European Political Strategy Centre: A vision about EU Industrial Policy after Siemens – Alstom Deal

PETRE PRISECARU

European Studies Center

Institute for World Economy

Romanian Academy

13 September No.13, sect.5, Bucharest

ROMANIA

petreprisecaru@gmail.com

Abstract: Due to Industry 4.0 and mainly to rapid innovative technologies and developments like Internet of Things, Artificial Intelligence, robotics, Big Data and platforms, connected and autonomous systems, 5G, 3D printing, ICT security and block chain, it emerged the need for developing a comprehensive and long-term EU industrial strategy in line with the current technological developments. In March 2019 European Political Strategy Centre from European Commission published a paper entitled EU Industrial Policy after Siemens-Alstom, Finding a new balance between openness and protection. This strategic framework presented by EPSC has an introduction, called The Bigger Picture and two parts: Levelling the Global Playing Field and Industrial Leadership Starts At Home. In the introduction the focus is put on digitalization, electric cars. AI, robotics, 3D printing, completing the Single Market, China's progress and competition. In the first part of strategy the analysis is focused on the role of EU trade policy while in the second part on four major initiatives: Single Market Renaissance, Innovation & funding: fast-tracking investments into the sectors of the future, Regulation & standards: building up 'Brand Europe' , Partnerships for the future.

Key-words: industrial policy, strategic framework, trade policy, innovation, competitiveness

JEL Classification: F13, H 57, L 52, O 31, O 38

1. Introduction

On 21-22 March 2019, at the spring summit, European Council called for a long-term vision on industrial policy while EU leaders stating the fact that a strong economic base is of key importance for Europe's prosperity and competitiveness. European leaders stated that this objective should be achieved including through an EU industrial policy, which should focus inter alia on artificial intelligence. In order to build a sustainable and competitive industrial base, the European Council invited the European Commission to present, by the end of 2019, a long-term vision with concrete steps.

It was the European Political Strategy Centre within European Commission that several days before published a paper entitled ***EU Industrial Policy after Siemens-Alstom, Finding a new balance between openness and protection***. In December 2018, eighteen EU Member States, among them Romania, issued a joint call for a more ambitious and strategic EU industrial policy, highlighting industry as 'a key driver for growth'. The debate on EU industrial policy has intensified after European Commission's decision (DG Competition) of 6 February 2019 to prohibit Siemens' proposed acquisition of Alstom.

Let's remind that based on EU Council Conclusions from May (Doc. 9760/17) and November 2017 (Doc. 15223/17), as well as on the European Council Conclusions from June 2017 (Doc. EUCO 8/17) it emerged the need for developing a comprehensive and long-term EU industrial strategy, due to the importance of strengthening the industrial base as a key component of Europe's future, the requirement for a fully functioning internal market in the digital age, the need for a common approach building on the competitive advantages of European economy and businesses, the call for a rapid digitalization of industry with the help of

Digital Innovation Hubs and other initiatives supporting SMEs and also for industry-led standards providing interoperability and competitiveness of European industries on global markets. But any industrial strategy must focus on the necessity for a rapid innovative development and take-up of key forward looking trends including the Internet of Things, Artificial Intelligence, robotics, Big Data and platforms, connected and autonomous systems, 5G, 3D printing, standardization, ICT security and block chain; the importance for accomplishing significant and more effective investments and the right framework for research, development and innovation while achieving a better knowledge transfer and uptake of advanced and key enabling technologies in the industrial base; the further development of the European cluster policy, with the aim of linking-up and scaling-up regional clusters into cross-European world-class clusters, based on smart specialization principles, in order to support the emergence of new value chains across Europe; support for European innovative projects and large scale innovation initiatives, including those based on public-private partnerships; better state aid criteria for supporting Important Projects of Common European Interest aiming at facilitating large-scale innovative projects of transnational character; the importance of public procurement for promoting innovation and improving the competitiveness of the EU industry and initiatives for using procurement as a strategic tool to foster a transition to a more innovative, environment-friendly and socially inclusive economy.

