**Project Portfolio**

**Project Name**

**Company Name**

***Location, Member-State***

**Technical fields “XXX”, “YYY”, etc.**

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1. Project Outline
   1. Company Presentation

***Max 1,5 pages***

*Please give a brief description of your company and type of company mentioning:*

* *The structure of the company (belonging to a group or independent structure)*
* *Number of employees (if relevant for the group)*
* *Turnover of the last year*
* *Mains activities*
* *Activities that are developed in the IPCEI* 
  1. Individual project within its integration in the IPCEI

**Max 5 pages including photos and figure**

*Please give a brief description of the overall objectives of activities in all technical fields you’re involved and the relationship with EU general objectives.*

* + 1. Executive summary of the project

*Please shortly present the project. One page maximum:*

* *Scope of the project : R&D and FID (list of WP linked to eligible costs (part 2 and Funding gap questionnaire))*
* *R&D and FID objective : Explain general innovative aspect of the project*
* *Duration of the project*
* *Location of the project*
  + 1. Contribution to EU objectives

*Indicate here to which general EU objectives the project will contribute in a concrete and measurable manner (see paragraphs 4 and 14 of the revised communication of the Commission on the IPCEI).*

* + 1. Contribution of the individual project to the IPCEI

*Include in this section the following information:*

*Summary description of how the individual project concretely contributes to the general objective of the IPCEI and significantly adds value for the achievement of the goals of each technology field (TF), and within each TF, of each workstream (WS) to which it is participating (please use the actual names of the structural elements of the IPCEI as adopted in its Chapeau), and thus – to the achievement of the European objective pursued by the IPCEI, and how it is based on the same coherent systemic approach and included in the same roadmap and programme.*

*In addition, please fill in the table below*

| Individual project objectives | IPCEI related objectives | IPCEI TF/WP and associated deliverable | Partners (Direct) | Partners  (indirect) |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Table 1: project's integration overview

* 1. R&D Projects Before IPCEI

**Max 3 pages**

*Description of the R&D-parts which were necessary for the IPCEI project and that were carried out before start of the project (background).*

*Explain in this § the concrete link between your project in the IPCEI and your previous R&D activities, giving details about: when the previous activity took place, in which context (EU Project, National project, partners involved, financial support received, …) and explaining the concrete inputs for the IPCEI project (explaining the links which each WP).*

| **Previous R&D Project**  *(indicate name of project, cost and if applicable the level of reveived support)* | **Context***: National projet, EU project* | **Period***: Start, Duration, End* | **Project scope***:*  *(indicate project scope, partners names,…)* | **Contribution to the current IPCEI** *(give the concrete inputs needed for the project)* |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Table 2: R&D projects before IPCEI

* 1. Technology and Challenges – R&D&I Activities within IPCEI in all technical fields it’s involved

**No more than 50 pages**

*For each WP that are linked to the eligible costs (part 2 and funding gap questionnaire) describe the state of art, the technical locks, the objective and the technical challenge to solve the technical locks.*

* + 1. WP 1 : XXXXXXX (have to be repeated for each WP)
       1. State of the art

*Give a view of the global and European state of the art for the technology or product that you intend to develop (and/or first industrially deploy). Please give a clear insight of the state of the art related to what will be undertaken in your project, giving measurable elements to assess the current state of the art considered as a reference.*

*Give (if applicable) information about the expectations of the market or the ecosystem (if needed related to general EU objectives – such as Green Deal) that require to go beyond the current state of the art.*

* + - 1. Technical locks that prevent improvements in the field

*With respect to the previously presented state of the art, explain what the limits of the current technologies are. Indicate which technical locks limit innovation in the domain.*

* + - 1. Objectives and technical challenges in the project

*Based on the previously explained technical locks, indicate which challenges you want to overcome and how. Use a work-packages-based structure that enable to quantify the effort in terms of R&D, investment…*

*This WP structure shall be presented in a coherent manner with the rest of the document.*

* 1. First Industrial Deployment (FID)

***No more than 10 pages***

*Cf. FID definition in Guidelines.*

*Provide a clear timeline, at the beginning of the section, of the duration of the RDI and FID phases, linking them to the relevant WP. Should the RDI and FID phases overlap for some of the work packages, please provide explanations and justifications (e.g. how the FID will incorporate the technologies developed during the RDI phase if FID starts shortly after the launch of the RDI).*

* + 1. Purpose of the FID phase
       1. Description of the investment and ramp up phase

*For each WP linked with eligible costs (part 2 and funding gap questionnaire) describe the FID investment and linked Opex insisting on the description of beginning of FID (after R&D phases) and the end of FID (before mass production).*

* + - 1. Innovation challenges in the FID phase and links with R&D phase during the ramp up phase

*Explain how the ramp up is increasing and the process or product innovation that are elaborated or tested during this phase (responding to IPCEI’s definition on FID) and how it’ll tested with some of users on some sample or product that are not yet compliant with KPIs presented on 1.5.3 hereafter*

