Deliverable: Evaluation plan for aid for integrated actions in the electric vehicle industrial chain and connected as part of the strategic project for economic recovery and transformation in the electric and connected vehicle sector (VEC cant).

(in the production process)

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Content

1. INTRODUCTION

The Recovery, Transformation and Resilience Plan (hereinafter PRTR), approved by the Council of Ministers on 27 April 2021, is the roadmap that will channel, through a set of actions and programmes, the funds provided for under the European Recovery Instrument ("Next Generation EU") approved by the European Council on 21 July 2020.

The PRTR is structured around ten structural reform lever policies due to its high carry-over over activity and employment for the modernisation of the Spanish economy. The fifth lever, entitled 'Modernising and digitising the industrial and SME fabric, restoring tourism and boosting Spain's entrepreneurial nation', includes Component 12, which develops the new 'industrial policy Spain 2030'. The objective of Component 12 is to boost the modernisation and productivity of the Spanish industry-services ecosystem, by digitising the value chain, boosting productivity, competitiveness and improving the energy efficiency of key strategic sectors in the green transition and digital transformation.

Under the heading 'Programme for Competitiveness and Industrial Sustainability', numbered Investment 2 in Component 12, five action lines are grouped together, of which the support line for strategic projects for industrial transition is highlighted by its dimension. This line will finance aid for all actions which, as part of Strategic Projects for Recovery and Economic Transformation (hereinafter referred to as 'the cant') in the industrial sector, are in response to the planned call for proposals to meet the specific objectives of the PRTR in the field of industry. The strategic sectors identified are: Automotive, agro-food, health, aeronautics and naval.

In the field of industry, the Directorate-General for Industry and SMEs (DGIPYME) leads, within the Ministry of Industry, Trade and Tourism, the actions set out in Component 12 and, in particular, is responsible for implementing the support programmes provided for in Investment 2 "Programme to boost competitiveness and industrial sustainability" of that component.

The subject of the evaluation is, as part of the programme Boosting competitiveness and sustainability in industry, in the first light cant, which is the one corresponding to the automotive sector, called electric vehicle cant and connected (VEC cant). Approved by the Council of Ministers on 13 July 2021, it sets out a series of measures to transform the value chain of electric and connected vehicles and other enablers for the creation of new mobility.

In particular, the purpose of this Evaluation Plan is the programme which links the whole line of actions in the electric vehicle industrial chain, one of the first measures to transform the VEC cant.

This line of action is endowed with EUR 1.550 million from the Recovery and Resilience Facility (MRR) and EUR 1.425 million from the National Ordinary Budget, which exceeds the threshold of EUR 150 million in the average annual allocation defined by the European Commission, on the basis of which the programme must be notified and an evaluation plan submitted as a condition for approving the action line. Thus, when preparing the Basic Order and the Order for the call for applications, the Directorate-General for Industry and Small and Medium-sized Enterprises (DGIPYME) has collaborated with DGIPYME in drawing up the programme and this evaluation plan. The Plan sets out the proposed set of objectives, indicators and methodologies that will make it possible to evaluate the results and the subsequent impact of the programme.

The Programme Evaluation Plan, which underpins the action line, is formulated from a holistic perspective and aims to identify and measure the positive and negative effects, both in terms of results and impacts. The aim is to know and measure the extent to which the objectives of the programme have been achieved, to generate knowledge around the whole implementation process, in order to improve the definition and management of future actions, as well as knowledge for the automotive value chain itself, and to measure the effects and impact of the Programme.

The analysis set out in the plan is structured into three broad dimensions: Design, implementation

and results of the action, and is formulated for the evaluation to be implemented in 4 phases.

2. OBJECTIVES OF THE EVALUATION

2.1 Description of the purpose to be assessed

The programme which forms the basis of the integrated action line on the industrial chain of electric and connected vehicles, which is the subject of this evaluation plan, as already mentioned, falls within the PRTR component 12, investment 2 (C12.I2) 'Programme for boosting competitiveness and industrial sustainability'. This investment includes the Support Line for Strategic Projects for Industrial Transition (cant), the main objective of which is to foster the transformation of strategic value chains of industrial sectors with a high leverage effect on the economy and aligned with the European strategic industrial ecosystems.

In particular, the line of comprehensive actions on the industrial chain of electric and connected vehicles is one of the first measures to boost the VEC cant.

The actors in the action line to be involved in the Evaluation Plan:

- Programme Manager DGIPYME
- Beneficiaries: Members of the groupings
- Induced ecosystem (industrial chain involved outside the cluster: Outsourced companies, etc.)
- Industry Associations
- Non-beneficiaries: Non-beneficiary applicant group members

2.2 Scope of the Directive

The objective of the evaluation is to know and measure:

- Positive and negative effects of the intervention and generating knowledge throughout the implementation of the call.
- The impact of the administration's action with the programme by comparing the effects of the group of beneficiaries with the comparator group.

- Extent to which the objectives of the programme are met.

It is proposed to carry out **a comprehensive evaluation**, making it possible to showcase and analyse why these results and effects, success stories and lessons learned, the future perspective of the actors involved... ultimately, that the **evaluation serves as a tool for learning and improving the design and management of future actions**, in the context of continuous improvement of public policies.

It is also intended that the evaluation should also help the beneficiary groups to internalise the culture of measuring the results and impact of their actions, not only in the sector but also in society and the environment.

Finally, communication activities, in line with the call communication evaluation methodology, will also be assessed according to EC recommendations.

3. METHODOLOGY

3.1 Evaluation of results

The main purpose of performance evaluation is to estimate the extent to which the objectives of the Programme have been achieved, the achievement of which we have referred to as the expected results of the programme, taking into account the problem identified and the rationale for public intervention.

Performance evaluation requires an intervention logic developed on the basis of the information provided by *Component 12: Industrial Policy Spain 2030 of the Recovery, Transformation and Resilience Plan (PRTR)*and the *VEC pert programme*, contained in the previous one, which are listed below.

The different components of the PRTR in general and component 12 in particular are shaped by reforms and investments. The VEC cant programme is located in the second of the investments foreseen by Component 12: The *Competitiveness and Industrial Sustainability Programme* is composed of 5 investment lines.

The main of these 5 investments is the support line for strategic projects for industrial transition (cant). Through cant, the aim is to transform strategic value chains in industrial sectors with a strong tractor effect on the economy.

Given the importance of the automotive sector in the Spanish economy as a whole, the first to be implemented is VEC cant. It aims to address the transformation of the value chain of the automotive industry and electric and connected vehicles. With a total of EUR 4.295 million, the main public investment is the Action Line for the Development and Manufacturing of the VEC, which we will now refer to as *the Programme*.

This consists of one part, the eligible aid line, of EUR 1.550 million from Spain's Recovery, Transformation and Resilience Plan and EUR 1.425 million in the form of loans financed from the General State Budget of the Kingdom of Spain for investment in the transformation of the automotive value chain.

Once the Programme is located, we will build on its objectives to develop the different elements of the intervention logic, such as the dimensions of the intervention with its specific variables or factors for each one, as well as the indicators associated with these factors.

3.2 The objectives of the Programme

The objectives defined in the Programme are the reference point on which the expected results are built. The objectives are solutions conceived by the Programme in such a way that if the objectives are the intention guiding public policy, the results are the changes identified by the intervention.

In this sense, as set out in the Programme, its objectives are uniquely linked to the expected results defined in the intervention. For this reason, we start by presenting the objectives, which follow the method of programming by objectives that propose the achievement of one or more —

or more — final targets and other intermediate objectives, which are essential for the achievement of the final objective defined. The hierarchy of objectives clearly establishes causal relationships, if the lower level is achieved the highest level will have to be achieved.

In particular, the Programme consists of 5 immediate objectives and 2 final objectives, which we present below, together with its associated policy areas and indicators.

Intermediate targets:

1. Transforming the value chain of the automotive industry.

2. Foster the development of strategic alliances with key actors.

3. Boosting the modernisation and transformation of the industrial fabric and improving social and economic resilience

4. Encouraging the transformation of the production system of the automotive sector.

5. Boosting the competitiveness of the automotive sector.

Final objectives:

1. Contribute to GDP growth.

2. Boost job creation in the automotive sector.

3.3 The dimensions of the programme

Goal 1. Transforming the value chain of the automotive industry.

The transformation of the automotive industry value chain is addressed through: (I) improvement of energy services; (II) the introduction of the technology associated with connectivity and autonomy; (III) the development of mobility as a service; (IV) the introduction of waste management into the value chain; (v) the development of connectivity infrastructure.

Goal 2. Foster the development of strategic alliances with key actors.

The development of strategic alliances defines as key actors to have an impact on the establishment of strategic collaborative networks for the generation of the new ecosystem of the value chain: (I) research centres; (II) chemical companies; (III) electricity undertakings; (IV) telecommunications undertakings.

Goal 3. Boosting the modernisation and transformation of the industrial fabric and improving social and economic resilience

The modernisation and transformation of the industrial fabric is addressed by: (I) the reduction of external dependence on certain basic products in the chain; (II) the introduction into the value chain of state-of-the-art electrical battery manufacturers; (III) the introduction into the value chain of state-of-the-art microprocessor manufacturers; (IV) the enhancement of other highly technological investments.

Goal 4. Encouraging the transformation of the production system of the automotive sector.

The transformation of the production system is based on the impact of the programme on the following dimensions: (I) improving the sustainability of industry; (II) the development of the digitalisation of industry; (III) the promotion of innovation by enterprises; (IV) the narrowing of the gender gap in industry.

Goal 5. Boosting the competitiveness of the automotive sector.

One of the main objectives of the Programme is to boost the competitiveness of the automotive sector. This boost to competitiveness is based on the improvement of the following factors: (I) production factor; (II) innovative strength; (III) human capital; (IV) external capacity.

As regards the development of the **production factor**, it operates on the basis of the measurement of the firm's productivity (unit labour cost and the capacity to use its resources).

The **innovative strength** is defined by the R & D & I effort compared to the primary project as a whole.

Human capital is operationalised on the basis of the number of workers, expenditure on training received and the weight of highly qualified professionals in relation to the total number of workers in the company.

Finally, we operate the external capacity on the basis of the export weight in relation to the company's turnover volume, the degree of openness of the company, the comparison of production to the EU, and the comparison of the degree of internationalisation of the company to the EU and Asia (China, India, Japan).

3.4 Expected results

The Programme presents a set of expected results, geared to its objectives. These expected results are shaped by one or more factors for which a set of indicators has been developed.

As part of the evaluation of results, in order to carry out the analysis of the Programme's action towards achieving the objectives, we will build an indicator integrating each of the dimensions and factors mentioned above. In this integration we have considered each of the dimensions and factors mentioned as equivalent, as shown below.

The evolution over time of the values obtained from this constructed indicator will allow us to demonstrate the progress — if any — towards achieving the objectives set, as well as the improvement in each of the dimensions set.

Expected result 1. A new automotive value chain adapted to the VEC.

