**Project Portfolio**

**Company Name**

City, State

Company logo

**Legal identification of the company (ies):**

**Project period:**

MM.YYYY – MM.YYYY

**Workstream(s):**

**Work Package(s):**

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1. Spill-over Effects

Please refer also to the document “Guidance on Spill-over Effects from COM” provided by COM.

* 1. Spill-over by non-protected results diffusion

*Publications and communication on IPCEI results*

Different dissemination levels, ranging from awareness to exploitation, are proposed to ensure the translation of developments and outputs into new findings and market opportunities. The objective is to reach the fullest range of potential users and uses among research, social, investment and policy makers.

DT commits to undertake the dissemination actions of non-protected results from IPCEI on Microelectronics (among the participating companies and Member states) presented below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Targeted audience** | **Purpose** | **Dissemination material vehicle** | **Target (KPI)** |
| **General Public** | To communicate to the general public of IPCEI objectives, timelines and expected outputs | Press Releases  Interviews | XX articles/interviews or press releases  (~X per year during 5 years 20XX-20XX) |
| **Employees and stakeholders** | To communicate on objectives, on the expected outputs and on results | Internal conferences and newsletters (published via regular email and regular meeting with stakeholders) | YY different communications with all stakeholders (employees, suppliers, unions, local authorities, …)  (~X per year during X years 20XX-20XX) |
| **Scientific communities** (Universities, Engineering Schools, Professors, National Laboratory, Research Institute, R&D teams of industrial companies) | To exchange with other scientists in the field (inside and outside IPCEI)  To coordinate with ongoing and future program to maximize impact and create synergies | Presentation on relevant congresses and conferences  Project presentation at the European Commission  Project presentation at relevant agencies and schools (PhD thesis) | XX joint publications (post project) in 2022, 2023 and 2024 in journals such as *YY*  XX conferences as speaker or visitor over the duration of the IPCEI (20XX-20XX) in conference such as *YY* |

***Table 14: Dissemination strategy of non-protected results***

**Publication, Conferences, Events, Roadshows**

Overall dissemination outside IPCEI on Microelectronics will be performed thanks to conferences, external workshops and publications. The table below shows some actions that DT commits to undertake during the IPCEI on Microelectronics:

|  |  |
| --- | --- |
| **IP\* (new patent files – first filing)** | To be defined based on R&D work  *Possible patent:*   * *Patent 1* * *Patent 2* |
| **Conferences / Papers** | One conference/paper per year  *Example of possible publication or conference:*   * *Example 1* * *Example 2* |
| **Workshops and actions in industry association** | One workshop on O-RAN properties and/or visit….  *Association: Example partners* |
| **Education (bachelor, masters theses, PhD)** | We commit to fund XX PhD thesis  *Example titles of potential PhD thesis:*   * *Example 1* |

(\*) Portion of patents, publications, PhDs and press releases will be done in common with other industrial partners

DT commits to reinforce its cooperation with French research organizations in the IPCEI on Microelectronics, such as…

The company’s strong implantation in the telecommunications market will attract many actors such as research labs, SMEs, start-ups… in the context of innovation proposals around O-RAN

Thanks to IPCEI on Microelectronics, academic partners which collaborate with the company will be free to disseminate results that will not be protected by intellectual property rights, through scientific publications, conference communications, etc. All academic partners have an excellent reputation and their high-level publications have a significant influence within the European scientific and technological community. IPCEI on Microelectronics will also lead to the completion of a large number of doctoral thesis and post-doctoral contracts, the results of which will be widely disseminated. From the license (bachelor), masters, and PhD theses co-supervised by the company, it is estimated that over the duration of the IPCEI one to two thesis could be started (in addition to trainees). It is also planned to attract students coming from universities outside Germany.

As a result, Public Research Organisations will be strong vectors in terms of knowledge dissemination in Europe, achieved through both the R&D and the FID phases.

The activities of diffusion of non-protected results from IPCEI on Microelectronics will reinforce cooperation with European Public Research Organizations (PROs), the overwhelming mission of which is knowledge dissemination in Germany and all over Europe. A powerful way to achieve this will be through R&D and FID feedbacks, meaning R&D activities that PROs will carry out following new results from IPCEI on Microelectronics. Such R&D and FID feedbacks will happen after a new process, a new material, a new technology brick has been transferred as a result of IPCEI on Microelectronics. Therefore, PROs new knowledge and background will be strongly consolidated over time and possibly disseminated outside IPCEI on Microelectronics. It will also help PROs to generate additional private resources, which can be allocated to future independent research, in particular to other scientific fields.

**EU programs**

IPCEI on Microelectronics will clearly be the enabler of a larger European cooperation relying on the instruments supporting the European industry for innovative next generation networks. IPCEI on Microelectronics is providing the backbone needed to structure this European industry. A significant number of countries are involved in the IPCEI on Microelectronics to set the roots for cooperation. As the European eco-system needs to be much larger than the actual ecosystem, DT commits to follow the two following paths:

* Involve more countries and partners from the European industry even though they are not part of the ICPEI.
  + RTO - Outsourcing collaboration model:
    - DT is also in discussion with….
  + Upstream(Name the kind of process which are upstream) – Partnership collaboration model:
    - DT will work collaboratively with firms upstream in the form of…
  + Downstream (Name the kind of process which are downstream) – Outsourcing collaboration model:
    - DT will work collaboratively with firms downstream in the form of…
* Involve other partners (such as …) located elsewhere in the value chain and strongly aiming at / relying on performing network solutions.
  1. Spill-over by IP protected results diffusion

*Please give information on the planned diffusion of IP protected results in a concrete and identifiable manner. For example the kind of licences (rec. Non exclusives FRAND), estimated no. of patents,…*

The IPCEI on Microelectronics is about the development of a complete supply chain for the production of network solutions where each element in the chain will have independent competition, each IPCEI partner bring a building block to this supply chain. Only a very low number of exclusive IP licenses[[1]](#footnote-1) deriving from the IPCEI on Microelectronics results is expected. Indeed, the patents that will be licensed will be related mainly to generic technological building block; therefore, they will not be blocking for the final product because alternative process and solutions could be implemented. Dissemination policies will also be implemented in order to promote and stimulate new approaches regarding the licensing of generic scientific IP building block (avoiding any blocking issues for final product), with a view to serve other application fields through different value chains in order to get wider societal impacts.