* + 1. Revenues in the FID phase

*Which revenues are expected, from which sales which products and which users (the information provided in this section shall explain and go beyond the data provided in the funding gap questionnaire).*

* + 1. Transition from the FID phase to the mass production / commercialisation phase

*Give KPIs to justify the transition and specify it quantitatively (ex: defect rate 10%). Indicate WHEN the transition shall take place. This date must be coherent with the funding gap questionnaire (Business plan).*

* 1. Contribution to the strategic value chain
     1. Project’s position in the strategic value chain

*The definition of the value chain can correspond to technological layers/segments or typologies of actors*

* + 1. Industrial value chain in the financing MS
    2. Industrial value chain in Europe
  1. Work Plan

***2 to 5 pages***

*Please describe your work plan in respect to the described work linked with the technical fields of the project.*

*Include a Gantt to explain the development of the project over time*

*Indicate here the staff resources that will be assigned to the project. These resources must be consistent with the eligible costs presented in part 2 and in the funding gap questionnaire.*

| **TF no.** | **WP no.** | **R&D / FID** | **Title** | **Person Months (global)** | **Person Months (R&D&I)** | **Person Months (FID)** |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  | Total PM |  |  |  |

Table 3: Work Packages (WP) vs. Person Months (PM)

* 1. Investments
     1. Tools and Equipment

***1 to 3 pages***

*Please cluster your investment by technology classification. Please provide also a brief and simple description of 1 or 2 sentences to the table (what is the purpose of the investment?). This investments shall reflect the costs of instrument and equipment necessary to the project that are in the funding gap questionnaire (cost of investments) line b) and bb). Please indicate whether equipment are going to be used solely for the sake of the IPCEI project*

| **Technology**  **Classification** | **No. of Tools (quantity)** | **Examples of Tools** | **Investment Cost [EUR]** | **Year\*** | **TF no.** | **WP no.** | **Usage %\*\*** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | Total |  |  |  |  |  |

\*Investment year

\*\* Indicate the % of use for the IPCEI Project (100%: fully dedicated to the IPCEI; below >100%: shared with other projects: in this case explain the share and adapt the eligible costs accordingly in the FGQ)

Table 4: Overview of investment in tools and equipment

*Indicate the depreciation duration applicable to these tools and equipment (coherent with the FGQ).*

* + 1. Construction of Buildings/Laboratory

*Please provide a brief and simple description of 1 or 2 sentences to the table (what kind of building? for what purpose?). Please cluster your capacities investments that are necessary to the project that are in the funding gap questionnaire line c) and cc). Please clarify whether the buildings and laboratories (or any extensions of you premises) are going to be used solely for the sake of the IPCEI project.*

| **Technology**  **Classification** | **No. of Tools** | **Examples of Tools** | **Investment Cost [EUR]** | **Year\*** | **TF no.** | **WP no.** | **Usage %\*\*** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | Total |  |  |  |  |  |

\*Investment year

\*\* Indicate the % of use for the IPCEI Project (100%: fully dedicated to the IPCEI; below >100%: shared with other projects: in this case explain the share and adapt the eligible costs accordingly in the FGQ)

Table 5: Overview of investment in buildings or laboratories

*Indicate the depreciation duration applicable to these buildings (coherent with the FGQ).*

1. Budget
   1. Eligible Costs

*Eligible costs only cover costs made for the purpose and the time span of the IPCEI:*

*• The following costs should be listed in a disaggregate manner:*

* *First table*
  + *Eligible costs for R&D activities per eligible cost categories (a); depreciation of b and depreciation of c) for the purpose and the duration of the project; d) et f) and g) of the funding gap questionnaire) and per year for the duration of the project*
  + *Eligible costs for FID activities per eligible cost categories (aa); depreciation of bb) and depreciation of cc) for the purpose and the duration of the project; dd); ee); ff); gg).*
* *Second table : Eligible costs for WP and TF and eligible costs categories (form a) to gg)).*
  1. Financing plan

*On the basis of the project's funding gap questionnaire, specify how the company will contribute to the financing of the project, including through private sources of finance (equity, debt).*

*On the basis of eligible costs, indicate whether other aid has been requested at national, regional or European level.*

* 1. State Aid

*Indicate the State aid requirement in nominal terms and discounted terms, as well as the anticipated yearly instalments in the following text:*

Without public funding, a positive NPV would not be met for [Name of the company] project: there is a negative funding gap of XXX k€ with a post-tax WACC of [X] % (see below chapter 7).

The state aide demand from [name of the company] is set as it follows: To compensate for the negative NPV of the project (or to cover the eligible costs if they are < to the funding gap), the maximum required State aid from France is a nominal grant of **XXX k€**. Total eligible costs amount to XXX k€.The State aid intensity would therefore amount to **XX % of eligible costs**. The discounted value (at XX %) of the XXXX k€ nominal grant amounts (based on proportional installments) to XXX k€: it is equal to the Funding gap. At this stage the state aid demand from the company has not been discussed between France and [The Company].

