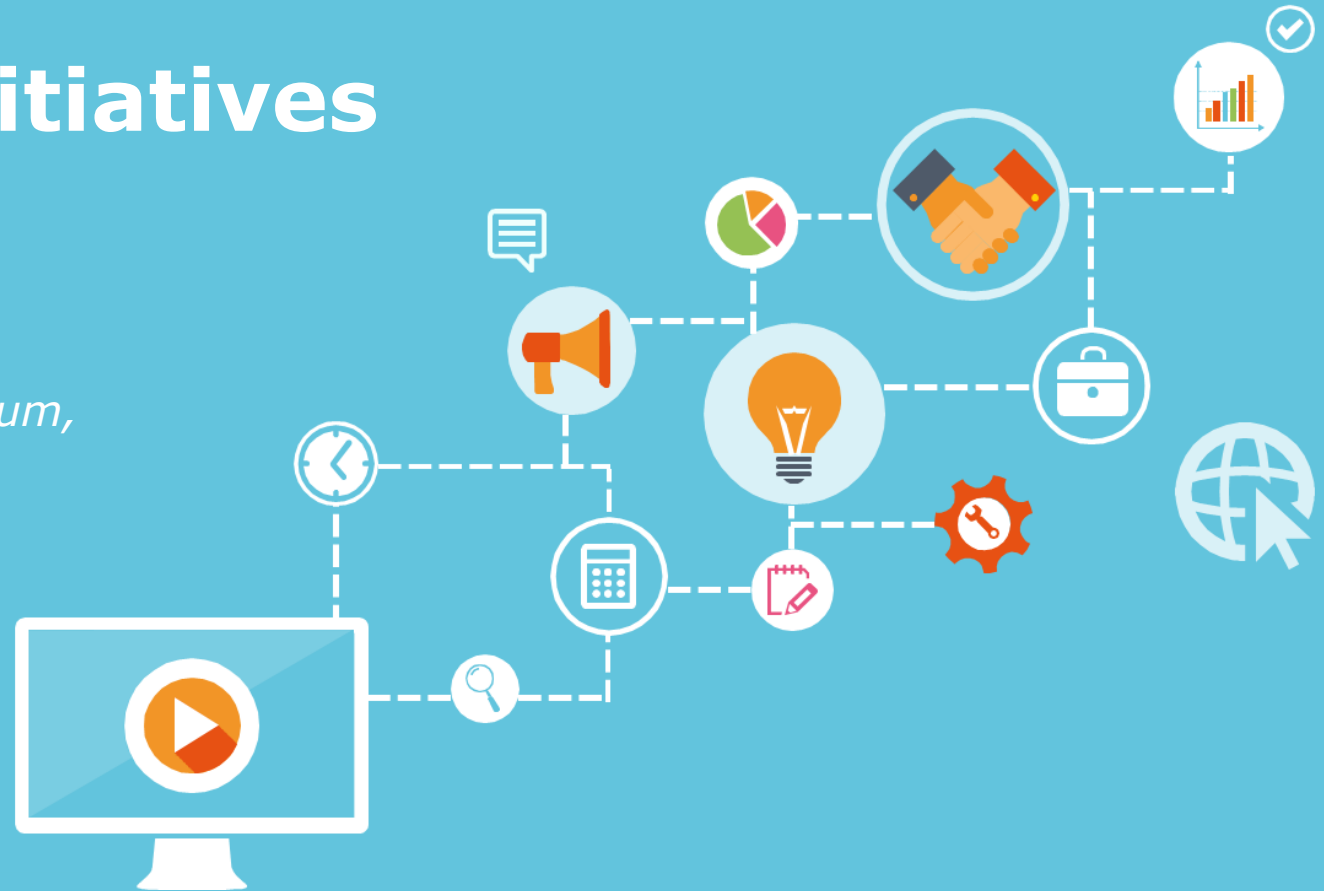




Overview of national initiatives on industry digitisation

*First "Digitising European Industry" Stakeholder Forum,
01 February 2017, Essen*