The transformation of the value chain requires an impact on the following factors: (I) improvement of energy services; (II) the development and incorporation into the production chain of the technology associated with connectivity and autonomy; (III) the development of the new paradigm of mobility as a service; (IV) the incorporation of waste management as a key link in the value chain; (v) the development of connectivity infrastructure; (VI) adapting logistics to the new value chain.

Expected result 2. Development of strategic alliances with key actors.

In relation to one of the central points of the VEC cant*, namely the creation of the ecosystem needed for the development of an innovative automotive industry*, the development of strategic alliances with key players is a key action to this end.

In this regard, the Programme aims to stimulate collaboration between undertakings of different kinds, especially between different links in the chain, such as research centres, chemical companies, electricity companies and telecommunications companies.

Expected result 3. Modernisation and transformation of the industrial fabric and improvement of resilience.

The Programme aims to foster the modernisation and transformation of the industrial fabric and the improvement of social and economic resilience. This transformation and modernisation are based on: (I) the reduction of external dependence; (II) stimulation of battery production and; (III) state-of-the-art microprocessors; As well as (iv) leveraging other highly technological investments.

Expected result 4. Transformation of the production system of the automotive sector.

The programme aims to transform the production system of the automotive sector on the basis of: (I) improving sustainability; (II) boosting the digital transformation of beneficiary companies; (III) improving innovation and (iv) narrowing the gender gap.

Expected result 5. Boosting the competitiveness of the automotive sector.

Improving the competitiveness of the automotive sector is shaped by the following dimensions: (I) the development of the productive factor; (II) strengthening innovative strength; (III) improvement of human capital; (IV) the increase in external capacity.

In addition to the expected results, the VEC cant presents and presents estimates of the expected final results:

Expected final result 1. Effectiveness of the Programme. Economic growth and its contribution to GDP.

Economic growth is measured by estimating multiplying factors by the Ministry of Industry, Trade and Tourism.

Interms of GDP growth projected by the financing line, it will generate between 0.9 % and 1.59 % of GDP growth in 2021. This would translate in absolute terms into an increase in Spain's GDP of between EUR 10.095 million and EUR 17.835 million.

The calculated multiplier effect is **for each euro of public investment, EUR 4 of private investment will be activated**.

Again, this implies estimating at the beginning of the period the public investment that is going to be private and whether this estimate at the end of the period is met.

Expected final result 2. Effectiveness of the Programme. Create jobs.

In terms of job creation, the estimation is made according to the link in the value chain of the electric and connected vehicle:

Link	Maximum estimated employment	Minimum estimated employment
Manufacture of electric batteries	8.688	4.000
OEM and component manufacturer	132.525	64.125
Job creation generated by VEC cant. Integrated course of action for the development and manufacture of VEC	141.213	68.125

Source: VEC CANT

Based on the estimate shown in the table, the job creation generated by the Comprehensive Action Line will increase by between 68.125 and 141.213 jobs along the whole chain.

According to estimates by the Ministry of Industry, Trade and Tourism, job creation is a function of investment, depending on the type of production:

- Mandatory Blocks, Manufacture of Original Equipment and Assembly and Manufacture of other essential components adapted to electric vehicles, **the multiplication factor ranges from 9,3 employment/EUR million to 4,5 employment/EUR million**.
- For the Battery Manufacturing Block, **the multiplication factor ranges from 13,9 employment/EUR million to 6,4 employment/EUR million.**

This means that, for each tractor project, depending on the overall investment, the employment to be generated must be estimated and its contribution checked using the multipliers exposed for the blocks.

3.5 Evaluation questions

The evaluation questions are the definition of the criterion, do not need to take into account the fact that they may or may not be measures, which will be the responsibility of the indicators.

Questions should be tasked to represent as completely as possible the various issues that define each of the final and intermediate objectives.

According to the EC methodology, the questions can be classified according to the following three levels:

- **Direct impact on aid beneficiaries**
- **Indirect impact of the aid scheme**
- **Proportionality and appropriateness of the aid scheme**

The evaluation questions considered to address this evaluation are as follows:

- **Direct impact on beneficiaries**
    - Has the value chain been transformed and the energy efficiency of the sectors concerned improved?
    - Has the industrial and production fabric been modernised and transformed from the realisation of the projects?
    - Do supported companies have a better competitive position thanks to the aid?
    - EFFECTIVENESS: The extent to which the aid has had the expected effects (number of jobs generated and contribution to GDP)?
    - EFFICIENCY: How was the ratio between the number of jobs generated and the contribution to GDP?
- **Indirect impact of the aid scheme**
    - **Positive impacts**
        - Do the companies receiving support under the aid scheme increase their research effort?
        - Has the project favoured the building of strategic alliances with other ecosystem actors linked to the VEC?
        - Do supported companies decrease their dependence on foreign companies?
    - **Negative impacts**
        - Has the CO2 input from companies decreased?
        - Has the number of tonnes of waste generated decreased?
- **Appropriateness of the aid instrument**
        - Did the VEC cant help incorporate national projects?
        - Has the VEC cant helped the involvement of companies not linked to car manufacturing?
- **Proportionality of the aid**
        - Is the gross funding intensity in relation to the investment in line with the limits set?

3.6 Programme indicators

Based on the objectives of the Programme, the evaluation questions and the factors presented above, it is necessary to incorporate the system of indicators relating to the Programme, a set of resources to measure the extent to which the objectives have been achieved. In this regard, it is important to establish the specification of which result measures will be used to assess

performance, even in the case of multiple outcomes. The selected result measures are used to establish whether a programme is successful or not.

Once the main indicators of interest have been selected, clear standards for the success of the programme need to be defined.

It is essential that the main actors involved in the programme (both the evaluation team and the programme team) agree both on the primary result indicators relevant to the impact assessment and on the expected sizes of impacts expected as a result of the programme, as they will be used to judge the success of the programme.

When choosing the indicators, it is important to identify them along the whole chain of results, and not only at the level of impact results, so that they can follow the causal logic of any observed programme outcome.

A clearly articulated result chain provides a useful map for selecting the indicators to be measured along the chain, in order to monitor the implementation of the programme and evaluate the results. As mentioned above, it is useful to involve programme stakeholders, both programme teams and evaluation teams, to select these indicators and ensure that they are good measures of programme performance. Some of the indicators will be measured throughout the programme implementation process in order to compare situations of beneficiaries before participating, during their participation and afterwards.

Expected results may be produced earlier in the chain of results, either as a leading result or as a result of an early stage (first results). Although one of the interests is placed in the result measures for the impact assessment, it is substantial to monitor the implementation indicators, so that it can be ascertained whether the interventions have been carried out as planned, whether they have been received by the targeted beneficiaries and whether they have arrived in time. If these indicators are not identified throughout the chain of results, there is a risk that the evaluation of results and impacts will be a "black box" that will be able to determine whether the expected results materialised or not, but will not be able to explain why.

3.6.1 Criteria for defining indicators

With regard to the indicators used, the general rule indicates that the criteria to ensure that they are good measures are summarised in the acronym EMARF. The indicators should be:

- Specific: To measure the required information as rigorously as possible.
- Measurable: To ensure that the information is readily available.
- Attributable: To ensure that each measure is linked to the achievements of the project.
- Realistic: To ensure that data can be obtained in a timely manner, at a reasonable frequency and cost.
- Targeted: In the target population.

As a **final checklist**, once the indicators have been selected, it is useful to think about the arrangements for producing the data in order to measure the indicators. This checklist (UNDP adapted, 2009) covers the practical arrangements necessary to ensure that all indicators can be produced in a reliable and timely manner:

- **Are the indicators (outputs and results) clearly specified?**

These come from the key evaluation questions and should be consistent with the programme design documents and the chain of results.

- **Are the indicators EMARF?**

Specific, measurable, attributable, realistic and targeted.

- **What is the source of the data for each indicator?**

It is necessary to clearly define the source of the data, such as a survey, study or stakeholder meeting.

- **How often will the data be collected?**

A timetable needs to be included.

- **Who is responsible for collecting the data?**

It should be specified who is responsible for organising data collection, verifying the quality and source of data and ensuring compliance with ethical standards.

- **Who is responsible for analysis and reports?**

The frequency of analyses, the method of analysis and the person responsible for the reports should be established.

- **What resources are needed to produce the data?**

It is essential that the resources required are clear and intended to produce the data, which is often the most expensive part of an assessment if primary data are collected.

- **Is the documentation adequate?**

It is useful to design plans to document the data, include the use of a register and ensure anonymity.

- **What risks do you pose?**

In carrying out the planned monitoring and evaluation activities, it is necessary to consider the risks and assumptions as well as how they can influence the timeliness and quality of data and indicators.

3.6.2 Programme indicator table

The various indicators used to assess the expected results in creating the ecosystem are set out below.

For more detail on each of the indicators considered and their calculation formula, see *Annex I: Full table of indicators*.

A) **Value chain transformation**indicator

Dimensions	Indicators
Energy services	kWh consumed from renewable sources by the company of the primary project/total kwh consumed by the company of the primary project
	Investments linked to the energy savings of the primary project company/Total investments in improvement of infrastructure and services of the primary project company.
Technology associated with connectivity and autonomy	(No. of IoT elements incorporated into components or products (manufactured/designed) for vehicle maintenance and management (in vehicles targeted by the action or R & D developed) by the primary project company)/(No. of components and products (designed/manufactured) (in vehicles targeted by the action or R & D developed)) by the primary project company))
	No. of IoT elements or products (designed or manufactured) for the collection of data for autonomous driving (ultrasonic sensors, infrared sensors, etc.) for the primary project project of the primary project/Total of components or products designed/manufactured by the primary project company
Mobility as a Service	Revenues from the manufacture/sale of VEC for pay-per-use business models of the primary project company/Total sales income of VEC.
Waste management	(No. of components or products manufactured/designed that are reusable or recyclable from those provided by the company for the

	primary project project)/(Total No. of components or products manufactured/designed by the primary project company)
	Tonnes of waste generated in the creation or manufacture of products/components developed/designed for R & D by the primary project company/N. total tonnes of waste generated by the company of the primary project
	No. of products and components manufactured or designed with "green label" by the company for the primary project/Total number of green labelled products and components manufactured or designed by the primary project company
Infrastructure developers for connectivity	No of components/products (designed or manufactured) linked to the company's Wi-Fi connectivity for the primary project/N of components/products designed or manufactured) within the Primary Project.
	No. of components/products (designed or manufactured) linked to connectivity for autonomous driving (Satellite Positioning and Navigation, Inertial Navigation Systems, Radar, Lídar, etc.) for the primary project project of the primary project/No. of components/products designed or manufactured within the Primary Project.
Involved in new forms of distribution and use	No. of projects carried out/agreements reached with cargo managers by the primary project company/No. total projects carried out/agreements reached by the primary project company.
	No. of projects carried out/agreements reached with service station companies by the primary project company/Total projects carried out/agreements reached by the primary project company.
	No. of projects carried out/agreements reached with concessionaires or garages by the primary project company/Total projects carried out/agreements reached by the primary project company.
	No. of SMEs subcontracted by the primary project company/Total number of companies subcontracted per primary project company

B) **Strategic alliance building indicator with key actors**

Dimensions	Indicators
Strategic alliances with research centres	No. of collaborative projects/agreements reached with research centres by the primary project company/N° total projects carried out/agreements reached by the primary project company.
Strategic alliances with chemical companies	No. of projects carried out/agreements with chemical companies by the primary project company/No. total projects carried out/agreements reached by the primary project company.
Strategic alliances with electricity companies	No. of projects carried out/agreements reached with electricity companies by the primary project company/No. total projects carried out/agreements reached by the primary project company.
Strategic alliances with telecommunications companies	No. of projects carried out/agreements reached with telecommunications companies by the primary project company/N° total projects carried out/agreements reached by the primary project company.

