

# Consultation on the European Commission's Whitepaper on AI

## Xperi's response

June 11<sup>th</sup>, 2020

### About Xperi

Xperi Holding Corporation (Nasdaq: XPER) invents, develops, and delivers technologies that enable extraordinary experiences. Xperi technologies, delivered via its brands (including DTS, HD Radio, IMAX Enhanced, Invensas, and TiVo) and by its startup, Perceive, make entertainment more entertaining, and smart devices smarter. Xperi technologies are integrated into billions of consumer devices, media platforms, and semiconductors worldwide, driving increased value for partners, customers and consumers. For more information, please call 408-321-6000 or visit [www.xperi.com](http://www.xperi.com).

### 1. An ecosystem of excellence

Xperi welcomes the six actions in the Whitepaper on AI. In the context of building an ecosystem of excellence, these are a set of strong actions. We would like to specifically emphasise a number of key points that we believe should be acted upon very directly:

- While supporting SMEs is important, the **Commission should not lose sight of the importance of the role of large companies and, indeed, the importance of non-European companies who have significant presence in Europe.** Throughout the Whitepaper the language suggests that Europe needs to build its own brands, its own technologies, use European datasets, and there seems to be a dichotomy created between 'born in Europe' technology and data, and that created elsewhere. We believe this is an unhelpful narrative. As technology in this space is developed by companies and individuals from all over the world, this language has a, probably unintentional, "isolationist" tone. It is important that a specific line of activity, either separately or incorporated into each of the current set of six actions, is undertaken to ensure that Europe has a strong AI ecosystem that brings together and exploits the very best innovation in the world.
- **Intellectual property regulation, in particular in relation to patenting of software inventions, should be brought into line with international best-practices.** In Europe, it remains challenging to obtain patent protection for inventions implemented primarily in software. Instead of conferring an advantage for Europe, this policy, is now likely to create a loss of value and leadership in the AI ecosystem.
- The Whitepaper on AI needs to carefully consider its **definition of AI.** Clearly there still is no consensus on what is included within the scope of AI. Much of the discussion in the whitepaper focuses on machine learning, personal data, and systems that are human-facing. It is important to acknowledge that AI as an engineering tool to develop components of systems is an extremely common use and actions taken to introduce regulation into the field should be sensitive to the multiplicity of vectors of use of AI

in industry. In many cases, AI is used as software engineering tool, including as a way to find and correct bugs or security issues before software is delivered to users. We recommend that the European Commission consider the definition that was proposed by its High-level Expert Group on AI:<sup>1</sup>

*“Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by human that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal. AI systems can either use symbolic rules or learn a numeric model, and they can also adapt their behaviour by analysing how the environment is affected by their previous actions.*

*As a scientific discipline, AI includes several approaches and techniques, such as machine learning (of which deep learning and reinforcement learning are specific examples), machine reasoning (which includes planning, scheduling, knowledge representation and reasoning, search, and optimization), and robotics (which includes control, perception, sensors and actuators, as well as the integration of all other techniques into cyber-physical systems).”*

- **Training programmes at all levels of AI training are critical.** These should be supported through structure education at primary, secondary, and tertiary levels, but also in a continuous professional development manner. Partnerships with industry is extremely important in this regard.
- **It will be important that Europe can grow high-value startups and scale-ups based on AI technology.** These companies will need an international platform and not just a European one. Therefore, it is important that incentives and programmes dedicated to the uptake of AI have a global viewpoint and vision, that will provide Europe with a leadership role in AI.

#### **Form response:**

*The Commission should not lose sight of the importance of the role of large companies and, indeed, the importance of non-European companies to Europe. Intellectual property regulation, in particular in relation to patenting of software inventions, should be brought into line with international best-practice. The Whitepaper on AI needs to carefully consider its definition of AI. It is important to acknowledge that AI as an engineering tool to develop components of systems. Training programmes should be also supported in a continuous professional development manner.*

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<sup>1</sup> <https://ec.europa.eu/digital-single-market/en/news/definition-artificial-intelligence-main-capabilities-and-scientific-disciplines>

## Revising the Coordinated Plan on AI (Action 1)

The European Commission will propose to Member States a revision of the Coordinated Plan on AI to be adopted by the end of 2020. We have a number of recommendations:

- The areas set out in the Whitepaper in relation to aligning policies and strengthening coordination across the Member States are important, particularly so for companies that either current are not advanced in their use/adoption of AI, or for startup companies. This is certainly an important line of work. However, **we believe these topics miss the important aspects of bolstering and supporting those companies that are already advanced in relation to AI.** While one might regard such companies as not needing support, or not being a priority, it is these companies that are likely to play a significant role in creating an advanced ecosystem in relation to AI.
- **We would encourage the European Commission and Member States to consider initiatives to ensure that Europe builds a strong “Single Market for AI”** with all the necessary dimensions that this requires such as regulatory alignment, support for AI “supply chains”, and mechanisms to support large companies to contribute and support ecosystem development in Europe. Such activities could include the creation of spin-outs organisations to be based in Europe and the creation of networks of companies that contribute to their AI agenda. There is a risk that an AI landscape that is overly focused on regulation will disincentivise large companies in building deep innovation functions and networks in Europe.
- It is **critically important that AI is defined properly** and the opportunities and needs of specific use-cases and sectors are considered on their own merits and needs. Deep sectoral and application domain understanding is critical. AI is not a single technology, nor is it generally used in isolation.
- **We note the action related to reference testing facilities for AI, but we believe this is neither a practical nor appropriate priority.** The Whitepaper does not make a convincing case for why such facilities would be necessary or useful. Companies that are already advanced in AI already have developed deep expertise in this respect. Furthermore, due to the nature of how AI is used in most applications, it is not technically possible to create separate organisations for testing purposes. It would be much more appropriate to focus efforts on the development of standards to which organisations could ensure they satisfy, and that mechanisms are put in place to instead bring companies who need support to the requisite standard. Instead, consideration might be given to the creation of royalty-free/low-cost datasets that could be provided to companies for testing and benchmarking. It must be recognised, however, that companies invest heavily in the creation of their own data-sets, which are often highly confidential and proprietary, forming a core element of their intellectual property and commercial advantage in the marketplace.

### Form response:

<i>It is important to bolster and support those companies that already advanced in relation to AI. We would encourage the European Commission and Member States to consider initiatives to ensure that Europe builds a strong “Single Market for AI”. It is critically</i>
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*important that AI is defined properly. We note the action related to reference testing facilities for AI, but we believe this is neither a practical nor appropriate priority.*

Are there any other actions to strengthen the research and innovation community that should be given a priority?

**Form response:**

*We regard the establishment of a lighthouse research centre as unimportant. Europe should support diversity of excellence in how it supports research in the area of AI. This is reflected in our scoring of networks of excellence centres as very important. A concern we have in relation to research is that public policy should not attempt to create AI researchers in universities in the likeness of industry. It is important that sufficient resources are made available in Europe for blue-sky thinking in relation to AI. A long-term view is necessary within the publicly-funded research system.*

Focusing on Small and Medium Enterprises (SMEs)

There are a number of tasks that we regard as important for specialised Digital Innovation Hubs:

- **The DIH's are well placed to provide the support necessary for companies to undertake AI self-assessments**, e.g. training and advice, as well as providing support for the development of consensus-based voluntary standards for AI. In this regard the DIHs could help certify that organisations have undertaken a defined training programme documenting familiarity with EU guidance in relation to Trustworthy AI.
- **We strongly advocate the implementation of consensus-based voluntary standards for AI.** These can be developed in dialogue with industry, be based on best practices, and would avoid the risks associated with ill-informed regulation. The DIHs have an interesting role to play in the development of such consensus-based standards, help ensure that they are inline with the current state of technology, and provide support to the ecosystem in their uptake and use in practice.

**Form response:**

*DIH's are well placed to provide the support necessary for companies to undertake AI self-assessments as well as providing support for the development of consensus-based voluntary standards for AI. DIHs could help certify that organisations have undertaken a defined training programme documenting familiarity with EU guidance in relation to Trustworthy AI. We advocate the implementation of consensus-based voluntary standards for AI. These can be developed in dialogue with industry, be based on best practices, and would avoid the risks associated with ill-informed regulation.*

## 2. An ecosystem of trust

### Concerns about AI

We do not believe that the **positioning of AI in the whitepaper, with a primary focus on risk, dangers, and harmful effects, is the best way of supporting AI technologies in Europe**. The **very broad and vague definition of AI does not, in our view, help either**. We are considered that a “one size fits all” regulation based of a risk and harm focus could have a very negative impact on Europe’s position in AI as a market, user, and innovator in the technology. A challenge here, of course, is that AI is a very broad subject. It is, on the one hand, a **set of technologies** (e.g. machine learning, planning, knowledge representation, constraint programming, etc.) and also a **technical objective** (automate intelligence).

