EU PRE-ASSESSMENT FICHE FOR IPCEI CANDIDATES

IPCEI ON A CONTINUUM OF FEDERATED AND DISTRIBUTED ARTIFICIAL INTELLIGENCE AND SERVICES (IPCEI-AI)

The objective of this fiche is to provide a preliminary assessment of whether an industrial policy initiative in a given area (be it a specific technology, value chain or sector) would be a suitable candidate for an IPCEI.

The questions aim at ensuring that an industrial strategy initiative by Member States in a given area is warranted, aligns with EU objectives and would meet the eligibility criteria set out in the IPCEI Communication.

The objective of the fiche is not to come up with a final decision as to whether launching an IPCEI in a given area, but to assess if it would be necessary to conduct more analytical work to design a potential IPCEI.

Please limit the length to 10 pages.

1. OVERALL DESCRIPTION OF THE INITIATIVE

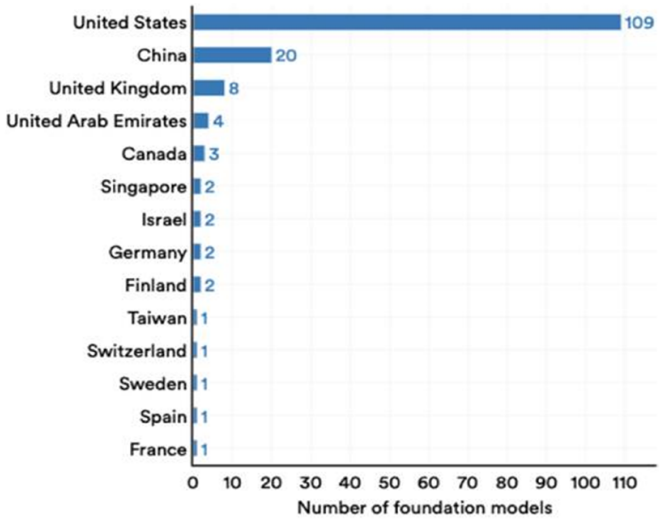
Please describe the overall planned area of intervention and the intended possible nature of policy intervention/projects. This could be linked either to specific technology, a value chain or a sector / value chain.

Machine Learning (Artificial Intelligence) is the key digital technology of our time and a paradigm shift in how digital solutions are produced and used. Artificial Intelligence (AI) is the engine of the next industrial revolution and will be essential for innovation, progress, international competitiveness and prosperity for the European Union. European developers of foundation models do not currently have access to sufficient EU-owned computing resources and are forced to use non-EU providers. A successful IPCEI-AI would bring together the capacities of existing EU data centres to create a continuum of federated and distributed computing capacity, which would facilitate the access to sufficient computing resources for the development, training and inference of foundation models for all European industries, including SMEs and would help overcome the hardware and software lock-in by non-European providers. It would also develop pre-competitive foundation models that will be made available to industry (as free and open source) for further specialization and deployment. The initiative will complement existing EuroHPC and cloud provider capacities by adding a federation layer and a user-friendly environment to ensure rapid market adoption. An open cross-European PaaS approach would enable easy access by EU businesses, including SMEs.

The initiative will strengthen the Union's ability to:

1.) **Train foundation models**: Foundation models could serve as a basis to advance the development of AI applications in Europe and thus ensure digital sovereignty and competitiveness. Large Machine Learning models provide a technological basis for a variety of further developments and advanced applications. IPCEI-AI would allow the pre-competitive development of foundation models that would

be made available to the public (as free and open source) in order to enable their broad application and integration for European industries.



Graph 1: Number of foundation models by geographic area, 2023
(Source: Bommasani et al., 2023, Figure 1.3.18, AI Index Report 2024[1])

2.) **Perform inference and federated learning of models**: Inference is the process that follows the re-training of the AI and by which the machine learning model interprets and corrects results by constantly processing new data. The better a model is trained and the more finely tuned it is, the better its inferences will be. As training progresses, developers need to refine the models and to have constant access to AI computing capacities. These models make some inferences immediately after the initial training process and then correct the results. This should be achieved with federated learning approaches, based on a continuum of federated and distributed computing capacity.