Competition and competitiveness at the global level should be supported within EU by investments and favorable conditions for private investment funds, by financing and targeting support measures for SMEs and start-ups as the backbone of the EU economy, by dedicated policies towards scale-ups and mid-caps, by an increased support for innovation with high technological risk and a long-term investment horizon, by the right mix of investment and funding tools applied by the EU, Member States, regions and the private sector. EU industrial growth is badly affected by the insufficient level of digital skills in Europe's labour force and shortages of ICT professionals as well as science, technology, engineering and mathematics graduates; besides the identification of sector-specific skills needs, one needs increased business-education partnerships as well as dedicated investments in the skills of young people and lifelong learning. EU industry strongly depends on the global value chains and trade, that is why EU should pursue a robust trade policy upholding an open and rules-based multilateral trading system, with a central role of the WTO, but it must also take into account the industrial strategies of third countries, facilitating the integration of European companies in global value chains, also in a long-term competitiveness perspective.

For fighting climate changes and ensuring sustainability, supporting the low-carbon transition in industrial sectors through innovation, new business and manufacturing models, for attaining long term ambitious environmental targets, it is necessary the contribution of private sector and the cooperation of European institutions, Member States and all industrial sectors and to elaborate and implement a comprehensive and long-term EU industrial strategy. This new strategy or policy should focus on the transition towards safe and sustainable technologies, low-carbon and circular economy and is in balance with coherent European climate and energy policies, aiming at creating a strong, resource-efficient and competitive European industrial base. It should take into account the sustainable supply of raw materials and the external dimension of the EU climate policy, while paying special attention to addressing the issue of high energy costs and preventing significant disadvantages in international competition, in particular for energy-intensive industries.

Industrial competitiveness concerns all EU policy areas, supporting it at the global level involves cumulative cost assessments and the reduction of unnecessary regulatory burdens, applying technical and ecological standards, providing coordination and synergies between EU and Member States' policies, initiatives to stimulate new and emerging sectors with high growth potential, and support for sectors facing economic change.

A comprehensive EU industrial policy needs appropriate strategic objectives to be achieved by 2030 and beyond, and also to synchronize the efforts made under the EU's industrial, energy and environment (including climate change) policies. An important contribution may be brought by High Level Industrial Roundtable "Industry 2030" established in 2017. Also appropriate indicators can be used for highlighting trends in the development of the EU industry, they need to be measurable, time sensitive and should, where feasible, allow for comparison at a global level. A long-term EU industrial strategy which should be in place at the beginning of the next EU institutional cycle was the task of European Commission which should build on existing governance structure and focus on the preparation of all the elements that will form the future strategy, including an action plan, should involve the Member States and also the Competitiveness Council for providing political guidance and momentum.

2. The Strategy presented by European Political Strategy Centre

The strategy designed by EPSC has two parts:

A. Levelling the Global Playing Field

1. Making the World Trade Organization fit for purpose
2. Growing the EU's arsenal of defensive tools
3. Shifting into offensive gear: beefing up reciprocal market access and building up leverage
   » Putting policy into practice: the International Procurement Instrument (IPI)

B. Industrial Leadership Starts At Home

1. A Single Market Renaissance
2. Innovation & funding: fast-tracking investments into the sectors of the future
3. Regulation & standards: building up 'Brand Europe'
4. Partnerships for the future

» Putting policy into practice: Important Projects of Common European Interest (IPCEI)

EU has recently passed, at least after 1990, through a deindustrialization process, mirrored by the decrease of manufacturing industry share in the total GDP and now this industry is facing great risks which impose urgent actions, as foreign competitors are not playing by the same rules applied within the single market and trade openness is used against EU own strategic interests. EU is not adequately prepared for the increased digitalization and competition, particularly from Asian countries. The paper presented by EPSC has in view a new balance in trade policy between openness and protection, between playing defense and offence, examines the Siemens-Alstom case and the international context in which Europe's industrial firms operate, handed in some policy options for a better playing field, invokes the urgency of actions and the need for a fact-based reflection, asks for a number of coordinated and transformative actions that are visible and tangible, both in Europe and across the world, for defending Europe's industrial excellence.