C) Indicator to promote the **modernisation and transformation of the industrial fabric**

Dimensions	Indicators
External dependence on certain basic	No. of products/components imported by the company for the primary project/Total No. of components or products designed/manufactured primary project

products in the chain	
Battery manufacturers	No. of battery models for hybrid electric cars manufactured/designed by primary project/total number of battery models manufactured/designed per primary project.
Microprocessor manufacturers, component manufacturing tractors	No. of IoT microprocessors or sensors, manufactured/designed for VEC by the primary project company for the primary project/total number of IoT microprocessors or sensors, manufactured/designed, per primary project company
Leveraging other highly technological investments	No. of products or components provided by the primary project for the design, construction or manufacture of high power chargers for VEC and buses and trucks/Total No of components/products manufactured by the primary project company
	No. of products or components manufactured/designed for hybridised charger for VEC project by the primary project company/Total No. of hybridised charger products or components manufactured/designed by the primary project company
	No. of products or components contributed by the primary project company to the design or manufacture of smart and wired recharging VEC project/Total No of components or products manufactured by the primary project company

D) Indicator of **transformation of the production system**

Dimensions	Indicators
Sustainability	No. of KWh consumed in the production/design of components/VEC project products of the primary project company/Total kWh consumed in the manufacture/design of components/products primary project
Digitalisation/digital transformation	No. of parts of the production/design systems for VEC project of the primary project, integrated with the management systems/Total production systems of the primary project company
	No. of production systems with IoT, dedicated to the production/design of the elements for the VEC project of the primary project/Total production systems of the primary project company
Innovation	Enterprise Research Expenditure of the Primary Project/Total Company Expenditure of the Primary Project
	Primary Project Enterprise Innovation Expenditure/Total Enterprise Expenditure of the Primary Project
	Primary Project Enterprise Development Expenditure/Total Company Expenditure of the Primary Project
	No. of employees in the research area of the primary project company/No. of total employees of the primary project company
	No. of employees in the Primary Project Company Development area/Number of total employees of the primary project company
	No. of employees in the Innovation area of the primary project company/No. of total employees of the primary project company
	No of patents with foreign collaboration of the primary project company/total patents of the primary project company
	Number of patents with the cooperation of Spanish companies of the primary project company (last 4 years)/total patents of the primary project company (last 4 years)
Gender gap	No. of women in primary project company/Total Employees Company Primary Project

	No. of women in managerial positions of the primary project company/Total number of employees of the primary project company
	No. of Women in Vulnerable Situation of the Primary Project Company/Total No. of Women of the Primary Project Company
	No. of women engaged in R & D & I of the primary project company/Total employees of the primary project company

E) **Competitive capacity**indicator

Production factor	Total turnover of the primary project company/Total number of employees. Primary Project Company
	Total wage bill of the company primary project/Total number of working days employed enterprise primary project
	Total production of the primary project company/(installed) production capacity of the primary project company
Innovative strength	R & D & I expenditure, primary project company/Total company expenditure primary project
Human Capital	Total number of workers belonging to qualification levels ≥ 3 of the primary project/total number of workers undertaking primary project
	Total expenditure on training carried out by the company primary project/No of employees company primary project.
External capacity	Turnover from exports of the primary project company/Total turnover of the primary project company
	No. of countries to which a primary project company exports/No of countries to which it exports EU
	No. of elements/components produced/designed per primary project/No. of elements/components produced/designed in EU
	No. of countries to which the primary project company exports/No of countries to which Asia exports (Japan, China and India)

F) **Final result indicators of the programme (effectiveness and efficiency)**

Employment	Employment generation indicator 4,5 (employment generation coefficient VEC) * (value of the primary project expressed in million euro)
Gross value	Gross value generation indicator (number of million euro of primary project) * 0,9 (coefficient of generation of gross cant value VEC)
Efficiency	Employment Generation Indicator/Gross Value Generation Indicator

G) **Appropriateness and Proportionality**Indicators

Suitability	Number of projects that have achieved 75 % funding/Number of projects that have achieved 80 % of funding.

	Number of enterprises of the primary project not linked to car manufacturing/Total number of enterprises of the primary project.
Proportionality	(grant received by the company + loans received by the company from the tractor project)/(Investment of the tractor project)

3.6.1 Classification of indicators according to evaluation questions

EVALUATION QUESTION	DIMENSIONS
DIRECT IMPACT	
Has the value chain been transformed and the energy efficiency of the sectors concerned improved?	I^{5} Infrastructure developers for connectivity (Wi-Fi internal connectivity, external connectivity)
	I^{4} Waste management
	I^{1} Energy Services (Energy Efficiency and Sustainability)
	I^{2} Technology associated with connectivity and autonomy
Has the industrial and production fabric been modernised and transformed from the realisation of the projects?	$I^{\mathbf{14}}$ Enhancing other highly technological investments (Only for Bloque3 companies)
	I^{13} Microprocessor manufacturers, component manufacturing tractors
	I^{12} Battery Manufacturers (Block 3 only)
	I^{16} Digitalisation/digital transformation
	$I^{\mathbf{15}}$ Sustainability
Do supported companies have a better competitive position thanks to the aid?	I^{25} External capacity of the Competitiveness Indicator
	I^{23} Human capital
	I^{19} Productivity factor of the Competitiveness Indicator
	I^{22} Innovative development of the Competitiveness Indicator
EFFECTIVENESS: The extent to which the aid has had the expected effects (number of jobs generated and contribution to GDP)?	$I^{employment}$. Employment generation indicator. $I^{employment}$= 4,5 (VEC job generation coefficient) * (value of the primary project expressed in million euro)
	$I^{gross\ value}$. Gross value generation indicator. I^{money} = (Number of million euro of primary project) * 0,9 (gross VEC generation coefficient)
EFFICIENCY: How was the ratio between the number of jobs generated and the contribution to GDP?	$I^{efficiency}$. Efficiency indicator. $I^{efficiency} = I^{employment} / I\ valued^{gross}$
INDIRECT IMPACT	
(a) Positive impact	

Do the companies receiving support under the aid scheme increase their research effort?	I[17] Innovation
Has the project favoured the building of strategic alliances with other ecosystem actors linked to the VEC?	I[6] Involving in new forms of distribution and use
	I[7] Strategic alliances with research centres
	I[9] Strategic alliances with electricity companies
	I[8] Strategic alliances with chemical companies
	I[10] Strategic alliances with telecommunications companies
Do supported companies decrease their dependence on foreign companies?	I[11] External Dependence of certain basic productions in the chain
negative impact	
Has the CO2 input from companies decreased?	I[1]. Energy Services Indicator. (energy efficiency and sustainability)
Has the number of tonnes of waste generated decreased?	I[42]. No. of tonnes of waste generated in the creation or manufacture of the products/components developed/under R & D design by the company of the primary project/Total tonnes of waste generated by the primary project company.
3. Appropriateness of the aid instrument	
Did the VEC cant help incorporate national projects?	Number of projects that have achieved 75 % funding/Number of projects that have achieved 80 % of funding.
Has the VEC cant helped the involvement of companies not linked to car manufacturing?	Number of enterprises of the primary project not linked to car manufacturing/Total number of enterprises of the primary project.
4. Proportionality of the aid	
Is the gross funding intensity in relation to the investment in line with the limits set?	$I^{proportionality}$ = (Subsidy received by the company + loans received by the company from the tractor project)/(Investment of the tractor project)

Note: It should be borne in mind that certain indicators may be answered by one or the other type of reporting person depending on their CNAE and therefore the same number of responses will not always be available for each of them. For more details see section *3.7 Reporting persons for the assessment.*

3.7 Reporting persons for evaluation

Below is an approximation to those expected to be the respondents of the evaluation, considering the target population of the aid and the number of enterprises expected to participate.

According to the indications given by DGIPYME, in terms of the number of companies expected to participate, it could be expected that:

- 17 clusters (approx. 10 companies per cluster) are involved, a total of 170 companies.
- Some 8 clusters could benefit. Companies belonging to non-beneficiary groups could form the monitoring group for the impact assessment.

Therefore, a rejection rate of approximately 50 % is expected on the basis of estimates provided by DGIPYME.

Given the diversity of companies eligible to participate in the call and considering the specificity of the projects, it is proposed to focus the sample on the following NAECs:

- 291 Manufacture of motor vehicles
- 293 Manufacture of components, parts and accessories for motor vehicles
- 272 Manufacture of batteries and electric accumulators

Therefore, the relationship between the universe and the sample of companies considered for the assessment is shown below. In particular, the data would be:

	Business universe 2020 *	Number of enterprises eligible to apply	Number of eligible enterprises
291 Manufacture of motor vehicles	119	21	10
293 Manufacture of components, parts and accessories for motor vehicles	810	144	68
272 Manufacture of batteries and electric accumulators	27	5	7
TOTAL COMPANIES	956	170	85

** Source: DirecCE Central Directory, National Statistical Institute INE.*

This is an approximation to a reality unknown at the moment. Once the global figures are known, the total number of companies expected to participate has been distributed in proportion to the universe in order to have an approximation of what would be the sample for each of the CNAs proposed.

We would therefore be getting information from 17.8 % of the total universe of undertakings (beneficiaries and non-beneficiaries), assuming that all aid applicants are actively involved in the evaluation.

As explained in section *3.12 Impact Assessment, the* reporting persons needed to form the comparison group are expected to be the participants in the Call who will ultimately be non-beneficiaries. Since it is not yet known what the situation will be once the call for applications has been resolved, that section sets out different scenarios that will allow the construction of an alternative comparison group.

On the other hand, it may not be possible for all types of company concerned to meet all indicators equally. This is why it is not always expected to have the same number of responses for each of the indicators.