3.) **Develop and enhance the infrastructure capabilities for the training, tuning, testing and deploying of foundation models:** A fundamental requirement for the research and development of these models is – beside the access to qualitative training data and AI experts – the availability of sufficient computing capacity in dedicated AI supercomputers (s.a. EuroHPC) or cloud computing, which is currently *not sufficiently available to companies in Europe*. The training and deployment of AI requires unprecedented capacity for data storage, processing and interconnection. The underlying infrastructure must be optimized for handling AI workloads, notably at the level of data centre components like GPUs. IPCEI-AI aims to connect existing (s.a. EuroHPC) and new (a.s. AI-Factories) capacities on European scale and to manage the non-discriminatory access of EU businesses, including SMEs to this continuum. AI can only reach its full potential if the necessary hardware and software are in place to train and utilise AI models at scale. Inadequate access to software and infrastructure can lead to the emergence or the deepening of compute divides, limiting advances in productivity and negatively affecting competitiveness[2]. Another objective of the project is to implement new capacities, based on the developed federation technologies to make decentralized computing resources of AI technology across Europe available to all industries (incl. test facilities). The focus is on technology

[1] Source: https://aiindex.stanford.edu/wp-content/uploads/2024/04/HAI_2024_AI-Index-Report.pdf

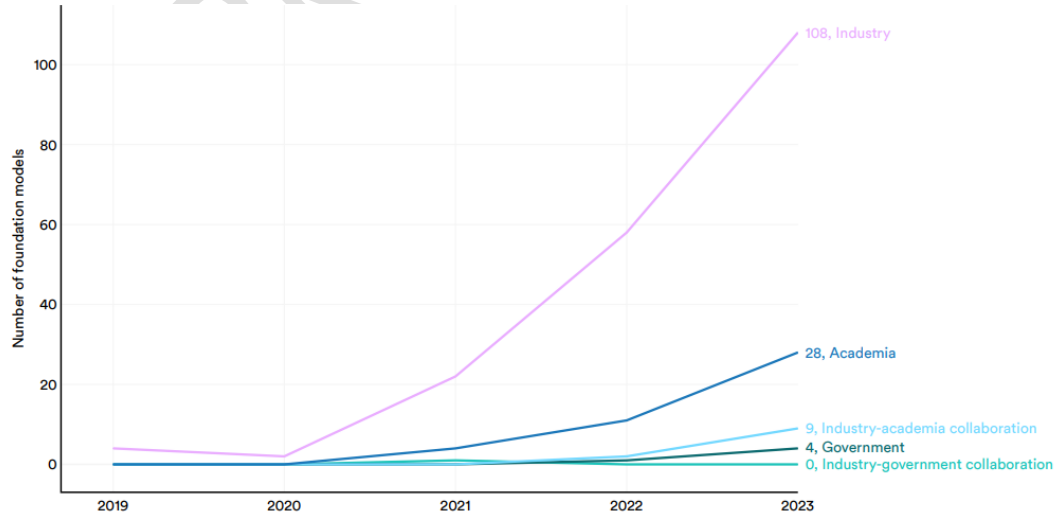
[2] OECD (2023) "A blueprint for building national compute capacity for artificial intelligence", OECD Digital Economy Papers, No. 350, OECD Publishing, Paris, https://doi.org/10.1787/876367e3-en.

transfer to the economy to ensure that the developed foundation models are effectively deployed and contribute to the economic performance of Member States on European scale.

An open and federated cloud infrastructure can be a baseline to be further extended, enhanced and dimensioned in order to fulfil the specific requirements for training, deploying and accessing foundation models. Innovative hardware / software components and architectures, combining processing, memory and networking capability to better address the requirements of foundation models can be introduced and deployed at scale on top of the baseline infrastructure in an efficient and sustainable manner.

