



Shared Action Plan

Industrie du Futur / Industrie 4.0 / Industria 4.0

in France – Germany – Italy

Roadmap for trilateral cooperation on Digitizing the Manufacturing Industry

Status as of: 20.06.2017

Preamble

The 4th industrial revolution is radically transforming our economies, as innovation and digitisation call for a paradigm shift in industrial production and products. Therefore, integrating the digital revolution is the new road ahead for industry. France, Germany and Italy as important players in the field of digitization in Europe have started initiatives to keep up and improve their position in the manufacturing industry. Now, Plattform Industrie 4.0 in Germany, Alliance Industrie du Futur in France and Piano Industria 4.0 in Italy have agreed to join forces working on a shared action plan. In March 2017, the initiatives started their cooperation at a high-level conference on „Digitising Manufacturing in the G20“ in Berlin.

The expressions “Digitising the Manufacturing Industry”, “Digital Manufacturing” and “Digitised Manufacturing” in this document encompass notions which commonly are referred to by terms such as Industry 4.0, Smart Manufacturing and Industry of the Future.

Governance Structure

To give strategic directions to and coordinate the cooperation, a steering committee will be set up, including 3 persons (government / industry / platform) from each country plus deputies. Decisions are made on a consensus basis. The steering committee will meet about three times a year and upon request. Meetings will take place in each country on a rolling basis. Additional guests can be invited to the steering committee meetings. The Chairs of the working groups will report to the steering committee and are therefore permanent guests of the steering group. On an organizational level a “secretariat” will be set up for the operational work. Each country nominates one person for this task.

The voluntary working groups for the defined core areas will have 5 to max. 8 participants per country. Each country is chairing one of the initial three groups, while the other countries provide the vice chair position. Meetings of the working groups shall be held three to four times per year, in any case on the individual schedule set by the working groups themselves.

To strengthen the impact on the results of the working groups, representatives of the European Commission (DG Connect and DG Growth) will be invited to receive the information as early as possible.

Each national initiative and/or participating organisation/company is responsible for its expenses and the support needed for the responsible working groups.

Core areas of cooperation

The cooperation will be based on the following three core subjects of shared interests:

- ▶ **Standardization and reference architectures**

Lead: Germany, Plattform Industrie 4.0

Standardization is a key priority to all partners. The trilateral work will build on the results developed in the bilateral cooperation so far. Since testbeds can be useful to standardization developments, strong cooperation should be fostered between the working group 1 on standardization and the working group 2 on testbeds.

- ▶ **Engagement of SMEs and testbeds**

Lead: Italy, Piano Industria 4.0

Small and medium sized companies (SMEs) need to evaluate and rethink their processes and products, even their business models in order to be prepared for a digitized economy. To support the transformation process, SMEs need to understand the opportunities and scenarios for digitising the manufacturing. This process should be supported through availability of adequate testing environments and test labs.

- ▶ **Policy supporting group**

Lead: France, Alliance Industrie du futur

There is a shared interest in exchanging of ideas, concepts and experiences regarding accompanying measures and national policy programs for digitizing the manufacturing industry. The working group will cover these aspects and to develop coordinated recommendations to the European Commission and other relevant European bodies.

Besides these core areas of cooperation, we have agreed to work on:

- ▶ **Skill development and qualification**

Lead: All three initiatives

All three partners agree that this topic is highly important. However, further time is needed to prepare a fruitful exchange between the countries. In consequence trilateral work on this item will commence at a later stage.

Working Groups

WG 1: Standardization and reference architecture

Interoperability and global standardization are of crucial importance for a digitized economy. Therefore, it is important to promote common, consensus-based standardization activities to support thriving economies in the context of the EU digital single market strategy. Shared characteristics of digital manufacturing related standards are interoperability, openness, scalability, plug&play mechanisms, and security which support a seamless and easy integration of different IoT-solutions.

Concrete action items:

- Analysis of the standardization landscape with the aim to produce a library of relevant standards to be sorted according to shared facets.
- Alignment of experts for an agile approach to standardization leveraging international standardization bodies.
- Common work on a harmonization of an administration shell as a key to virtually networked physical systems.
- Engage SMEs in the field of standardization for digitised manufacturing. An exchange on effective ways to do this will be organized.

Deliverables:

- ▶ List of relevant standards (“Standard Landscape”, draft version available)
- ▶ Project is to harmonize a reference architecture as a common language to progressively standardize all relevant technologies. Existing standardisation reference architecture models are a good basis for this harmonization process, discussion on sub-models is also important.
- ▶ Standards Developing Organizations (SDOs)-List and expert mapping
- ▶ Built up alliances to be more effective and have a stronger voice in the international standardization bodies.