France commits that the maximum State aid amount depreciated at the WACC rate, post-tax, of the company during the financing period won’t exceed the funding gap or the eligible costs (if the amount of eligible costs is < to the funding gap) .

1. Integration of the project in the IPCEI
   1. Contribution of the project to the IPCEI objectives in each relevant Technical Field

*Description how the individual project concretely contributes to and significantly adds value for the achievement of the goals of each technology field (TF), and within each TF, of each workstream (WS) to which it is participating (please use the actual names of the structural elements of the IPCEI as adopted in its Chapeau), and thus – to the achievement of the European objective pursued by the IPCEI.*

*Show how the project contributes to:*

* *The resolution of identified failures (Causes);*
* *Contributes to identified and specific objectives (goals);*
* *Implements solutions that are part or a general action plan (achievements);*
* *Is a brick in the technological common construction (perspectives);*
  + 1. Contribution to the resolution of identified failures

*Identify here the failures causes in the chapeau document to which the project will bring a concrete solution.*

* + 1. Contribution to the IPCEI Objectives
    2. Integration of the project in the IPCEI action plan/programme
    3. Integration of the project in the IPCEI technological roadmap
  1. Complementarity to other individual projects in the IPCEI contributing to the same objectives

**Between 5 to 15 pages**

*Please provide specific description how the individual project for which aid is requested is complementary to the other individual projects in the IPCEI, and significantly adds value in contributing to the same objectives:*

* *how,  in concrete terms, the individual project is interlinked with the other individual projects in the same TF and its WSs, and across TFs and WSs;*
* *how it is based on the same coherent systemic approach and included in the same  roadmap and programme (for this IPCEI), contributing thus to the same objectives (of the WS, TF and IPCEI);*
  + 1. Complementarity intra-TF/intra-WS

*Describe here the complementarity with other projects in the same TF or WS, using concrete terms and demonstrating synergies and complementarities. Please follow the guidance provided above.*

* *Contribution to similar failures compensation actions;*
* *Complementarity of the actions;*
* *Complementary contribution to the technological roadmap;*
  + 1. Complementarity with other TF/WS

*Describe here the complementarity with other projects in different TF or WS, using concrete terms and demonstrating synergies and complementarities. Please follow the guidance provided above.*

* *Contribution to similar failures compensation actions;*
* *Complementarity of the actions;*
* *Complementary contribution to the technological roadmap;*
  + 1. Contribution to a global roadmap or programme

*Please give in-here the elements that demonstrate what are the important IPCEI-specific effective collaborations that the aid beneficiary has entered into with other IPCEI aid beneficiaries (so-called in previous IPCEI decisions “direct partners” – please replace with the actual term agreed and used by this IPCEI to refer to the aid beneficiaries) for delivery of their IPCEI individual projects and thus – of the objectives of the respective TF and its WSs, within and across WSs and across TFs.*

*Please note that each collaboration must be described in concrete terms and with sufficient details. The collaborations referred to should be: 1.) IPCEI-induced or IPCEI–enhanced, 2.) related to the scope and the objectives of the IPCEI, 3.) for individual R&D and FID projects (integrated into an IPCEI based on p.22-24 of the 2021 IPCEI Communication): “effective collaborations”. Their subject cannot be contractual research (performance of a research service or sub-contracting), neither simple supply/delivery relationships.*

*In addition to the detailed information provided, please summarise it in the following table:*

| ***Related Direct Partner\**** | ***Type (LE, SME, Start-up)*** | ***Subject and Scope of collaboration*** | ***Collaboration category*** |
| --- | --- | --- | --- |
| *Name (Country)*  *WS/TF* | *Type* | *Relation with the individual project of the partner*  *Tasks, works, contributions of each collaborating partner* | *Demonstrate that the collaboration is IPCEI-induced or IPCEI-enhanced* |
| *…* | *…* | *…* | *…* |
| *…* | *…* | *…* | *…* |
| *…* | *…* | *…* | *…* |
| *…* | *…* | *…* | *…* |
| *…* | *…* | *…* | *…* |

\* Please include also a table of the effective collaborations, with at least the following information: names of the collaborating partners, type (small, medium or large undertaking), subject of the collaboration and how it relates to the IPCEI individual projects of the collaborating partners, is it IPCEI-induced or-enhanced, tasks, works and contributions of each collaborating partner.

Table 6: Collaboration table

*Note: in annex to the portfolio, include evidence for the existence, the subject and the scope of such collaborations, as well as for the tasks of the collaboration partners must be provided (Letter of Intent, Memorandum of Understanding or some other appropriate document). In case the negotiations between the collaboration partners have not reached signing of binding collaboration agreement, please point out when the signature of the final binding collaboration agreement will be effected. In case of inability to provide a binding agreement at the stage of formal notification, please describe alternative means of effective delivery of the subject of the collaboration and its de-facto performance.*

1. Spill-over Effects

*Please describe in concrete terms what are the firm commitments decided to disseminate new knowledge and results of the IPCEI to the wider ecosystem, including for FID.*