4.) **Perform coordinated research and development** activities for training and inference of foundation models across Europe. For this purpose, Machine Learning related use cases from the industry will be coordinated on European scale. This will contribute to develop either generative AI models, AI agents, multi-modal and predictive models, based on existing available data and with the perspective to develop innovative solutions. The training of foundation models in a federated, decentralised and distributed infrastructure needs further extensive research activities and is beyond the global state-of-the-art. Computing capacities made available in a decentralised manner and distributed across Europe would constitute a first industrial deployment (FID).

There is a strong demand from the European industries for reusable and scalable AI models and for edge computing, particularly in sectors where real-time or low latency data processing is key. It simplifies the processing of new use cases and solutions. Demand is also growing rapidly (Graph 2), as regulated industries seek more sovereign AI solutions to mitigate risks associated with non-EU tech providers. All industrial sectors are becoming increasingly reliant on digital transformation and AI-driven decision-making processes. However, without secure and localized infrastructure, these sectors remain vulnerable to disruptions or data breaches.



Graph 2: Number of foundation models by sector – global, 2019 - 2023
(Source: Bommasani et al., 2023, Figure 1.3.16, AI Index Report 2024[3])

[3] Source: https://aiindex.stanford.edu/wp-content/uploads/2024/04/HAI_2024_AI-Index-Report.pdf

Advanced Use Cases to showcase the potential of IPCEI-AI:

The IPCEI-AI would enable seamless interconnectedness and interoperability of different data spaces across Europe, showcasing advanced AI applications which, in convergence with WEB3 and WEB4 technologies, such as big data, digital twins, quantum computing, distributed ledger technologies and virtual solutions, would contribute to the European leadership in the field of the digital transformation of the economy. One of the relevant use cases, for instance, is the interoperable EU digital identity wallet, in the form of corporate identities which can contribute to better access to market for companies, especially SMEs, and better digital services for EU companies and citizens.

A significant impact of the AI foundation models is expected in the fields of manufacturing and robotics. By providing advanced capabilities in automation, predictive maintenance, and process optimization, these models can revolutionize manufacturing operations. AI-driven robotics can enhance precision, efficiency, and flexibility in production lines, leading to reduced costs and improved product quality. The integration of AI foundation models into robotics enables more sophisticated human-machine interactions, adaptive learning, and real-time decision-making, fostering innovation and driving the next wave of industrial automation. This transformative impact will not only bolster Europe's industrial capacity but also ensure that it remains at the forefront of global technological advancements.

Furthermore, healthcare emerges as an area of great interest, with investments in telemedicine, generative AI for synthetic data, and advanced genomics centres. Another field of interest is the natural language processing. It is a field of artificial intelligence that provides the ability to process human language.

In summary, the initiative pursues the objective of fully exploiting the innovation potential in AI as a key technology, and sustainably strengthening the European economic structure through the joint development of highly developed foundation models, pooling resources to provide European AI-optimized computing capacity to industry, including SME's and start-ups, as well as the creation of high qualified jobs and transfer of technology.

2. POLITICAL AND INDUSTRIAL POLICY OBJECTIVES

This section aims at assessing the key policy objectives of the initiative from an economic, industrial and research objectives.

2.1. What is the problem that the initiative aims at solving? What is the "cause" of the intervention and why is it important?

The initiative seeks to address the lack of access to advanced artificial intelligence technologies, particularly foundation models, for enterprises that lack the necessary resources to develop customized AI solutions. Foundation models require significant computational power, specialized expertise, and extensive datasets for training resources that are typically out of reach for smaller enterprises. This limitation hinders their ability to compete and innovate in an increasingly AI-driven global market.

