



Electric Vehicle noise control by Assessment and optimisation of tyre/road interaction



Electric Vehicle noise control by Assessment and optimisation of tyre/road interaction

LIFE E-VIA

LIFE18 ENV/IT/000201

With financial support from the EU LIFE programme

Action E1

Coordination, Monitoring and Project management

Deliverable E1-1

Monitoring protocol

Responsible for implementation: Comune di Firenze

Coordinating Beneficiary

Comune di Firenze



Associated beneficiaries

Continental

I-POOL

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Summary

1. Coordination, Monitoring and Project management.....	3
2. Monitoring Protocol	5
2.1 <i>Steering committee: responsibilities and composition</i>	5
2.2 <i>Scientific committee: responsibilities and composition</i>	7
2.3 <i>Technical and Administrative associated beneficiaries units</i>	9
3. Meetings and scheduling of monitoring.....	11
4. Deliberations	13
5. Non-compliance management	14
6. Communications	14
7. Contingency plan	14
8. Approval of the document	16
9. Monitoring tools	18
9.1 <i>Self-Monitoring Forms</i>	18
9.2 <i>Monthly report</i>	23
9.3 <i>GO-NOGO monitoring sheet</i>	24

1. Coordination, Monitoring and Project management

The overall goal of this document is to provide an efficient coordination, monitoring and management for all the actions planned, in order to reach the set targets in terms of foreseen results and budget. It has the following contests:

- ensure the best use of the resources allocated to the project
- manage communication among project partners
- manage communication with the European Commission
- identify and solve any problem and/or delay that may possibly arise
- maintain technical control over the project
- manage all financial aspects in the correct manner
- review and finalise all the internal reports and documents produced
- guarantee a high level of quality regarding the project products
- guarantee that all the activities are carried out with regard to minimise the ecological footprint of the project as far as possible.

Referring to figure 1, the project is managed by Dott. Arnaldo Melloni (Project Manager – PM) from Comune di Firenze which have responsibility for technical aspects and relations with the European Commission. The PM relies on a team with the tasks to manage the implementation and reach the set targets of the project.

PM structure is developed in order to face the unforeseen difficulties, allowing flexibility and dialogue between the different parts of the staff, especially involving Steering Committee and Scientific Committee and strengthening the decision making, by relating to General Monitoring Unit, Project Impacts Monitoring Unit and Technical and administrative associated beneficiaries units.

An administrative management staff (AMS) is appointed for the reporting and administrative management between Comune di Firenze and the associated beneficiaries (see the partnership agreement document).

A general coordinator for dissemination and communication activities (GCDC) is established inside Vienrose partner.

The PM, together with the AMS and the GCDC, constantly interfaces with the general

monitoring unit (GMU) made up of 2 people (1 technical and 1 administrative) from Comune di Firenze.

The whole Project Management Staff (PMS) interacts with the Steering Committee (1 member for each partner) and the Scientific Committee (1 member for each partner) and with the Technical and Administrative associated beneficiaries units and with the Project impact monitoring unit. The Technical and Administrative associated beneficiaries units and the two committees compose the governance system of the project. The Technical and Administrative associated beneficiaries units have the task of supporting all technical aspects and guarantee a high level of quality regarding the project products. The aim of the Project impact monitoring unit (PIMU) is to ensure successful delivery of the project maximising the benefits, and interaction between monitoring activities and indicators' evaluation. Members of the Project Impact monitoring unit are respectively Marina Mistratta for UNIRC partner and Raffaella Bellomini for VIENROSE partner.

The PM, together PIMU and with contributions from all partners, monitors each project action.