List of indicators and expected reporting persons

Below is an approximation of the sample that is expected to be obtained from beneficiaries for each of the indicators considered, provided that DGIPYME's initial forecasts for the volume of participation and the rate of approval are met:

Value chain transformation indicator	DIRECT Sample beneficiaries	INDIRECT Sample beneficiaries	CNAE Aplicate
Energy Services (Energy Efficiency and Sustainability)	85		291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Technology associated with connectivity and autonomy	75		293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Waste management	78	7	291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Infrastructure developers for connectivity (Wi-Fi internal connectivity, external connectivity)	68		293 Manufacture of components, parts and accessories for motor vehicles
Involved in new forms of distribution and use		85	291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Strategic alliance building indicator with key actors	**DIRECT Sample beneficiaries**	**INDIRECT Sample beneficiaries**	**CNAE Aplicate**

Strategic alliances with research centres		85	291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Strategic alliances with chemical companies		85	291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Strategic alliances with electricity companies		85	291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Strategic alliances with telecommunications companies		85	291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Indicator to promote the modernisation and transformation of the industrial fabric	**DIRECT Sample beneficiaries**	**INDIRECT Sample beneficiaries**	**CNAE Aplicate**
External dependence on certain basic products in the chain		85	291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Battery manufacturers	7		272 manufacture of batteries and electric accumulators
Microprocessor manufacturers, component manufacturing tractors	68		293 Manufacture of components, parts and accessories for motor vehicles
Leveraging other highly technological investments	75		293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators

Indicator of transformation of the production system	DIRECT Sample beneficiaries	INDIRECT Sample beneficiaries	CNAE Aplicate
Sustainability	85		291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Digitalisation/digital transformation	68		293 Manufacture of components, parts and accessories for motor vehicles
Innovation		85	291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Competitive capacity indicator	**DIRECT Sample beneficiaries**	**INDIRECT Sample beneficiaries**	**CNAE Aplicate**
Production factor of the Competitiveness Indicator	85		291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Innovative strength of the Competitiveness Indicator	85		291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
Human Capital	85		291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators
External capacity of the Competitiveness Indicator	85		291 manufacture of motor vehicles 293 Manufacture of components, parts and accessories for motor vehicles 272 manufacture of batteries and electric accumulators

Participants in the Call will be registered by the managing body. Through your participation you will be asked to provide information concerning your company during the 3 years prior to 2022, i.e. 2019, 2020 and 2021. Thereafter, information will be collected annually until the year 2026.

3.8 Proposal for the collection of information

Each information need is associated with a specific data collection, however, in general terms, there are the following milestones for the collection of information:

- At the start of the project in **2022**, information will be required from both the beneficiary companies and non-beneficiaries of the Programme in the last 3 years, in particular the information relating to the years **2019, 2020 and 2021**.
- From the start of the programme, it is planned to obtain the necessary data on an annual basis. All the information required shall be collected at the same time in all groups of reporting persons.

On this basis, we will use the following values of variable t in the calculation formulae of the indicators for these time milestones:

For t = 0, the start of the implementation of the Programme. At this point in 2022, we will collect data for the previous years 2019, 2020 and 2021 which will serve to analyse the evolution of the comparison group with the group of beneficiaries of the programme.

For t = 1, it corresponds to the data corresponding to the end of the first year of implementation of the programme and therefore corresponds to the year 2023.

For t = 2, it corresponds to the second year of implementation of the programme, scheduled for 2024.

For t = 3, following the above logic, it corresponds to the year 2025.

For t = 4, it is the last year of measurement coinciding with the end of the implementation of the programme in 2026.

Data collection as a starting point

Once the information from the primary project and tractor projects is collected, the processing of data is necessary to generate the information required by the Evaluation Plan for the development of performance and impact assessments.

In this regard, as set out in *Annex I: Full table of indicators* and at the times defined in the *Evaluation Plan* the information provided by the primary project and tractor projects corresponds to the first level indicators.

We will work on these data to construct other indicators with higher level information so as to measure the scope of the Programme towards achieving the ultimate goal of creating the ecosystem of the automotive industry.

In order to be able to compare the data collected by primary undertakings and tractors, it is therefore necessary initially to standardise statistics.

Data standardisation

Normalisation is a process used in statistics to compare data from different samples or populations and is expressed as the number of standard deviations a given value takes from the average of its sample or population.

To this end, on the basis of the X_j^i e values y_j^i — we will use as an example below X_j^i — obtained directly by the primary project companies and, where appropriate, by the tractor projects, with mean μ and standard deviationσ, obtained from the data collected at t = 0, it is calculated by subtracting the mean from the collected value and dividing the result by the standard deviation, as follows:

$$N = \frac{X_j^i - \mu}{\sigma}$$

The result will be a dimensionless value between 0 and 1 that will allow us to compare and operate with indicators of a different nature, necessary for the evaluation.

3.9 Data quality management

Once the implementation of the programme has been completed, we will carry out an analysis of the quality of the data in order to verify the information provided by the companies.

In this analysis we will use two main techniques: (I) systematic sampling and (ii) cross-checking the information provided by the companies with the information provided by the commercial register.

With regard to systematic sampling, we will select a sample representative of all the beneficiary and non-beneficiary companies and conduct an interview with each of them in order to cross-check the data provided.

As regards the reconciliation of the information provided by the Companies Register, during the process of constructing the indicators, they have been designed in such a way that they can be compared with the information submitted by the companies to the aforementioned register in order to have a means of comparing the information provided by the undertakings. To this end, a random selection shall be made on the basis of the sample size and the total population, and a cross-check of the variables for which data are available in that body shall be carried out.

3.10 Proposal for calculation of expected results

The different levels of indicators

As we have seen above, the Evaluation Plan has been designed in a way that is deductive from the more general and abstract objectives to the most specific and concrete objectives, on the basis of which different levels of indicators have been developed.

However, the process of collecting information and calculating the values of indicators at different levels follows the opposite direction in order to facilitate the collection and processing of information. To this end, we will start from the most concrete and accessible data obtained from direct measurements and then work on these data to feed the higher indicator levels progressively.

In particular, the different levels of indicators are: Level 1 of direct indicators; Level 2 factor indicators; Level 3 of size indicators and level 4 of result indicator.

Once the different levels have been listed, we will present the calculation formulae for the different indicators.

Level 1 of direct indicators

These are the indicators for which information is provided directly by the beneficiary primary project companies and tractor project representatives.

The generic expression of the indicator calculation is as follows:

Generic calculation of the $indicador = \frac{\Sigma_{jt}^{i}\left(x_{jt}^{i}/y_{jt}^{i}\right)}{n}$

Where i = dimension factor; J = indicator number; T = date of data collection1; N = number of times data have been collected.

$\forall$ T $\in \{1,2,3,4\}$ being the years of data collection for t = 1 in the year 2023; T = 2 per year 2024; T = 3 per year 2025 and t = 4 per year 2026, n being the number of times (years) the data were collected.

Thus, the calculation expressions for the different years of data collection are as follows:

For t = 1 (data collection year 2023)

$$I_{jt}^{i} = \frac{\frac{x_{j}^{i}{}_{23}}{y_{j}^{i}{}_{23}}}{1}$$

For t = 2 (data collection years 2023 and 2024)

$$I_{jt}^{i} = \frac{\frac{x_{j}^{i}{}_{23}}{y_{j}^{i}{}_{23}} + \frac{x_{j}^{i}{}_{24}}{y_{j}^{i}{}_{24}}}{2}$$

For t = 3 (data collection years 2023, 2024 and 2025)

Generic developed calculation of the indicator for t = 3:

$$I_{jt}^{i} = \frac{\frac{x_{j}^{i}{}_{23}}{y_{j}^{i}{}_{23}} + \frac{x_{j}^{i}{}_{24}}{y_{j}^{i}{}_{24}} + \frac{x_{j}^{i}{}_{25}}{y_{j}^{i}{}_{25}}}{3}$$

For t = 4 (data collection years 2023, 2024, 2025 and 2026).

Generic developed calculation of the indicator for t = 4:

$$I_{jt}^{i} = \frac{\frac{x_{j}^{i}{}_{23}}{y_{j}^{i}{}_{23}} + \frac{x_{j}^{i}{}_{24}}{y_{j}^{i}{}_{24}} + \frac{x_{j}^{i}{}_{25}}{y_{j}^{i}{}_{25}} + \frac{x_{j}^{i}{}_{26}}{y_{j}^{i}{}_{26}}}{4}$$

Level 2 of factor indicators

Level 2 shows the indicators of the factors of the different performance dimensions.

These factor indicators are constructed as follows:

[1] 23 = 2023; 24 = 2024; 25 = 2025; 26 = 2026

I^1. Energy Services Indicator (Energy Efficiency and Sustainability).

Calculation of indicator: $I^1 = \frac{\sum_{i=1}^{2} I_i^1}{2} = \frac{I_1^1 + I_2^1}{2}$

I^2. Technology indicator associated with connectivity and autonomy.

Calculation of indicator: $I^2 = \frac{\sum_{i=1}^{2} I_i^2}{2} = \frac{I_1^2 + I_2^2}{2}$

I^3. Mobility as a service indicator.

Calculation of indicator: $I^3 = I_1^3$

I^4. Waste management indicator.

Calculation of indicator: $I^4 = \frac{\sum_{i=1}^{3} I_i^4}{3} = \frac{I_1^4 + I_2^4 + I_3^4}{3}$

I^5. Infrastructure developer indicator for connectivity (Wi-Fi internal connectivity, external connectivity).

Calculation of indicator: $I^5 = \frac{\sum_{i=1}^{2} I_i^5}{2} = \frac{I_1^5 + I_2^5}{2}$

I^6. Indicator of actors involved in new forms of distribution and use.

Calculation of indicator: $I^6 = \frac{\sum_{i=1}^{4} I_i^6}{4} = \frac{I_1^6 + I_2^6 + I_3^6 + I_4^6}{4}$

I^7. Indicator of strategic alliances with research centres.

Calculation of indicator: $I^7 = I_1^7$

I^8. Strategic alliances with chemical companies.

Calculation of indicator: $I^8 = I_1^8$

I[9]. Strategic alliances with electricity companies.

Calculation of indicator: $I^9 = I_1^9$

I[10]. Strategic alliances with telecommunications companies.

Calculation of indicator: $I^{10} = I_1^{10}$

I[11]. Indicator of external dependence on certain basic productions in the chain.

Calculation of indicator: $I^{11} = I_1^{11}$

I[12]. Battery manufacturers indicator, (Block 3 companies only).

Calculation of indicator: $I^{12} = I_1^{12}$

I[13]. Indicator of microprocessor manufacturers, component manufacturing tractors.

Calculation of indicator: $I^{13} = I_1^{13}$

I[14]. Indicator for enhancing other highly technological investments (Only for Block 3 companies)

Calculation of indicator: $I^{14} = \frac{\sum_{i=1}^{3} I_i^{14}}{3} = \frac{I_1^{14}+I_2^{14}+I_3^{14}}{3}$

I[15]. Sustainability indicator.

Calculation of indicator: $I^{15} = I_1^{15}$

I[16]. Digital transformation indicator.

Calculation of indicator: $I^{16} = \frac{\sum_{i=1}^{2} I_i^{16}}{2} = \frac{I_1^{16}+I_2^{16}}{2}$

I[17]. Innovation indicator

Calculation of indicator: $I^{17} = \frac{\sum_{i=1}^{8} I_i^{17}}{8} = \frac{I_1^{17}+I_2^{17}+I_3^{17}+I_4^{17}+I_5^{17}+I_6^{17}+I_7^{17}+I_8^{17}}{8}$

I[18]. Gender gap indicator.

Calculation of indicator: $I^{18} = \frac{\sum_{i=1}^{4} I_i^{18}}{4} = \frac{I_1^{18}+I_2^{18}+I_3^{18}+I_4^{18}}{4}$

I[19]. Output factor indicator of the Competitiveness Indicator.

