

Industry 5.0 Roundtable

Brussels, 27 April 2022

Meeting report

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Introduction

On 27 April 2022, a high-level roundtable on Industry 5.0 convened industry leaders, industrial stakeholders and members of the expert group on the economic and societal impact of research and innovation (ESIR) to agree on priority actions to advance Industry 5.0. Representatives of a broad range of industrial sectors participated in the roundtable (see participant list in the Annex).

The actions laid out in the ESIR policy brief, [‘Industry 5.0: A Transformative Vision for Europe – Governing Systemic Transformations towards a Sustainable Industry’](#), provided the backdrop for the roundtable. In this brief, the expert group advocates for a deep transformation of industry to foster the green and digital twin transition in Europe.

The roundtable opened with a welcome from Peter Dröll, Director for Prosperity at the Directorate-General for Research and Innovation, who introduced Sandrine Dixon-Declève, ESIR Chair, at whose initiative the roundtable was convened.

Presiding the meeting, Sandrine Dixon-Declève presented the key elements of the ESIR policy brief on Industry 5.0, including the main actions proposed. She acknowledged that moving to Industry 5.0 is a huge leap of faith and emphasised that given the current multitude of crises, which are giving rise to stressed assets, industry needs the correct signals as to the direction of policy. She also noted that citizens are mobilising support for the Ukrainian people and the Black Lives Matter movement, pointing to the ‘Greta Thunberg effect’ as a driving force behind this heightened sense of social responsibility. She insisted that, in seeking to reduce costs, it is necessary to look at the issues in terms of demand and not just supply, stressing that competition is not solely about undercutting prices but also about enhancing prosperity and respecting planetary boundaries.

Ms Dixon-Declève affirmed that industry can be the driver of change. Our goal should be to achieve digitalisation with purpose in line with planetary boundaries and Europe should be a leading example for achieving this through resilience and sustainability. She highlighted that governance is the key missing link at present. It is not possible to pack new thinking into an old framework; there is a need for a policy framework that involves sound governance.

Ms Dixon-Declève then opened the discussion to roundtable participants, welcoming the select set of industry leaders to the event.

During the tour de table that followed, roundtable participants shared their views on whether the actions proposed by ESIR were the appropriate priorities to support the transformation of European industry to become more sustainable, resilient, regenerative

and circular while respecting planetary boundaries. Industry leaders also provided relevant examples of best practices related to Industry 5.0 from their companies.

Roundtable participants reviewed and discussed the actions proposed by ESIR and pointed to corporate governance, adequate framework conditions (including incentives for investors), suitable metrics and the empowerment and involvement of workers as key success factors.

This report sets out the key takeaway messages from the discussions that took place during the roundtable (¹).

Industry 5.0 as a gamechanger

The business environment and global value chains are currently experiencing a period of severe disruption and uncertainty due to the combined impact of climate change, the COVID-19 pandemic and Russia's invasion of Ukraine. This is radically altering the political and economic landscape and creating a need for fundamental shifts in policy, industry, society and governance. In the view of participants, the challenges we face are enormous: in order to implement the UN Agenda 2030, the world needs to change in this decade in a way that goes beyond any change in recent history. In the face of these challenges, it is important that Europe does not regress towards unsustainable industry paradigms (e.g. Industry 3.0), but instead seizes the opportunity and embraces Industry 5.0.

It was pointed out that the current disruptions can serve as impetus for deep changes towards a more resilient and sustainable system. There is already a strong market pull, but this needs to be accompanied by appropriate framework conditions and policy measures. These should include forward-looking standards, swifter authorisation procedures to enable infrastructural development, precise definitions and strategic use of public procurement for green products and public goods. At the same time, participants recognised that the EU must ensure a level-playing field with global competitors. One way to do this is to establish equivalents to the Carbon Border Adjustment Mechanism in other regions, while avoiding an overly rigid structure within Europe.

There was a consensus that the implementation of Industry 5.0 will make Europe's industry and innovation ecosystem future-proof. As a key element of the innovation ecosystem, industry drives the formation and scale-up of companies through entrepreneurship, corporate venture capital and acquisitions and by providing market opportunities for small to medium-sized enterprises (SMEs).

¹ The roundtable took place under Chatham House rules.

Beyond a sectoral approach

The current disruptions in the business environment (arising from climate change, COVID 19 and Russia's invasion of Ukraine) highlight the importance of the resilience pillar in Industry 5.0. It was noted that conventional sector-focussed approaches often fall short of responding effectively to such disruptions. In these circumstances, creative cross-sectoral cooperation can enhance the resilience of value chains. One example of this is the fruitful engagement between the agri-food and solar power sectors leading to the emergence of 'agri-voltaics'. This enhances the resilience of both sectors and also offers a more sustainable approach to food production.

Most importantly, consideration must be given to joined-up policy tools that ensure that the transformation is system-wide rather than sectoral, optimising the relationship and synergies between sectors and between existing policy frameworks, including those 'hidden treasures' within the current regulatory structure.