WG 2: Engagement of SMEs and test beds

It is important to engage SMEs to successfully use digitization, connectivity, Internet of Things and to invest in digital skills and knowledge based capital. Test infra-

structure and competence centers provide “matching” opportunities between SMEs and digital manufacturing technologies. In test infrastructures SMEs can assess new solutions for digitising manufacturing before implementing them.

A hands-on way of presenting digital solutions for manufacturing is to display concrete “use cases”, i.e. concrete examples of digitised manufacturing in companies today, on an online-webpage, as already done in Germany and in France. In addition, scenarios on the future development of a digitized industry help entrepreneurs to understand trends, open questions and fields for innovation. Germany and France have just recently published a shared set of future scenarios.

Concrete action items:

- Map use cases in Italy and link them to the already available German and French online maps.
- Diffuse and complete Industrie 4.0 / Industrie du Futur scenarios. Consider common scenarios on: additive manufacturing, robotics, cyber security, big data, machine learning and blockchain and others;
- Encourage (larger) SMEs to have an active exchange to set up common transnational digital manufacturing projects.
- Promote an international network of test-infrastructures and digital innovation hubs to help SMEs find easier access to new digital solutions for manufacturing, e.g. by promoting and using networking efforts from the EU-Commission.
- Exchange experiences between the managers of testbeds and competence centres.

Deliverables:

- ▶ Interlinked online maps of use cases by September 2017.
- ▶ Updated joint scenario paper by the end of 2017.
- ▶ Testbeds and competence centers organize common workshops (at least two in 2017), visiting tours (one in each country in 2017), and exchange of mentors.
- ▶ Promote R&D collaborative projects lead by industrial actors, specifically for SMEs. Actively engage with the EU-Commission with regards to project funding and test-infrastructures networking.

WG 3: Policy supporting group

Industry needs a favourable environment to efficiently leverage digitization and innovation, and consequently policies at the regional, national, European or international level is a key factor. German, French and Italian players (government as well as industry) would thus greatly benefit from sharing and benchmarking these policies as well as coordinating the position of the three countries at the European and International level.

The group will have members from the three countries, headed by governments' representatives but including also representative from the platforms. Guests from European Commission or other national initiatives can be invited.

Concrete action items:

- Sharing and benchmarking policies and programs in various fields (e.g. regulation, R&D support, SME support, financing, education, fiscal environment) implemented at the national or local level;
- Selecting new potential cooperation projects between governments, local authorities or platforms, in addition to those already launched (e.g. WG 1 and 2)
- Coordinating shared positions of the three countries at the European level as a priority, but also in international forums.

Deliverables:

- ▶ Analysis and benchmarking of policies, best practices guides, proposal to the steering committee for new cooperation projects.
- ▶ Coordination before European Council meetings and policy briefs endorsed by the three governments, meant to be discussed at the EU-level for implementation.
- ▶ Establish a roadmap by September 2017 and meet physically on a semester basis.

Annex 1: The three Initiatives in France / Germany / Italy

About Alliance Industrie du Futur

Created in July 2015, Alliance Industrie du Futur brings together professional organizations from industry and digital technology along with academic and technological partners, all rallying around a common ambition: to make France a leader in the world's industrial renewal. Alliance Industrie du Futur is tasked with putting into practice the National Industry of the Future project launched by the French Government in April 2015, in the framework of the organizational overhaul of the New Face of Industry in France. Alliance Industrie du Futur has a particular mandate to support companies in the transformation of their business models, their organization, and their design and marketing methods, in a world in which new tools based, for example, on the digital, on additive manufacturing, on new materials and on advanced robotics are bringing down the barriers between industry and services.

About Platform Industrie 4.0

Platform Industrie 4.0 is the central alliance to coordinate the shaping of the digital structural shift of German industry. It brings together all those who are shaping Industrie 4.0 and bundles the forces and know-how of a diverse range of actors – be they companies, associations, trade unions, science or politics. With over 300 participants from over 150 organisations the Platform is one of the largest international and national networks, it supports German companies – particularly small and medium-sized companies – in implementing Industrie 4.0. It offers decisive input by providing practical solutions and examples of company practices from across Germany, concrete recommendations for action and test environments.

About Piano Nazionale Industria 4.0

In order to boost productivity and accelerate technological upgrading the National plan "Industria 4.0" of the Italian Government is focusing on strategic measures to support innovative investments and empower skills, such as: Super and Hyper amortisation schemes, tax credits on R&D and on profits from intangible and patented assets, strengthening of vocational training, creation of I4.0 Technological Clusters and Industrial PhDs. Moreover, complementary measures being implemented are the establishment of Competence Centers and of a network of Digital Innovation Hubs, Ultra Broadband with a fiber to the factory approach, cooperation on IoT open standards and interoperability, easier access to financing and productivity salary taxation exchange.