A road to a coherent Electronic Components and Systems strategy for Europe

On the Chips Act, the role and diversity of the industry, and the future of mobility. Interview with Mr. Jean-Luc di Paola-Galloni.

This interview was conducted as part of the KDT JU interview series in view of the adoption of 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)

What are the key features of the KDT JU from an industrial point of view?

Jean-Luc di PAOLA–GALLONI (PMB)

From an industrial point of view, the Key Digital Technologies Joint Undertaking features an elaborated, and sometimes complex, model which involves public authorities (the EU through the Commission, EU Member States and Associated Countries to the Horizon Europe Programme on a voluntary basis (called the „Participating States”) and 3 industry associations (AENEAS, EPoSS and INSIDE) representing stakeholders in micro- and nanoelectronics, smart integrated systems and embedded/cyber-physical systems. This model allows to deploy a leverage effect that could not be achieved by the industry working alone.

When there is a significant amount of money needed to push innovation into a pre-competitive and market-orientated level, as it is in the case of the electronics value chain, the tripartite model of this Joint Undertaking is a great solution. The electronics sector requires a very high level of investments for both the hardware, as well as the smart system and software components. Whether you belong to AENEAS, EPoSS or INSIDE Industry Association, this leverage effect is extremely important.

However, as there are very different stakeholders involved in this model, private and public, different interests are at stake also. For instance, each European country has its own funding priorities, while the industry, given its cross-border footprint, might have a multi country oriented research strategy. All these interests and strategic orientations need to be combined through mutually beneficial programme.

Luciano GAUDIO (KDT JU)

Ensuring that every stakeholder’s interest is taken into account and properly addressed is essential in this model. How does the industry contribute to this end within KDT JU?
Jean-Luc di Paola-Galloni is the President of INSIDE Industry Association, the European association representing the embedded systems industry and research actors in the KDT JU, for which he is the Chairman of the Private Members Board (PMB). Additionally, he is the Vice-Chairman of the European Road Transport Research Advisory Council (ERTRAC), the main automotive technology platform on collaborative research of the EU Commission. Jean-Luc is also a member of the Board of its cPPP European Green Vehicle Initiative (ECVI). He also is Valeo’s VP in charge of Sustainable Development and External Affairs and represents the Valeo group in the Board of CLEPA (the European Association of Automotive Suppliers) since July 2018.

There’s a need to create a strong electronic ecosystem in and for Europe.

Jean-Luc di PAOLA-GALLONI (PMB)

The industry may be very diverse, and in some cases it combines both public and private actors together. On top of that, there is a huge diversity within the Electronic Components and Systems ecosystem itself. It includes, let’s say, a wide range of sectors and sub-sectors: from the hardware components, such as the chips, to the software which is embedded in the hardware and the middleware. All that should be integrated. Such verticalization is done through smart systems.

The role of the industry is to identify strategic needs and give guidance on the electronic value chain in terms of RD&I. This vision is then shared with the public authorities. The industry associations’ role is to let the industry’s voice be heard by the Commission and the Participating States. The capacity of the industry to bring essential updates and reviews of issues/priorities is one of the added values of its participation in the KDT JU programme.

Of course, the voice of the Commission and the Participating States shall be equally heard. And to this end, two Governance Bodies - the Public Authorities Board and the Private Members Board - provide the proper context to present, discuss, and answer to all stakeholders’ interests.

The KDT JU offers a risk-sharing mechanism where a convergence of interests is found for a mutual benefit (public and private). The KDT JU programme supports the industry in activities that may not gather the required funds, by injecting financial support from the Participating States and the Commission. On the other hand, the industry shares the financial costs of innovation in those field identified as top priorities by the public partners (the Participating States and the Commission).

Luciano GAUDIO (KDT JU)

We have seen a continuous evolution of this partnership, starting from the merge of Artemis and ENIAC into ECSEL JU, and from ECSEL JU to KDT JU last year. In your opinion, how will the partnership evolve in the next years?

