdom, Netherlands, Belgium, Luxembourg, Ireland, Spain, Portugal, Italy, Austria, Greece, Sweden, Denmark, Finland

## Position in Global Value Chains



**Convergence and middle income trap**

More developed countries of Central East Europe experienced diminishing rate of convergence after reaching middle level of productivity. Poland is now approaching to this level and is endangered by similar process.

**Global Value Chains**

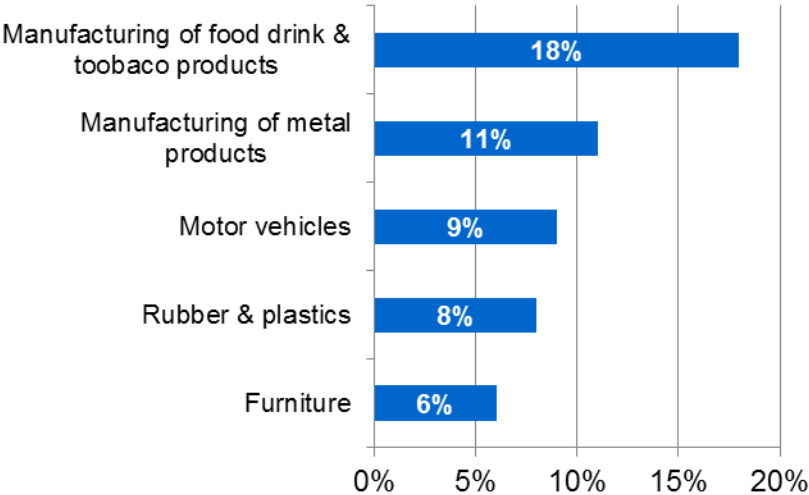
Declining value of production in global value chains is a threat of many industrial countries. Consolidation of supply chains, providing after-sales services and solutions connected with Internet of Things, which are typical for Industry 4.0, are a chance to remain competitive in global scale.

Source: International Monetary Fund, OECD

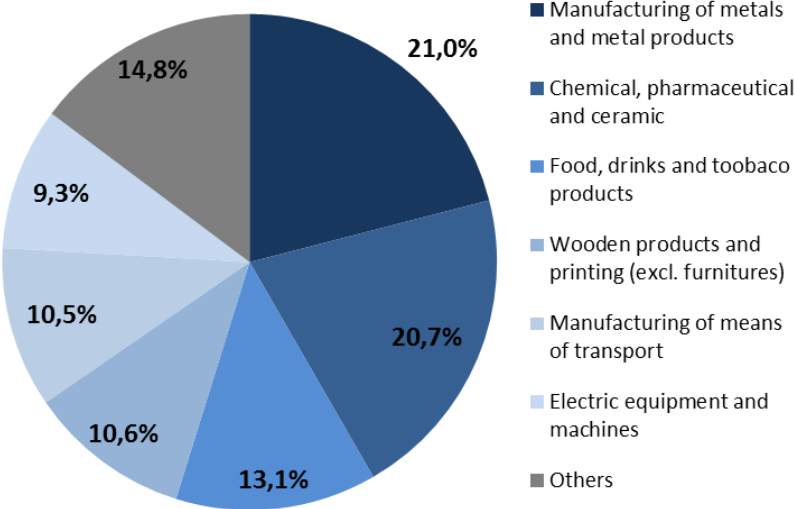
# Manufacturing Sector in Poland - Facts and Figures