One might make a distinction between *offline* versus *online* learning. Offline learning results in the deployment of fixed designed behaviours (learned from a fixed set of training sets) while online learning refers to dynamically evolving behaviours, learned while during operation. It is easy to observe that offline AI does not pose any extra threat versus traditional ways to design systems (in both cases the device/apparatus maker has to test properly to make sure the device (AI or not) is performing according to expectations in all situations). Online learning systems, of course, may need more supervision since the behaviour of the system is changing over time in response to its experience.

We strongly **advise that priority is given to developing a precise definition of AI** for what might be the basis of any regulatory framework in relation to AI and that there be consultation on that definition.

**The concerns highlighted in the “Ecosystem of Trust” section of the Whitepaper are not unique to AI**, but are relevant to almost any advanced technology that is used in a human-facing manner. The focus is also almost entirely on human-facing AI making decisions that can have an impact on fundamental rights. However, none of these are unique to AI, whatever that is meant to include.

**Europe’s leadership in AI is in engineering and B2B applications**, in many cases AI is used in a modest and specific manner within an overall system.

It is important to note that **existing European regulation, notably the GDPR, cover all the concerns raised in the Whitepaper**. Introducing further “one size fits all” regulation on a technology is not required at this time, and could hinder Europe’s ability to take a leading role in AI technologies.

### Form response:

*The positioning of AI in the whitepaper is extremely negative. This is compounded by a very broad and vague definition of AI. The concerns highlighted in the “Ecosystem of Trust” section of the Whitepaper are not unique to AI. Europe’s leadership in AI is in engineering or B2B applications, in many cases AI is used in a modest and specific manner within an overall system. It would appear that the GDPR covers all the concerns raised in the Whitepaper. Introducing further “one size fits all” regulation on a technology is not justified at this time.*

## Definition of high risk

**The risk-based approach in the Whitepaper is, essentially, binary:** high or low risk. There is no ‘medium’ risk. Labelling sectors with a specific risk level makes little technical sense, and going further into uses also seems problematic. It isn’t just the binary nature of the risk, but also the specific applications regardless of broad market that’s at issue.

**Focus should be given to the purpose of an AI application,** and the role that this has in the overall system. Specific extreme cases, such as lethal autonomous weapons, are called out, but these kinds of systems are rare exceptions. **Note that the issue here is the intended purpose of the system, not sector/use.**

In their work, **the HLEG-AI the distinction was made between risk-based regulation and the use of the precautionary principle.** The latter is helpful in situations involving extreme risk. The vast majority of AI applications in Europe are not high (or even extreme risk). Therefore, precision is needed in characterising those applications that should be handled differently.

### Form response:

*The risk-based approach in the Whitepaper is, essentially, binary: high or low risk. It is not nuanced enough. The approach is also not proportionate. Labelling sectors and applications, regardless of market, as high risk makes little technical sense. Focus should be given to the purpose of an AI application, and the role that this has in the overall system. Regulation in Europe should not be driven by exceptional cases.*

## Mandatory requirements of a possible future regulatory framework for AI

The Whitepaper sets out a proposed set of mandatory requirements for a possible future regulatory framework for AI. These include: the quality of training data sets; the keeping of records and data; information on the purpose and the nature of AI systems; robustness and accuracy of AI systems; human oversight; and, clear liability and safety rules. These are all important in their own right, but **we believe they are already existing aspects of good practice in the development of system components and products involving AI.**

**Introducing mandatory dimensions adds unnecessary burden.** Companies have invested significant time and effort in developing their internal processes, procedures, and quality assurance methodologies. There is a significant risk that including these requirements as part of a regulatory framework, such requirements might be inconsistent with best-practice developed within industries over many years.

It is our experience that companies invest heavily in curating and developing high-quality – and highly proprietary – datasets. For machine learning-based systems the quality of the data drives the quality of the system that is developed and, in some cases, using poor quality data is a form of negligence that is subject to existing liability legislation. It is critically important to record the development of systems, test them rigourously, and ensure that they are safe.



The approach articulated in the Whitepaper takes an **extremely simplistic view of state-of-the-art AI systems**, and how they are built and deployed. Rather than creating a mandatory set of requirements in this context, a more appropriate approach is to define standards that companies can develop to, consensus-based assessment systems, and ex-post market surveillance and assessment. If AI systems have been poorly developed, using poor methodology and data, not only is the quality, and value, of a product/system compromised, but it is likely to be sufficiently poor quality that **liability legislation comes into play**.

