Navigating towards Chips for Europe Initiative

On the Chips Act, the future of KDT JU & the industry, and the possible synergies. Interview with Ms. Lucilla Sioli

Ms. Lucilla Sioli is the Director for ‘Artificial Intelligence and Digital Industry’ within Directorate-General CONNECT at the European Commission. She is responsible for the coordination of the European digitisation of industry strategy and for policy development in the area of artificial intelligence (AI). The directorate also supports R&D&I in key digital industrial technologies including microelectronics, photonics, robotics and AI. Lucilla holds a PhD in economics from the University of Southampton (UK) and one from the Catholic University of Milan (Italy) and has been a civil servant with the European Commission since 1997.

This interview was conducted as part of the KDT JU interview series in view of the European Chips Act, proposed by the European Commission in early 2022. The interview was taken by Mr. Luciano Gaudio, acting Head of Communications at the KDT JU.

Luciano GAUDIO (KDT JU)
Why does Europe need a Chips Act? What is the rationale of the proposed Regulation?

Lucilla SIOLI (DG CNECT)
First of all, we should keep in mind that chips and semiconductors are central to our economies because they enable all the smart devices that surround us. Our societies and economies are shaped by the way the chips function and what they allow us to do.

Since the COVID-19 pandemic, the European Union, much like the other parts of the world, has experienced severe chips shortages. Initially, this was mostly caused by an increased number of people working and studying online. But then the supply chain was also disrupted by other elements, such as natural events or some stockpiling in some countries, causing severe delays in the delivery of semiconductors. These delays had negative impacts on key sectors of our economy such as automotive, healthcare etc.

These shortages were a symptom of a much more serious problem - the excessive dependency of the European Union on the production of semiconductors, which takes place in other parts of the world and in particular, in Asian countries like China, Taiwan, South Korea, Japan, and Malaysia. Taiwan is in the centre of very important geopolitical tensions now. We all heard the recent declarations of the Chinese President Xi Jinping speaking at the opening of the 20th Party Congress on October 16. But we also know it, for example, from the export controls that have been set by the United States on semiconductors very recently. Given that semiconductors are used as important instruments for trade policy and their key importance may cause geopolitical tensions, it becomes very strategic for the European Union to be able to strengthen its know-how in their development and use as well as to reinforce its ecosystem and ensure security of supply.

The measures proposed by the Chips Act address these objectives. Through the Chips Act we want to accelerate the transition from the lab to the fab.

Luciano GAUDIO (KDT JU)
Could you please tell us a bit more about the structure of the Chips Act?

Lucilla SIOLI (DG CNECT)
The Chips Act is organized around 3 pillars. The first pillar proposes new research, innovation and capacity building programme called “Chips for Europe Initiative”. The idea is to become better at exploiting the exceptional research output that we have from excellent players located in the European Union, and to be able to bring innovation capacity of highest quality into the industry in a better and faster way than we do now. In a word, we want to accelerate the transition from the lab to the fab.

This programme wants to increase the European capacity to prototype and scale up innovation. For example, we would like to develop pilot lines which will be open to users across the European Union: researchers, designers, SMEs and start-ups. We also want to support design capabilities in the European Union, which have been fading away during the past years. Moreover, we will support a network of competence centres that will provide expertise to spread capacity as well as to manage
and implement training and reskilling programs. It’s absolutely necessary to shape talents to cope with the current needs of the microelectronics industry. And at the moment Europe is a step behind the main competitors.

Finally, we want to propose a new financial instrument, the ‘Chips Fund’, which will support equity and quasi-equity for start-ups and SMEs in the sector, and help them to scale up production.

The Chips for Europe Initiative will be implemented by the Digital Europe and the Horizon Europe programmes, using for most of its actions the KDT Joint Undertaking, that we propose to be renamed to Chips Joint Undertaking.

The second pillar of the Chips Act takes a different angle. Its main objective is to facilitate investment in new advanced production facilities, to safeguard the Union’s security of supply and supply chain resilience while making the EU a more attractive place to invest. It does that, on the one hand, by harmonizing Member States’ rules without prejudice of State aid provisions, and on the other hand, by providing a label which would allow production facilities to benefit from faster administrative processes, to simplify and accelerate the set-up of production facilities. The recent announcement by STMicroelectronics of a construction of a plant in the semiconductor value chain in Catania (Italy) is the first example of this so-called ‘first-of-a-kind facility’ approach, set out in the European Chips Act proposal, whereby public support is welcomed as long as projects are innovative and a first of their kind in the Union.

The last pillar is about monitoring and the management of future crisis in the semiconductor supply chain. The foreseen mechanism should enable a better coordination with Member States through the European Semiconductor Board. Together, Member States and European Commission can anticipate future disruptions, discuss with like-minded partners internationally, and react to a crisis by enabling and using innovative instruments and measures.

**Luciano GAUDIO (KDT JU)**

Synergies amongst existing EU programs and initiatives are essential to maximize the impact of policy decisions. How does the Chips JU’s mandate fits into this context?

**Lucilla SIOLI (DG CNECT)**

There is no possibility for inconsistency or lack of coherence with other programs. The proposed Chips for Europe Initiative is fully in line with the objectives already set for the Key Digital Technologies Joint Undertaking, which started operating at the end of 2021. With the programme and the strategic research and innovation agenda of KDT JU, we were already navigating in the right direction. Now, we simply need to increase our strength to translate this research outcomes into industrial capability, in particular for the production and the design of semiconductors. Therefore, the Chips JU’s proposal does not overlap, but adds to the program of the current Joint Undertaking.

The innovative aspects for the Chips JU, on top of the fact that it will be of course endowed with a greater budget compared to the KDT JU one, is the fact that it will have the possibility to manage two programmes. In more detail, it will use Horizon Europe budget to support actions in research and development, and the Digital Europe Programme budget to support actions in capacity building.

**Luciano GAUDIO (KDT JU)**

How to support the goals of both institution and industry in a sector like Electronic Components and Systems, which requires huge investment and high speed in innovation?

**Lucilla SIOLI (DG CNECT)**

Semiconductors are a very expensive business. It is a technology sector which is characterized by very high research and development costs. A joint effort is needed to foster collaboration between the key industry players with the Member States, and among the Member States themselves.

The European programmes are key to unite and provide the glue for very large initiatives. This is what we have been doing with the KDT Joint Undertaking. We must understand that we need to work together to face the challenges ahead which are global, and second, to avoid the risk of wasting resources.

**Luciana GUDIO (KDT JU)**

Would you like to convey any message to the industry partners of this so strategic KDT partnership?

**Lucilla SIOLI (DG CNECT)**

I would like to convey to the industry that relying on mutual trust and open collaboration is essential. We can achieve strategic goals only through the involvement of the European semiconductor industry. Strategic research activities will have to be based on the industry’s strategic research agenda as this is the way to harness all the benefits and respond to the needs of the European Union.