Blocking Siemens-Alstom rail merger raised many questions on EU competition policy, although the decision was based on a solid economic analysis and motivated by merger's negative impact. Chinese damaging competition is not a serious threat for European companies, at least on short and medium term, but any competition tightening may favor foreign competitors. Anyhow EU is facing important challenges in the industrial field that is why markets must be fair and competitive while competition policy should focus on promoting efficient and innovative industries and a robust competition in European markets. In 2009-2019 period, the European Commission has approved over 3,000 mergers and blocked only nine, some merger transactions helped to build strong 'European champions'. It is obvious that one cannot relax the rules of merger control, antitrust or state aid in order to support domestic industries affected by structural weaknesses and competitiveness challenges. Competition litigations should remain only on Commission's shoulders and without any EU Council intervention, otherwise that may create the economic risk of larger MS imposing their will and interest to the prejudice of smaller states efficiency.

3. The Bigger Picture

3.1. Technological disruption transforming industry

Digitalization is considered to be a technological revolution due to its impact on any business by increasing labor productivity and improving internal processes, and also changing operational models, value chains and customer relationships. Business-related services play an important role in attracting customers, in generating value added, and the essential contribution of new economic actors, like technology intensive data-driven firms, to the dynamics of industrial markets and industrial value chains should be mentioned.

3.2.Can Europe stay on top as the automotive industry undergoes a revolution?

The statistical data delivered by European Automobile Manufacturers Association and Eurostat show that automotive sector plays a major role within European industry as it supports 13.3 million jobs and 6.1% of total EU employment and recorded a net trade surplus of 90 billion euro for cars and light commercial vehicles in 2017. But new car markets are increasingly dominated by non-European companies, the leader of self driving cars is the US' Waymo – a subsidiary of Alphabet, electric car market is dominated by China, which accounted for 56% of global sales in 2018, the best-performing batteries for electric cars are made mainly in China.

The greatest opportunities are open to the companies that have a more 'systemic' presence across sectors such as energy provision, modern transport and mobility, or food production. The world's largest

companies today – Apple, Amazon, Alphabet, Tencent, Alibaba- are delivering not only data or information but also are producing high-tech gadgets and services that range from e-books, smartphones and semiconductors, to electric or self-driving cars, drones and they moved into the retail and health sectors.

Comparing to USA and Asia EU has been slow to adapt to the digital revolution, both in terms of integrating digital into existing industrial processes, and in understanding the transformative nature of digital technologies. At the end of 2017, in EU only 24% of enterprises adopted big data analytics, 16% of them integrated robotics and automated machinery, and only 5% were working with Artifical Intelligence or 3D printing. In these areas there is a general shortage of highly-skilled tech professionals and within EU 43% of the population had an insufficient (less than basic) level of digital skills in 2017. With such a low level of skills EU cannot become a global leader in Artificial Intelligence and other high tech fields. In USA genetically engineered products accounted for about 2% of GDP in 2017, with the contribution of three industries: industrial biotechnology 147 billion $, pharmaceuticals 137 billion $, crops 104 billion $ (The Economist, 2019).

3.3. Scale-Europe's Biggest Challenge?

Beside the automotive industry, aeronautics and pharmaceuticals where Europe is on the top, many medium-sized, very innovative, family-owned companies are operating in niche high-tech areas like health tech, advanced logistics, clean tech and biotech, Internet of Things, but it is very difficult for them to access fast-growing overseas markets or compete in large-scale international projects, especially with Chinese firms supported by their government. For solving scale problem it is necessary to complete the Single Market and bring it into the digital age. 'Scale without mass' is a new phenomenon and it means that the market value of a company depends not only on the size of its workforce or its physical assets, but especially on its intangible assets. For successful start-ups access to sufficient scale-up funding and to liquid and integrated capital markets is vital.