Digitalisation with a purpose

Participants highlighted how the application of Industry 5.0 changes the nature of digitalisation. Rather than primarily seeing digitalisation as a means of increasing efficiency, Industry 5.0-driven companies seek to leverage digitalisation as a way of helping to fulfil the company's purpose. Such 'purpose-driven companies' capitalise on the capacities of their workforce to drive performance and deliver a distinct competitive advantage. It was pointed out that purpose-driven companies have turned out to be more resilient against COVID 19-related disruptions than companies following a 'profit at all costs' model.

It was noted that SMEs often feature among such purpose-driven companies. Many of them are highly innovative and seek easy access to flexible manufacturing equipment. The main assets of such SMEs are often the experience and expertise of its employees and workers; a human-centred approach, including empowerment through supporting technologies, can safeguard these assets. Thus, SMEs can be among the drivers of Industry 5.0.

In order to truly become a gamechanger and fully adopt Industry 5.0, industry will also need to transform its relationship with shareholders, policymakers and customers and catalyse radical new partnerships.

GOVERNANCE 5.0

While industry is at the forefront of the Industry 5.0 implementation, it was stressed that it cannot be achieved without appropriate framework conditions ensured by European, national and local governance institutions. Directionality, coherence and appropriate incentives at policy level are viewed as essential by industrial players. Industry emphasises the need to act quickly because the next years will be critical in order to establish a future-proof policy framework in Europe that is fit for a sustainable and resilient economy and society.

Roundtable participants recognised that the increasingly complex geopolitical and climate-related context requires unprecedented policy reform across multiple policy areas. This poses several challenges for the decision-makers. Firstly, it is important to ensure the coherence of rules to provide businesses with clarity (e.g. detailing what exactly is meant by green energy sources). Secondly, governments need to manage a delicate balance between directing public investments to short-term emergencies and the necessary investments in long-term resilience-building. Thirdly, governments will need to put in place both short and long-term policy levers to support appropriate framework conditions. Furthermore, governments will need to be more imaginative regarding new ownership models, such as 'prosumer' ⁽²⁾ approaches.

In this regard, industrial stakeholders identified a number of priority areas for government action to support the advance of Industry 5.0:

- working with industry in new types of co-creation partnership that go beyond simply costing externalities;
- setting transparent rules for sustainable corporate governance;
- providing clear directionality in policy (including enhanced policy coherence with long-term goals);
- establishing rigorous sustainability standards and ensuring transparency and traceability;
- promoting green public procurement;
- solving energy and material dependency issues at international level;
- integrating social governance and social conditionality into the policy framework;
- revamping existing legislation to ensure more competitive sustainability practices that include meaningful compliance models, such as reporting and modelling rules that the EU Eco-Management and Audit Scheme embodies (EMAS).

⁽²⁾ A consumer who becomes involved with designing or customising products for their own needs ([Oxford Languages](#)).

The view was expressed that continental Europe's civil law tradition is better suited than Anglo-Saxon common law ⁽³⁾ when it comes to enabling Industry 5.0. Under civil law, contracts include a good faith obligation to interpret the terms through the eyes of the parties to the contract. This contrasts with the approach in other parts of the world, where the principle is that what is not excluded is permitted. The civil code enhances transparency and contributes to building trust between parties. This transparency and trust can, in turn, support sustainability efforts (such as in setting up multi-party conglomerates) and human-centricity. This could be thought of as a 'hidden treasure' in the current legal structure.

Finance for Industry 5.0

Financial markets are a core actor for the implementation of Industry 5.0 because of their central role in driving market decisions. Investing capital in appropriate areas can determine the outcomes for society at large, therefore investors can drive the transition by making the right decisions. Participants referred to this transition for the finance sector as akin to 'Finance 5.0'. It was highlighted that private sector investments need to be directed wisely to achieve common societal goals. In this context, it is crucial to identify and set up public-private partnerships in the domains that matter the most.

Greater involvement of citizens in financial investments will help to direct private investment towards the achievement of societal goals. Improving citizens' access to capital, credit and loans could be a fundamental tool to escape poverty, generate employment and build wealth. It would support the achievement of Industry 5.0 by fostering inclusiveness and strengthening the resilience of the financial system, along with its capacity to support investment in SMEs.

Finance must be targeted from the outset in order to avoid the 'valley of death' and must be fostered through better-defined, value-based fiscal tools and signals, and through the use of green and sustainability bonds.

Metrics for Industry 5.0: measuring what matters

Roundtable participants highlighted that in order to measure genuine progress, we need to focus on measuring impact. Impact measures must go well beyond traditional economic indicators and a purely input-output focus (e.g. the amount of CO2 emissions avoided). Metrics must capture the level of industry contribution to the society, the environment and wellbeing ('People Planet Prosperity'). This is essential to shift mindsets towards more long-term thinking. Changes in business perspectives are a pre-condition

⁽³⁾ In the EU, civil law applies in all Member States, with the exception of Ireland, Cyprus and Malta.

for this. For example, instead of focusing on quarterly reports that provide a short-term snapshot, businesses should give more attention to annual reports and to the business trends they highlight.