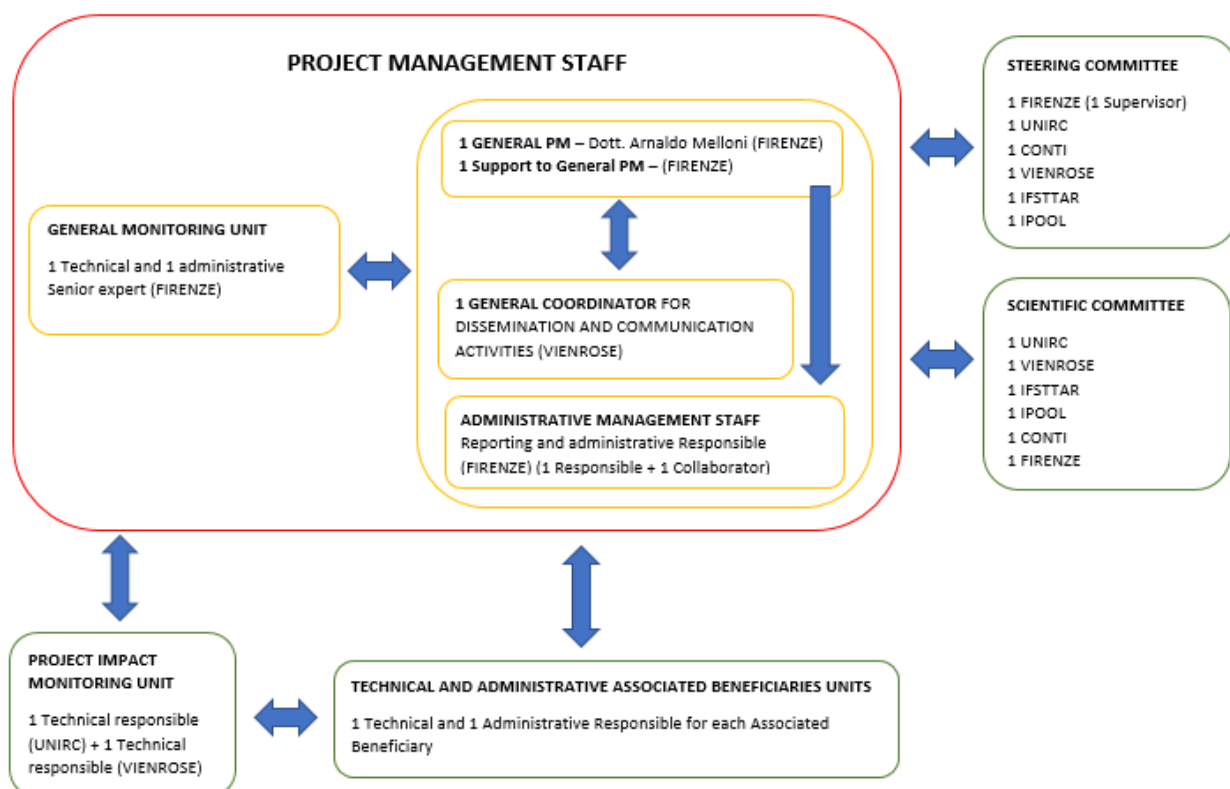


Figure 1: Project Management Chart

2. Monitoring Protocol

The aim of the monitoring protocol is to explain how project-monitoring data have to be collected, analysed, discussed and reported. It is a key component of quality assurance for the project. The protocol is necessary to highlight project deviations from the Project proposal and to identify preventive actions (actions to eliminate the cause of a potential problems) and corrective actions (actions to eliminate a detected problems) (ISO, 2011).

In essence, the monitoring protocol must enable to re-plan and re-design (if necessary) the activities, so as not to overcome the set targets, by analysing in depth the causes that have led to deviations from what has been established in the Project proposal. This activity is carried out by gathering information about the resources involved in the project, evaluating periodically: time spent on each activity, costs incurred compared to the forecasts, and completion of the deliverables associated with the corresponding activities. Specific indicators on planned activities and environmental and socio-economic performances and collect data in order to assess this information from each partner (for more details see the action C1) are defined.