DTM Digital Transformation Monitor

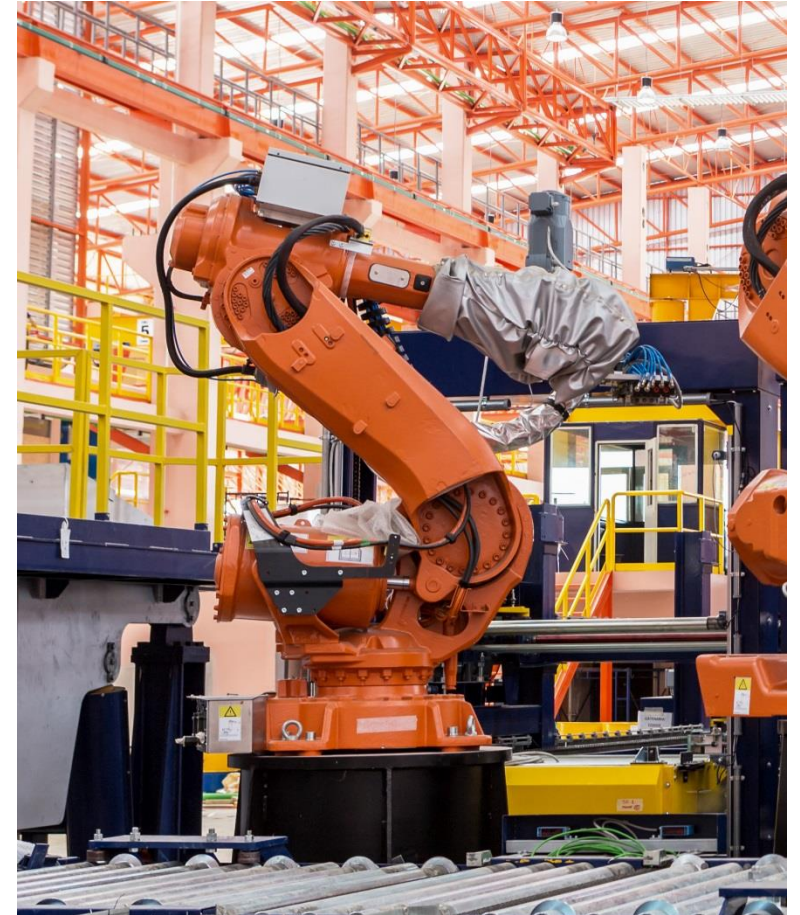


CARSA



Objectives of the policy reports on industry digitisation

- Provide **concise information on national policy initiatives** of EU countries for the digitisation of industries and enterprises covering:
 - ✓ Policy objectives
 - ✓ Budget
 - ✓ Implementation
 - ✓ Drivers
 - ✓ Challenges
 - ✓ Lessons learnt
- Provide policy-makers with hints and **priorities for potential future gaps**
- Highlight **synergies between national policies** of EU countries to support the digitisation of industries and enterprises
- Provide **information on the set of measures of the “Digitising European Industry initiative” (DEI)**



Content of the policy reports on industry digitisation

The public drive to ensure funding

The CFI was established as a non-profit association in September 2012. The initiative's budget can be split into two major parts: the cost of the research projects and the cost of maintaining the cluster platform. The costs for financing the projects amount to around €45 million of which roughly 70% are state-funded. In the future, the CFI envisages a stronger participation of the private sector in financing the research projects.

The government will equally contribute to financing the cluster platform, as announced in its research and innovation agenda. However, differences between the Italian and EU cluster financing legislation have hindered effective support until now.

Private participation in funding activities

The participation of the private sector in the CFI is twofold: an approximate share of carrying the cost of the research projects and the financing of maintaining the cluster platform. Although the funding rates for the research projects vary according to the type of enterprise, a majority of enterprises participating in the projects makes that around 30% of the costs are carried by the private sector.

Meanwhile, the cluster platform is fully financed by the cluster members by means of a fixed membership fee. Even though the cluster members are overall diverse,

e.g. small, medium and large enterprises, universities and research centres etc, the majority are private companies.³ The overall budget of the cluster for 2014 was around €50,000.