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

*For each KPI hereafter please explain the concrete commitment you’re taking (what communication publication, on which topic, in which cooperation, targeted to whom, on which event).*

| *Key performance indicator* | *Target without the IPCEI* | *Target with the IPCEI* | *Direct participant involved* |
| --- | --- | --- | --- |
| *Scientific and industrial publication* |  |  |  |
| *Papers and presentation* |  |  |  |
| *Collaboration with end users* |  |  |  |
| *Internal event workshop and seminars* |  |  |  |
| *Exhibition and conference* |  |  |  |
| *Organizer of external event* |  |  |  |
| *Funding of PhD student* |  |  |  |
| *Funding of Master thesis* |  |  |  |
| *Funding of University Chair* |  |  |  |
| *Training sessions* |  |  |  |
| *Other (TBP)* |  |  |  |

*Table 7: KPI’s for the spill over on non-protected results*

* 1. Spill-over by IP protected results diffusion
     1. IP principles within the IPCEI

*IP management principles: In this section, the company has to describe how it handles IP management internally, i.e. on what is based the company’s IP strategy (e.g. protection of its technological assets by patents and/or trade secrets).*

*IP protection principles; The company has to describe how the key results of the project will be protected by the company (e.g. through patents, copyright or trade secrets or be disseminated with due care). The company should also identify its potential exploitable foreground IP. Moreover, the company should develop on rules to be agreed with the other partners concerning IP ownership, access rights to any background and foreground IP for the execution of the project, the side ground and the protection of IP and confidential information before the project starts. The company shall also indicate how the details of the management, sharing and exploitation of IP will be regulated in the partnership agreements to be established with partners.*

*IP exploitation principles: In this section, the company should indicate the exploitation plan to be built, i.e. how to turn the results of the project into commercial products and business opportunities and how the IP issues will be considered in this context. The company shall also explain how it intends to ensure a monitoring of the key exploitable results, e.g. (i) direct exploitation, (ii) indirect exploitation (grant of non-exclusive licenses on the company’s foreground IP under Fair Reasonable and Non-Discriminatory conditions), (iii) license for research and educational purposes*

* + 1. Content of the spillover by IP protected results diffusion

*Based on the principles detailed in section 4.2.1., the company must demonstrate here the flexibility of their usual principles:*

*a. In case of IP protected result you have to yourselves to non-exclusive licensing of their R&D results at FRAND conditions to some interested parties in Europe (e.g. partners, customers, SMEs, RTOs etc.);*

*b. In case of patent creation, point (a) equally applies. Explain the process you’ll put in place to grant the licence (publication of the possibility to the targeted companies) and operational process of granting;*

*c. Describe situations where direct participants choose to establish a partnership or a joint venture for specific applications;*

*d. Describe situations where direct participants interact with academic institutions and RTOs for the use of the IP (e.g. in order to carry out research projects);*

*e. Describe situations where direct participants enter into confidentiality agreements with other users of the IP (e.g. with SMEs for testing prototypes);*

*f. Describe situations where the use of the IP protected results may lead to the development of standards.*

* 1. Spill-over in FID phases

*As with the IP protected results, we observe many different approaches amongst the individual projects as regards the nature of the dissemination activities and the level of commitment. We suggest that the Chapeau considers to elaborate on the following (indicative list):*

*a. Collaborations with SMEs, RTOs, start-ups and other indirect partners for knowhow exchange and other supporting activities in the development of a project idea, the validation of first results and the implementation of new solutions during the scaling-up of the project;*

*b. Standardisation activities for SMEs and start-ups;*

*c. Open infrastructure policy (access to SMEs, RTOs and start-ups, provision of pilot lines for R&D purposes, advocacy, research, touring, testing of prototypes etc.);*

*d. Collaborations with academic institutions for validation of results, provision of training, provision of research contracts etc.;*

*e. Collaborations with European OEMs, suppliers and customers and recycling companies (feedback loop and know-how sharing, testing, data gathering, sampling);*

*f. Procurement of materials and components and access to of laboratory capacities at market conditions.*

* 1. Collaboration with indirect or other partners

*The benefits of the project must go beyond the sector concerned and have a wider relevance and application to the European economy. However, we observe that less than half the project portfolios clearly intend to generate spillover effects outside the targeted sector of the value chain.*

*Therefore, we suggest that the Chapeau considers to elaborate further in this regard and specify in concrete terms the dissemination activities that can be used to target other applications (e.g. showcaseinitiatives).*

* + 1. Indirect and other partners list and contribution to the project

*Please indicate here who are /who you consider to be your indirect/other partners in general and how/why they were selected.*

* + 1. Collaborations with indirect and other partners and contribution to the project

| ***Indirect or other Partner\**** | ***Type (LE, SME, Start-up, RO)*** | ***Scope of collaboration*** | ***Collaboration category*** |
| --- | --- | --- | --- |
| *Name (Country)* | *Type* | *Relation with the individual project of the partner*  *Tasks, works, contributions of each collaborating partner* | *Demonstrate how the collaboration is IPCEI-induced or IPCEI-enhanced* |
| *…* | *…* | *…* | *…* |
| *…* | *…* | *…* | *…* |
| *…* | *…* | *…* | *…* |
| *…* | *…* | *…* | *…* |
| *…* | *…* | *…* | *…* |