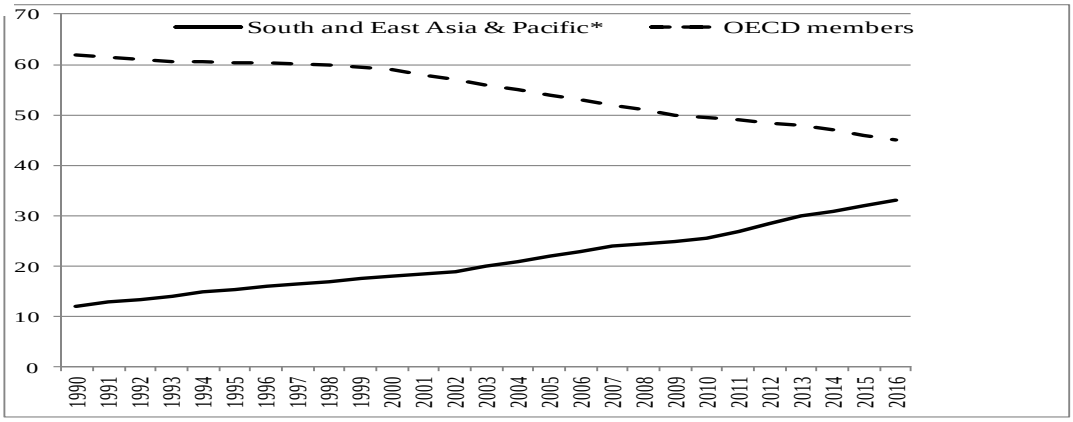
3.4. The rapid rise of the East

China increased very fast its GDP from 1.8 trillion euro in 2005 to 11.4 trillion euro in 2018 while EU 28 only from 11.6 billion euro to 15.9 billion euro. The rapid expansion of China and India' s economies means new market opportunities but also a fierce competition in the sectors as clean tech, renewable energy, Artificial Intelligence. China has an impressive market of 1.4 billion inhabitants with rapidly rising purchasing power, while EU has only 512 million inhabitants and a Single Market still fragmented along national lines, particularly in capital markets, digital and energy (see figure 1).

3.5. China playing outside the rules

The success of Chinese companies is based not only on innovation and new technology but also on state subsidies, preferential access to capital, significant market protection and some blamed practices. Much of the Chinese market remains largely closed for foreign industrial firms. The state plays a strong role in supporting Chinese companies at home and abroad which gives them an unfair competitive advantage. Chinese companies can underbid in public tenders, the subsidization of state-owned and state-linked enterprises has led to the build-up of significant overcapacities in China, for foreign firms acquired by Chinese companies the supply chain changes considerably in favor of other Chinese firms. China has already obtained high stakes in Europe's electricity grids, transportation infrastructure and communication networks.

Figure 1: The global economy's centre of gravity is shifting East Asia



Notes: Share (%) of developing Asia in total world GDP (constant 2011 international € PPP);
**Excluding high income countries like Japan, Korea, Singapore, Australia and New Zealand*
Source: EPSC- EU Industrial Policy after Siemens-Alstom (2019), World Bank (2017)

4. Levelling The Global Playing Field

EU is one of the world's most open markets to trade and foreign direct investment, number one trader of goods and services and the largest destination for foreign investments. But European industry is exposed to foreign pressure by partners who do not play by the rules. Openness of markets must be applied everywhere.

4.1. Making the World Trade Organization fit for purpose

EU was and remains the promoter of multilateral trade framework, represented by GATT and WTO, and benefited immensely of trade liberalization in terms of growth rate, jobs, and competitiveness. Rules are needed for digital trade and e-commerce, for market-distorting subsidies due to the proliferation of indirect industrial subsidies, e.g. in the form of tax cuts and cheap sovereign loans to state-owned enterprises, also compliance with obligations on subsidy notification. China benefits from preferential treatment as a 'developing economy' and can impose market access barriers, although is a member of WTO and is reforming its economy. WTO should update its rules to the new global context, increase the transparency of their application, and collect evidence and insights into ongoing cases and trends. The EU supports such a reform of multilateral rules-based order, difficult to take place in a short time, and uses also the bilateral agreements for promoting its trade objectives.

