Validation of an industrial process to manufacture isosorbide bis(methyl carbonate) at pilot level

Deliverable D1.6

Project Management Plan (II)

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EXECUTIVE SUMMARY

The main purpose of this deliverable is to document the Work Breakdown Structure (WBS) and the related elements that support the project's schedule:

Project task durations, dependencies and responsibilities,

Project milestones,

- Project deliverables,
- Project management mechanisms, and
- Gantt Chart.

The VIPRISCAR project work plan is results-based, with each Work Package (WP) mapping to an objective to produce new bioproducts form IBMC. The project is structured to ensure balanced work load and unambiguous responsibility for tasks and deliverables, with each deliverable responsibility of the task leader unless otherwise explicit in the WP description.

A Gantt Chart is annexed to this document to better understand the schedule of the different Work Packages and their components. The inter-relationships among the different project tasks and components is presented both graphically and in WP tables. The project schedule will be managed through success criteria, milestones and periodic control mechanisms.

The actual schedule performance will be compared to planned performance to implement corrective action when actual performance deviates from planned or required performance.

The Project Management Plan will be updated four times during the project execution (at Months 3, 12, 24 and 36).

Furthermore, Work Package and Tasks Leaders will be responsible for reporting on their activities at every Project Steering Committee meeting (every 6 months) to allow project progress to be tracked seamlessly. The actual Gantt Chart will then reflect progress achieved and agreement of the revised schedule, if necessary.

The intended audience of the Project Management Plan (PMP) is all project stakeholders including the BBI-JU, senior leadership and the project team.

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ABBREVIATIONS AND ACRONYMS

GA	Grant Agreement
PM	Person-months
PMP	Project Management Plan
WBS	Work Breakdown Structure
WP	Work Package

1. INTRODUCTION

The Grant Agreement (GA) provides an in-depth description of the different Work Packages and components. However, the information is presented in such a way that hampers the appropriate management during project execution.

The Project Management Plan (PMP) is a formal document used to guide both project execution and project control. By showing the major deliverables, milestones, activities and responsibilities on the project, it is also a statement of how and when a project's objectives are to be achieved.

The main purpose of this deliverable is therefore to document the Work Breakdown Structure (WBS) and the related elements that support the project's schedule:

- Project task durations, dependencies and responsibilities,
- Project milestones,
- Project deliverables,
- Project management mechanisms, and
- Gantt Chart.

The intended audience of the PMP is all project stakeholders including the BBI-JU, senior leadership and the project team.

This deliverable, directly linked to task T1.2, is structured in the following chapters:

- **Chapter 1**: Introduction. Main purpose, intended audience and structure of the document.
- **Chapter 2**: Work breakdown structure and schedule. Work plan structure and individual Work Package description.
- **Chapter 3**: Graphical presentation of tasks interdependencies. Inter-relationships among the different project tasks and components
- **Chapter 4**: Schedule management. Success criteria, milestones and periodic control mechanisms.
- **Annex I**: VIPRISCAR Project Gantt Chart.

2. WORK BREAKDOWN STRUCTURE AND SCHEDULE

2.1 WORK PLAN STRUCTURE

The VIPRISCAR project work plan is results-based, with each Work Package mapping to an objective to produce new bioproducts form IBMC, as presented in sections 1.3.1, 1.3.3 and 1.3.4 of the Grant Agreement. In addition, many issues are cutting across each Work Package, risk, costs and data collection. WP8 is in charge of providing consistent methodology, data collection protocol and integration of this information.

The project is structured to ensure balanced work load and unambiguous responsibility for tasks and deliverables, with each deliverable responsibility of the task leader unless otherwise explicit in the WP description.

Table 1 summarises the main project components. In the following sections, details of the individual Work Packages are given including interdependencies among tasks and deliverables. A Gantt Chart is annexed to this document to better understand the schedule of the different Work Packages and their components.

TABLE 2.1: LIST OF WORK PACKAGES

WP	Title	Lead	PM	Start	End
WP1	Management and scientific coordination	TECNALIA	28	1	36
WP2	IBMC process development and validation at lab scale	TECNALIA	56	1	12
WP3	IBMC process validation at pilot plant	B4P	45	9	24
WP4	Coating application proof-of-principle	AEP	64	13	36
WP5	Adhesives application proof of principle	JOWAT	79.4	13	36
WP6	Bifunctional catheters application proof of principle	CIKAUTXO	57	13	36
WP7	LCA, REACH and cost analysis	VERTECH	64	6	36
WP8	Exploitation, Dissemination and Communication	VERTECH	55	1	36
WP9	Ethics Requirement	TECNALIA	N/A	1	36
			448.4		

Although according to the Grant Agreement it was committed to *keep updated records of the financial statements for each partner and provide documentation on expenses on a 6 month basis for internal budget monitoring*[1], the necessity for the submission of this Deliverable at the end of month 12 and the pretension of including it in the information related with the work done up to date has made impossible to require the information for the M06 - M12 period in due time (since to get the information from partners about the resources consumption at month 12 it is mandatory for this month to be finished), therefore the information contained in the financial description henceforth is the one included between month 01 and month 11.

[1] Grant Agreement, 1.3.3. WT3 work Package descriptions, page 96

Thus, the financial justification given in this report are the one belonging to Month 01 to Month 06 (January 2018 to November 2018) and the one belonging to Month 07 to Month 11 (December 2018 to April 2019).

Figures below show what should be the ideal distribution of PM along the project according to the initial planification, if we consider a lineal distribution on the use of resources as it was given in the Grant Agreement. As it is seen, on month 11 the Total consumption of PM (taking into account all the WP and all the Partners) should have been 108.

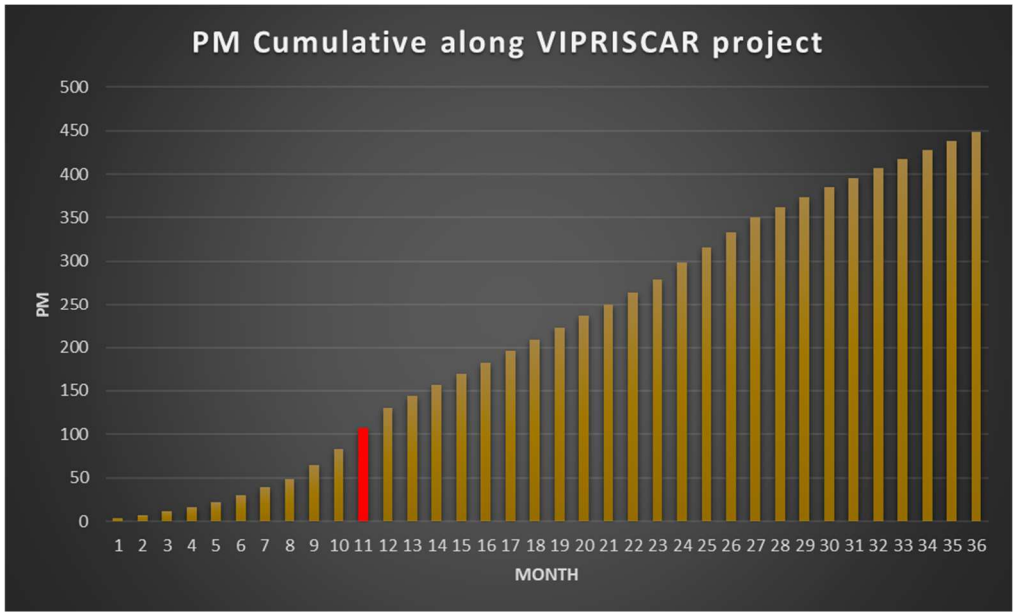


FIGURE 2.1: Cumulative consumption of PM along the project and particularly on month 11th

Figure below shows the detail about how this consumption of resources should have been in a monthly basis until the month of concern (Month 11).