\**For each collaboration with an indirect partner, please describe in concrete terms and with sufficient details:*

*- Who is the collaborating partner, its type (SME, large undertaking, research organisation)*

*- What is the subject of this collaboration (IPCEI-related, induced or enhanced), how it relates to the IPCEI individual project of the IPCEI aid beneficiary*

- What are tasks and works to be performed, and contributions of each collaborating partner

Table 8: collaborations with indirect partners and partners out of the IPCEI

*Note: in annex to the portfolio, include evidence for the existence, the subject and the scope of such collaborations, as well as for the tasks of the collaboration partners must be provided (Letter of Intent, Memorandum of Understanding or some other appropriate document). In case the negotiations between the collaboration partners have not reached signing of binding collaboration agreement, please point out when the signature of the final binding collaboration agreement will be effected. In case of inability to provide a binding agreement at the stage of formal notification, please describe alternative means of effective delivery of the subject of the collaboration and its de-facto performance.*

*Provide evidence for the existence of such collaborations.*

*The collaboration relations to the indirect partners, included in this section, for individual R&D and FID projects (integrated into an IPCEI based on p.22-24 of the 2021 IPCEI Communication), must be “effective collaboration” and cannot be contractual research (performance of a research service or sub-contracting), neither simple supply/delivery relationship.*

*Please kindly note that you do not need to duplicate the collaborations listed in this new sub-section as spillovers in the other spillovers sub-sections. Instead, please chose, according to your views on the main area of importance or contribution, in which particular spillovers sub-section such a collaboration (especially with research organisations), should be included.*

1. Other positive effects on the market
   1. Impact of the Project on Employment and New Investments in Europe

*Estimation of the quantitative and qualitative impact of your project on direct and indirect employment and training in European economy and society new investments in Europe.*

*Detail the magnitude of employment that is envisioned*

*• Include a timeline of employment (how is employment associated with each step in the project?)*

*• Explain the nature of the employment? (Industry/qualifications of potential jobs)*

*• Explain whether the company will be training this extra workforce?*

*• Discuss the kind of indirect impact on employment there could be (employment that results from the project but not directly attributable to the company).*

*• Describe any downstream projects that could result in additional employment in the future? (either by the company or another firm)*

* 1. Environmental protection and energy and security dependence

*Description of the project’s influence on environmental protection and reducing energy dependence.*

* *Describe how you plan to measure and report your company's* ***environmental performance as part of the project*** *(e.g., frequency and scope of publication, number and coherence of criteria included in the evaluation)*
* *Describe the measures you plan to adopt to move towards the* ***energy transition****, especially regarding process optimization, controlling dependence on fossil fuels or construction of zero carbon buildings (e.g. Amount of energy used (absolute value), source of energy used (in %): renewable or fossil, quantity of GHG produced)*
* *Describe the steps you plan to take to ensure* ***better water use*** *(e.g. use existing tools to measure the company's water footprint and identify strategic points for action, using a cost/benefit analysis of each water efficiency measure considered).*
* *Describe the steps you plan to take to ensure* ***better waste management*** *(e.g. integration of the ecodesign (upstream) and recycling (downstream) approach into the company's strategy, or systematic implementation of the recycling of the waste produced, if this is made possible by the material concerned).*
  1. Market failures: coordination problems

*Please expand on the market failures faced by your company, and explain how the project mitigates existing coordination problems that lead to market failure. Please focus on the concrete market failures that the project will face instead of describing general economic phenomena. Indicative list to be precised but not to be reducted.*

* + 1. Coordination failures between companies and research organizations
    2. Coordination failures between European research organizations themselves
    3. Coordination failures between SMEs and industry leaders
    4. Coordination failures between European clusters
    5. Coordination failures of a very large-scale R&D project
    6. Coordination failures associated with contractual incompleteness
  1. Market failure: Imperfect and asymmetric information
     1. Risks affecting the project

*In addition to listing the risks that the project may encounter, please elaborate on how the company is planning to approach and minimize the risks.*

* + - 1. Technological risk
      2. Economic and financial risk
      3. Partnership risk
      4. Risk associated with major R&D programs

Major R&D and industrial programs such as IPCEI on [XXX], which extend over several years and aim at many technological breakthroughs across complementary steps in the value chain, are generally exposed to numerous and significant risks that are not all identified and even less quantified. For example, it is common for nominal objectives not to be achieved; also, there may be defects at the interfaces, delays in the availability of the results of a subsystem, failures of partners during the program, technical and functional problems, etc. This is why significant uncertainty often weighs on the fulfillment of the initial schedule, as well as on the forecasted estimation of R&D and industrial expenditures. The two risks are associated to the extent that each year of delay generally induces significant additional costs.