4.2. Growing the EU'S Arsenal of Defensive Tools. Trade defense instruments: strengths and limitations

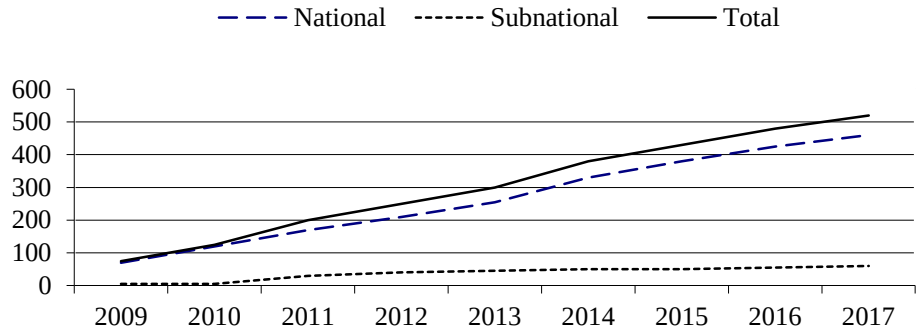
In December 2017 and May 2018, the EU imposed a set of trade defence instruments to further strengthen the protection of European companies against injurious imports and these tools and measures are protecting 320,000 direct industrial jobs. Trade defense instruments may address the effects of unfairly priced imports in the EU market and other instruments are needed to counter unfair competition to which EU companies are facing in non-EU countries and they address goods only, not unfair trade in services.

EU imposed rules to improve scrutinity of FDI on the grounds of security and public order based on cooperation between MS and EC while decisions are in the hands of national governments. Chinese foreign direct investments can be covered by this new screening mechanism. The strategic implications at European, national and regional level must be taken into account due to the complexity and interconnection of value chains. Foreign investment players may get access to sensitive European technologies and business secrets, or gaining influence over critical infrastructure, and supply chains may be exposed to harmful disruptions. Among counter-measures one may include a review of EU public procurement market rules in order to examine the role of foreign bidders in critical markets.

4.3. Shifting into offensive gear: beefing up reciprocal market access and building up leverage

Defensive trade policy will not help European companies to get access to new, job-creating markets, many located in Asia and applying protectionist measures by EU is costly and has short term effects. The EU must focus on removing remaining barriers to overseas markets, many of which are strongly protected today, and since 2014 123 barriers have been removed, generating 6 billion euro in additional EU exports each year. In the field of public procurement it has increased the number of discriminatory measures at the global level (see figure 2). The European Commission should identify other areas creating further leverage in levelling the playing field.

Figure 2: Discriminatory public procurement measures increased worldwide (by level of implementation)



Notes: Total reflects the number of measures currently applied at national and subnational level.
The EU Member States most affected include Germany (402 active measures), France (387) and Italy (387).
Source: EPSC- EU Industrial Policy after Siemens-Alstom WTO (2019), Global Trade Alert database (2017).

5. Industrial leadership starts at home

The Barroso Commission and Juncker Commission placed industry at the top of their strategic priorities. In September 2017, Juncker Commission took a first step towards updating the EU's Industrial Policy Strategy – with a comprehensive package. (EC, 2017) This included a number of new initiatives around the free flow of non-personal data, cybersecurity, the circular economy, sustainable finance and the deployment of 5G. A lot of efforts were made in the last 10 years to strengthen Europe's industrial base and innovation potential, but the results in Member States have been disappointing, having in mind the pace of rapid changes brought by Industry 4.0. Synergy effects must be generated through unity of action, but Member States were not able to launch joint initiatives. Within EU industrial markets are fragmented, research funds and budget allocations are not sufficient, knowledge transfer into businesses and the wider economy is weak the situation cannot be radically changed by a single industrial policy.