If mandatory requirements are to be enforced, this needs to be done in a very nuanced and specific manner, and certainly **not in a “one size fits all” approach**.

#### Biometric Identification Systems

The GDPR is very relevant to this setting. The critical point is the issue of consent which should be obtained in an informed manner. We do not support any form of mass surveillance where informed consent cannot be granted.

Of course, there are settings where the issue of informed consent is not the core concern. For example, informed consent can be very challenging in certain cases. There is the distinction between consumer use cases on/in consumer private property as opposed to commercial or governmental use cases in public spaces. We are not in favour of mass surveillance in public spaces, but on the other hand we do not want to compromise freedom-of-choice for deployment by consumers which might relate to the protection of their fundamental rights.

#### Form response:

*The GDPR is very relevant to this setting. The critical point is the issue of consent which should be obtained in an informed manner. However, we need to protect freedom-of-choice for consumers, especially when this relates to the protection of their fundamental rights. We do not support any form of mass surveillance where informed consent cannot be granted.*

#### Voluntary labelling system

**We believe that the approach should focus on self-assessment and the implementation of consensus-based voluntary standards.** It is important that the Commission involves those who innovate in AI on a daily basis and have developed best practices in relation to the testing, implementation, and deployment of complex AI solutions. We are very concerned at the potential burdens that would arise due to the development of poorly defined labelling systems that are likely to be of a lower standard than those already in use in industry.

In addition **the term "AI system" is not precise**. AI might be used in many ways in a complex engineered system, but it doesn't make the system an "AI system". It is unclear what the threshold for the use of AI would need to be in order for a system to be so labelled. Precision of language and intent is extremely important in this setting.

#### Form response:

*We believe that the approach should focus on self-assessment and the implementation of consensus-based voluntary standards. We are very concerned at the potential burdens that*

*would arise due to the development of poorly defined labelling systems that are likely to be of a lower standard than those already in use in industry. The term "AI system" is not precise. AI might be used in many ways in a complex engineered system, but it doesn't make the system an "AI system". It is unclear what the threshold for the use of AI would need to be in order for a system to be so labelled.*

Assessment of compliance

**Form response:**

*We strongly advocate for a combination of consensus-based voluntary standards with an ex-post market-based approach.*

### 3. Safety and liability implications of AI, IoT and robotics

We believe that Europe's current safety and liability regime is fit for purpose in relation to AI. The existing regime is technology agnostic and general, thereby ensuring that it is widely applicable. In the absence of specific examples of gaps in current regulatory frameworks that arise uniquely due to AI, we do not believe that further regulation is needed at this time.

Further risks to be expanded on to provide more legal certainty

The risks highlighted in the Whitepaper (cyber risks, personal security risks, risks related to the loss of connectivity, and mental health risks) are risks associated with a variety of advanced technologies. However, **none are uniquely related to AI**. This is, once again, where the issue of a **problematic definition of AI arises**. For example, the mental health risks associated with social media are hotly debated, but the core technologies there are data analytics and statistics for the implementation of personalisation and targeting, which are not necessarily AI technologies. Cyber risks are becoming more complex based on high-speed data-driven algorithmic solutions. However, again, these are not AI-related and existed, and will continue to exist, regardless of how widely AI-related technologies are deployed. When considering the notion of risk stemming from the use of a technology it is extremely **important that we define how the technology is used and the degree to which the risk is uniquely associated with the technology**.

**Form response:**

*These risks are risks associated with a variety of advanced technologies. None are uniquely related to AI. When considering the notion of risk stemming from the use of a technology it is extremely important that we define how the technology is used and the degree to which the risk is uniquely associated with the technology.*

Further considerations regarding risk assessment procedures

**Form response:**

*No additional risk assessment procedures that are specific to AI are necessary.*



## Product Liability Directive

### **Form response:**

*There is currently no evidence that liability rules need any adaptation for AI. Where damage arises, the case for why additional regulation is necessary has not been made. In fact, poorly justified and unfocused amendments could be extremely harmful in themselves.*

## Adaptations to national liability rules

### **Form response:**

*There is currently no evidence that liability rules need any adaptation for AI. Where damage arises, the case for why additional regulation is necessary has not been made.*

End