Calculation of indicator: $I^{19} = \frac{\sum_{i=19}^{21} I_1^{i}}{3} = \frac{I_1^{19}+I_1^{20}+I_1^{21}}{3}$

I[22]. Innovative strength indicator of the Competitiveness Indicator.

Calculation of indicator: $I^{22} = I_1^{22}$

I[23]. Human capital indicator of the Competitiveness Indicator.

Calculation of indicator: $I^{23} = \frac{\sum_{i=23}^{24} I_1^{i}}{2} = \frac{I_1^{23}+I_1^{24}}{2}$

I[25]. External capacity indicator of the Competitiveness Indicator

Calculation of indicator: $I^{25} = \frac{\sum_{i=25}^{28} I_1^{i}}{4} = \frac{I_1^{25}+I_1^{26}+I_1^{27}+I_1^{28}}{4}$

Level 3 of result size indicators.

Level 3 shows the indicators of the factors that make up the different dimensions of results.

- **Value chain transformation dimension**

Each of the above indicators (I^1, I^2, I^3, I^4, I^5, I^6) shape the Level 3 indicator, Value Chain Transformation Indicator, as follows:

ID1. Value chain transformation indicator.

Calculation of indicator: $\boldsymbol{I^{d1}} = \frac{\sum_{i=1}^{6} \boldsymbol{I^{i}}}{\boldsymbol{6}} = \frac{I^1+I^2+I^3+I^4+I^5+I^6}{6}$

- **Dimension of building strategic alliances with key actors.**

Each of the above indicators (I^7, I^8, I^9, I^{10}) shape the Level 3 indicator, an indicator for building strategic alliances with key actors, as follows:

ID2. Strategic alliance building indicator with key actors

Calculation of indicator: $$I^{d2} = \frac{\sum_{i=7}^{10} I^i}{4} = \frac{I^7 + I^8 + I^9 + I^{10}}{4}$$

- **Boosting the modernisation and transformation of the industrial fabric.**

Each of the above indicators (I^{11}, I^{12}, I^{13}, I^{14}) shape the Level 3 indicator, an indicator to promote the modernisation and transformation of the industrial fabric, as follows:

I^{d3}. Indicator to promote the modernisation and transformation of the industrial fabric

Calculation of indicator: $$I^{d3} = \frac{\sum_{i=11}^{14} I^i}{4} = \frac{I^{11} + I^{12} + I^{13} + I^{14}}{4}$$

- **The processing dimension of the production system.**

Each of the above indicators (I^{15}, I^{16}, I^{17}, I^{18}) makes up the level 3 indicator, the transformation indicator of the production system, as follows:

I^{d4}. Indicator of transformation of the production system

Calculation of indicator: $$I^{d4} = \frac{\sum_{i=15}^{18} I^i}{4} = \frac{I^{15} + I^{16} + I^{17} + I^{18}}{4}$$

- **Competitive capacity dimension**

Each of the above indicators (I^{19}, I^{22}, I^{23}, I^{25}) configures the level 3 indicator, competitive capacity indicator, as follows:

I^{d5}. Competitive capacity indicator

Calculation of indicator: $$I^{d5} = \frac{I^{19} + I^{22} + I^{23} + I^{25}}{4}$$

Level 4 of the general indicator of creation of the productive ecosystem

Finally, at level 4, the set of indicators for the various dimensions sets out the indicator for measuring the general objective of the Programme relating to the development of an ecosystem

in industry and services necessary for the integrated production and development of electric and connected vehicles in Spain.

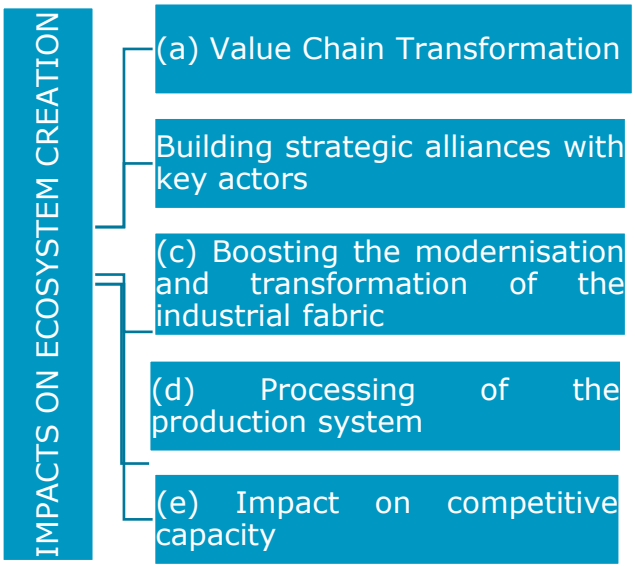
$I^{ecosystem}$. General indicator of the creation of the productive ecosystem.

Calculation of indicator: $I^{ecosistema} = \frac{I^{d1}+I^{d2}+I^{d3}+I^{d4}+I^{d5}}{5}$

3.11 The evaluation matrix or intervention logic

The preliminary matrix of result and impact indicators is shown below.

The indicators have been grouped into two broad areas of impact and different dimensions of results:



Problems to be resolved: Risk of obsolescence and loss of competitiveness of the automotive sector.

Overall objective: Contribute to the competitiveness and sustainability of the automotive industry by transforming value chains, for the development of electric and connected vehicles.

Logic OF INTERVENTION IN INTERNAL REVISION PROCESS — Programme — Evaluation questions and indicators

Objectives	**Actions**	**Results expected**	**Expected final results. Effectiveness of the Programme.**
Final objectives: 1. Contribute to GDP growth. 2. Boost job creation in the automotive sector. **Intermediate targets:** 1. Transforming the value chain of the automotive industry. 2. Foster the development of strategic alliances with key actors. 3. Boosting the modernisation and transformation of the industrial fabric and improving social and economic resilience 4. Encouraging the transformation of the production system of the automotive sector. 5. Boosting the competitiveness of the automotive sector.	**Projects transforming VEC value chains** (primary and tractors): • Mandatory blocks (central): Equipment, batteries, other. • Additional (complementary): Components (provision), connectivity, surcharges • Transversal (mandatory): Circular Economy Plans Digital Data/Digitalisation Plan Training and New Skills Development Plan • Cooperation: Consortium + working group (not present as such in Bases, except working group, but is present in Policy and other guidelines)	1. A new automotive value chain adapted to the VEC. 2. Development of strategic alliances with key actors. 3. Modernisation and transformation of the industrial fabric and improvement of resilience. 4. Transformation of the production system of the automotive sector. 5. Boosting the competitiveness of the automotive sector.	1. Wealth creation and its contribution to GDP. 2. Create jobs.

3.12 Assessment of impacts

3.12.1 Determination of the evaluation method

This section sets out a number of methodological considerations that need to be taken into account prior to the design of the impact assessment of the programme. These considerations are based on the arguments of evaluation experts set out in the work 'Assessment of the impact in practice' published in 2011 by the World Bank[2] and the Commission Staff Working Document, Common Methodology for the Assessment of State Aid.

The key to identifying the causal impact of a public policy or programme is to find a valid comparison group to estimate the counterfactual and answer the question of interest of these.

What is the impact or causal effect of a given programme or public policy on the results? Are the effects observed, on the beneficiaries of the intervention, resulting from the implementation of the programme or public policy in question?

To answer this question, the impact assessment uses comparison between groups, applying experimental designs. This comparison will bring us closer to what would have happened in the absence of the programme, i.e. the counterfactual (the fact that the programme has taken place). Knowing the consequences of non-implementation of the programme, we can know what the net effects of its implementation have been.

To the extent that the operational rules of the programme are well defined, valid methods of comparison may be found and facilitate the identification of the most appropriate method for evaluating the programme.

The operational rules that allow us to design the evaluation, in our case, are those that determine the type of enterprise that is eligible for the programme and how it is selected. Comparison groups come from companies that, being eligible, cannot be included in the programme for different reasons (for example, companies that have finally applied to be beneficiaries are not eligible because they do not adequately meet the objective and subjective criteria relating to the appraisal of their projects).

Key operational rules

Operational rules usually define the benefits of the programme, how these benefits are financed and distributed and how the programme selects the beneficiaries. The rules governing the programmes and the selection of beneficiaries are key to finding valid comparison groups.

Available resources: *Does the programme have sufficient resources to be implemented at the level and address all eligible beneficiaries?*

The integrated action line on the industrial chain of the electric and connected vehicle (VEC) (subject of the evaluation) provides for public investment of EUR 2.975 million (EUR 1.550 million from the Recovery and Resilience Facility (MRR) and EUR 1.425 million from the National Ordinary Budget). The private investment forecast for this line amounts to EUR 11.900Mio.

In addition, the scope of boosting the transformative programme of the VEC value chain includes a series of complementary measures to development and manufacturing:

- Sustainable Automotive Technology Plan (EUR 40 million from the QRM)
- Sector Data Spaces Programme (EUR 100 million from the QRM)
- Programme to integrate Artificial Intelligence into production processes (EUR 45 million from the QRM)

In turn, it has a number of enabling measures, including:

[2] Gertler, P., Martínez, S., Premand, P., Rawlins, L. and Vermeersch, C. (2011). *The Impact Assessment in practice*, Washington DC: World Bank.

- Incentive scheme for the installation of recharging points, the purchase of electric and fuel cell vehicles and innovation in electro-mobility, recharging and green hydrogen: MOVES III programmes (EUR 800 million of the MRF) and Strict MOVES (EUR 300 million from the QRM)
- 5G Deployment: Networks, technological change and innovation.
- Vocational training plans for the sector (EUR 21 million from the QRM)

Therefore, the **resources available to the programme as a whole are limited, thus establishing a number of requirements to be** met by the beneficiaries and assessment criteria to be used to determine which projects will ultimately be supported.

This means that the programme is not applicable to the whole group that wishes to be covered by it. The programme can therefore be seen as a pilot of a future policy to be implemented according to the results achieved.

Eligibility criteria: *Who is eligible for the benefits of the programme?*

The eligibility requirements laid down in the programme for undertakings are summarised in the table below:

REQUIREMENTS FOR BENEFICIARY UNDERTAKINGS **Characteristics to be fulfilled by the grouping**
Companies must form groups of legal persons, whether public or private, with their own legal personality, legally established in Spain and duly registered in the relevant register, **regardless of their legal form and size**.
Each member of the grouping must have signed a Grouping Agreement. All members of the group shall have the status of beneficiaries of the aid and shall be jointly and severally liable.
The cluster must be organised around the **automotive industry and must consist of** at least five companies, one of which must belong to **CNAE 291** (Manufacture of motor vehicles), and one to **CNAE 293** (Manufacture of components, parts and accessories for motor vehicles), and the other companies will carry out activities in the summary table of CNAEs *.
The institution should be composed of at least **40 % of participating SMEs**.
At least **one supplier of technology** or knowledge with sufficient technical and organisational capacity to carry out the R & D & I activities incorporated in the tractor project must be involved.
Geographical scope covering at least **two Autonomous Communities**.
Each **member of the group shall have a role in the following:** - **Industrial promoter**: Each participant who will carry out specific actions at its industrial establishment. In the Grouping, more than one entity may have the role of an industrial promoter. - **Technology or knowledge provider**: Universities, technological centres, research organisations and other public or private entities or companies providing the knowledge or technology necessary to carry out any part of the proposal involving more than one industrial promoter. In the Grouping, more than one entity may have the role of technology or knowledge supplier. - **Contact with the Administration: The**entity designated within the Grouping responsible for channelling with the Grouping the relations and communications indicated in the invitation to tender at each stage of the award procedure. In each Grouping there will be only one interlocutor with the Administration, which may be one of the industrial developers or one of the suppliers of technology or knowledge. - **An entity may be both an industrial promoter, a supplier of technology or knowledge or an interface with the government**.