The work for each action is organized by the leader of the action according to a pattern, as follows: when the sub-actions must be completed and how long they take, how, who and what is necessary to complete sub-actions in the timeframes, and who does what. To this end, progress meetings are organized where the progress of the project and activities/sub-activities to be done are proposed or discussed (see Chapter 3).

2.1 Steering committee: responsibilities and composition

The aim of the Steering committee is to oversee the implementation of the project's actions. Members of the Committee are responsible in the following areas:

Provide Cross-Functional Leadership and Direction

- Monitor strategic issues and provide advice to the PM and the PMS on those that may present a risk to the project or have impact on the project rationale or success
- Ensure provision of the required resources for planning and delivery of the project according to the Project proposal (with regard quality and timing)
- Provide management support and direction to the project management
- Actively and overtly support the project and act as an advocate for its outcomes.

Provide Project Management Governance

- Approve the project approach and project management methodology
- Define the risk thresholds for the project, based on the contingency plan and review project risks
- Maximise Project benefits

According with action C1:

- Establish how benefits will be defined and measured
- Monitor progress against approved plans
- Monitor project outputs for alignment to support agreed outcomes and benefits.

All members of the Steering Committee are expected to address any issue which has major implications for the project and accept responsibility for the project strategy and the overall benefit realisation of the project.

Each time a specific problem arises, regarding project scope, time scheduling, risk management, networking and any other issue related to steering committee competence, Steering committee provides a collegial strategy to solve the issue, in 10 days.

In the case that the proposed solution seems not valid, the problem is addressed to general PM, who in case of necessity consults the project monitor.

The Steering Committee is composed of members representing the partners of the project (see Table 1).

Table 1: Steering committee composition

Beneficiary	Representative
FI	Arnaldo Melloni
CRD	Achilefs Tzotras
IFSTTAR	Julien Cesbron
IPOOL	Antonino Moro
UNIRC	Filippo G. Praticò
VIENROSE	Raffaella Bellomini

Regarding the implementation and the enhancement of policies improving the dairy chain, the Steering Committee interacts with (see also letters of interest):

- European Commission
- Italian Association of Acoustics (AIA)
- Eurocities
- City of Forlì
- City of Rimini
- ISPRA
- Calabria Region
- Tuscany region

2.2 Scientific committee: responsibilities and composition

The scientific committee participates to the general project management's meetings as well as the monitoring of the quality and accuracy of the scientific information throughout the project. It provides the scientific quality check of the overall project.

One of the tasks of the scientific committee is to evaluate and approve all technical project reports.

Two weeks before the deadline, the partner responsible of action to which the technical report is referred, send the draft version to all the members of Scientific committee.

Within one week, each component of Scientific committee consults each other and on the basis of the collegial evaluation, report is approved without revision or some revisions are proposed via email, and must be solved in a week.

In the case that scientific issues observed are not solved in a proper way, Scientific Committee addresses the problem to Steering Committee which take it in charge.

Components of the scientific committee are reported in Table 2.

Table 2: Scientific committee composition

Beneficiary	Representative
FI	Iacopo Bianchi
CRD	Carsten Hoever
IFSTTAR	Julien Cesbron

IPOOL	Francesco Bianco
UNIRC	Paolo Briante
VLENROSE	Sergio Luzzi

2.3 Technical and Administrative associated beneficiaries units

The aim of the Technical and Administrative associated beneficiaries units is to support all technical aspects and guarantee a high level of quality regarding the project products, as follows:

- plays an active role in the planning processes
- manages and implements actions based on indications provided by the Steering Committee
- coordinates the different activities
- identifies and solve technical and administrative problems, according to the contingencies plan
- defines the technical and administrative management and identify new solutions
- notifies to the Steering Committee any technical modifications with the goal and scope of the project
- notifies to Steering Committee any modifications regarding resources allocated to the project
- verifies the proper implementation of the project and in case resolve any technical and administrative deviations
- exanimates and approve the results
- ensures that the work plan is respected and notify any deviations to the Steering Committee.