**Share in total value added of manufacturing by industry**  
% of total manufacturing added value



**Share in total spending of ICT equipment by industry**  
In total spending of manufacturing sector



## Industry 4.0 is a chance for Polish traditional industries

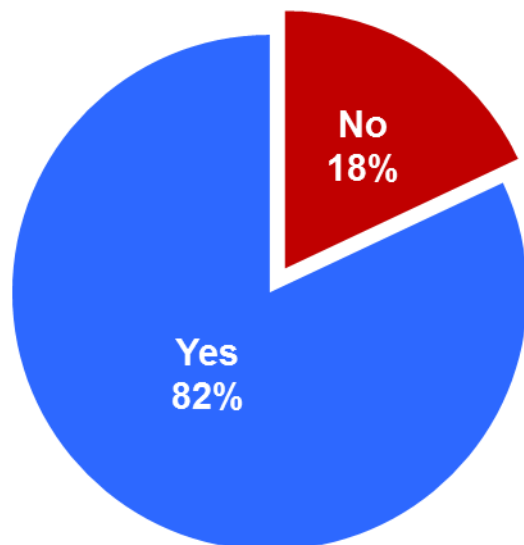
Poland has no competitive advantage in producing advanced electronic equipment for manufacturing sector. Nevertheless, our main industries have potential to improve their capacities by digitalization. Nowadays, the traditional ones are these reporting the greatest demand on ICT products. Enhancing this trend is the main goal for Polish government at the very beginning of digital transformation, simultaneously supporting high value added niche production.



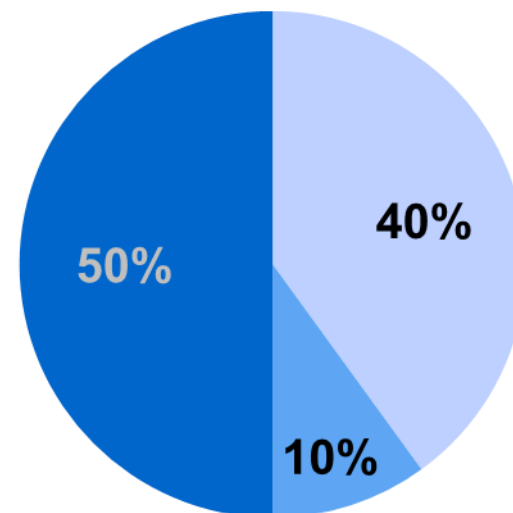
# Manufacturing Sector in Poland – approach to Industry 4.0

Results of survey made by Boston Consulting Group  
(group of companies >250 employees)

Are you going to invest in Industry 4.0 solutions?



When do you plan these investments?



■ in next two years   ■ in next five years   ■ not defined yet

## High level of consciousness among Polish managers

Polish managers of big companies are aware of chances provided by Industry 4.0 solutions. The role of the government is to encourage them in investing in such solutions taking into account costs-benefits analyses. Unsolved problem is the approach and readiness to implement Industry 4.0 solutions in smaller enterprises.



# Manufacturing Sector in Poland – approach to Industry 4.0

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**Operational objectives for implementation of Industry 4.0**  
- according do managers

- **Avoid downtime with predictive maintenance**
- **Improve quality of products**
- **Better assets utilization**

**Business objectives for implementation of Industry 4.0**  
- according do managers

- **Additional revenue with new business model**
- **Higher profitability with customized products**
- **Growth of sales with niche products**
- **Transparency of market needs for better decision making**