The primary challenge lies in the high barriers to entry associated with AI development and training. Developing or fine-tuning AI models requires access to costly

computational infrastructure, such as graphics processing units (GPUs), cloud-based solutions, and supercomputers. Additionally, companies must have access to large datasets, both in terms of quantity and quality, which are critical for the accuracy and reliability of AI models. Furthermore, the process demands specialized technical skills, including knowledge of data science, machine learning, and AI architecture, all of which are often scarce or expensive to acquire. Another significant issue is the limited customization of AI solutions available to smaller companies. Off-the-shelf AI solutions, though increasingly common, often fail to meet the specific needs of different industries or sectors. This lack of tailored solutions makes it difficult for companies to implement AI in a way that aligns with their unique operational processes, market demands, or regulatory environments. As a result, businesses may not be able to fully leverage the potential of AI to enhance efficiency, innovation, or customer satisfaction.

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The initiative also seeks to address the growing global competitiveness gap in AI adoption and innovation. Companies in countries with more advanced AI ecosystems are increasingly capitalizing on cutting-edge models and technologies, while enterprises in less resource-rich regions or industries are falling behind. This divide risks exacerbating economic disparities between countries and industries, undermining the global competitiveness of European companies, especially SMEs.

Next to High Performance Computing, cloud computing is one of the primary ways for organisations that develop/deploy foundation models to access the necessary computing resources and infrastructure needed for training and deploying their models at scale. At present, the access of EU developers to AI-optimized computing capacity depends almost exclusively on hyperscale cloud providers which, due to their market force, gain privileged access to hardware resources in high demand – GPU accelerators. Moreover, these market actors possess the investment capacity to accumulate these critical hardware elements, but also to build their proprietary AI accelerators (e.g. Google TPU). European Cloud providers face difficulties to access the latest generation of AI processors that could allow for building a cutting-edge and solid AI compute offering. Moreover, the computing resources that are available in the EU are too disparate and lack the necessary interconnection/federation to be jointly leveraged for training and deploying foundation models. That is why this initiative aims to strengthen existing EU computing capacities and contribute to their federation. In terms of HPC capacity, the European Commission's AI innovation package will put in place EU AI factories, which will offer the capacity to access HPC infrastructure-as-a-service together with data storage facilities to be employed by European data spaces; however, leaving out the cloud dimension[4].

Bringing together all these elements, the aim of the IPCEI-AI is to create a continuum of federated computing capacity (EU Cloud and HPC), easy to leverage by developers of foundation models and accessible to SMEs through an open PaaS layer. The latter

[4] https://ec.europa.eu/commission/presscorner/detail/en/ip_24_383

could constitute an essential enabler to overcome, on one side, the extreme hardware and software lock-in that hyperscalers impose for their customers in their closed AI development platforms and services, while on the other side, bringing a more user-friendly environment to exploit AI processing capacity in EU and national HPC centres.

2.2. To what EU policy objectives will the initiative contribute? Will it make a significant impact on sustainable growth?

By creating the right conditions for training and deploying foundation models in the EU, the initiative will make a significant contribution to the supporting and accelerating the digital transformation of the European economy. By ensuring the existence of AI-optimized computing capacity in the EU and creating the right conditions for companies of all sizes to access this capacity, the initiative will boost the competitiveness of the EU in the global digital economy. By ensuring sufficient domestic AI compute capacity, the initiative will put Member States in the right position to follow up on their respective AI strategies and collectively equip the EU with the right capacity for following up on the European approach to Artificial Intelligence which includes a strategy of creating an ecosystem of excellence and trust. Assuring the availability of and wide-spread access to AI compute resources is crucial to allow the EU to fully capture AI's economic potential across all layers of the economy. With this, the initiative will make a significant contribution to meeting the target of having at least 75% of EU enterprises adopt cloud computing services, big data, and/or artificial intelligence in their operations (set in the 2030 Digital Compass Communication and the Digital Decade Policy Programme).