The working technical group is composed by the PM (or his delegate) and at least one technical expert of each beneficiaries involved (Table 3).

Table 3: Leaders of each project action and partners involved

Actions	Action leader	Partner involved
A1	IFSTTAR	VIENROSE, UNIRC
A2	UNIRC	IFSTTAR, IPOOL
A3	CRD	IFSTTAR
B1	UNIRC	IFSTTAR, FIRENZE
B2	IFSTTAR	UNIRC, CRD, IPOOL
B3	FIRENZE	IFSTTAR, UNIRC, VIENROSE, CRD
B4	IPOOL	IFSTTAR
B5	VIENROSE	-
B6	IPOOL	IFSTTAR, FIRENZE
B7	CRD	IFSTTAR
C1	FIRENZE	IFSTTAR, UNIRC, VIENROSE, CRD, IPOOL
C2	UNIRC	VIENROSE, IPOOL, IFSTTAR
D1	VIENROSE	FIRENZE, IFSTTAR, UNIRC, CRD, IPOOL
D2	VIENROSE	FIRENZE, IFSTTAR, UNIRC, CRD, IPOOL
E1	FIRENZE	IFSTTAR, UNIRC, CRD, IPOOL, VIENROSE
E2	FIRENZE	IFSTTAR, UNIRC, CRD, IPOOL, VIENROSE

3. Meetings and scheduling of monitoring

General PM activity includes 6 general meetings (1 start-up, 4 midterm, 1 final), hosted in the coordinating beneficiary premises in Florence (3), Reggio Calabria (1), Nantes (1), Hanover (1).

A kick-off meeting, held in Florence on September 2019, launched the project and gave practical information on the actions and on the management to all partners; final meeting will close the project and evaluate results.

Periodic meetings among members of the PIMU are planned every six months, while the exchanges between the PM and GMU are continuous and planned according to needs, usually on a monthly basis.

Coordinating beneficiary issues the progresses, mid and final reports (whose deadlines are reported in Table 4) to the European Commission. Internal deadlines for sending documents to the Coordinating beneficiary are also established.

Table 4: Report deadlines

Type of report	Official deadline for sending documents to EU	Internal deadline for sending documents to the Coordinating beneficiary
Progress report	30/06/2020	31/05/2020
Midterm report	31/12/2020	31/10/2020
Progress report	28/02/2022	31/12/2021
Final report	31/03/2023	15/02/2023

Project Management will be performed according to the highest quality standards and procedures (ISO compliant or equivalent), and it is structured into the following activities:

- periodic meetings with Steering Committee, in order to decide whether to continue or not a certain task (GO/NOGO action)
- periodic meetings with technical and administrative staff
- preparation of reports
- comparison with the program's time-scales
- checks on effective progress

- collation of technical results with the project's progress
- interchange with the Monitoring of PIMU (see Actions C1).
- implementation of dedicated tools for recording of staff working days; cataloguing and classification of all expense related documentation; recording and monitoring of obtained results: compilation of necessary forms; supply of documentation which may be requested by the Commission.

The monitoring unit will assist PM in issuing monitoring reports on a semester base.

Monitoring will be carried on by each Action Responsible providing the PM with a specific self-monitoring form (see Paragraph 9.1) at last 1 month before the semester end.

Being monitoring held on a six-month basis, judgement will be emitted considering the percentage of action covered by the given semester. Therefore, number of products and expended money will be compared to the ones declared in the grant agreement and will be re-modulated according to the actual lasting of the action.

The SMFs will be reviewed and judged by the PM, supported by the Monitoring Unit and together with the Steering Committee.

After actions' end, a monitoring sheet (GO-NOGO, see Paragraph 9.3) will be filled by the PM in collaboration with the Monitoring Unit and the Steering Committee, and the final decision on the action will be exposed and documented.