* + - 1. Regulatory risk
      2. Strategic and organizational risk
    1. Market failure: difficulty to recruit highly qualified personnel
    2. Strategic independence of supply
  1. Adequacy of the state aid instrument
     1. Appropriateness among alternative policy instruments

There is no other less distortive policy instrument than State aid which would make it possible to achieve the same result for the IPCEI on XXX.

* + - 1. The regulation

Regulation is a standard and widely used public policy instrument. The use of regulation to implement the IPCEI on XXXXX has little practical consistency. In theory only, Member States could impose to companies in the industry to develop the innovations proposed in the IPCEI on XXXX, based on full technical specifications. However, because of the numerous technological uncertainties weighing on the technological building blocks and integrated systems to be developed, such regulation does not seem to be realistic. For example,.

It is much more efficient to trust the strategies and technological choices of companies to decide on their R&D and industrial projects. This is the option retained in the IPCEI on XXXX.

* + - 1. A better funding of public research

The IPCEI on XXXX aims at removing technological barriers and demonstrating the technical and economic viability of many industrial innovations in the field of XXXX. The project must therefore have a strong technological and industrial component, on top of its scientific dimension. To this end, R&D activities must be carried out simultaneously in public research organizations (which will contribute, with their advanced knowledge, to the development of scientific models) and in companies, which have the essential role to ensure the development of new technologies and their industrial and commercial deployment. A very important gap (in terms of time, cost, and risk) separates the concepts studied in PROs from the demonstration of the techno-economic viability of an innovation, carried out in companies.

A better funding of public research would not achieve the same effect as the State aid from France for the IPCEI on XXXX, meaning the structuration of a sustainable ecosystem of research and innovation around a very large R&D partnership between many public and private actors from numerous EU Member States.

* + - 1. The research tax credit

In order to succeed, the project IPCEI on XXX must implement a strong collaborative logic between multiple public and private European actors.

A general tax measure in favor of R&D, such as the research tax credit (Crédit Impôt Recherche in French) implemented since 2008 by the French government, may lead French companies to boost their individual R&D efforts. However, it is not oriented towards the deployment of the European collaborative logic of the project that is a necessary condition for its success.

* + 1. Appropriateness among different State aid instruments

In the context of the IPCEI on XXX, the main market and systemic failures come from spillovers, coordination problems and Europe’s strategic dependence. To address these failures, a grant is the most appropriate State aid instrument.

The market failure or other important systemic failure which the State aids aim to address are neither a problem of access to finance nor a problem of risk sharing. As such, a public soft loan, a State guarantee or a repayable advance are not taken into account.

The grant is intended to compensate for the low profitability of the project without State aid, induced by the very high fixed cost of innovation. These innovation-specific costs materialise in the R&D and FID eligible costs. Given their magnitude, they cannot be amortised across the products’ life cycle. This results into a negative NPV, proving that the development of the innovations and their first introduction onto the market cannot be undertaken based on the incentives that the market is providing. However, these innovations are of high interest for the realisation of XXX in Europe. Thus, their social value for Europe is much stronger than their private. The grant corrects for the gap between the social value and the private value of this investment, thus making it possible for the company to invest and to deliver the innovations to the European citizen.

The simulation of a repayable advance in the business plan can only have a marginal impact on the project’s profitability: public money is received in the first hand but reimbursed including interests in the nominal scenario of success. Only a direct grant has the potential to have the profitability reach the company’s hurdle rate by filling the funding gap.

The grant also addresses the coordination problems (see Section 5.3), being a cement of the coordination of the partnership. The grant will encourage partners to commit to the project although it is exposed to a high degree of uncertainty and to returns that will materialize only in the long term. Indeed, the payment of the grant, spread over the four years of the project and closely monitored by French public authorities (progress reports, key milestones, decision-making milestones), offers dynamic incentives for the partners to overcome the difficulties of coordinating the very large research partnership, and to progress together towards the achievement of the project objectives.

The payment of the grant also limits the potential financial losses of the partners in case of project failure, which reduces their incentives to opportunistically use contractual incompleteness to their advantage. Repayable advances have a major drawback in this respect: they provide an additional incentive to opportunistically use contractual incompleteness, since putting the project in a situation of failure from the contractual point of view makes it possible to avoid repayment of the advance (while the project could be a success from the technical and commercial point of view). The grant to the company is therefore the appropriate aid instrument to address the coordination problems in IPCEI on XXX.

The IPCEI on XXX is designed to bring together public and private sectors to undertake a very large-scale project that provide significant benefits to the Union and its citizens. It is very clear that the huge coordination challenge rooted in the IPCEI on XXX could not be addressed by providing a public soft loan, a State guarantee or a repayable advance to the IPCEI’s partners. Only a direct grant can adequately address such market or systemic failure.

However, the grant provided by France to the company could be backed upon a claw-back mechanism that shall be targeted on the FID activities and related costs / State aid (they are closest to the market). The principles of this claw back mechanism are considered and developed in the Chapeau text of the IPCEI on XXXXX.