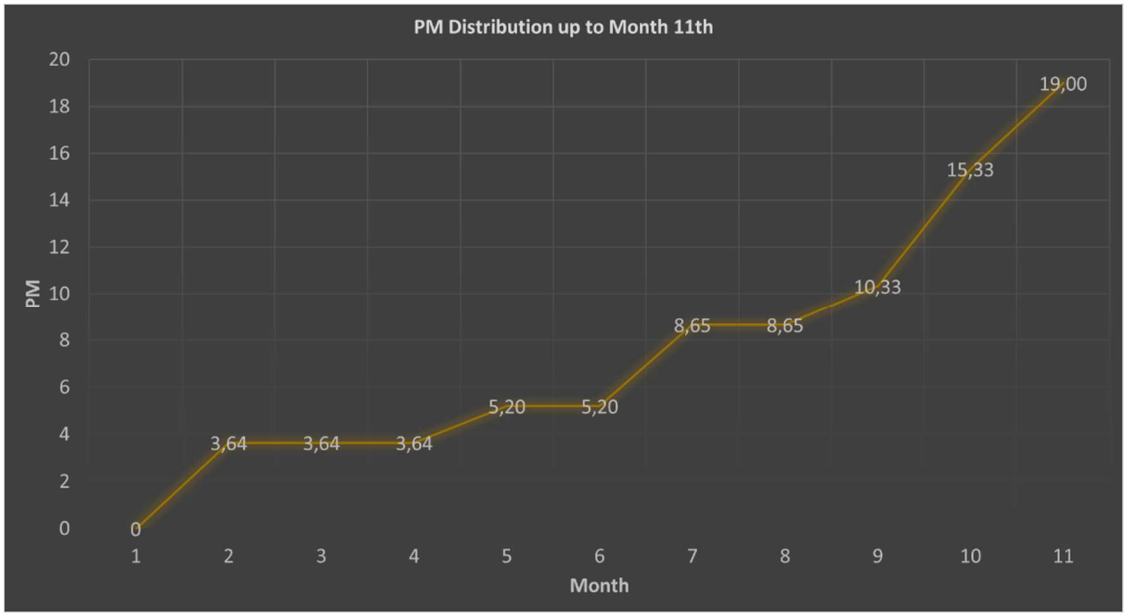


FIGURE 2.2: Cumulative consumption of PM up to month 11th

Finally, the figure below shows the total consumption of PM per partner which ideally would have been reached if the planification given in the Grant Agreement had been exactly fit.

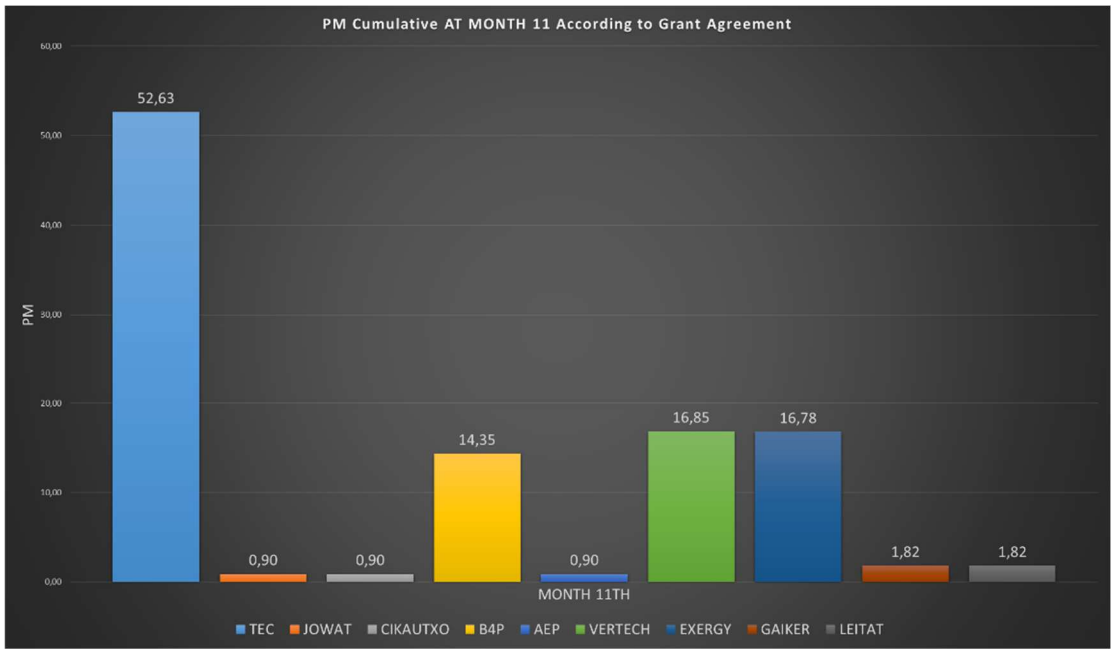


FIGURE 2.3: Cumulative consumption of PM per partner at month 11th

2.2 WP1: Management and scientific coordination

TABLE 2.2: WBS FOR WP1

Participant number	**1**	2	3	4	5	6	7	8	9
Short name of participant	**TECNALIA**	JOWAT	CIKAUTXO	B4P	AEP	VERTECH	EXERGY	GAIKER	LEITAT

ID	Description	Lead	Participants	Depends	Start	Due
WP1	**Management and scientific coordination**	**1**	**2, 3, 4, 5, 6, 7, 8, 9**	**-**	**1**	**36**
T1.1	Project coordination and quality assurance	1	2, 3, 4, 5, 6, 7, 8, 9	-	1	36
T1.2	Communication, reporting and monitoring	1	2, 3, 4, 5, 6, 7, 8, 9	T8.5	1	36

		Partner nº									
Planned Effort (PM)	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T1.1	10	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	14
	T1.2	10	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	14
	Total	**20**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**28**
	RP1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T1.1	5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	7
	T1.2	5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	7
	Total	**10**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**14**
	RP2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T1.1	5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	7
	T1.2	5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	7
	Total	**10**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**14**

ID	Description	Lead	Participants	Depends	Start	Due
D1.1	Quality Assurance Plan (I)	1	2, 3, 4, 5, 6, 7, 8, 9	T1.1	-	3
D1.2	Quality Assurance Plan (II)	1	2, 3, 4, 5, 6, 7, 8, 9	T1.1	-	12
D1.3	Quality Assurance Plan (III)	1	2, 3, 4, 5, 6, 7, 8, 9	T1.1		24
D1.4	Quality Assurance Plan (IV)	1	2, 3, 4, 5, 6, 7, 8, 9	T1.1		36
D1.5	Project Management Plan (I)	1	2, 3, 4, 5, 6, 7, 8, 9	T1.2		3
D1.6	Project Management Plan (II)	1	2, 3, 4, 5, 6, 7, 8, 9	T1.2		12
D1.7	Project Management Plan (III)	1	2, 3, 4, 5, 6, 7, 8, 9	T1.2		24
D1.8	Project Management Plan (IV)	1	2, 3, 4, 5, 6, 7, 8, 9	T1.2		36

2.2.1 Interim justification at month sixth and eleventh for WP1

The expected evolution on the consumption of PM per partner along the two periods concerned in this report (from M01 to M06 and from M07 to M11) for the WP1 according to the planification and distribution of efforts given in the planification of the project is as follows:

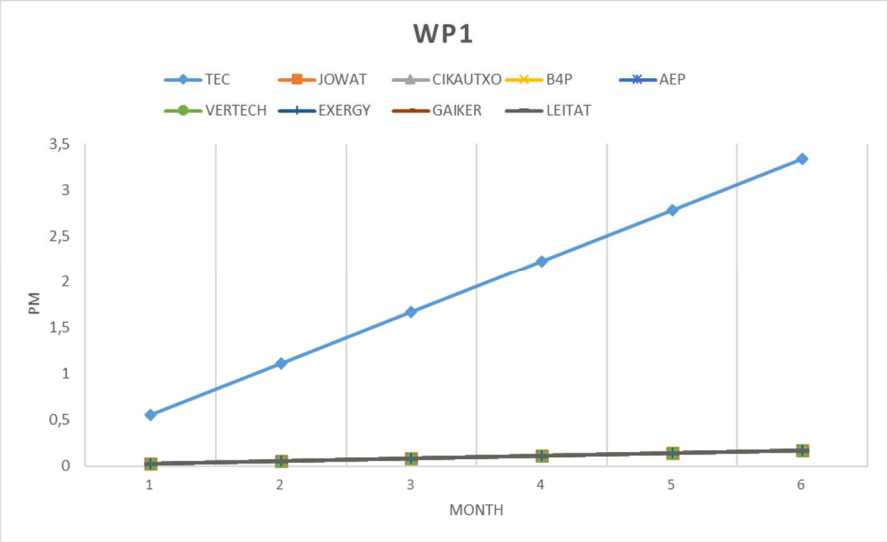


FIGURE 2.4: Lineal distribution of PM in WP1 up to Month 6th according to the GA planification

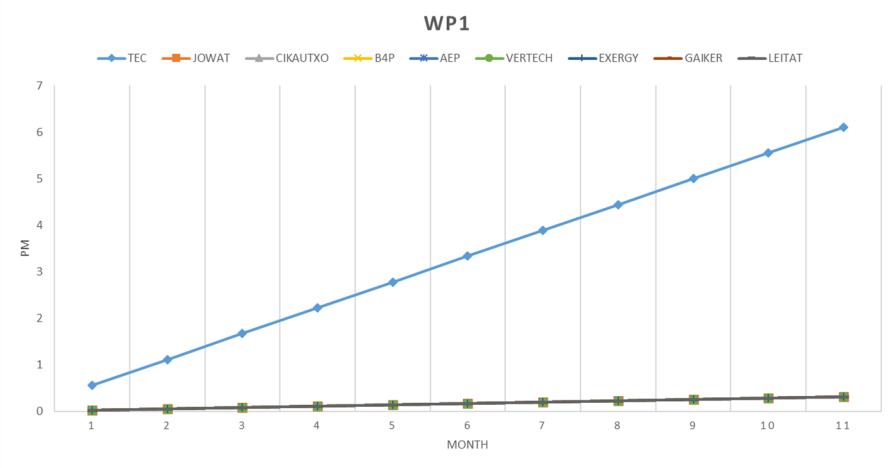


FIGURE 2.5: Lineal distribution of PM in WP1 up to Month 12th according to the GA planification

The real consumption of resources per partner during these two internal reports are resumed in tables below:

TABLE 2.3: Consumption of PM in WP1 on month 06th

		WP1		
nº	Name	PM	PM Lineal	PM GA
1	TECNALIA	3,39	3,33	20,00
2	JOWAT	0,00	0,17	1,00
3	CIKAUTXO	0,13	0,17	1,00
4	B4P	0,28	0,17	1,00
5	AEP	0,10	0,17	1,00
6	VERTECH	0,00	0,17	1,00
7	EXERGY	0,20	0,17	1,00
8	GAIKER	0,31	0,17	1,00
9	LEITAT	0,66	0,17	1,00
	TOTAL	**5,07**	**4,67**	**28,00**

The table below gives the same information up to month 11th

TABLE 2.4: Consumption of PM in WP1 on month 11th

		WP1		
nº	Name	PM	PM Lineal	PM GA
1	TECNALIA	6,80	6,11	20,00
2	JOWAT	0,00	0,31	1,00
3	CIKAUTXO	0,31	0,31	1,00
4	B4P	0,28	0,31	1,00
5	AEP	0,20	0,31	1,00
6	VERTECH	0,00	0,31	1,00
7	EXERGY	0,55	0,31	1,00
8	GAIKER	0,54	0,31	1,00
9	LEITAT	0,76	0,31	1,00
	TOTAL	**9,44**	**8,56**	**28,00**

2.3 WP2: IBMC process development and validation at lab scale

TABLE 2.5: WBS FOR WP2

Participant number	1	4	7
Short name of participant	TECNALIA	B4P	EXERGY

ID	Description	Lead	Participants	Depends	Start	Due
WP2	**IBMC Process development and validation at lab scale**	**1**	**4, 7**	**-**	**1**	**12**
T2.1	Reaction improvement	1	4		1	12
T2.2	Separation and purification procedure	1	4	T2.1	4	12
T2.3	Pre-up-scaling	1	4	T2.1, T2.2	10	12

T2.4	Process design and integration	7	1, 4	T2.1, T2.2, T2.3	6	12
T2.5	Process simulation and preliminary up-scaling	7	1, 4	T2.4	8	12

		Partner nº									
Planned Effort (PM)	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T2.1	13	0	0	1	0	0	0	0	0	14
	T2.2	13	0	0	1	0	0	0	0	0	14
	T2.3	10	0	0	1	0	0	0	0	0	11
	T2.4	2	0	0	0.6	0	0	6	0	0	8.6
	T2.5	2	0	0	0.4	0	0	6	0	0	8.4
	Total	**40**	**0**	**0**	**4**	**0**	**0**	**12**	**0**	**0**	**56**
	RP1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T2.1	13	0	0	1	0	0	0	0	0	14
	T2.2	13	0	0	1	0	0	0	0	0	14
	T2.3	10	0	0	1	0	0	0	0	0	11
	T2.4	2	0	0	0.6	0	0	6	0	0	8.6
	T2.5	2	0	0	0.4	0	0	6	0	0	8.4
	Total	**40**	**0**	**0**	**4**	**0**	**0**	**12**	**0**	**0**	**56**
	RP2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T2.1	0	0	0	0	0	0	0	0	0	0
	T2.2	0	0	0	0	0	0	0	0	0	0
	T2.3	0	0	0	0	0	0	0	0	0	0
	T2.4	0	0	0	0	0	0	0	0	0	0
	T2.5	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

ID	Description	Lead	Participants	Depends	Start	Due
D2.1	Mid report on IBMC process development	1	4	T2.1	-	3
D2.2	Final report on IBMC process development. Lab Technology Manual	1	4	T2.3	-	12
D2.3	Process simulation and preliminary up-scaling report	7	1, 4	T2.5		24

ID	Description	Lead	Participants	Depends	Start	Due
MS1	Production of 1 kg of IBMC	1	-	-	-	12

2.3.1 Interim justification at month sixth and eleventh for WP2

According to the information of the Grant Agreement, the lineal distribution of effort per partner up to month 06th and month 11th should have been as shown in figure below:

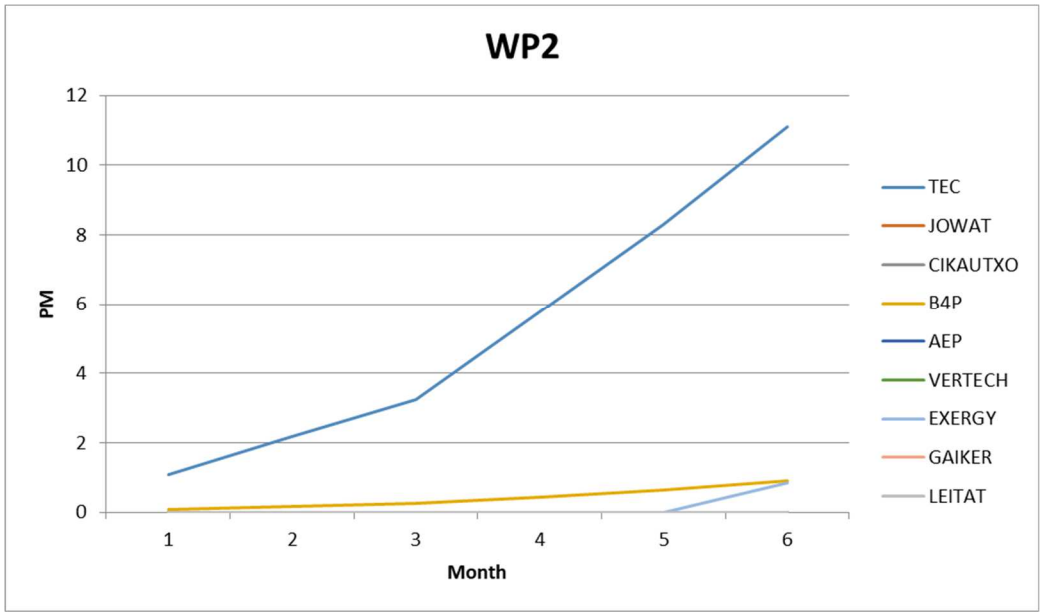


FIGURE 2.6: Lineal distribution of PM within WP2 up to Month 06th according to the GA planification

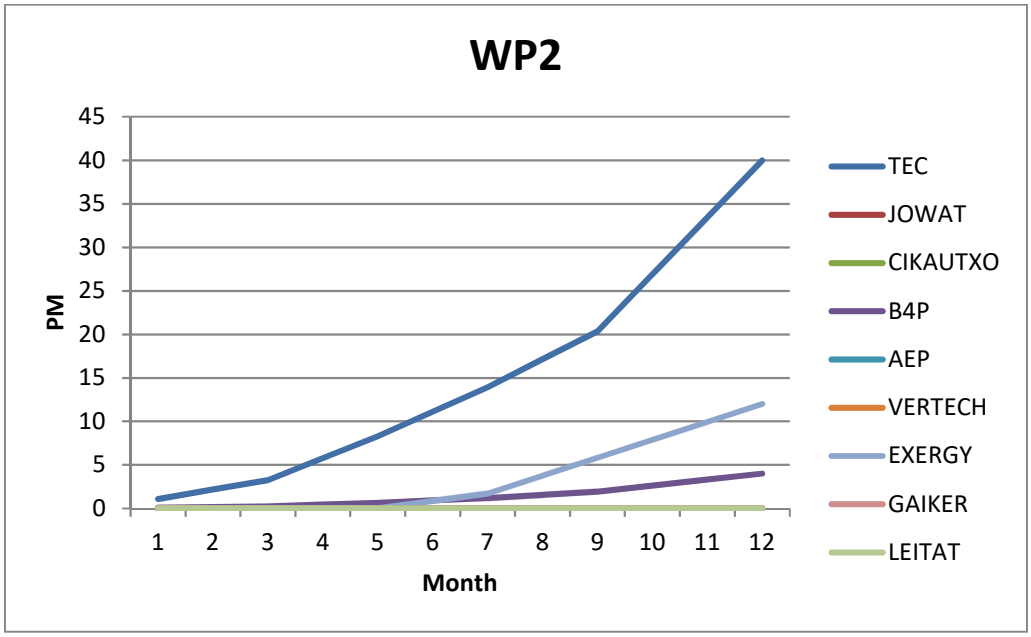


FIGURE 2.7: Lineal distribution of PM within WP2 up to Month 11th according to the GA planification

In comparison with this ideal lineal distribution of efforts, the real consumption of PM devoted to this WP along the periods of concern per partners is as follows:

TABLE 2.6: Consumption of PM in WP2 on month 06th

		WP2		
nº	Name	PM	PM Lineal	PM GA
1	TECNALIA	21,50	11,12	40,00
2	JOWAT	0,00	0,00	0,00
3	CIKAUTXO	0,00	0,00	0,00
4	B4P	0,28	0,92	4,00
5	AEP	0,00	0,00	0,00
6	VERTECH	0,00	0,00	0,00
7	EXERGY	0,67	0,86	12,00
8	GAIKER	0,00	0,00	0,00
9	LEITAT	0,00	0,00	0,00
	TOTAL	**22,45**	**12,90**	**56,00**

The table below gives the same information up to month 11th

TABLE 2.7: Consumption of PM in WP2 on month 11th

		WP2		
nº	Name	PM	PM Lineal	PM GA
1	TECNALIA	45,01	33,45	40,00
2	JOWAT	0,00	0,00	0,00
3	CIKAUTXO	0,00	0,00	0,00
4	B4P	3,49	3,31	4,00
5	AEP	0,00	0,00	0,00
6	VERTECH	0,00	0,00	0,00
7	EXERGY	10,25	9,94	12,00
8	GAIKER	0,00	0,00	0,00
9	LEITAT	0,00	0,00	0,00
	TOTAL	**58,75**	**46,70**	**56,00**

As it can be seen, Tecnalia has already overcome the amount of PM (45) which were foreseen in the GA for the entire project within this WP (40PM). The reason for this is that for the time being some modifications are being introduced in some technical aspects of this WP which will demand an extension on its deadline via an amendment and an increment on the efforts to be devoted on it. The new amount expected to be consumed in this WP by Tecnalia at the end of the project according to the Amendment under preparation is 47PM.

2.4 WP3: IBMC process validation at pilot plant

TABLE 2.8: WBS FOR WP3

Participant number	1	4	7
Short name of participant	TECNALIA	B4P	EXERGY

ID	Description	Lead	Participants	Depends	Start	Due
WP3	**IBMC Process validation at pilot plant**	**4**	**1, 7**	**-**	**9**	**24**
T3.1	Intermediate scaling-up	4	1	T2.3	9	12
T3.2	Pilot plant design	4	1, 7	T2.5, T3.1	9	12
T3.3	Pilot plant starting	4	1	T2.5, T3.2	11	12
T3.4	Pilot plant operation	4	1, 7	T3.3	13	24
T3.5	Plant up-scaling simulation to industrial scale	7	4	T2.5, T3.4	11	24

		Partner nº									
Planned Effort (PM)	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T3.1	3	0	0	5	0	0	0	0	0	8
	T3.2	3	0	0	5	0	0	4	0	0	12
	T3.3	3	0	0	5	0	0	0	0	0	8
	T3.4	1	0	0	5	0	0	2	0	0	8
	T3.5	0	0	0	2	0	0	7	0	0	9
	Total	**10**	**0**	**0**	**22**	**0**	**0**	**13**	**0**	**0**	**45**
	RP1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T3.1	3	0	0	5	0	0	0	0	0	8
	T3.2	3	0	0	5	0	0	4	0	0	12
	T3.3	3	0	0	5	0	0	0	0	0	8
	T3.4	0.5	0	0	2.5	0	0	1	0	0	4
	T3.5	0	0	0	1.14	0	0	4	0	0	5.14
	Total	**9.5**	**0.0**	**0.0**	**18.64**	**0.0**	**0.0**	**9**	**0**	**0**	**37.14**
	RP2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T3.1	0	0	0	0	0	0	0	0	0	0
	T3.2	0	0	0	0	0	0	0	0	0	0
	T3.3	0	0	0	0	0	0	0	0	0	0
	T3.4	0.5	0	0	2.5	0	0	1	0	0	4
	T3.5	0	0	0	0.86	0	0	3	0	0	3.86
	Total	**0.5**	**0**	**0**	**3.36**	**0**	**0**	**4**	**0**	**0**	**7.86**

ID	Description	Lead	Participants	Depends	Start	Due
D3.1	Mid report on IBMC pilot process validation, including adaptation/investments	4	1	T3.4	-	16
D3.2	Final protocol report on optimal IBMC pilot process	4	1, 7	T3.4	-	24
D3.3	Report on plant up-scaling simulation to industrial scale	7	4	T3.5		24

ID	Description	Lead	Participants	Depends	Start	Due
MS2	100 kg of IBMC produced	4	-	-	-	24

2.4.1 Interim justification at month sixth and eleventh

Since the WP started on month 09, no PM were consumed during the period belonging to the first interim report between M01 to M06.