2.3. What are the industrial policy challenges to overcome in the area and in what timeframe?

One of the key challenges to overcome is the limited availability of EU computing resources for the large-scale training and deployment of foundation models. At present, access to such computing resources relies to a large extent on the services provided by the leading three hyperscale cloud providers. A central challenge lies in enabling technological autonomy in such a critical technological field relying on the sum of diverse EU capacities, diversifying the available computing capacities for foundation models and making them more accessible for businesses of all sizes, including SMEs.

2.4. What types of research and development and innovation or first industrial deployment activities ([5]) would the initiative entail?

The IPCEI-AI aims for the first industrial deployment of specific AI-Technologies (such as GPU-HPC-Datacentre, DevOps, generic AI-models, relevant interconnection technologies…) in a decentralised and distributed manner. They should rely on the latency and bandwidth guarantees resulting from the IPCEI Next Generation Cloud Infrastructure and Services (IPCEI-CIS). With the objective to guarantee the technological sovereignty of the IPCEI-AI, a relevant element would be the integration of innovative microelectronics and communication hardware packages resulting from the IPCEI Microelectronics and Communication Technologies (IPCEI ME/CT).

[5] Regular upgrades without an innovative dimension of existing facilities and the development of newer versions of existing products do not qualify as first industrial deployment.

2.5. For RDI-activities, explain their content and why would they be of major innovative nature or constitute an important added value in light of the state of the art?

Ensuring the presence of an integrated infrastructure for training and deploying foundation models in the EU is a prerequisite for fostering the trustworthy and rules-based development of AI in Europe. Today, compute resources to develop large scale foundation models are very limited in Europe, at least outside of academia. The availability is restricted with technological log-ins. Those compute resources should be federated with guaranteed capacities and capabilities, combined with easy access to European industries.

Furthermore, the IPCEI-AI need to provide efficient infrastructure interoperability solutions. Considering the data sources with the quality and reliability of the data included into machine learning process while minimizing the risk of fraud and address the question of ethics at the same time. Therefore, technologies need to be developed which contribute to the trustworthiness, reliability, accuracy and trusted based data. This can contribute to less computing power needed for machine learning processes and secure access, use and transmission of the data, especially important for cloud-edge-node infrastructure solutions, where AI solutions run.

Moreover, by developing proprietary models tailored to specific industry needs, the initiative enhances technological sovereignty and competitiveness within the European Union. Key components include building local computational infrastructure, enhancing specialized skills, and fostering collaboration among European stakeholders. These efforts will not only mitigate risks related to data security and compliance but also empower EU enterprises to innovate independently, ensuring alignment with European values and regulatory standards.

2.6. For FID activities, how would they allow for the development of a new product or service with high research and innovation content or the deployment of a fundamentally innovative production process?

FID activities often involve collaboration with research institutions and industrial partners, granting SMEs access to advanced infrastructure, tools and expertise that they may not have internally. This may include access to specialized equipment for AI training, data processing or manufacturing.

2.7. Is the initiative related to an integrated infrastructure project in the environmental, energy, transport, health or digital sectors? If yes, please explain why it is of great importance for the respective EU strategies or why it will contribute significantly to the internal market.

The initiative is related to the digital sector. The scale that this initiative requires exceeds the capacity of any one single Member State. AI will also have an impact on all other sectors of strategic importance for the EU. The expected impact of an EU AI offer on industry and EU economic security cannot be overstated.

3. EU DIMENSION

This section aims at assessing the relevance of an intervention at EU level in the proposed area.

3.1. What would be the added value of an EU collaboration in this area?

This IPCEI-AI will lay a common European ground for a federated and distributed development of foundation models and the availability of sufficient computing capacity in dedicated AI supercomputers on European scale. This will support and strengthen the European digital single market.

The massive computing needs associated with the training and deployment of foundation models require the ability to leverage the federated use of computing capacities from across the EU. EU collaboration in this area could curb the risk of AI computing divides emerging within the EU but also between the EU and other regions in the world.