1. Incentive effect
   1. Absence of similar projects

*Explain that there is no similar project in Europe.*

* 1. Start date of the project

*Explain that the project did not start before the aid application.*

* 1. Counterfactual scenario

*Describe explicitly the effect of the state aid incentive effect on your company.*

*Describe what will happen when funding will not be realized for the project. If you would not realize the project, how will your company maintain business capacity? (Counterfactual scenario) that could be:*

* *A scenario without the project and a business as usual strategic roadmap that could be established with internal documentation*
* *An alternative internally approved scenario (that the evidence could be establish by internal documentation) => in that case the funding gap approach would be unappropriated (the state aid would not be superior to the difference between the counterfactual scenario and the scenario with state aid.*

*Description & substantiation of the counterfactual scenario at company level:*

*• The counterfactual scenario should be described in sufficient detail. E.g. a mere statement that "the company would not undertake the project as planned in its Member State without the aid" is not sufficient. It should be described in detail if it will not undertake the project at all, or will undertake it but in a different manner/extent, or will possibly undertake it somewhere else. As the IPCEI Communication requires, the intended change must be specified (the change in behaviour which is expected to result from the State aid, that is to say whether a new project is triggered, or the size, scope or speed of a project is enhanced; The change of behaviour has to be identified by comparing what would be the expected outcome and level of intended activity with and without aid).*

*• This description can be in the technological field documents, or, if confidential in nature, in the accompanying company level text document.*

*• It is vital to have sufficient substantiation of the counterfactual,* eg.via *authentic internal company documents, showing that the company faces a clear choice and how the decision on whether to carry out the project is taken. This requirement is in line with the documentary evidence required in RDI State aid cases.*

* 1. Increase in R&D and FID efforts

*Explain the increase of effort for your company.*

*Compare the evolution of employment and turnover of the company with the project and state aid and without the project and state aid (counterfactual) in a table.*

1. Elaboration on Terms of the Funding Gap Questionnaire
   1. Main hypothesis of the business plan

*Each company should provide all costs and revenues associated with the investment as a whole and the boundaries of investment should be defined from the perspective of the business investor: the calculation should include all (positive and negative) cash-flows for what the investor regards as the investment project, at the time these cash-flows are to be incurred. It is not enough to only submit the eligible costs. For the purpose of calculating the funding gap, what matters are all the costs (eligible or not) associated with the investment project and all the revenues over the entire lifetime including the mass production phase.*

*Please explain the calculation of revenues indicated in the funding gap questionnaire. Please note that the revenues should be calculated as the product of volumes and prices and be supported by evidence in the project portfolio. What are the expected prices for the company’s products? On what does the company base the predictions for sales? Please provide supporting documents (business plans, management reports, market studies, etc.) for both volumes and prices.*

*Please explain the depreciation methodology the company is using,*

*Please explain the logic behind the tax rates determined in the funding gap questionnaire. Please provide a formula that reflects the tax regime under which the company operates.*

*Please provide the input data and details for the calculation of the WACC formula. Please provide all the elements of the WACC formula as follows WACC= E/(D+E)\*(r\_f+β\*ERP)+D/(D+E)\*(r\_f+DP)\*(1-T); companies must also provide all the parameters in the formula (E = equity, D = debt, r\_f = risk-free rate, β = equity beta, ERP = equity risk premium, DP = debt premium and T = tax rate), together with their sources and the methodology to determine them.*

*Please refers to the funding gap elaboration paper from the commission*

* 1. Necessity of state aid

According to point XX of the IPCEI Communication, the aid must not subsidize the costs of a project that an undertaking would anyhow incur and must not compensate for the normal business risk of an economic activity.

The NPV discounted at XX % of [Company’s name] project in France is - XX M€ without State aid, in a nominal scenario based on conservative and reasonable assumptions. This means that the company Internal Rate of Return for the IPCEI on XXX is far below the company’s WACC (X.X %): it is actually equal to -X %. Thus, it is clear that the State aid from France does not subsidize the costs of a project that the company would anyhow have carried out.

* 1. Proportionality of state aid

*Point 30 of the guidelines*

*Excel sheet calculations:*

*a) In the absence of alternative project as the counterfactual project:*

*• If the counterfactual scenario is that there is no alternative project, there is no need for a counterfactual project tab with calculations in the Excel sheet. The Commission will only assess the eligible cost and funding gap calculations for the basic scenario.*

*• Proportionality of aid amount per beneficiary company: two step check of the IPCEI Communication in case there is no alternative project:*

*1) Identify the eligible costs: The possible eligible costs are listed in the Annex of the IPCEI Communication. The aid amount for any beneficiary can in no case exceed 100% of the eligible costs;*

*2) Identify the funding gap.*

*In general, the discounted aid amount corresponds to the funding gap. The aid amount can in no case exceed the eligible costs established in Step 1.*

*b) In case of a counterfactual alternative project:*

*• Where there is a counterfactual alternative project, there is a counterfactual tab in the Excel sheet with full calculation of the net present value of the positive and negative cash flows of the counterfactual project.*