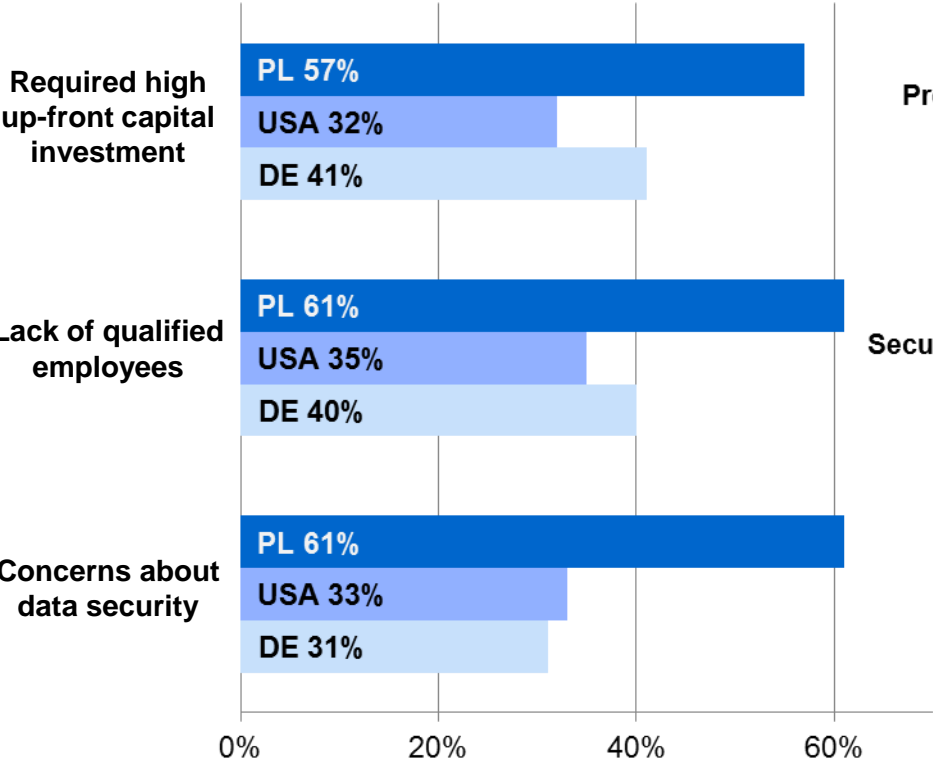
## Converging interests

Objectives of Polish managers connected with implementation of Industry 4.0 solutions are similar to government's aims in this field. Coordination effect will enhance transformation process and facilitate cooperation between private and public sector. However, the essential is creating feasible frameworks of such a cooperation which will fit into business logics and respond to the managerial problems.

# Manufacturing Sector in Poland – approach to Industry 4.0



**Q: What are the greatest barriers inhibiting manufacturing sector in implementation of Industry 4.0?**



Source: Survey by Boston Consulting Group Poland

**Q: What are the greatest challenges connected with implementing Industry 4.0?**



Source: BITKOM, VDMA, ZVEI 2013





# Polish manufacturing sector – Initiatives for transformation

## Bottom-up Initiatives

Initiative for Polish Industry 4.0



### Initiative for Polish Industry 4.0

- Open panel for people who would like to get involved in the topic of Industry 4.0 in Poland
- Bottom-up Initiative created by representatives of Polish industry and scientists
- Initial approach promoting idea of Industry 4.0 among managers