It is foreseen:

1. Initial Monitoring, within three months after Project's beginning.
2. Intermediate Monitoring, performed at six months intervals following the initial monitoring, to ensure that the Project is continuing appropriately and to identify any situations that need to be corrected. The six-month reports should contain three sections:
 - evaluation of general results related to the Project's objectives, (immediate production in the short term and direct impact of the Project on the target and stakeholders in relation to the situation at the beginning, results evaluation in terms, for example, of concrete products, deliverables, meetings foreseen during the evaluation period)
 - evaluation in terms of efficiency of the working methods (communication, participation in meetings of all partners, use of website, transparency of administrative and financial procedures, assessment whether the selected methodology is the correct one to

achieve the objectives, the work plan has been respected, etc.)

- sheets regarding the punctual monitoring activities of each Action. A self-monitoring form (SMF) will be periodically filled in by each Beneficiary for each action. SMFs will be collected by Monitoring Unit and contribute to the calculation of GO/NO GO indicators
- monthly reports are filled by each partner for each action in which it is involved and report a technic summary of the carried-out activities.

Moreover, as internally agreed by partners and project's monitor, financial reporting is provided also on a trimester base.

3. Final Monitoring

For each action completed, an indicator GO/NOGO will be calculated (see Paragraph 9.3), based on the achievement of the percentages representing the indicators of progress of each sub action to which they relate.

Aspects taken into account are:

a) Compliance with action's objectives

75% of declared objectives. More=GO, Less=NOGO

b) Compliance with action's expected lasting

Delay up to 15 days=GO, more=NOGO

c) Deliverables:

Respected more than 75%=GO, less=NOGO

d) Percentage of budget spent respect to declared costs

75% of declared costs. More=GO, Less=NOGO

4. Deliberations

Decisions are taken by absolute majority (4 out of 6 votes) as each partner has one vote.

Consultation of all partners is mandatory. In case of absence, the Coordinating beneficiary must consult the absent partner by e-mail. The consulted partner must reply within 7 working days. If there is no response within this period, the partner loses his or her right to vote. In this case, the absolute majority is expressed by counting the votes cast.

In case of urgency, decisions can be taken by e-mail exchange, with consultation of all partners. In order to facilitate such consultation, the vote should be expressed with a clear answer: YES or NO the result of the vote will be communicated to all partners by the Coordinating beneficiary.

5. Non-compliance management

The GMU, as responsible for decisions related to any changes within the project, establishes that each beneficiary is responsible for the expenses related to the activities for which it is responsible or in which it is involved in the project. Consequently, in case of non-recognition by the European Commission of an expenditure already incurred by the responsible partner, the GMU considers that such expenditure is deducted from the partner's share of the budget.

6. Communications

Ordinary communications and document transfers between members of the General Monitoring Unit take place through the use of electronic mail.

A shared space (shared folder subdivided into subfolders in a section protected with password on the project website) will be created in order to manage the information flow between project partners. The materials produced during the project will be progressively inserted in the shared space: drafts, elaborations and variety of other documents.

7. Contingency plan

Expected constraints and risks related to the project implementation have been described in detail in the Project, but unforeseen delays and difficulties, of various kind, could be encountered, due to the great number and to the different typologies of the activities (formal and administrative issues, technical difficulties, socioeconomic environment).

The Contingency Plan, as provided by the Project proposal, aims to evaluate possible obstacles and risks during project implementation and offering preventive and corrective actions. The identified solutions to cope with possible obstacles and risks during the project implementation have been considered in the project plan in terms of external (policy, environmental, law changes) and internal constraints (technical, management

ones).

Considering defined risks and constraints, figure 2 reports their likelihood and impact.

	Likelihood				
Impact	Rare	Unlikely	Possible	Likely	Almost Certain
Catastrophic					
Major		R1, C3	R2	R3, C1, C5	
Moderate			C4	C2	
Minor		C6			
Insignificant					

Figure 2: Risk matrix

Priority is assigned based on coloured scale to R&C: critical (red), high (orange), moderate (yellow), low (green) and very low (blue).