*** CNAE summary table** **CNAE Industrial engine**

Industrial developers *(production of electric and connected vehicles on an industrial, pilot or experimental scale)*
29 Manufacture of motor vehicles, trailers and semi-trailers
29.1 Manufacture of motor vehicles
29.3 Manufacture of components, parts and accessories for motor vehicles
30 Manufacture of other transport equipment
Activities complementary to industrial production *(if mainly carried out as manufacturing activities of products for the electric and connected vehicle industry)*
22.11 Manufacture of rubber tyres and tubes; Retreading and rebuilding of rubber tyres
22.2 Manufacture of plastic products
27.1 Manufacture of electric motors, generators and transformers, and of electrical distribution and control apparatus
27.2 Manufacture of batteries and electric accumulators
27.3 Manufacture of wiring and cables
42.22. Construction of utility projects for electricity and telecommunications
Other production activities linked to the electric and connected vehicle *(where mostly carried out as production activities of components and elements linked to the production of electric and connected vehicles)*
26.1 Manufacture of electronic components and assembled printed circuits
26.2 Manufacture of computers and peripheral equipment
26.3 Manufacture of telecommunications equipment
26.5 Manufacture of measuring, checking and navigating instruments and apparatus; Watches and clocks
Other industrial service activities *(service activities directly provided to the electric and connected vehicle industry)*
52.21 Activities ancillary to land transport
71.12 Engineering services and other activities related to technical advice
71.20 Technical testing and analysis *(approach has exceptions in the call)*
74.10 Specialised design activities
Technology and/or knowledge providers *(Provided that they are developed in the framework of the electric and connected vehicle industry)*
38.2 Waste treatment and disposal
38.3 Recovery
62 Computer programming, consultancy and related activities
63 Information service activities
72 Research and development

In summary, companies wishing to participate must participate as groups of at least 5 enterprises, belong to at least 2 different Autonomous Communities, at least 40 % will be one SME and will have at least one entity providing knowledge.

In addition, they must belong to a given industry according to CNAE.

Eligibility **criteria are therefore defined which will determine the eligibility to participate.**

Is the programme allocation based on an eligibility threshold, or is it available to all?

The allocation of the programme in this case is based on an eligibility threshold, which is defined on the basis of the assessment criteria defined in the rules and in the call for proposals to assess each of the projects, both tractors and primary projects.

In particular, the following scoring system and criteria are established for each of the project typologies:

Assessment criteria for tractor projects
(a) Alignment of the pooling agreement to the requirements laid down. (EXCLUSIVE)
(b) Adequate the structure of the proposal to the content of the minimum VEC cant. (EXCLUSIVE)
(c) Overall economic viability of the group
Degree of representativeness of the tractor project in relation to the structure of the VEC cant
(e) Total weighted score of primary projects
(f) Impact criteria and contribution to industrial transition
F.1) Tractor effect on SMEs in the electric and connected vehicle value chain
F.2) Commitment to create new jobs in the value chain as well as in the economy as a whole.

Assessment criteria for primary projects
(a)**Appropriate the blocks, the types of projects eligible for aid and the beneficiaries established in the Order.** (EXCLUSIVE)
(b) Compliance with the principle of 'do not cause significant damage'. (EXCLUSIVE)
(c) Incentive effect of the aid (exclusionary)
(d) Technical feasibility of the proposal
D.1) Quality/demonstrable experience of the entity (s) and working team in the field of the submitted project
D.2) Quality of the work plan and technical feasibility of the proposal
D.3) Adequate timing of the project
(e) Impact criteria and contribution to industrial transition
E.1) Direct impact of the primary project on the rest of the value chain
E.2) Contribution of the primary project to digital labelling
E.3) Contribution of the primary project to green labelling

The selection of the eligible primary projects and tractors is done by assigning scores to projects. Once the primary projects and tractors eligible for support have been selected, they are reviewed by a committee which establishes the suitability of the projects. This type of assessment, which may seem subjective, seeks to maintain objectivity through its components, is more a project governance body than an analysis committee of the selected projects.
Therefore, clusters **will have a scoring system in line with the assessments of the different projects submitted**.

Implementation timetable: *Are potential beneficiaries all involved in the programme at the same time or in stages?*

Programme applicants are all involved in the same period, although they have previously been able to participate alternately in different activities related to their definition. Specifically, before defining the programme, work was carried out, in order to be able to estimate its possible behaviour, with a group of companies which replied to a Manifesty of Interest convened by the Ministry of Industry, Trade and Tourism.

We would therefore be faced with a **programme whose implementation will be immediate** and not in stages.

Establishment of comparison groups on the basis of operational rules

When designing forward-looking impact assessments, the answer to the three operational questions largely determines the most appropriate impact assessment method for a certain programme.

The rules for registering programme participants will be the main parameter to consider when selecting the impact assessment method. The design of the method should therefore be adapted to the context of the programme's operational rules.

On this occasion, it considers that:

- The programme has limited resources.
- Eligibility criteria for beneficiaries are defined.
- This is an immediate implementation.

And taking into account the recommendations of the World Bank and the Common Methodology for State Aid Assessment, of the Commission regarding the relationship between the operational rules of a programme and the methods of impact assessment, possible benchmarking groups would be:

- The random selection method: It would not apply to this evaluation as programme beneficiaries are not randomly allocated among the eligible population, there is a scoring system allocated.
- Discontinuous regression design (DRD): Although there are objective criteria for the selection of participants and eligibility criteria based on numerical scores that are allocated to projects and help to establish the groups of beneficiaries and non-beneficiaries of the programme, there may not be a sufficient number of proposals to allow for a comparison in groups that have been outside the programme but close to the exclusion score, as well as the use of subjective criteria for projects (**Criteria for assessing primary projects)** which are difficult to establish as they are and how they are broken down.

Therefore, considering all these issues discussed above, the proposed impact assessment method for this evaluation is the Difference in Difference (DD) with pairing method.

In summary:

- The DD method uses the change in result over time in a group of non-participants to estimate what the change in the results of a group of participants would have been, in the absence of a programme, taking into account all unobservable variables that may influence the programme.
- The pairing method for each Programme Participant is looking for the most similar unit in the group of non-participants. The variables that may be used to perform the match shall be those corresponding to the indicators for which information is available from the previous 3 years.
- The comparison group consists of units that did not participate in the programme (for any reason) and for which data were collected before and after the programme.
- The key assumption to be considered is that, if the programme did not exist, the results of the groups of participants and non-participants would have evolved in parallel over time (assumption of common or parallel trends).
- Finally, it requires baseline data and performance monitoring and other characteristics for both participants and non-participants.
- Disadvantages DD: If the two groups had developed differently in the absence of the programme, there is a bias in selection. The pairing builds an identical group in observable features before the programme.

3.12.2 Choice of comparison group

The choice of the comparator group becomes an open issue from the point of view of theories of

the Decision, creating rules for deciding on compliance or non-compliance with the requirements. The case we are dealing with is complex as the programme is the first time it is implemented, and therefore there is no information on the composition of the partnerships that can be submitted, as well as the number of associations that can be expected, making it extremely difficult to determine a priori the methodology for choosing the comparison group. The problem is above all that we need to draw up the methodology that will enable us to choose the elements of the comparison group, before implementation takes place on the basis of the data that we could obtain from it. to this end, we will generate decision-making rules which include exhaustively all the possible cases that can be presented when choosing the comparison group when implementing the programme.

The first possible situation is that no one is even presented to the programme, and therefore it makes no sense to assess its impact. In this case, what should be determined is the assessment of its design and, above all, the design of the implementation, setting out the necessary requirements set out in both the basic order and the order of the call for applications. A survey of a representative sample obtained by selecting the elements of the population comprising the enterprises comprising the National Classification of Economic Activities (CNAE) set out in the basic order allows us to carry out a good analysis of what it has failed and to do in order to be able to carry out the programme.

From the above point of view, a first option of the decision-making rule would be 'if no partnership is presented to carry out the programme, the design of the programme and above all the design of the implementation must be assessed'. in order to do so, a representative sample must be designed on the basis of the CNAE set out in the Basic Order. failing this, the main problem would be determined. The problem has been the insufficient publicity given to the programme. If the percentage of knowledge of the programme exceeds the unknown rate, they should be surveyed on the basis of the characteristics of the programme and above all the characteristics of the implementation design (contents of the order of the bases and the order of the call for applications).

The sample design for analysis **in the event that no grouping is submitted for the call** must be designed at least on the basis of the two main CNAE which are considered mandatory to form the pool:

- **291 Manufacture of motor vehicles**
- **293 Manufacture of components, parts and accessories for motor vehicles**

In addition, it will be of interest to consider companies whose business is related to the **manufacture of batteries and electric accumulators (CNAE 272).**

Taking into account the information provided by the INE in the Central Business Directory, the number of enterprises for 2020 for each of the groups and the distribution of the sample would be as follows:

	National total number of enterprises 2020	**Sample size***
291 Manufacture of motor vehicles	119	91
293 Manufacture of components, parts and accessories for motor vehicles	810	261
272 Manufacture of batteries and electric accumulators	27	25
Cost	956	377

** For the calculation, a confidence level of 95 % and a margin of error of 5 % is taken for each of the industries. For the total number of undertakings the maximum error for a confidence level of 95 % would be 3.9 %.*

This distribution shall be updated on the basis of the data available for each of the sectors at the time of the assessment. Consideration should also be given to the need to include additional sectors to the study in the light of the interests of the Directorate-General for Industry and SMEs itself, given that no grouping is submitted for the call.

In this case it makes no sense to talk about the impact assessment.

The next case which may arise, according to the rule in question, would be that all the associations submitted are beneficiaries of the programme, in this case, in the absence of a group of undertakings that have not benefited (which would be the first option to be considered in order to obtain the comparison group), on the basis of the CNAE of the undertakings that have been beneficiaries and their most relevant characteristics, the population that meets those characteristics of each of the undertakings of each of the associations should be determined, for each of the characteristics required to be selected.

In the event that **no group is a beneficiary of the call for** applications, the sample design must be based on the characteristics observed among the undertakings in the beneficiary groups so as to be able to define the universe of undertakings that we would be interested in dealing with.

As these characteristics are not known at this stage, the variables that should be considered for the sample design are set out below:

- Company CNAE
- Number of employees
- Location (Autonomous Communities)

In addition, when considering the tool for collecting information on the results matrix, it is proposed to include the following issues:

- If your activity is related to the production of electric vehicles and connected on an industrial, pilot or experimental scale, or provides services for this purpose (if not, participation in the analysis would be excluded).
- Knowledge of the programme and call.
- If you considered participating in the call, but finally discarded the option and reasons.
- Assessment of the characteristics of the programme and call for proposals.