Could be 5G a testing ground for EU industrial policy? Two European digital champions, Nokia (with 17% in Q3 2018) and Ericsson (13.4%) are in the global top of three 5G equipment vendors, after Huawei (29%) and they both will be involved in the progress of 5G in EU and may get a large share of European market and this could offer a good testing ground for a genuine European industrial policy, based on more coordination at EU level.

Four major initiatives are envisaged as MS to come together around a coherent set of actions.

5.1. Single Market Renaissance

Europe's Single Market is important in the global context but it must be brought in the digital age. Progress was made in roaming, free flow of non-personal data, e-commerce, but the Digital Single Market cannot compare with digital markets in the United States or China, because there are 27 different consumer markets, 27 different regulatory regimes and some countries are lagging behind on digitalization. All MS must support the initiatives for more connectivity, accelerating the adoption and diffusion of digital technologies among Europe's traditional industries, and creating the necessary scale for Europe's digital economy.

5.2. Innovation & funding: fast-tracking investments into the sectors of the future

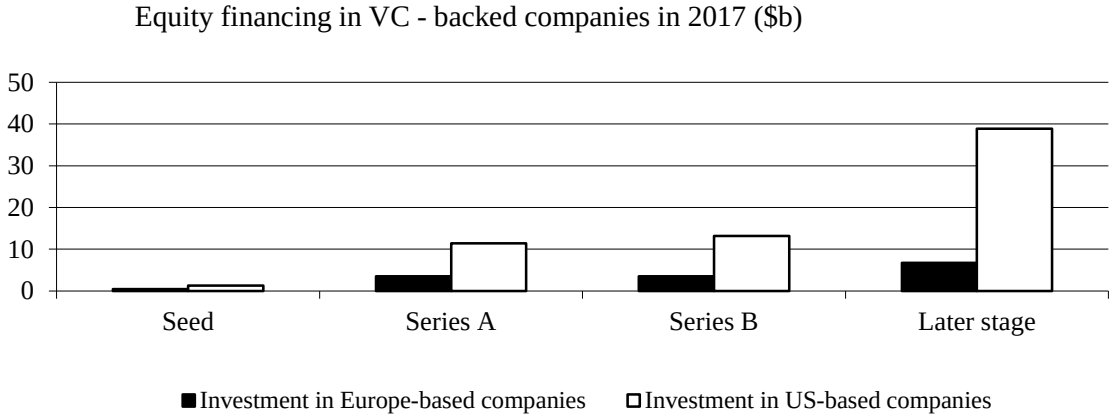
Public and private investments in key strategic areas for R&D of European industry need to be increased based on strategic industrial partnerships and on companies own contribution. In 2015, overall expenditure on R&D in the EU amounted to 2/3 that of the US, was 49% higher than in China, and more than double than in Japan, but only 55.3% originated from business, compared to 78% in Japan, 74.7% in China, 64.2% in the US. It is not normal to rely too heavily on public sector R&D unlikely to yield the desired results because of its distance to manufacturing processes and market conditions. The EU innovation policy did not support disruptive or breakthrough innovation, aimed at creating new markets. The European Innovation Council is in the pilot phase and has a budget of 2.2 billion euro for 2019-2020, including combined grant and

equity investments for financing fast-growing, technology-based companies, and for targeting support to new technologies like digital twins, human-centric AI, etc. The European Commission proposed an increase up to 10 billion euro under the next budgetary cycle, with a focus on breakthrough innovation.

The rapid diffusion of innovation throughout the economy is essential due to the pace of technological development, and due to the existing gap between front-runners and laggard firms. The linkages between science and industry must be improved, by providing a better technical assistance and training, and stronger mobility of talent. Although EU has the largest publicly funded research programme in the world (Horizon 2020), only 1% of this funding is dedicated to knowledge and tech transfer. Even R&D funding produces successful innovations, they may not be applied in Europe (see figure 3).