Main initiatives: Strategic research and cooperation

The CFI defined some core activities in the strategic plan giving priority to the set-up and implementation of applied research projects in order to develop new, enabling technologies for different industrial sectors. Further activities involve creating opportunities for technology transfer and circulation and knowledge sharing and sharing of research infrastructures and mobility.

Moreover, it also covers the support for smart, sustainable entrepreneurship and in technological foresight at regional, national and international levels. Lastly, CFI also involves activities fostering the growth of human capital for high-profile skills for manufacturing processes and infrastructure.

Targeting the smart factory ecosystem

The beneficiaries of the CFI are large and small-medium sized enterprises (industrial members), universities and research centres (research members), entrepreneurial associations, technological districts, non-governmental organisations and other stakeholders operating in the sector of manufacturing and the smart factory and associated sector.

Concepts and focus areas - new technologies for manufacturing

The focus and expected impact of the cluster on industrial and research communities, and consequently on society, are closely related to the development of the new technologies to meet the challenges of manufacturing innovation. The most significant expected impacts are to enhance competitiveness, employment and produce more sustainable manufacturing solutions decreasing the negative effects on the environment.

Bundled manufacturing strengths

As a strategic technology cluster, a key driver is CFI's ability to centralise ideas for innovating manufacturing from different governance levels. Thus, Italy can build upon the combined strength of its world-class universities, research organisations and technological transfer centres operating in conjunction with the industrial sector.

Even though decisions are taken at national level, the CFI is founded on a healthy equilibrium of regional and federal manufacturing actors. In fact, the co-operation between the MIUR is ruled by contractual agreements with the participating Italian regions. An additional driver of the CFI is its role as a central contact and reference point for Italian industrial manufacturing at international level.

Moreover, a direct communication channel to the Italian ministries provides an important cross-cutting vision for various policies such as R&D, industry, etc.

Key facts on the Italian manufacturing sector⁴

Key data	Value
GDP	Approx. €906 billion
Added value	Approx. €200 billion
Employees	Approx. €4 million
Companies	Approx. 417,000

Source: Digital Transformation Monitor

Fact box for Germany's Industrie 4.0 policy initiative

Policy Lever(s)	Publicly-backed and steered initiative that is implemented through stakeholder dialogue
Funding Model	Mixing public funding with private financial and in-kind contributions; offering between a two to one or five to one ratio between private to public investment
Target audience(s)	Manufacturers/producers, SMEs and policy-makers
Impact & Focus Areas	Digital innovation and ICT market; transformation of business models and product/service delivery
Key drivers	Idea development by research actors, reform experience in production and pro-active unions
Key barriers	Competition among leading ICT players and shop-floor-level involvement
Implementation strategy	Comprehensive research agenda and I40 platform as a network foundation for digital transformation
Results achieved	Reducing industry segregation, transforming research agenda into practice, developing reference architecture and launch of platform with 150 members
Budget	EUR 200 contribute
Uniqueness factor	Rapid trans constitute
Value-added for policy-makers	A strateg engineer
Expected Impact	Provide a position i