Contingency plans are established for R&C having high priority.

R3 – Weather risks – Contingency plan consists in correct time allocation of actions influenced by this risk. For action B2 and B3 a full year is reserved and the laying is expected in summer for B2 prototype and in spring for B3 test section, such that good weather conditions should be likely to happen and temperatures allows fast drying of the surfaces. On the other hand, B4 and B5 on pavements efficiency tests and soundscape analysis are foreseen to start in summer which is optimal for doing measurements. In B2, most of the measurements on IFSTTAR reference test track will also be performed between early spring and late summer. After, in cold seasons analysis is foreseen. Such planning allows to low the likelihood of the risk and therefore to manage the risk.

C1 – Technical risks – Contingency plan for technical constraints is established first of all allocating economic safety funds and time buffers. This allows tackling eventual unexpected expenses and delays due to additional sub actions. This will allow to lower the impact on the project leading to a moderate impact. However, money and time might be not enough without a strong collaboration within partners and a constant communication, especially for these actions being strictly connected within each other.

Therefore, plan includes monthly updates of progresses by each partner responsible of B1-B3 actions and to establish remote or in person meetings whenever an issue is identified and need to be solved urgently. This planning should lead to possible technical issues, lowering the priority of the constraint.

C5 – Economic issues – Contingency plan is established as already said for C1 in allocating safety funds to each action, however part of the risk is in any case assumed by partners giving their commitment to the project. In any case a deep analysis of actions needs in the proposal stage, allow allocating reasonable funds for actions and lowering priority of this constraint.

R2 – Law requirements – As already mentioned, it is only possible to low the impact of external risks. Therefore, additional time buffer is assigned to action B3 compared with standard time evaluated to complete the action in order to minimize possible delays affecting the overall project development.

C2 – Personnel deficits – Besides they are likely to happen due to several reasons, it is possible to lower impact considering a team of people working on the project. Each partner provides more than one unit-personnel to be dedicated to the project and will in any case guarantee possible substitutions within its personnel in order to have people working on project tasks.

Therefore, considering contingency plans, figure 3 reports updated R&C table.

	Likelihood				
Impact	Rare	Unlikely	Possible	Likely	Almost Certain
Catastrophic					
Major		R1, C3, R3			
Moderate			C4, C1, C5		
Minor		C6	R2	C2	
Insignificant					

Figure 3: Risk matrix after contingency plan

8. Approval of the document

This document is sent to all members of the Scientific committee who confirm their admission by e-mail or in a manner that is deemed more consonant.

9. Monitoring tools

9.1 Self-Monitoring Forms



PARTNER SELF-MONITORING FORM
(technical actions)

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PARTNER SELF-MONITORING FORM (TECHNICAL ACTIONS)

ACTION NUMBER AND TITLE

.....

BENEFICIARY RESPONSIBLE FOR ACTION IMPLEMENTATION

.....

SECTION TO BE FILLED IN CASE OF ONGOING ACTION:

a. Will the Action end on time? (justify your answer)

.....

b. Do you expect the objectives will be fulfilled by the end of the Action? Justify your answer.

.....

c. Will the budget be respected by the end of the Action? Justify your answer.

.....

d. Do all partners contribute actively to the achievement of action objectives on time? Justify your answer.

.....

In case of negative answers to one or more questions from *a* to *d* please present a possible corrective action (corrective actions may involve other project partners).

SECTION TO BE FILLED IN CASE OF CONCLUDED ACTION:

- Foreseen Action objectives (according to project proposal)

.....

- Achieved Action objectives (quantify a percentage)

.....

- Deliverables produced (quantify the percentage according to project proposal)

.....

- Action lasting (according to project proposal)

.....

- Date of action conclusion

.....

- Analytical description of budget spent VS. Action budget from project proposal

.....

- Problems encountered and corrective actions put in place to solve them

.....