*• Proportionality of aid amount per beneficiary company in the IPCEI Communication in case there is an alternative project:*

*Step 1) Identify the eligible costs in the basic scenario: The possible eligible costs are listed in the Annex of the IPCEI Communication. The aid amount for any beneficiary can in no case exceed*

*100% of the eligible costs;*

*Step 2) Identify the difference between the NPV of the alternative project and the NPV of the aided project in the basic scenario.*

*In general, the aid amount corresponds to this difference. In the Excel sheet, it would be convenient to insert this calculation at the bottom of the basic scenario tab.*

*The aid amount can in no case exceed the eligible costs established in step 1.*

*• The funding gap calculation is to be done consistent with the following methodology:*

*• For the purposes of this IPCEI, it is sufficient to provide the Excel sheet calculations for one scenario, the basic scenario (no optimistic and pessimistic scenarios and respective probabilities needed), provided the company is able to justify in the accompanying text document why this basic scenario is the most probable one.*

*• The funding gap that must be calculated is the funding gap of the investment project (i.e. all investment costs and operating costs) to be made by the company for the purpose of the IPCEI.*

*• The investments made for the IPCEI in R&D and FID by a company will generate revenues.*

*• The funding gap is the difference between discounted positive and negative cash flows over the entire economic lifetime of the investment project, i.e. covering the entire period during which the investments made generate revenues / the products that are produced thanks to programme. The investments are sold on the market. Hence, the funding gap must not be calculated only for the duration of the IPCEI project, which is up to the end of the FID phase, but must also cover the ensuing commercial/mass production phase.*

*• One option is to include in the excel sheet the best estimate projections that the company has for this entire period.*

*• Alternatively, companies could provide data for the explicit forecast horizon of the company and give a residual/terminal value (i.e. net present value of expected cash flow beyond the explicit forecast horizon for the remaining years of the economic lifetime), discounted to the current value. In that case, the number of years of mass production for which data are inserted should be realistic.*

*• Practically, in the Excel sheet, after the data for the FID phase and after the data for the reasonable number of years of mass production, a column should be inserted and contain the terminal value for the costs and for the revenues.*

*• Sales/revenues (positive cash flows): projected sales figures should be used by each company rather than a formula. These should be the figures actually used by the company in its business plan and decision making process. This can be best estimate figures. This data should overwrite the formula embedded in the Excel sheet which calculates sales/revenues as a function of costs, an assumption of idle share and an assumption of gross margin. Only if a company has no sales projections or any best estimate data, and only if it actually uses the formula embedded in the sheet (function of costs, idle share and gross margin) in its business plan and decision making process, should it apply the formula.*

*• Cash flows should normally be discounted using the weighted average cost of capital (WACC) of the company. The firm should provide evidence that the discount factor applied is the actual WACC used by the company (e.g. by internal documents showing the applied WACC for investment analysis). The reason to deviate from the WACC usually applied by the company should be explained in detail.*

*• The end result of this step should be one figure: the amount of the funding gap, labelled as such in the Excel sheet.*

* + 1. Firm’s hurdle rate
    2. Project’s funding gap

*Explain whereas the State aid (expressed in gross grant equivalent for non-transparent aid) is not exceeding the funding gap*

* + 1. State aid intensity
    2. State aid cumulation

In the event where the company would benefit from other sources of public funding support for the same project in addition to the State aid granted by the French authorities and described in section 2.3 of this notification, the cumulation of the latter and other sources of public funding would not exceed the applicable maximal State aid intensity;.

In the event that aid is granted by the French authorities on an eligible basis other than the IPCEI on XXX, on another legal basis (e.g. exempted aid scheme), the aid granted under the IPCEI on XXX and the state aid granted on the other legal basis may be cumulated within the limits of the maximum ceilings and intensities authorized by each legal basis on its respective eligible cost base.

* + 1. Open selection proceeding

The first step of the selection of [Name of the company] as a partner for the IPCEI on XXX and as a beneficiary of public support in France is the tender to the open call for expression on interest [name of the call] launched From [date] to [date]. The call and the conditions of selection have been published on the website: XXXXX.

The fact that the selection was made on the basis of objective and transparent published criteria is an additional guarantee of the proportionality of the aid

1. Limitation of distortion of competition and trade
   1. Definition of the market affected by the State aid

*Describe the relevant market that could be worldwide in this sector and recent trends / evolutions (size, growth, competitors, market shares, barriers to entry, new entrants, mergers).*

* 1. Description of the market situation

*Description of the market situation (EU and worldwide) of the company before and after state aid and compare it to the position of its main competitors on the relevant market.*

* 1. No strengthening or creation of market power
  2. Limiting distortion of dynamic incentives
  3. No maintaining of an inefficient market structure
  4. No effect on location activities

1. Annex to the Portfolio
2. *Funding Gap Questionnaire*
3. *(If necessary) Internal Company Documents substantiating the counterfactual scenario*
4. *(If necessary) Documents related to the WAcc calculation*
5. *Documents demonstrating the collaboration with direct, indirect, other partners*