

German-Italian Cooperation on Industry 4.0

Germany and Italy are the two biggest manufacturing countries in Europe. At the same time, the new industrial revolution is radically transforming both our economies, as innovation and digitisation call for a paradigm shift in industrial production, products and business models. Furthermore, both partners agree on the necessity to exploit the benefits which come from cooperation across European member-states and from new ways of cross-sectoral cooperation. This will foster the fast development of innovative and scalable Industry 4.0 solutions.

Facing these opportunities and challenges, the Italian Ministry of Economic Development and the German Ministry for Economic Affairs and Energy agree, that Germany and Italy will cooperate in the field of Industry 4.0. The cooperation focuses on three key topics:

1. Standardisation,
2. Support and engagement of SMEs and
3. Skills empowerment.

These topics are being discussed between various key stakeholders and leading industries in the EU. Where appropriate, other states should be involved at a later stage with view to a common approach.

1. Standardisation

Interoperability and global standardisation are of crucial importance for a digitised economy. Shared characteristics of Industry 4.0 standards are openness, scalability, plug&play mechanisms, interoperability at a large scale and security which support a seamless and easy integration of different IoT-solutions. Increasing cooperation among European countries and a wider SMEs engagement in the field of standardisation for Industry 4.0 is of utmost importance.

Concrete action items are:

- Analysis of the standardisation landscape with the aim to produce a library of relevant standards to be sorted according to shared facets.
- Alignment of experts within international standardisation bodies.
- Work on an administration shell for virtually networked physical systems.
- Exchange of best practices and information on SMEs engagement approaches.

2. Support and Engagement of SMEs

Industry 4.0 will transform the business of many SMEs. Small and medium companies should start to rethink their processes and products, even their business models, in order to be prepared for a digital economy. Hence, it is important for SMEs to easily access industry 4.0 applications ("IoT" in general) as well as digital skills.

"Use cases", i.e. concrete examples of Industry 4.0 in practice in companies today, and "scenarios" (i.e. possible future developments) are a way to make SME aware of industry 4.0 solutions and trends. The mapping process of existing use cases, as already performed in Germany and displayed online, and possibly the devising of scenarios, needs to be performed in Italy on a more systematic way.

Furthermore, innovation hubs, competence centers and testing environments (testbeds) provide active “matching” between SMEs and Industry 4.0 tech solutions and knowledge. Competence centers and digital hubs sensitise, inform and qualify SMEs and provide them with demonstration and experimentation facilities. Communication and awareness building can moreover take place with roadshows reaching out to SMEs.

Concrete action items are:

- Link a map of Italian use cases to the already available German online-map.
- Exchange information on challenges and policy programmes for SMEs.
- Explore SMEs to SMEs interaction formats, for example through competence centres and testbeds.
- Engage with the EU-Commission on building up an EU-wide network of national competence centres and digital innovation hubs for SMEs.

3. Skills Empowerment

A full roll out of Industry 4.0 will depend on the availability of a work force with new qualification-profiles at all levels, starting from the top ones. If properly addressed job creation opportunities are likely to emerge from the new technological paradigm. If not properly addressed the risk of job losses may rise. These new qualification profiles should be attained by training-on-the-job initiatives for those already in the labour market and new vocational and academic programs for future “i4.0-native” workers.

Concrete action items are:

- Support activities in favour of SMEs at competence centres and digital hubs.
- Consider joint Masters and PhD programs, building up on existing or envisaged university cooperation and with a stronger involvement of Industry 4.0 industrial champions.
- Exchange of experience on Industry 4.0 vocational training.