Date

Name and signature



PARTNER SELF-MONITORING FORM
(dissemination actions)

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E-V I A

PARTNER SELF-MONITORING FORM (DISSEMINATION ACTIONS)

ACTION NUMBER AND TITLE

.....

BENEFICIARY RESPONSIBLE FOR ACTION IMPLEMENTATION

.....

SECTION TO BE FILLED IN CASE OF ONGOING ACTION:

a) Will the Action end on time? (justify your answer)

.....

b) Do you expect the objectives will be fulfilled by the end of the Action? (justify your answer)

.....

c) Will the budget be respected by the end of the Action? (justify your answer)

.....

d) Will dissemination activities be carried out by the end of the Action? (justify your answer)

.....

e) Do all partners contribute actively to the achievement of action objectives on time? Justify your answer.

.....

In case of negative answers to one or more questions from a to e please present a possible corrective action (corrective actions may involve other project partners).

SECTION TO BE FILLED IN CASE OF CONCLUDED ACTION:

- Foreseen Action objectives (according to project proposal)
.....
- Achieved Action objectives (quantify a percentage)
.....
- Deliverables produced (quantify the number according to project proposal, providing their id, according to the dissemination plan)
.....
- Action lasting (according to project proposal)
.....
- Date of action conclusion
.....
- Analytical description of budget spent VS. Action budget from project proposal
.....
- Problems encountered and corrective actions put in place to solve them
.....

Date

Name and signature

9.2 Monthly report

Place, Day/Month/Year

Object: LIFE E-VIA - Electric Vehicle noise control by Assessment and optimisation of tyre/road interaction – LIFE18 ENV/IT/000201 **MONTHLY REPORT**

For each action in which Partner XXXX is involved a summary report of the activities carried out within the end of Month XXXX is reported below.

Action X1 –

.....
.....

Action X2 –

.....
.....

Action X3 –

.....
.....

Action Xn –

.....
.....

Partner Associated beneficiary Manager

XXXX XXXX



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9.3 GO-NOGO monitoring sheet

GO-NOGO monitoring sheet

Action (number and title)
Beneficiary responsible for Action implementation (Name, Surname, Partner affiliation)

GENERAL MONITORING <i>(Put an X in correspondence of the GO/NOGO cell)</i>	INSERT VALUE	GO	NOGO
Compliance with action objectives*	Percentage		
Compliance with action deadline**	Number of days of delay		
Produced deliverables***	Percentage		
Percentage of budget spent****	Percentage		

Problems encountered and actions foreseen to cope with them

FINAL JUDGEMENT <i>(Put an X in correspondence of the GO/NOGO cell)</i>	GO	NOGO	CORRECTIVE ACTIONS
--	-----------	-------------	---------------------------

Problems/Warnings/Risks/Necessary corrections
Deadline for reviewing/making corrections

Monitoring sheet filled by (Name, Surname, Partner affiliation)
Date
Signature

Legend

*More than 75% of declared objectives = GO; Less than 75% of declared objectives = NOGO

**Delay up to 15 days = GO; Delay more than 15 days = NOGO

***With respect to deliverables foreseen by project proposal, more than 75% = GO; less than 75% = NOGO

****More than 75% of declared costs = GO; Less than 75% of declared costs = NOGO

Evaluation of final judgement

Final judgement is GO if all conditions of the general monitoring are GO; NOGO if at least 2 conditions are NOGO or if condition 2 is NOGO; CORRECTIVE ACTIONS in the remaining cases (condition 1 or 3 or 4 is NOGO).

In case of CORRECTIVE ACTIONS, a timeframe of 15 days is established in order to comply with the current NOGO condition. If, after the timeframe, the responsible partner does not comply a consultation starts with project monitor in order to understand how to solve the issue. A possible solution could be to assign the task to one (or more) different partner.

In case of NOGO judgement, the PM, together with the PIMU, starts a consultation with project monitor in order to understand how to solve the issues.