In the exceptional case of a request for an exclusive license for possible commercial exploitation of results from the IPCEI on Microelectronics, the domain and the duration of the exclusivity will be limited. In addition, in case of non-exploitation of the technologies for the application purposes provided for in the license within a reasonable contractual period (in the light of the tests to be carried out), the exclusivity will fall automatically in order not to block the diffusion of new technologies in the involved domain.

Regarding IP, all participants are committed to develop Intellectual Property (IP) such as patents. IP creation will range from process technology, new material, general architecture, software and hardware development. The IP will be generated with the intent to be as open as possible in order to facilitate the best possible uptake of new technologies from the IPCEI on Microelectronics. The table below shows the actions that DT commits to undertake during the IPCEI on Microelectronics.

|  |  |  |  |
| --- | --- | --- | --- |
| **IPR, dissemination** | **Develop “Proof of Concept” for…**   * Offer to all European Union start-ups or SME to license the IP at FRAND conditions | Start-ups, SMEs willing to expand their activity to new markets | one start-up/SME by the end of the project |
| **Start-ups on post treatment (usual distribution channels)**   * + Commitment to sell services to start ups in European Union at competitive prices. | Start-ups, SMEs willing to innovate and expand their activity | Proposal made to at least one SME/start-up every two years. |
| **Tutoring of SMEs willing to introduce next generation Network technologies**   * + Use… | … | XX contracts  20XX: launch, legal setup, announcement  Definition of yearly KPI target |

***Table 15: Dissemination strategy of IP-protected results***

* 1. Spill-over in FID phases

Within the project timeframe, FID activities in the IPCEI on Microelectronics will lead to significant spill-over effects in downstream markets, among IPCEI partners but also beyond them. In general words, downstream markets parties, especially 5G providers, will benefit in many ways from the FID phase. IPCEI on Microelectronics will enable them to develop independent parts of the 5G supply chain . They will acquire a better understanding of how such technology can be decoupled from the current paradigm. Such knowledge will be used in cooperation with third parties (inside or outside IPCEI on Microelectronics).

A key asset of IPCEI on Microelectronics is to embed many players from all along the network value chain. Cooperation programs will bring even more players inside and outside the Members States which are committed to fund the IPCEI on Microelectronics. This is definitely a strategic advantage that will make easier access to them inside EU.

Some examples of how IPCEI FID activities will leverage R&D&I activities from downstream markets parties within and outside IPCEI on Microelectronics are described below:

* Downstream market players tend to be the main contributors initiating new telecommunications developments: new technology, new product, new capacity and sometime even line upgrade. Once the need is known by an OEM, through market studies or direct market request, a feasibility study is launched. Eventually, a decision is made in order to start R&D&I phase.
* During the R&D&I phase, technologies are not reliable enough. Downstream market is usually not interested to test new telecommunications networks at this stage. When entering FID phase, technologies have demonstrated their intrinsic value: functionality and reliability and a minimum level of repeatability, then, some prototypes can be used to reduce risk of other possible combinations.

The FID activity from the O-RAN network and the R&D&I from the downstream markets progress in the same time. This is a decisive phase to assess the technologies and make the downstream markets ready to use them. A successful final stage is when downstream markets initiate their own FID with the newly developed technologies.

IPCEI on Microelectronics will provide access to next generation telecommunications, as well as to new technologies issued from FID phase to partners, large companies, SMEs and RTOs. This will be very helpful for SMEs and PROs that want to develop new knowledge and applications considering the entire value of this. These partners will benefit of an early access to the latest technologies available and will be able to choose where in the value chain to position themselves.

The FID phase will also generate spill-over effects to other industrial partners such as equipment manufacturers present all over Europe. Indeed, in order to support the FID phase, some technological progress will be needed from these industries. Therefore, they will benefit from their own “Feedback R&D” improving their own equipment, materials and processes. This spill-over will be reinforced since the scope of IPCEI on Microelectronics is very large.

Thus, the benefits of the FID phase are clearly not limited to the company itself but will also spill-over to the project partners and expand to many EU high-tech industries, businesses and research organizations. IPCEI on Microelectronics will create positive spill-over effects on multiple levels of the value chain.

**Open Invitations**

DT commits to share its specific equipment () for RDI purposes with European PROs and SMEs beyond its usual partners and beyond IPCEI beneficiaries. The idea is to foster cross-fertilization to other scientific or technological fields. It commits to give access to European PROs and SMEs to the R&D toolset and scientific knowledge acquired by the company during the IPCEI. The company commits to process for them on its equipment disruptive prototypes upon their request at fair and reasonable pricing and in accordance with the trade secret and provided that their materials are compliant with the company’s technical and environmental specifications.

In order to inform the European scientific community about this new opportunity, the company commits to communicate through press releases and media tools during the inauguration of the new equipment and during workshops, as well as to actively approach at least one European SMEs and PROs from non-IPCEI Member States each year to check whether they could be interested.

1. IP licence can only be linked to potential patents either on recipes allowing to get a catalysis during the graphitization or on process innovation during the thermal treatments (baking & graphitization) [↑](#footnote-ref-1)