Between M07 and M11, the lineal consumption of resources what could be expected according to the initial planification proposed in the GA is resumed as follows:

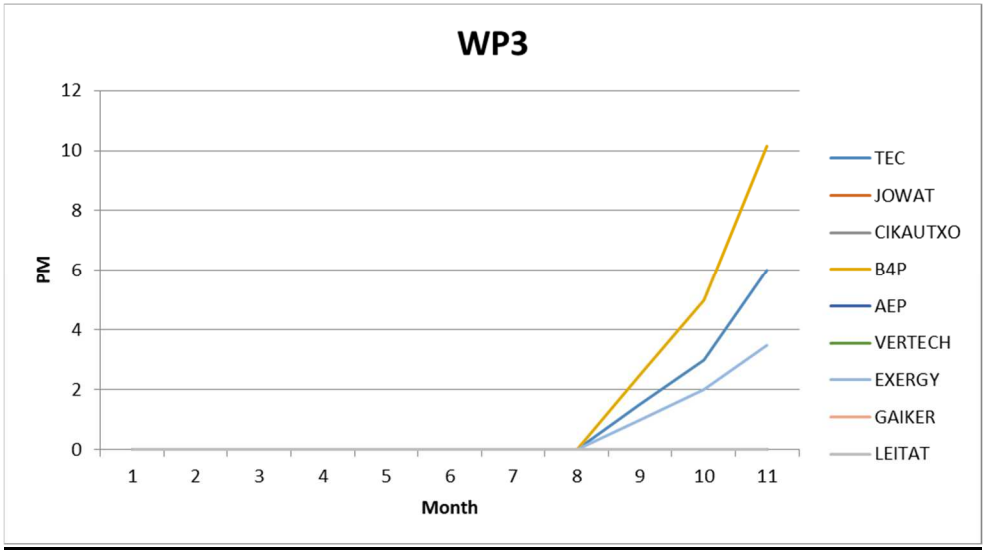


FIGURE 2.8: Lineal distribution of PM in WP3 up to Month 11th according to the GA planification

However, attending to the real justification given by partners for this period the real consumption of resources comes down as in table below:

TABLE 2.9: Consumption of PM in WP3 on month 11th

		WP3		
nº	Name	PM	PM Lineal	PM GA
1	TECNALIA	2,00	6,00	10,00
2	JOWAT	0,00	0,00	0,00
3	CIKAUTXO	0,00	0,00	0,00
4	B4P	0,81	10,14	22,00
5	AEP	0,00	0,00	0,00
6	VERTECH	0,00	0,00	0,00
7	EXERGY	0,08	3,50	13,00
8	GAIKER	0,00	0,00	0,00
9	LEITAT	0,00	0,00	0,00
	TOTAL	**2,89**	**19,64**	**45,00**

EXERGY → In the case of Exergy, there is also a reduction in the number of PM consumed in accordance with what was planned in the GA (0.08PM were consumed in spite that a lineal distribution of efforts would demand 3.5 PM for this Period). The explanation for this reduction in the number of PM within this WP is that some information which Exergy needed to go on with their activities in the WP were still missing for the time of preparing this internal justification, so a delayed in these activities is going to occur. However, as soon as this information is collected the consumption of resources will be adjusted accordingly without any kind of consequences in the other activities of the project.

B4P→ The explanation for EXERGY is still valid for B4P. Indeed, an amendment is under preparation to reorder the dedication and responsibilities of B4P within this WP. Up to now, the main work achieved by them in this WP has been related mostly with ordering/preparing the upscaling equipment

2.5 WP4: Coating application proof-of-principle

TABLE 2.10: WBS FOR WP4

Participant number	1	5	8
Short name of participant	TECNALIA	AEP	GAIKER

ID	Description	Lead	Participants	Depends	Start	Due
WP4	**Coating application proof-of-principle**	**5**	**1, 8**	**-**	**13**	**36**
T4.1	Waterborne polyurethane dispersions (PUDs) for coatings	8	1, 5	T3.4, T4.3	13	27
T4.2	IBMC based NIPUs for coatings	5	1, 8	T3.4, T4.3	13	27

T4.3	Coating formulation and testing of properties	5	8	T4.1, T4.2	19	36

		Partner nº									
Planned Effort (PM)	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T4.1	0.5	0	0	0	6	0	0	22	0	28.5
	T4.2	0.5	0	0	0	6	0	0	8	0	14.5
	T4.3	0	0	0	0	6	0	0	15	0	21
	Total	**1**	**0**	**0**	**0**	**18**	**0**	**0**	**45**	**0**	**64**
	RP1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T4.1	0.29	0	0	0	3.43	0	0	12	0	15.71
	T4.2	0.29	0	0	0	3.43	0	0	5	0	8.71
	T4.3	0	0	0	0	0	0	0	0	0	0
	Total	**0.57**	**0**	**0**	**0**	**6.86**	**0**	**0**	**17**	**0**	**24.43**
	RP2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T4.1	0.21	0	0	0	2.57	0	0	10	0	12.79
	T4.2	0.21	0	0	0	2.57	0	0	3	0	5.79
	T4.3	0	0	0	0	6	0	0	15	0	21
	Total	**0.43**	**0**	**0**	**0**	**11.14**	**0**	**0**	**28**	**0**	**39.57**

ID	Description	Lead	Participants	Depends	Start	Due
D4.1	Waterborne polyurethane dispersions (PUDs) from hydroxylfunctional IBMC (oligo)carbonates	8	1, 5	T4.1	-	27
D4.2	IBMC-derived NIPUS with amino terminal groups	5	1, 8	T4.2	-	27
D4.3	IBMC based coatings from PUDs and NIPUS	5	8	T4.3		36

ID	Description	Lead	Participants	Depends	Start	Due
MS3	At least 1 IBMC-based polymer shows preliminary suitable behaviour for one of the applications	1	-	-	-	27

2.5.1 Interim justification at month sixth and eleventh

As this WP starts in month 13 no justification should have been done for the time of the preparation of these internal reports.

However, as it is seen from table below, AEP has used 1.46PM along the first concerned period (M01 to M06) and 2.85 until month 11th.

The reason is that AEP in the January meeting asked for 50g of testing materials **to advance** a part of the work to be done during the WP. However, it is not foreseen at this stage of the project that this should imply a kind of increment on the consumption of resources within this WP, since it is still expected that the PM which were planned initially are the ones used.

TABLE 2.11: Consumption of PM in WP4 on month 06th

		WP4	
nº	Name	PM	PM Lineal
1	TECNALIA	0,00	0,00
2	JOWAT	0,00	0,00
3	CIKAUTXO	0,00	0,00
4	B4P	0,00	0,00
5	AEP	1,46	0,00
6	VERTECH	0,00	0,00
7	EXERGY	0,00	0,00
8	GAIKER	0,00	0,00
9	LEITAT	0,00	0,00
	TOTAL	1,46	0,00

The same explanation given before for AEP is applied to the consumption of PM during the period M07 to M11 by Gaiker, who had a consumption of 0,57 in spite that not resources should have been used according to the initial planification.