3.2. Which general positive spill-over effects to the EU economy/society would the initiative deliver?

The initiative will support broader EU policy objectives related to digital transformation, innovation, and competitiveness. By lowering barriers to AI adoption for businesses, particularly SMEs, it aligns with the EU's goals of fostering technological development and economic resilience.

The initiative is expected to contribute to sustainable growth by enabling companies to adopt AI technologies, improving efficiency, innovation capacity, and competitiveness. By facilitating access to advanced digital tools, it helps create new opportunities for economic development, supports job creation, and strengthens the EU's position in the global digital economy.

3.3. Would the initiative address or aim to prevent a significant EU strategic dependency? If yes, please describe which dependency and how the initiative addresses it.

Today, the development of new foundation models is limited to a number of a few, mostly non-EU players. Over-reliance on US cloud-computing power moreover affects the development, finetuning, and inference of foundation models by European SMEs.

The EU cloud market is highly concentrated and dominated by non-EU players, such as Amazon Web Services, Microsoft Azure and Google Cloud. The market share of these hyperscalers increased from 66% in 2021 to 72% in 2022. While the market has grown significantly between 2017 and 2022, the market share of EU providers has declined from 27% to 13%. Hyperscalers are at the forefront of capturing generative AI-related workloads, as their unparalleled investment capacity ($32 billion per quarter for Google, Microsoft and Amazon) puts them in a key position to obtain rare AI-optimized chips. In terms of AI-optimized chips, both at European level and worldwide, there is at this stage a strong dependency on NVIDIA, which serves 80% of the AI GPU market.

This results in a clear dependence of EU organisations that train and deploy foundation models on the services provided by a handful of non-EU companies.

The initiative at hand would contribute to diversifying the available computing resources and would thereby address a significant EU strategic dependency. The annual investment gap for cloud amounts to €11 billion per year and €80 billion in total over the 2021-2027 period. EU assets in High-Performance Computing (HPC) can be an alternative to hyperscale cloud providers for the compute-intensive training of generative AI models. However, the cloud and the service integration the latter can offer will be indispensable for the large-scale commercial deployment of these models, integrated with other business services. Moreover, edge computing will be key for use cases that require minimum latency and that allow large-scale AI models to be tailored to the specificities of a given user environment.

As example: The initiative contributes to the creation of models specialized on the local European cultural context, designed to be more efficient and adapted to specific contexts and languages other than English, in contrast to the foundation models offered by the major AI service providers, which are generalist and much larger in size.

4. MARKET DIMENSION

The objective of this section is to assess whether there is a need for public intervention in the area.

4.1. What are the important market, systemic failures, or societal challenges that the initiative will address? Why is public intervention necessary?

On European scale, there is a coordination issue, many MS developing their proprietary AI solutions, that are neither scalable nor flexibly accessible for the industry. This poses a substantial risk to the economic security and technological sovereignty of digital technologies. AI is a critical future technology for Europe to secure prosperity and grow.

AI-optimized data centre equipment is scarce (dependence on Nvidia GPUs) and expensive (AI infrastructure can be 10x-30x more expensive than traditional general-purpose data centre IT infrastructure). The dominant cloud providers are at the forefront of investing in optimizing computing infrastructures for AI training and deployment, and their capacity for undertaking these investments far outperforms the abilities of EU cloud service providers. Therefore, the computing workloads associated with AI are largely captured by the already dominant providers. In the current market environment, the operators of existing computing capacity in the EU do not have sufficient incentives to invest in interconnection in the form of a true continuum of federated computing capacity (EU Cloud and HPC).

This initiative will help ensure that a capacity for training and deploying foundation models exists independently from the service offerings of a small number of large cloud service providers. A key step towards achieving this is the federation and joint leveraging of existing capacities and the addition of an open PaaS layer for easy access by EU businesses, including SMEs. By means of an open PaaS layer, the initiative would enable an open alternative to current AI development and services via the access to a

federated set of AI-optimized computing capacities for businesses of all sizes, including SMEs, throughout the EU.