The recently-published [EU Transition Performance Index](#) Index provides interesting insights on this. It demonstrates that the countries that are generally considered to be 'transition leaders' because they perform well in economic and social terms are often lagging in terms of their environmental transition. Hence, their transition leadership is compromised.

A realistic economic analysis of measures to push transformation needs to involve an assessment of opportunity costs, including the cost of failing to transform.

Realising Industry 5.0 together

It was pointed out that implementing Industry 5.0 effectively calls for an intrinsically inclusive process. A just transition can only be achieved through negotiation. This must include all stakeholders, who should assume the duty of initiating co-creation in their sphere of action. It is about mobilising collective intelligence, not least by considering workers' experience as an asset and a source of innovation. At the same time, there is a need to build resilience through systemic transformation in transition pathways. This can be done by improving infrastructure innovation alongside policy innovation and by bringing the appropriate skills and collective intelligence together in a spirit of radical collaboration.

In a similar vein, meeting the goals of Industry 5.0 will necessitate facing up to and addressing the impact of the industrial transition on geographical and social disparities not only between East and West in Europe but also between the Global North and Global South. There is a widening digital divide between advanced countries, which see digitalisation as a significant opportunity to improve wealth and well-being, and less advanced countries, where the population sees digitalisation as the reason behind the intensification and dehumanisation of work. Industry 5.0 can reverse the resulting trend towards increased social fragmentation and address the resulting threat to societal coherence and the European social model.

Several participants emphasised that coherence across EU policy instruments is necessary in this regard. It was pointed out that while the EU has many instruments at its disposal, greater attention needs to be paid in their implementation to conditionality on achieving social and inclusiveness targets.

Follow-up

The key conclusion from the roundtable was that further effort should be placed on making Industry 5.0 a strategic priority for the EU. In this respect, participants were heartened by the positive feedback from a member of Commissioner Gabriel's Cabinet during the roundtable, who stressed the importance of Industry 5.0 for European research and innovation.

The Commission services will follow up with industry to explore in greater depth how to accelerate the take-up of Industry 5.0. In this regard, attention will be paid to ensuring the coherence of measures across policy areas to maximise the impetus towards of Industry 5.0. The openness of the industry leaders to further exchanges was well noted.

In parallel, the Commission services will make full use of Horizon Europe and its work programmes to maximise the impact of European research and innovation in advancing knowledge and understanding good practices for Industry 5.0, including identifying and addressing bottlenecks and other impediments to its wide adoption.

Building on the positive response to its Industry 5.0 policy brief during the roundtable from industry leaders, ESIR will take up the ideas arising from the roundtable. These will be taken into account in its ongoing work, namely those in relation to the current value chain crisis as a result of COVID-19 and the Russia's invasion of Ukraine, the need for greater directionality and focus of the [EU Missions](#) and research and innovation policy, and the future of work.

ANNEX

Roundtable on Industry 5.0

List of participants

Dixson-Declève, Sandrine	Roundtable Chair, Chair of ESIR, Co-President Club of Rome
Dröll, Peter	Director, Prosperity, Directorate-General for Research and Innovation, European Commission
Balland, Pierre-Alexandre	ESIR Member
Bologna, Michele	Head of European Affairs, ENEL
Calle Lucas, Madalena	Head of Climate Policy, EDP
Charveriat, Céline	ESIR Member
Curaj, Adrian	ESIR Member
Deprez, Bertrand	VP EU Government Affairs, Head of the Schneider Electric office to the EU institutions
Dunlop, Kirsten	ESIR Member
Hallundbæk Østergaard, Esben	CEO and Co-Founder of REInvest Robotics
Kalff, Donald	CEPS and Biotech Entrepreneur
Kirton-Darling, Judith	Deputy Secretary-General, IndustriAll
Marchetti, Fabio	Head of international affairs, Generali
Martins, Francisca	ESIR Member
Moencks, Mirco	World Economic Forum
Pedersen, Gitte L.	ESIR Member
Petit, Vincent	SVP Global Strategy Prospective & External Affairs, Schneider Electric
Plattard, Jean	General Representative to the EU, Generali
Renda, Andrea	ESIR Rapporteur
Silva, Lucia	Head of Sustainability and Social Responsibility, Generali
Tataj, Daria	ESIR Member
Touilly, Véronique	Global Head of Sustainability, UCB
Vatne, Hans Erik	Chief Technology Officer, Hydro
Waldeck, Samuel	Joint CEO, SHIFT GmbH
Waldeck, Carsten	Joint CEO, SHIFT GmbH
Walz, Rainer	ESIR Member

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This report summarises the ideas gathered at the roundtable on Industry 5.0 on 27 April 2022. The roundtable brought together, under Chatham House rules, industrial leaders from major European companies and SMEs, as well as representatives from trade unions and other stakeholders. Participants discussed how to advance Industry 5.0 implementation, and what would be framework conditions favourable to its take-up. They covered finance, governance, metrics, and inclusivity.

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