Once the company (s) to form the comparator group has been selected, the methodology for the impact assessment to be followed, the difference in differences method, would be applied to it.

Following the decision rule, if there are partnerships that have not been beneficiaries of the programme, they could be considered as a comparison group. In order to do so, it is first necessary to see whether the number of non-beneficiary companies is lower, equal or greater than the number of beneficiary companies. In the first case, the first thing to do is whether the characteristics of the non-beneficiary undertakings correspond to one of the beneficiary undertakings, in which case the matching undertaking (s) would be included in the comparator group, as their number is lower than that of the beneficiary undertakings, they must be supplemented by undertakings obtained by determining the population that in each case meet the characteristics of the recipient undertakings.

This applies to cases where the number of non-beneficiary companies is equal to the number of beneficiaries, except in the case where the characteristics of the non-beneficiary enterprises fully coincide with those of the recipient companies.

Finally, if the number of non-beneficiary companies is greater than the number of beneficiary companies, the methodology to be applied is the same as the one proposed here, the characteristics of the beneficiary companies are analysed and the characteristics of the non-

beneficiary companies are analysed, if an equal number of non-beneficiary companies with the characteristics of the beneficiary companies are found to form the comparator group, if the number is smaller, we would be in the case of the decision rule in the previous paragraph. In case the number is higher, the companies forming the comparator group would be randomly chosen. The method of randomly selecting the components of the comparison group may be any of the standard, for example, the method of numbering them and with a table of random numbers, choosing them.

Summary: Method of evaluation and choice of comparison group.

The objective will therefore be to identify a comparison group that is as similar as possible to participants but does not participate in it.

There are various possibilities for carrying out the impact assessment depending on the situation:

Situation 1: No groupings are submitted
In this situation, an impact assessment would not be necessary and therefore a counterfactual would not have to be selected either.

Situation 2: There are no non-beneficiary groups, all beneficiaries

- Treatment group: Enterprises benefiting from the programme (participating in one or more clusters)
- Comparison group: Companies not participating in the programme whose activity takes place under the CNAE for which it is intended and their relevant characteristics are as similar as possible to those of the beneficiary companies.

Situation 3: There are beneficiary and non-beneficiary groups

- Group of treatment enterprises benefiting from the programme (participating in one or more clusters)
- Comparison group: Non-beneficiary companies, have applied to participate but have been excluded.

In addition, it should be borne in mind that:

- If the comparison group is defined on the basis of the non-beneficiary companies, but because of either their particular characteristics or the size of the enterprises involved, they do not allow for an appropriate matching with the beneficiary enterprises or insufficient information is available, the choice shall be made to construct the comparison group between the companies not participating in the programme with characteristics similar to the beneficiaries.

- If the comparison group is not adequately involved in successive information collections, 'couples' that do not provide data shall be discarded and the impact calculated on the basis of valid information pairs. In order to mitigate the effect of non-response throughout the evaluation project among the participants, both the Basic Order and the Order of the Call specify the obligation to provide information for the assessment.

The fact that there is a methodology for choosing the members of the comparator group should not lead us to forget another problem which is probably the most decisive in carrying forward the impact assessment, the motivation for the participation of the members of the comparator group. It should be borne in mind that a group of undertakings is based on a group of undertakings which, although both in the Basic Order and in the Order of the call for applications, warns them of the necessary participation in the evaluation, providing all the necessary information even though they are not beneficiaries of the programme, does not guarantee their participation, since there is no particular motivation, with the problems that arise in particular if it is during the duration of the programme, because of the huge complication of seeking a new element for the comparison group that meets all the requirements and which it wants to participate. More complicated is the case where the elements of the comparison group come from sample selections, since in this case the likely lack of knowledge of the programme and its lack of connection with it makes its participation difficult due to the probably total lack of reasoning. In both cases, a method will have to be provided

to ensure that this does not happen, thereby attracting enough those chosen to be members of the comparator group.

3.12.3 Methodology Differences in Differences

The DD method contrasts the differences in results over time between the treatment group and the comparison group.

It combines the difference in anti- and post-treatment results (the first difference) by considering constant factors over time for that group, as it is compared to the group itself. However, the external factors that vary over time would still remain. One way of observing these time-varying factors is to measure the change — after the results of a comparison group — which was exposed to the same environmental conditions (the second difference) without being a beneficiary of the programme. By removing the first difference from other time-varying factors affecting the outcome of interest by subtracting the second difference, the main source of bias in simple ant-year comparisons will have been eliminated.

For the difference in differences method to be valid, the comparison group should represent the change in the results that the treatment group would have experienced in the absence of the programme. To apply differences in differences, it is only necessary to measure the performance of the group receiving the programme (the treatment group) and the group that does not receive it (the comparison group) before and after the programme.

The logic of the difference in differences method and how to formulate it is as follows:

$$DD = (B - A) - (D - C)$$

where;

B = indicator value for year 1 (after participation) for the treatment group

A = indicator value for year 0 (before participation) for the treatment group

D = indicator value for the year 1 (after the programme) for the comparison group

C = indicator value for the year 0 (before programme) for the comparison group

The estimated impact of the programme would be calculated as follows:

- First, the difference in result (Y) between the situations before and after for the treatment group (B − A) is calculated.
- Second, the difference in result (Y) between the situations before and after is calculated for the comparison group (D − C).
- Finally, the difference between the difference in treatment group results (B — A) and the comparison group difference (D — C) is calculated.

The aim of DD is to compare the evolution over time (before and after) and how this development has occurred, i.e. the trend between registrants and non-registrants. It is understood that the value of the DD result if equal to or close to ± 0 indicates that the impact of the programme is non-existent or very small. The more ± 0 axis is removed, the greater the impact since the difference in development or trend is greater for the treatment group vs. the comparator group.

The aim of this method is to assume that the characteristics observed and the unobserved characteristics of the units making up the groups (treatment and comparison) are constant or unchanged over time or, failing that, that they evolve in the same way for the two groups during the implementation of the programme.

In order for it to generate a valid estimate of the counterfactual, it must be assumed that there are no differences in time between treatment and comparison groups, which would skew the estimate.

This means assuming that in the absence of the programme differences in results between treatment and comparison groups would have to evolve in parallel, i.e. without treatment, results

would increase or decrease at the same pace in both groups; Or, what is the same, that the results reflect equal trends in the absence of treatment.

As this is impossible to know, in order to verify the assumption of equal trends, i.e. to be able to reject the zero H0 trend scenario and that the programme has indeed had an impact on the treatment group, it is proposed to carry out the following procedure:

Compare the behaviour of treatment and comparison groups before the programme

To this end, **annual data will be available since 2019** (inclusive) on the key information for the analysis of all applicant companies. **This information will be requested from the Call itself and must have been provided at the time of the request.**

With this information, the trend followed by both groups in that pre-programme period is compared. If the results are similar, or if the trend is the same or similar, we could say that the difference after the programme is valid and the change in the trend in the treatment group is due to the programme.

It is therefore proposed to analyse the trend of the indicators in these three years (2019, 2020 and 2021) in order to ascertain whether their evolution has been approximately parallel, or the same if the rate of change of the indicators in the treatment group has been approximately the same as that of the comparator group.

If the trends of the enterprises making up the comparison group (non-beneficiaries of the programme) were not parallel to those of the treatment group (programme beneficiaries) prior to the call for applications, the comparison group should be reconsidered and chosen to be defined on the basis of the selection of a representative random sample of the companies in the selected CNAE, and a survey should be carried out to collect information for the 3 years preceding the call. This monitoring of parallel trends takes place year by year, in order to be able to assess whether there are differences in developments and, where appropriate, to take appropriate action with the companies in the comparator group that evolve differently. The decision rule in this case will be to withdraw the company from the comparator group and continue with the remaining ones.

How to apply the impact assessment method

The impact assessment aims to identify the effects of the programme on the two main impacts considered:

- Impacts on ecosystem creation: The companies benefiting from the programme form the ecosystem needed to enable them to manufacture and develop the connected vehicle comprehensively.
- Impacts on competitive capacity: Companies benefiting from the programme will see their competitiveness boosted.

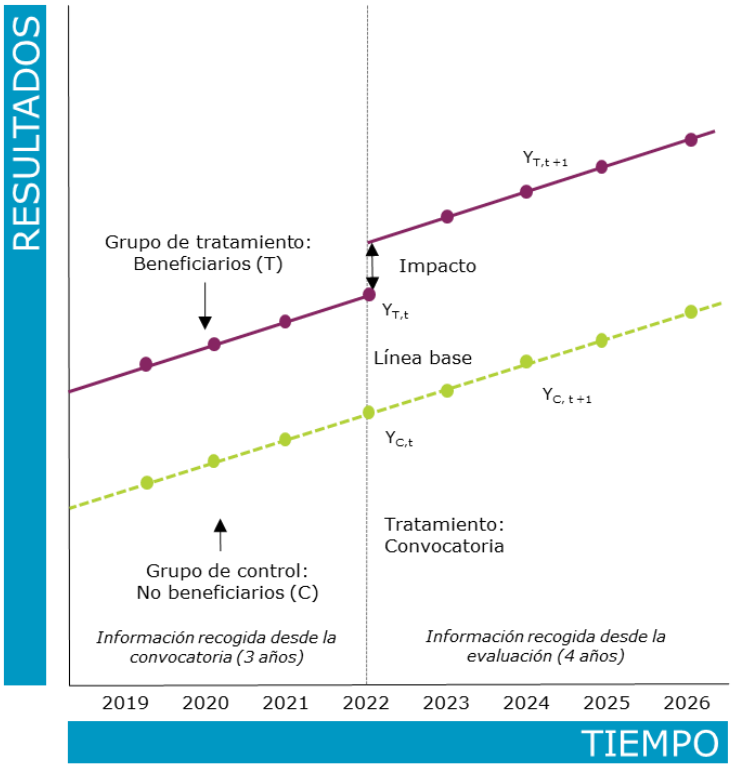
In order to isolate the effect of the call and to be able to discount possible effects from other factors that have changed during the treatment, we use a comparison group.

The comparison group recommended to be used for the development of this assessment would consist of companies belonging to non-beneficiary groups and the aim would be to select those which, on the basis of their main characteristics, most closely resemble the companies belonging to the beneficiary groups. As mentioned above, there may be different situations with regard to applicants for the call and it is therefore possible that the companies forming the comparator group should be identified within the universe of the undertaking eligible to participate in the call (see section selecting the control group).

The DD method compares the treatment group to the control group before and after intervention. In addition, differences between the variables over the 4 years of assessment will be observed in this case in order to be able to analyse the evolution of the differences.

To this end, the difference in the average values of the two interest variables between the 'after' and 'before' for each of the treatment and control groups is calculated. Finally, the difference between these two differences in averages is obtained. For example, the first wave of evaluation will include, on the one hand, information relating to previous years (2019, 2020 and 2021) and, on the other hand, information from the first year of the companies after the call has occurred.