TABLE 2.12: Consumption of PM in WP4 on month 11th

		WP4		
nº	Name	PM	PM Lineal	PM GA
1	TECNALIA	0,00	0,00	1,00
2	JOWAT	0,00	0,00	0,00
3	CIKAUTXO	0,00	0,00	0,00
4	B4P	0,00	0,00	0,00
5	AEP	2,85	0,00	18,00
6	VERTECH	0,00	0,00	0,00
7	EXERGY	0,00	0,00	0,00
8	GAIKER	0,57	0,00	45,00
9	LEITAT	0,00	0,00	0,00
	TOTAL	3,42	0,00	64,00

2.6 WP5: Adhesives application proof of principle

TABLE 2.13: WBS FOR WP5

Participant number	1	2	9
Short name of participant	TECNALIA	JOWAT	LEITAT

ID	Description	Lead	Participants	Depends	Start	Due
WP5	**Adhesives application proof-of-principle**	**2**	**1, 9**	**-**	**13**	**36**
T5.1	Adhesives based on IBMC and commercial polyester/polyether polyols.	9	2	T3.4, T5.3	13	27
T5.2	NIPUs-based adhesives	1	2	T3.4, T5.3	13	27
T5.3	Adhesives formulation and testing of properties	2	1, 9	T5.1, T5.2	24	36

		Partner nº									
Planned Effort (PM)	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T5.1	0	1.7	0	0	0	0	0	0	22	23.7
	T5.2	15.5	1.7	0	0	0	0	0	0	0	17.2
	T5.3	15.5	5	0	0	0	0	0	0	18	38.5
	Total	**31**	**8.4**	**0**	**0**	**0**	**0**	**0**	**0**	**40**	**79.4**
	RP1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T5.1	0	0.97	0	0	0	0	0	0	12.57	13.54
	T5.2	8.86	0.97	0	0	0	0	0	0	0	9.83
	T5.3	0	0	0	0	0	0	0	0	0	0
	Total	**8.86**	**1.94**	**0**	**0**	**0**	**0**	**0**	**0**	**12.57**	**23.37**
	RP2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T5.1	0	0.73	0	0	0	0	0	0	9.43	10.16
	T5.2	6.64	0.73	0	0	0	0	0	0	0	7.37
	T5.3	15.5	5	0	0	0	0	0	0	18	38.5
	Total	**22.14**	**6.46**	**0**	**0**	**0**	**0**	**0**	**0**	**27.43**	**56.03**

ID	Description	Lead	Participants	Depends	Start	Due
D5.1	Selection of raw materials and definition of adhesives applications	1	2, 9	T5.1, T5.2	-	15
D5.2	Polycarbonate polyols from IBMC at lab scale (50g). Report on the preparation and characterisation of IBMC based adhesive prepolymers and	9	2	T5.1	-	20

	characterization thereof					
D5.3	Synthesis of IBMC-based NIPUs. First approaches	1	2	T5.2	-	20
D5.4	Raw materials (2 kg) for adhesive formulation provided by LEITAT to JOWAT	9	2	T5.1	-	27
D5.5	Synthesis of IBMC-based NIPUs. Final formulation	1	2	T5.2	-	27
D5.6	Adhesive formulations and characterization	2	1, 9	T5.3	-	36

ID	Description	Lead	Participants	Depends	Start	Due
MS3	At least 1 IBMC-based polymer shows preliminary suitable behaviour for one of the applications	1	-	-	-	27

2.6.1 Interim justification at month sixth and eleventh

As this WP starts in month 13, not PM resources has been consumed within the period of these internal reports.

2.7 WP6: Bifunctional catheters application proof of principle

TABLE 2.14: WBS FOR WP6

Participant number	1	**3**
Short name of participant	TECNALIA	**CIKAUTXO**

ID	Description	Lead	Participants	Depends	Start	Due
WP6	**Bifunctional catheters application proof-of-principle**	**3**	**1**	**-**	**13**	**36**
T6.1	Synthesis of bio-functionalized thermoplastic IBMC-based NIPUs.	1	3	T3.4, T6.2	13	24
T6.2	Processing of bio-functional IBMC-based NIPU into a catheter	3	1	T6.1, T6.3	24	36
T6.3	Assessment of Biocompatibility and biofunctionality of the final prototype	1	3	T6.2	24	36

		Partner nº									
Planned Effort (PM)	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T6.1	15	0	3	0	0	0	0	0	0	18
	T6.2	10	0	9	0	0	0	0	0	0	19
	T6.3	15	0	5	0	0	0	0	0	0	20

	Total	**40**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**57**
	RP1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T6.1	7.5	0	1.5	0	0	0	0	0	0	9
	T6.2	0	0	0	0	0	0	0	0	0	0
	T6.3	0	0	0	0	0	0	0	0	0	0
	Total	**7.5**	**0**	**1.5**	**0**	**0**	**0**	**0**	**0**	**0**	**9**
	RP2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T6.1	7.5	0	1.5	0	0	0	0	0	0	9
	T6.2	10	0	9	0	0	0	0	0	0	19
	T6.3	15	0	5	0	0	0	0	0	0	20
	Total	**32.5**	**0**	**15.5**	**0**	**0**	**0**	**0**	**0**	**0**	**48**

ID	Description	Lead	Participants	Depends	Start	Due
D6.1	Synthesis of biofunctionalized thermoplastic IBMCbased NIPUs.	1	2, 9	T6.1	-	24
D6.2	Processing of biofunctional IBMC-based NIPU into a catheter	9	2	T6.2	-	36
D6.3	Biocompatibility and bio functionality of the final prototype	1	2	T6.3	-	36

ID	Description	Lead	Participants	Depends	Start	Due
MS3	At least 1 IBMC-based polymer shows preliminary suitable behaviour for one of the applications	1	-	-	-	27

2.7.1 Interim justification at month sixth and eleventh

As this WP starts in month 13, not PM resources has been consumed within the period of these internal reports.

2.8 WP7: LCA, REACH and cost analysis

TABLE 2.15: WBS FOR WP7

Participant number	1	2	3	4	5	**6**	7	8	9
Short name of participant	TECNALIA	JOWAT	CIKAUTXO	B4P	AEP	**VERTECH**	EXERGY	GAIKER	LEITAT

ID	Description	Lead	Participants	Depends	Start	Due
WP7	**LCA, REACH and cost analysis**	**6**	**1, 2, 3, 4, 5, 7, 8, 9**	**-**	**6**	**36**

T7.1	Technical evaluation of VIPRISCAR concepts	7	1, 4	T3.5	6	30
T7.2	Economic validation: Life cycle cost analysis (LCC) and economic feasibility	6	1, 2, 3, 4, 5, 7, 8, 9	T3.5, T4.3, T5.3, T6.2	6	36
T7.3	Environmental feasibility study including life cycle assessment (LCA)	6	1, 2, 3, 4, 5, 7, 8, 9	T3.5, T4.3, T5.3, T6.2	6	34
T7.4	Health and safety study (HSS)	1	6	T3.5, T4.3, T5.3, T6.2	6	32
T7.5	Definition of European and local legal and non-legal limitations, barriers and standards	6	1, 2, 3, 4, 5, 7, 8, 9	T7.4	6	36