From a market perspective, there is demand for initiatives especially because Europe is lagging behind making significant strides on the market of products enabled by foundation models. It is not just the foundation model, but also its integration into business models (data from providers and refined customized/personalized models as output); such business models are key (e.g. based on distributed data sources and learning/federated learning/transfer learning)). Additionally, new data centres need to be built that are compatible with the next generation of GPUs, which will use water cooling. Help with access to electricity and streamlining data center procedures would be invaluable.

4.2. Is there an existing EU value chain in the area? If so, describe its functioning and its major players in Europe.

While the market has grown significantly between 2017 and 2022, the market share of EU cloud service providers has declined from 27% to 13%. The leading providers of EU origin are SAP and Deutsche Telekom, each accounting for 2% of the market. The largest European cloud infrastructure player, OVH, holds only 1% of the European market. In terms of service maturity, scalability and pricing, EU providers are widely considered not to be a real alternative to hyperscalers.

An amendment of the European High-Performance Computing Joint Undertaking (EuroHPC JU) Regulation will contribute to the creation of AI Factories by giving startups and other members of the innovation community access to AI-optimized supercomputers. The present initiative could complement this by also accounting for cloud computing, the need to federate existing capacities, and the necessity of enabling swift access for multiple undertakings from across the EU.

4.3. How would the initiative contribute to Europe's competitiveness and ability to face competition from outside the EU? Describe the major current, and possible potential non-European, competitors.

Currently, the dominant non-European cloud service providers are positioning themselves to capture the majority of the market for AI-optimized computing services. In 2022, 72% of the EU cloud market was served by non-European companies. These companies have the financial capacity to deploy hundreds of thousands of GPUs, making these regions essentially “GPU-rich.” It would be helpful if Europe could promote this investment capacity through grants and government support. Currently, European cloud providers, are deploying thousands or tens of thousands of GPUs, but our performance is at least 10 times lower than that of the world. Those non-European companies are also emerging as the central providers of AI-optimized computing resources for European developers of foundation models. European companies often face the challenge of being forced to use services from non-European firms, as there is no viable European alternative. The provision of European decentralised infrastructures would contribute to ensuring the existence of computing resources beyond the offer of the dominant cloud service providers, notably by federating computing capacities throughout the EU and enabling easy access via an open PaaS layer. By including a strong focus on AI computing, the initiative would be a direct investment towards long-term competitiveness gains.

Furthermore, SMEs find it increasingly difficult to get access not only to infrastructure, but also to trained staff. Additionally, the training costs of foundational models are another major challenge that needs to be addressed.

4.4. Is there a pipeline of private projects in the area that needs de-risking/ financing?

TBD

4.5. On which basis can individual projects be integrated in a common structure/roadmap or programme aiming at a coherent, systemic approach?

TBD

4.6. How would the IPCEI contribute to leverage or trigger more private investments or financing from the market in the technology area concerned?

TBD

5. IPCEI VALUE-ADDED

The objective of this section is to assess whether an IPCEI would be an efficient tool to intervene in the given area.

5.1. Can the area be supported by other EU and/or national policy interventions not involving funding? Describe policy instruments that could be used to reach the envisioned result.

The discrepancy between the investment of US hyperscalers and the dimension of EU players (cloud providers, telcos, system integrators and other potential stakeholders) signals a market failure that requires a public intervention, also through investment.

To maximise the impact and efficiency of the investment, this IPCEI will need to create synergies with existing and future assets and initiatives (some of which at EU level), notably in the field of HPCs (AI Factories), cloud for AI (for the infrastructure part) and on the development of LLMs and open-source foundation models (e.g., ALT EDIC, Horizon and DEP calls for the development and finetuning of foundation models).

5.2. Can the area be supported by alternative EU funding tools, such as Horizon, DEP, CEF? If these do not suffice, then explain why not.