Source: Digital Transformation Monitor

Policy levers for Germany's Industrie 4.0



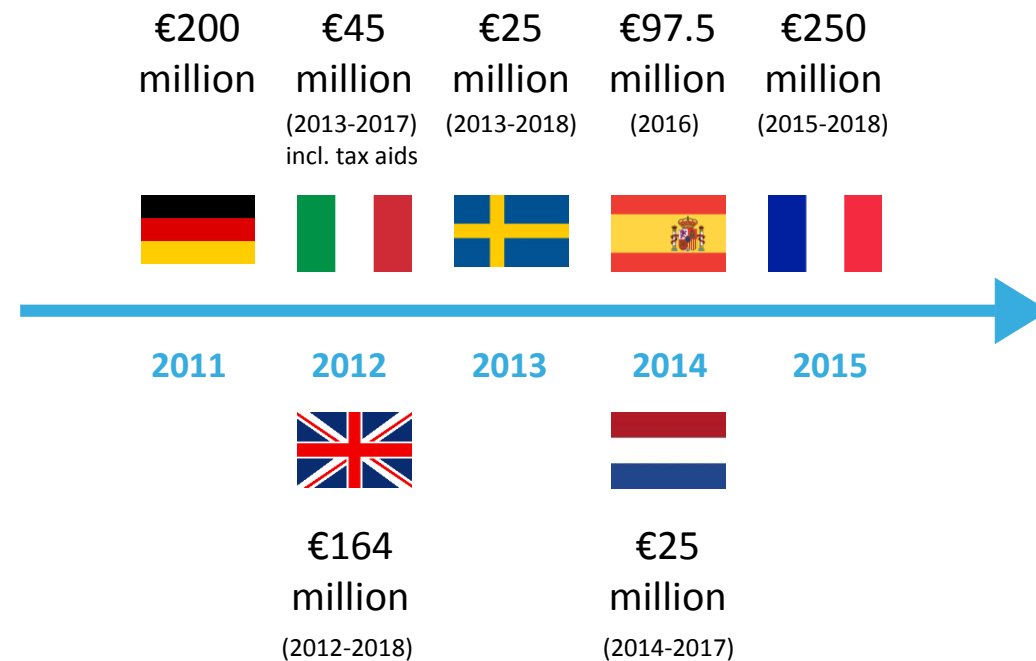
Source: Digital Transformation Monitor

SWOT Matrix for Germany's Industrie 4.0

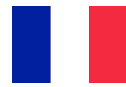
<p>Strength</p> <ul style="list-style-type: none"> Comprehensive framework with broad involvement of policy-makers, industry, science and social partners enables it to push forward I40 at all levels 	<p>Weaknesses</p> <ul style="list-style-type: none"> Ensuring actual deployment at shop-floor level, which will become increasingly relevant
<p>Opportunities</p> <ul style="list-style-type: none"> International cooperation opportunities and transferability 	<p>Threats</p> <ul style="list-style-type: none"> Balancing between different industrial and sectoral interests

National initiatives on industry digitisation

- Starting date and investment level: limited comparability between budget allocation by country









Overview of national initiatives on industry digitisation



	France	Germany	Italy	Hungary	Spain	Sweden	United Kingdom
Governance	Public leadership	Mixed	Public leadership	Mixed	Public leadership	Mixed	Mixed
Strategic focus	Deployment	Deployment	R&D	Deployment	R&D	Deployment	Deployment
Technology focus	Transport, IoT, Digital trust, mobility, medicine, cities, Data, Food	Cyber-Physical Systems, IoT	Generic	Generic	Digital platforms, Big data, Collaborative applications	Generic	Aerospace, Automotive, Chemicals, Nuclear, Pharma Electronics.
Skills focus	High	Low	Low	Medium	High	High	High
Funding	Mixed	Mixed	Public	Mixed	Public	Mixed	Mixed
Standards	Medium	High	Low	Low	Low	Low	Low
International	Yes	Yes	No	No	No	Yes	Yes

Challenges of national initiatives on industry digitisation

-  From **strategic design to concrete implementation** of projects
-  Achieving **critical mass**
-  **Monetising** R&D outcomes in viable EU commercial applications
-  **Slow speed** of implementation
-  **Skills bridge**: upskilling and reskilling the EU workforce
-  **Internationalisation** beyond the EU

Need for better cooperation between national initiatives in Europe!



Digital Transformation Scoreboard 2017

Evidence of positive outcomes and current opportunities for EU businesses

- Digital transformation: a source of business opportunities with major societal impact
- Digital transformation of the European industry
- Technology landscape in Europe
- Geographic focus
- Country profile reports

A recognised yet untapped opportunity with positive outcomes



75% of respondents regard digital technologies as an opportunity



64% of companies investing in digital technologies have generated positive outcomes



44% of respondents have adopted at least two of the seven key digital technologies