		Partner nº									
Planned Effort (PM)	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T7.1	1	0	0		0	0	8	0	0	9
	T7.2	2	0.25	0.25	0.25	0.25	9	0.5	1	1	14.5
	T7.3	2	0.25	0.25	0.25	0.25	9	0.25	1	1	14.25
	T7.4	7	0	0	0	0	5	0	0	0	12
	T7.5	1	0.5	0.5	0.5	0.5	9	0.25	1	1	14.25
	Total	**13**	**1**	**1**	**1**	**1**	**32**	**9**	**3**	**3**	**64**
	RP1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T7.1	0.57	0	0	0	0	0	1.20	0	0	1.77
	T7.2	1.14	0.14	0.14	0.14	0.14	5.14	0.10	0.57	0.57	8.10
	T7.3	1.14	0.14	0.14	0.14	0.14	5.14	0.10	0.57	0.57	8.10
	T7.4	4	0	0	0	0	2.86	0	0	0	6.86
	T7.5	0.57	0.29	0.29	0.29	0.29	5.14	0.10	0.57	0.57	8.10
	Total	**7.43**	**0.57**	**0.57**	**0.57**	**0.57**	**18.29**	**1.50**	**1.71**	**1.71**	**32.93**
	RP2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**
	T7.1	0.43	0	0	0	0	0	6.80	0	0	7.23
	T7.2	0.86	0.11	0.11	0.11	0.11	3.86	0.40	0.43	0.43	6.40
	T7.3	0.86	0.11	0.11	0.11	0.11	3.86	0.15	0.43	0.43	6.15
	T7.4	3	0	0	0	0	2.14	0	0	0	5.14
	T7.5	0.43	0.21	0.21	0.21	0.21	3.86	0.15	0.43	0.43	6.15
	Total	**5.57**	**0.43**	**0.43**	**0.43**	**0.43**	**13.71**	**7.50**	**1.29**	**1.29**	**31.07**

ID	Description	Lead	Participants	Depends	Start	Due
D7.1	Report on technical feasibility study for process technologies (I)	7	1, 4	T7.1	-	20
D7.2	Report on technical feasibility study for process technologies (II)	7	1, 4	T7.1	-	30
D7.3	Economic feasibility report including CAPEX and OPEX quantification (I)	6	1, 2, 3, 4, 5, 7, 8, 9	T7.2	-	24

D7.4	Economic feasibility report including CAPEX and OPEX quantification (II)	6	1, 2, 3, 4, 5, 7, 8, 9	T7.2	-	36
D7.5	Environmental validation including a Life Cycle Assessment (I)	6	1, 2, 3, 4, 5, 7, 8, 9	T7.3	-	22
D7.6	Environmental validation including a Life Cycle Assessment (II)	6	1, 2, 3, 4, 5, 7, 8, 9	T7.3	-	34
D7.7	Health and safety study	1	6	T7.4	-	32
D7.8	European and local legal and non-legal limitations, barriers and standards for VIPRISCAR products (I)	6	1, 2, 3, 4, 5, 7, 8, 9	T7.5	-	12
D7.9	European and local legal and non-legal limitations, barriers and standards for VIPRISCAR products (II)	6	1, 2, 3, 4, 5, 7, 8, 9	T7.5	-	24
D7.10	European and local legal and non-legal limitations, barriers and standards for VIPRISCAR products (III)	6	1, 2, 3, 4, 5, 7, 8, 9	T7.5	-	36
D7.11	List of Key Performance Indicators	6	1, 2, 3, 4, 5, 7, 8, 9	T7.5	-	25

2.8.1 Interim justification at month sixth and eleventh

According to the information of the Grant Agreement, the lineal distribution of effort per partner up to month 06th and month 11th should have been as shown in figure below:

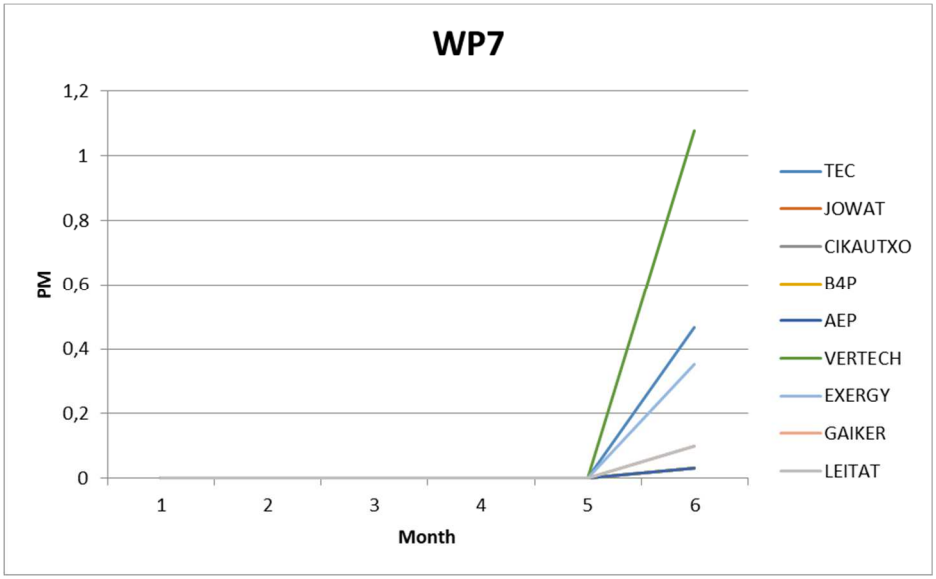


FIGURE 2.9: Lineal distribution of PM in WP7 up to Month 06th according to the GA planification

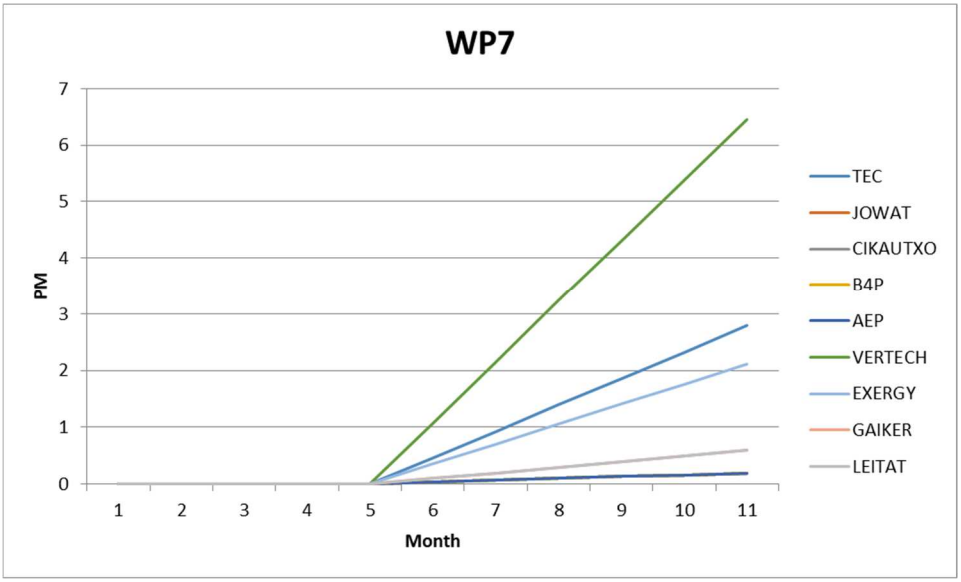


FIGURE 2.10: Lineal distribution of PM in WP7 up to Month 11th according to the GA planification

In comparison with this ideal lineal distribution of efforts, the real consumption of PM devoted to this WP along the periods of concern per partners is as follows:

TABLE 2.16: Consumption of PM in WP7 on month 06th

		WP7		
nº	Name	PM	PM Lineal	PM GA
1	TECNALIA	0,00	0,46	13,00
2	JOWAT	0,00	0,03	1,00
3	CIKAUTXO	0,07	0,03	1,00
4	B4P	0,00	0,03	1,00
5	AEP	0,00	0,03	1,00
6	VERTECH	0,00	1,08	32,00
7	EXERGY	0,00	0,35	9,00
8	GAIKER	0,22	0,10	3,00
9	LEITAT	0,00	0,10	3,00
	TOTAL	0,29	2,22	64,00