Jean-Luc di PAOLA-GALLONI (PMB)

The partnership has been constantly evolving indeed. Every step in this evolution has been crucial, as it shows the awareness of the European Commission, echoed by the Participating States, that there’s a need to create a strong electronic ecosystem in and for Europe.

Such awareness will certainly be reinforced in the near future through the establishment of the Chips Joint Undertaking within the framework of the Chips Act, expected to be adopted in the next months. Simply speaking, this means that there will be a significant amount of funding to integrate many other extra parts of the hardware research.

It also means that we need to keep the perimeter of the entire ecosystem without jeopardizing the necessary funding for other areas of electronics, such as the smart systems, the embedded systems and the verticalization strategy. I look forward that the perimeter will be kept and consolidated. Regarding the chips, we will ensure progress in the production process in order to avoid future chips shortages and the lack of design of single digit nanometre chips. I believe this is the direction of this evolution and I look forward to supporting it.
Emerging technologies in electronic components and systems is an ever evolving sector. What are the challenges ahead?

Jean-Luc di PAOLA-GALLONI (PMB)

There are many challenges ahead which need to be carefully addressed in terms of prioritisation, intensity and of successive deployment.

First, we live in a context of global competition. As far as the ECS sector is concerned, the Joint Undertaking is extremely useful to solidify the European position in this competition.

To address the challenges created by it, we need to build a robust policy and industrial framework, in particular for the sake of verticalization of the entire ecosystem. This would be extremely important in the future, because the competition is being set not only at the level of the hardware, but also throughout the smart systems and the software implementation.

I would also like to mention that we need to be very careful on creating and retaining talents, know-how, and jobs related to the entire ECS ecosystem. As we know, there’s a shortage of software engineers all over the world, and Europe is not spared by this war of talents, which could potentially be a real struggle in the future, also in the context of the chip-making process.

The automotive sector has been particularly hit by the chips shortage. What are the challenges the mobility value chain might be facing in the long-term?

Jean-Luc di PAOLA-GALLONI (PMB)

Thank you for asking for this question, as - coming from a global tier-1 automotive player – this issue is of paramount importance.

First, we need to remember that the compound annual growth rate of what will be needed in terms of electronic components and systems will massively grow for the mobility sector, more than in any other sector of the economy.

We will face challenges in two main areas. The first area is the green and decarbonized reliable mobility solutions for both goods and passengers. If we want to achieve the Green Deal and the Fit-for-55 targets in Europe, we have to have a long-term and coherent electronic components and systems strategy.

The other area concerns automation and connectivity, and the safety of the advanced driver-assistance systems (ADAS). We need to make sure that sensors and radars – key elements of the future mobility - are affordable and efficient. This is valid for all kinds of vehicles (four, three and two wheels), including connected bikes, and for many other aspects of connectivity.
If we want to achieve the Green Deal and the Fit-for-55 targets in Europe, we have to have a long term and coherent Electronic Components and Systems strategy.

This should be considered in the context of a global competition, and of a delivery crisis. Companies and mobility industries cannot afford any disruption of delivery from the hardware players. Globally, millions of cars remained unsold. Not because there wasn’t any demand from customers, but due to the massive chips shortage that caused a lot of issues, including loss of jobs and GDP for many countries. So, we absolutely need to have an industrial strategy. We need to be on the same page with the research needs in terms of quality, quantity, volume, and efficiency of logistics deployment.

Luciano GAUDIO (KDT JU)

As Chair of the KDT JU Private Members Board, would you like to convey any message to the Public Authorities of this strategic partnership?

Jean-Luc di PAOLA-GALLONI (PMB)

We are going through an evolution, from ECSEL to KDT JU, and soon to Chips JU, and therefore there are a few messages that I’d like to pass on.

Great improvements have been done over the last years. But there is still room for enhancing the way we work together in terms of transparency and co-decision, and on how we wish to prioritize the different areas and topics together with the Participating States and the Commission.

My wish is also to see in the Governing Board, high-level representatives from all Participating States, and meet with specialised civil servants in each country for a better understanding of the ECS applications and of the overall value chain.

This would help the decision-making process become faster and more efficient.