No, the IPCEI Instrument ensures industrial collaboration on European scale to implement new technologies and solutions as first industrial deployment to strengthen the European digital single market. There is already the EuroHPC Joint Undertaking to build AI-data centres based on existing technologies, however the costs associated with the implementation of such beyond global-state-of-art technology as described in the IPCEI-AI requires an extra amount of funds not available in these instruments. IPCEI-

AI will be fundamental for the FID part and to further explore, at a larger scale, the R&D&I components.

5.3. Can the area be supported by other appropriate State aid instruments, such as CEEAG, RDIF, GBER? If these do not suffice, then explain why not.

5.4. What would be the specific benefits of using the IPCEI tool rather than other tools in the given area?

As an example: today, computing resources present in the EU are not leveraged in a strategic and coherent way for the training and inferencing of AI. An IPCEI would be able to address this coordination failure.

5.5. Would an existing industrial alliance or the creation of an industrial alliance facilitate an EU ecosystem in the relevant area?

5.6. How will you promote SME participation in the IPCEI ecosystem?

IPCEI-AI aims to create a machine learning infrastructure ecosystem to ensure the availability of compute capacities and capabilities as first industrial deployment. The other State aid instruments are not sufficiently compatible. An industrial ecosystem/governance model should be implemented to guarantee further development in investment. SME will be able to easily access resources, with the benefit to scale AI solutions in different sectors of the industries and societies.

On the one hand, SMEs can play a key role as technology providers along the computing continuum. On the other hand, SMEs will be major beneficiaries of the initiative as the initiative seeks to facilitate their access to AI compute.

6. NEXT STEPS

The objective of this section is to assess what additional analyses are required for deciding whether to continue working on an IPCEI in the given area.

6.1. Based on the above, should the given area be further considered in-depth for a potential IPCEI? Summarize the conclusion using 1) the need for an active government role; 2) the need for EU collaboration; 3) why IPCEI is better suited than other instruments to realise the desired outcome.

6.2. What additional analyses/information would be needed to refine the assessment and come to a final verdict?

There will be a need for active involvement of the MS to stimulate the interest of the relevant European stakeholders. The IPCEI Instrument will foster European collaboration among partners and industries.

ANNEX: LINK WITH IPCEI COMMUNICATION ELIGIBILITY CRITERIA

Eligibility Criteria for IPCEI	**Assessment in fiche**
3.1. Definition	
Integrated project (§13)	*To be assessed later in design phase but some elements could be included in* 4. Market dimension *section* (questions 4.1 to 4.5)
3.2 Common European Interest	
Contribution to EU objectives and strategies (§14)	Section 2. Political and industrial strategy objectives (question 2.2)
Overcoming important systemic or market failures, or societal challenges (§15)	Section 2. Political and industrial policy objectives (question 4.1)
Minimum 4 Member States (§16)	*To be assessed later in design phase but some elements could be included in* 4. Market dimension *section* (question 4.1 to 4.6)
Spill-overs to economy and society (§18)	Section 3. EU dimension (question 3.2)
Co-financing by the beneficiaries (§19)	*To be assessed later in design phase but some elements could be included in* 4. Market dimension *section* (question 4.6)
Compatibility with DNSH (Is there an EU value chain to mobilise? (§20*)*	*To be assessed in design phase*
Addressing a clearly identified and significant strategic dependency (§21)	Section 3 EU dimension (question 3.3)
Major innovative nature, in the light of the state of the art in the sector (§22)	Section 2. Political and industrial policy objectives (questions 2.4, 2.5)
First industrial deployment (§23-24)	Section 2. Political and industrial policy objectives (questions 2.4, 2.5)
Infrastructure projects in the environmental, energy, transport, health or digital sectors (§25)	Section 2. Political and industrial policy objectives (question 2.7)
3.3 Importance of the project	
Importance of the project (§26)	Section 2. Political and industrial policy objectives (questions 2.1 to 2.7)