Figure 3: Funding gap between the US and Europe is widening in later stages. Investments in Europe and US by stage focus in 2017, in billion US dollars

US - as a multiple of European investments	2.9x	<	3.2x	<	3.8x	< 5.8



Source: : EPSC- EU Industrial Policy after Siemens-Alstom, Dow Jones VentureSource

Doing business in Europe: an international reality check. The business environment must be a healthy one for the fast growing or development of successful companies, which do not need direct state support or protection. According to the World Bank's Ease of Doing Business ranking, the EU is steadily losing its competitiveness related to the lack of a dynamic firm environment. Only two of 28 Member States recorded improvements in their ranking in the 2019 report, three MS retained their positions, while 23 recorded a decline, compared to 2018 report. Many Member States maintain public administration and judiciary hurdles for firms.

Business obstacles persist related to law, taxation, administrative practices and capacities, like construction permits, registering property, enforcing contracts, access to credit, insolvency laws preventing a rapid exit, bankruptcy laws quite punitive, tax rate and tax administration, high corporate tax burdens, inhibiting investment and job creation, a complex business environment, especially for start-ups and SMEs. Firms operating in the EU face a higher tax compliance burden than companies operating in the US, Japan, Australia or Canada, which affects their competitiveness in global markets.

The modest scale of the EU budget means it cannot support innovation too much, so large institutional funds (pension funds, insurance companies, sovereign wealth funds) should be attracted in venture capital, also trusted foreign investors. In 2017, growth capital still represented less than 7.5% of overall funding in Europe – at 6.7 billion euro, against 92 billion euro of total private equity raised. That is why Europe's most successful companies often end up in the hands of third country firms or investment funds. European Fund for Strategic Investments was a successful instrument which must continue under the next Multiannual Financial Framework with the InvestEU Fund based on a proposed contribution from the EU budget of 15.2 billion euro and by gathering 650 billion euro of additional investment across Europe. The Capital Markets Union is still a project that may increase the liquidities and funds needed for turning European start-ups into global scale-ups.

5.3. Regulation & standards: building up 'Brand Europe'

Shaping global rules and standards according to the EU's core values in trade, investment, climate, labor, human rights, development cooperation and raising the level of quality and fairness of these international rules, represents an important contribution to levelling the playing field for business and consumers and provides a strong model of economic and societal development .

Following China's example that systematically used sovereign wealth funds (SWFs) – state-owned or supported investment vehicles –for getting competitive advantages and strategic inroads abroad, EU may establish such a fund which could provide an optimal and future-oriented way of developing strategic sectors with a strong focus on innovation. A European SWF would require a properly designed governance and accountability framework, full transparency regarding its structure, investment strategy and returns, mobilization of large and adequate financial resources.

EU must defend its strategic autonomy and its values by shaping rules and standards governing emerging technologies impacting on industrial leadership and profitability. Ambitious consumer and data protection regulations implemented in EU may influence other markets and jurisdictions. European companies have not yet managed to capture sufficiently large market shares in the Internet economy, also in some high tech fields, like 5G, while Internet of Things and Artificial Intelligence are requiring new regulations and standards to remain human-centric, safe and ethical.

5.4. Partnerships for the future

'European champions' may involve several companies and not a single one, into a temporary collaboration, or a consortium of companies that complement each other's services. Companies may come together to undertake joint technology development, for instance in the context of a Joint Undertaking or an 'Important Project of Common European Interest'. EU is supporting interdisciplinary collaboration for helping its companies to have a systemic presence, to deliver a more complete set of products and services, and to increase research and development impact. It is an approach targeting future-oriented and globally competitive value chains, based on pooling all available resources – EU, national, regional, local, public and private – together. Particular attention must be paid for areas where European companies have or develop a competitive advantage and are vital for Europe's strategic autonomy, and also for prioritizing and investing public resources, given their importance in addressing societal challenges.