- The pre-call information will be used to check whether the results in the treatment and comparison group have evolved in a similar way. This information will be collected from the Call itself.
- The information gathered by the evaluation (4 waves) will make it possible to analyse the evolution of the variables of interest in both groups.



Calculations required for the impact assessment:

$$\text{Counterfactual estimate: } (\text{and}_{T,\,t0} - Y_{T,\,t4}) - (Y_{C,\,t0} - Y_{C,\,t4})$$

where;

- Baseline 2022: T_0
- 2026: T_4

The increase between t_0 and t_4 will be the effect of the call on each of the groups and its difference will allow us to quantify the impact, i.e. what the programme has produced among the beneficiaries.

On the other hand, the analysis of differences occurring year after year for each group will also be of interest for the evaluation. The improvement carried over time will capture the variables considered as results within the same political and economic context, and will therefore represent the difference in the trend of both groups thanks to the improvement brought about by the call.

Calculations required for the analysis of variations:

Impact assessment year 4:

$$\text{Treatment group status: } (\text{and}_{T,\,t1} - Y_{T,\,t2});\ (\text{and}_{T,\,t2} - Y_{T,\,t3});\ (\text{and}_{T,\,t3} - Y_{T,\,t4})$$

Control group status: $(and_{C,\ t1} — Y_{C,\ t2})$; $(and_{C,\ t2} — Y_{C,\ t3})$; $(and_{C,\ t3} — Y_{C,\ t4})$

Therefore, on the basis of the information collected for the evaluation of results, the impact assessment will be carried out.
In order to facilitate the carrying out of the proposed analyses, it is proposed to carry out the impact analysis of the call for proposals on two of the main outcomes considered (ecosystem creation and competitive capacity). Although the evaluation may be based on the results obtained for each of the partial indicators (indicator of the transformation of the value chain, indicator of building strategic alliances with key players, indicator of promotion of the modernisation and transformation of the industrial fabric, indicator of transformation of the production system, productive factor, innovative strength, human capital and external capacity) in order to be able to draw conclusions or even adapt the model if necessary.

3.12.4 Impact assessmenttechniques and tools

Once the methodologies expected to be applied to carry out the impact assessment have been developed, the techniques defined for the collection of information are considered.

The needs for quantitative information for the proper development of the impact assessment focus mainly on the indicators considered in the outcome and impact matrix.

The information needed to complete this matrix, as already explained for the evaluation of results, will be provided during the first year (data for 2019, 2020 and 2021) by DGIPYME, which will have collected it from all aid applications.

During consecutive years, it will be the task of the evaluation team to collect the annual information needed for the assessment and to be able to form the appropriate treatment and control groups.

4. MANAGEMENT OF THE EVALUATION PLAN

It is proposed that an **external evaluation** be carried out to ensure the independence and quality of the findings, conclusions and recommendations. In order to ensure the participation of the main beneficiaries and other actors involved in the Programme, the consulting company may participate in the development of the Working Groups defined in DGIPYME's schedule with the companies awarded the grant.

The evaluation will involve a team of consultants who together ensure the following criteria:

- Experience in public policy design, formulation and evaluation
- Training and references in teaching in public policy evaluation
- Experience in econometric analysis, sampling and data using statistical tools (STATA, R., other)
- Experience in survey design and management
- Experience in qualitative analysis and techniques
- Expertise in industry, R & D & I, energy or digitalisation
- Equity expertise or gender mainstreaming in evaluation

In addition, this will be a **participatory assessment** where the evaluation stakeholders play a key role in each and every stage, especially by participating in the information gathering phase for the proper drawing of conclusions and recommendations. It will be important to convey the objectives and needs of each of the phases of work being carried out so that the participation of all parties can be effective.

Interest groups include the evaluation team itself, the beneficiaries, who may not be beneficiaries in practice, the funding institutions for the operation, etc.

One of the first preparatory work for the evaluation will be to identify the interest groups and identify their commitment to participation and input.

5. COMMUNICATION OF THE EVALUATION PLAN

One way to increase the potential usefulness of evaluation results is to facilitate their knowledge among individuals, groups and institutions that may be interested in their results.

Communication and dissemination of results should take place throughout the evaluation process, at least at certain specific times and with the main actors.
The strategy for disseminating the results of the evaluation should ensure that it reaches all persons and groups involved, so that they are received, understood and, as far as possible, accepted.

The communication strategy shall at least provide for **the publication of the evaluation report and its executive summary**. The publication is usually done in digital form, on the websites of the institution commissioning and managing the evaluation.
Other possible ways of communicating the results of the evaluation are:

- **Communication events** with individuals representing interest groups, networks of experts, business organisations, etc. The evaluation team can be involved so that they can present the results.

- **Targeted communication events by interest group**, as it allows for the deepening of concrete interests related to the evaluation and its results.
- **Publication on institutional websites**, where in addition to the final evaluation report additional, more communication-oriented explanatory material may be included. For example, videos, infographics or interviews may accompany the publication of the report.

- **Working meetings** with the evaluation team, where concerns about the results of the evaluation can be clarified.

Finally, in order to identify the other activities likely to be included in the communication strategy, it will be necessary to agree on the following aspects:

- Who will be the target audience of the evaluation communication? What is the most appropriate channel for each hearing?

- What is the purpose of communicating the results of the evaluation?

- What are the key messages to be conveyed?

- Who should be responsible for disseminating the results?

6. TIMETABLE

The final point of the document sets out the stages envisaged for the development of the proposed assessment project for the integrated action line for the development and manufacture of the VEC.

Taking into account the deadlines foreseen for the implementation of the actions, a basic outline of the evaluations would be the following:

STAGE 1: MONITORING AND EVALUATION MODEL	End 2021-2022
• On the basis of this evaluation plan, as a first phase of the implementation project, a review of the project is established to establish the final methodology to be used according to the results of the call, taking into account the cases described.	

This evaluation plan will be worked and agreed with the managers involved.
The following shall be taken into account for the construction of the monitoring and evaluation model:

- Public documentation related to the development of the action line (plan, rules, call, etc.)
- The registration information of participants in the call to be provided by the managing body (databases of participants, projects submitted, etc.)
- Other documentation generated within the framework of the project (published summaries, news related to the implementation of the action line or project development by the beneficiaries, etc.)

- In addition, as a key element for the proper conduct of the evaluation, the **monitoring and evaluation model will be implemented among the various actors involved** on the basis of meetings. In the implementation meetings all profiles related to the development of the assistance will be cited. Both managers and beneficiaries will be taken into account, in this way they will be able to know and familiarise themselves with the indicators, the purpose of the evaluation and the stages of the evaluation.
- The duration of this work on formulating and implementing the monitoring and evaluation model is open to the actual frequency with which the aid is being developed.

STAGE 2: EVALUATION OF RESULTS AND IMPACT (4 WAVES)	2022-2026

- **The evaluation of results** aims to identify and analyse the **outputs** of the action, which are obtained directly through the implementation of the activities. In addition, **changes brought about by the** aid or results will be of interest.

  Finally, it will be of interest to identify and analyse **the impact of the intervention**. In other words, whether the products and planned changes have evolved in an environment conducive **to processing**.

- Having a number of waves of evaluation will provide greater accuracy **for the impact analysis** and also facilitate the identification of **factors for sustainability.**

First wave of evaluation	2022-2023

- The collection of information at this stage will be based both on the data collected from the call for the years 2019, 2020 and 2021 and on the data collected from the evaluation for the year 2022.

  The collection of information for evaluation in the first wave will be marked by the moment the call was finally published. Information on companies may not be available for the first months of 2022 as they will be asked about what happened in their business since they applied for the call.

- The first wave of evaluation will gather the information that will be reflected in the deliverable "*Final Evaluation Report*" (June 2023) with the results of the programme so far.

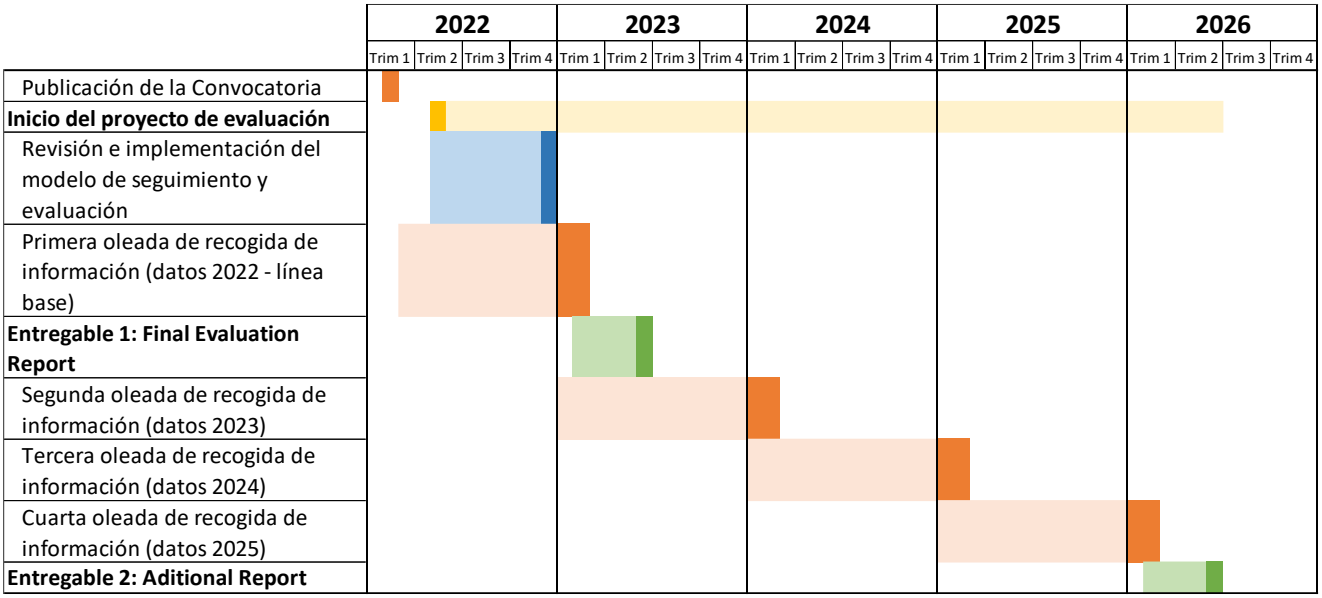
Following evaluation waves	2023-2025

- Thereafter, on an annual basis, information shall be collected on the activity carried out by the undertakings in the previous year during the first quarter of each year.
- The information collected throughout the evaluation process will be analysed in *the additional report in* 2026.

STAGE 3: DISSEMINATION OF EVALUATION RESULTS	2025-26

- It is proposed to communicate the results of the evaluation both internally and externally. Similarly, the publication of both the interim evaluation reports and the final results report will be of interest.

The planning of the main milestones indicated below is shown below:



Note: This is an estimate of the times to be reviewed and checked as events evolve.

It will be a question of considering, depending on the needs identified, the possibility of partial reporting of the results to be achieved in 2024 and 2025.

7. Annex 1: Full table of indicators

FULL MATRIX OF INDICATORS IS INCLUDED IN EXCEL