- **Sharing experience**
- **Recommendations**
- **Integration**



# Polish government – Initiatives for transformation

## Top-down Initiatives

Industrial Transformation Unit in Ministry of Development



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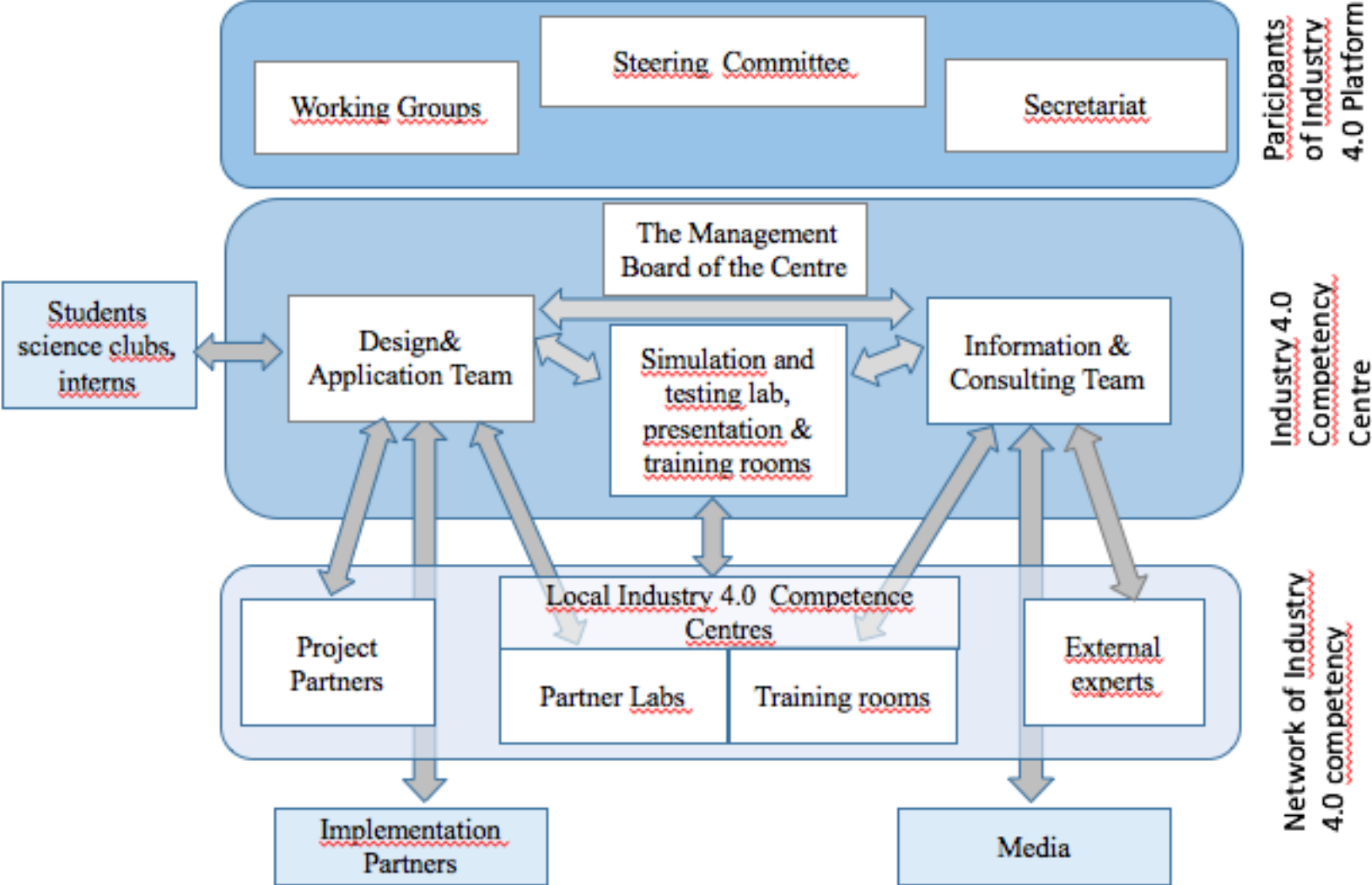
### Industrial transformation unit

- Standardization and normalization group
- Digital support industry
- Intelligent software and data processing group
- Education and human resources group
- Legal frameworks group
- Statistical group

### National Competences Centers for Industry 4.0

- Group of local hubs enhancing industrial competitive advances in context of Industry 4.0
- Libraries of solutions dedicated to different branches of industry
- Clusters of knowledge diffusion
- Market approach
- Centers of technological diffusion from local science units to industry
- Local Human Resources Management for Industry 4.0 Human Resources
- Node to national Research and Development programs

# Concept of Industry 4.0 Platform in Poland



## Q: What are we doing now?

Yesterday, we asked the questions.  
**Now, we are looking for the answers.**  
Tomorrow, we will start to act.



### Green paper

Preparing green paper concerning  
establishment of The Polish Industry  
4.0 Platform



### 1. Legal framework

Legal framework suitable for  
The Polish Industry 4.0 Platform

### 2. Business model

Business model suitable for  
The Polish Industry 4.0 Platform



## Primary goals of The Polish Industry 4.0 Platform

- 1. Promotion of an idea of an industry's digitization**
- 2. Development of:**
  - a new business models for the industry,
  - a material engineering,
  - a new products addressing market demand,
  - an automation processes.
- 3. Supporting development of a machine to machine and a machine to human interfaces.**
- 4. Promotion of integrated hardware and software solutions, ensuring data sovereignty and interoperability.**
- 5. Formation of a industry's digitization professional skills framework.**
- 6. Building trust and share of knowledge among transformation stakeholders.**