In 2014, the European Commission launched 'Important Projects of Common European Interest' (IPCEI) – a tool enshrined in the Treaty on the Functioning of the European Union (Article 107(3) (b)), but hardly applied to date. New guidelines were developed for the application of this instrument, with the aim to encourage Member States to channel their public funds to large, highly-innovative, transnational research and innovation projects with an important contribution to growth, jobs and competitiveness in Europe and where the risks of transnational cooperation discouraged the private initiatives. After 4 years in December 2018 the first project – covering microelectronics – which was finally launched, it covers semiconductors, sensors, optical equipment and compound semiconductor materials –which are important to the future development of Artificial Intelligence and edge computing. France, Germany, Italy and the UK will provide a total of 1.75 billion euro in funding, with an additional 6 billion euro in investment from the private sector. From January 2018 up to June 2019 other strategic value chains are going to be selected, like batteries and automated vehicles. Strategic areas have already been identified in the EU's 2017 Industrial Policy Strategy, and they include automotive (also batteries), energy systems, the Internet of Things, robotics, Artificial Intelligence, defense, space and the bio economy and actions must be defined and implemented very fast. Key enabling technologies such as 5G or quantum technologies are essential to insuring Europe's future cybersecurity.

One of the ideas is to implement the same economic diplomacy as China does in the context of its *Belt and Road Initiative*, in order to gain more access to some foreign markets, in particular in developing countries. But more EU presence in these markets may involve all EU policies – trade and investment, development, environmental and energy-related – and instruments – including the European Development Fund, the External Investment Fund and financial capacity from the European Investment Bank and the European Bank for Reconstruction and Development (EBRD) and may require more trade and investment promotion conducted by EU Member State, with coordination and complementary support provided by the European Commission. EC should expand joint business missions, support industry in missions, and create new European business associations through European Union Chambers of Commerce in third markets.

6. Conclusions. Two sides of the same coin: reducing exposure to protectionism while restoring industrial leadership at home

Open markets or protectionism? EU should remain a champion of free trade and investment in the world, but taking care of its interests on internal market and on external markets. After strategic industrial priorities are established, the EU needs to counteract unfair practices on the side of third countries and fight against protectionism. What kind of support must be given to European industry?. Governments or European institutions cannot replace the market, but market forces and economic cycle may impede on a sustainable and strong development due to the market failures, the costs of externalities such as climate change, and the widening gap between 'winners' and 'losers' of globalization and technological change. Due to economic and financial crisis European firms have not always pursued the most suitable business strategies over the past decade, and many failed to acknowledge the transformative impact of digital technologies.

What kind of incentives can be given to stimulate innovation and the development of high tech sectors? They must be based on knowledge about evolving trends and societal objectives and direct the markets to optimize value creation. For creating a business and innovation environment and fostering a smart regulatory ecosystem the best tools may be knowledge and skills on the one hand, and broad development and diffusion of technologies on the other. The two pillars of EU industrial strategy – external and internal, defensive and offensive – must work hand-in-hand. Firstly the political level has to make strategic choices about support for broad technologies or industries, secondly market distortions created by Europe's main competitors must be detected and thwarted (also the state of foreign protectionism affecting European industry), thirdly a continuous and correct assessment of the EU industries competitiveness vis-à-vis Europe's main competitors has to be made with the necessary conclusions. More strategic vision in planning technological and industrial future is needed, and also more awareness regarding unfair competion from other countries, while a proper industrial policy should support industry at large, rather than individual technologies.

References:

[1] Council of EU, 2018, *EU industrial policy strategy: Council adopts conclusions,* Brussels,12 March;
[2] European Council, 2019, C*onclusions*, Brussels, 22 March
[3] European Commission, 2019, *EU Industrial Policy after Siemens-Alstom, Finding a new balance between openness and protection*, European Political Strategy Centre, Brussels, 18 March
[4] European Automobile Manufacturers Association, 2018, *'Employment Trends in the EU Auto Industry', June* .
[5] European Commission, 2018, Eurostat, *International trade in cars.*
[6] European Commission, 2017, *Industrial Policy Strategy*, September
[7] The Economist, 2019, *An industrial revolution, April 6th*