The table below gives the same information up to month 11th

TABLE 2.17: Consumption of PM in WP7 on month 11th

		WP7		
nº	Name	PM	PM Lineal	PM GA
1	TECNALIA	3,30	2,79	13,00
2	JOWAT	0,00	0,20	1,00
3	CIKAUTXO	0,20	0,20	1,00
4	B4P	0,00	0,20	1,00
5	AEP	0,04	0,20	1,00
6	VERTECH	0,00	6,46	32,00
7	EXERGY	0,08	2,12	9,00
8	GAIKER	0,30	0,59	3,00
9	LEITAT	0,74	0,59	3,00
	TOTAL	4,66	13,34	64,00

2.9 WP8: Exploitation, Dissemination and Communication

TABLE 2.18: WBS FOR WP8

Participant number	1	2	3	4	5	6	7	8	9
Short name of participant	TECNALIA	JOWAT	CIKAUTXO	B4P	AEP	VERTECH	EXERGY	GAIKER	LEITAT

ID	Description	Lead	Participants	Depends	Start	Due
WP8	**Exploitation, Dissemination and Communication**	**6**	**1, 2, 3, 4, 5, 7, 8, 9**	**-**	**1**	**36**
T8.1	Market intelligence and competitive analysis	6	2, 3, 4, 5	-	1	12
T8.2	Business models and financial impacts	6	2, 3, 4, 5	T7.2	12	36
T8.3	Exploitation Plan	6	1, 2, 3, 4, 5, 7, 8, 9	-	1	36
T8.4	IPR and Exploitation Risk Management	6	1, 2, 3, 4, 5, 7, 8, 9	-	1	36
T8.5	Development of the Project communication and dissemination strategy	1	2, 3, 4, 5, 6, 7, 8, 9	-	1	36

		Partner nº									
Planned Effort (PM)	Project	1	2	3	4	5	6	7	8	9	T
	T8.1	0	0.3	0.3	0.3	0.3	5	0	0	0	6.2
	T8.2	0	0.3	0.3	0.3	0.3	5	0	0	0	6.2
	T8.3	2	0.2	0.2	0.2	0.2	9	0.5	0.5	0.5	13.3
	T8.4	2	0.1	0.1	0.1	0.1	8	1.25	0.5	0.5	12.65
	T8.5	10	0.1	0.1	0.1	0.1	1	1.25	2	2	16.65
	Total	**14**	**1**	**1**	**1**	**1**	**28**	**3**	**3**	**3**	**55**

RP1	1	2	3	4	5	6	7	8	9	T
T8.1	0	0.3	0.3	0.3	0.3	5	0	0	0	6.2
T8.2	0	0.17	0.17	0.17	0.17	2.86	0	0	0	3.54
T8.3	1	0.1	0.1	0.1	0.1	4.5	0.25	0.25	0.25	6.65
T8.4	1	0.05	0.05	0.05	0.05	4	0.25	0.25	0.25	5.95
T8.5	5	0.05	0.05	0.05	0.05	0.5	0.25	1	1	7.95
Total	**7**	**0.67**	**0.67**	**0.67**	**0.67**	**16.86**	**0.75**	**1.5**	**1.5**	**30.29**

RP2	1	2	3	4	5	6	7	8	9	T
T8.1	0	0	0	0	0	0	0	0	0	0
T8.2	0	0.13	0.13	0.13	0.13	2.14	0	0	0	2.66
T8.3	1	0.1	0.1	0.1	0.1	4.5	0.25	0.25	0.25	6.65
T8.4	1	0.05	0.05	0.05	0.05	4	1	0.25	0.25	6.7
T8.5	5	0.05	0.05	0.05	0.05	0.5	1	1	1	8.7
Total	**7**	**0.33**	**0.33**	**0.33**	**0.33**	**11.14**	**2.25**	**1.5**	**1.5**	**24.71**

ID	Description	Lead	Participants	Depends	Start	Due
D8.1	Market analysis for VIPRISCAR innovations	6	2, 3, 4, 5	T8.1	-	12
D8.2	Business plan (I)	6	2, 3, 4, 5	T8.1, T8.2	-	24
D8.3	Business plan (II)	6	2, 3, 4, 5	T8.1, T8.2	-	36
D8.4	Data management plan (I)	6	1, 2, 3, 4, 5, 7, 8, 9	T8.3	-	6
D8.5	Data management plan (II)	6	1, 2, 3, 4, 5, 7, 8, 9	T8.3	-	24
D8.6	Data management plan (III)	6	1, 2, 3, 4, 5, 7, 8, 9	T8.3	-	36
D8.7	Exploitation plan (I)	6	1, 2, 3, 4, 5, 7, 8, 9	T8.3, T8.4	-	6
D8.8	Exploitation plan (II)	6	1, 2, 3, 4, 5, 7, 8, 9	T8.3, T8.4	-	12
D8.9	Exploitation plan (III)	6	1, 2, 3, 4, 5, 7, 8, 9	T8.3, T8.4	-	24
D8.10	Exploitation plan (IV)	6	1, 2, 3, 4, 5, 7, 8, 9	T8.3, T8.4	-	36
D8.11	Dissemination and communication plan (I)	1	2, 3, 4, 5, 6, 7, 8, 9	T8.5	-	6
D8.12	Dissemination and communication plan (II)	1	2, 3, 4, 5, 6, 7, 8, 9	T8.5	-	12
D8.13	Dissemination and communication plan (III)	1	2, 3, 4, 5, 6, 7, 8, 9	T8.5	-	24
D8.14	Dissemination and communication plan (IV)	1	2, 3, 4, 5, 6, 7, 8, 9	T8.5	-	36
D8.15	Project public website	1	2, 3, 4, 5, 6, 7, 8, 9	T8.5	-	4

2.9.1 Interim justification at month sixth and eleventh

According to the information of the Grant Agreement, the lineal distribution of effort per partner up to month 06th and month 11th should have been as shown in figure below:

FIGURE 2.11: Lineal distribution of PM in WP8 up to Month 06th according to the GA planification

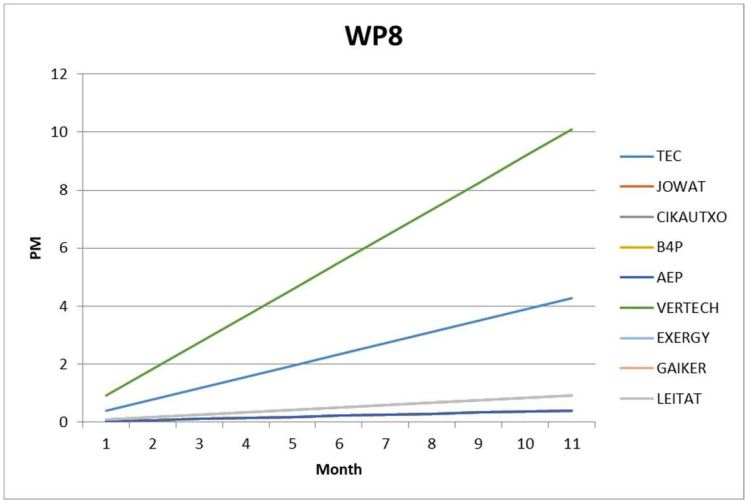


FIGURE 2.12: Lineal distribution of PM in WP8 up to Month 11th according to the GA planification

In comparison with this ideal lineal distribution of efforts, the real consumption of PM devoted to this WP along the periods of concern per partners is as follows:

TABLE 2.19: Consumption of PM in WP8 on month 06th

		WP8		
nº	Name	PM	PM Lineal	PM GA
1	TECNALIA	2,20	2,33	14,00
2	JOWAT	0,00	0,22	1,00
3	CIKAUTXO	0,12	0,22	1,00
4	B4P	0,00	0,22	1,00
5	AEP	0,11	0,22	1,00
6	VERTECH	4,26	5,50	28,00
7	EXERGY	0,00	0,50	3,00
8	GAIKER	0,23	0,50	3,00
9	LEITAT	0,00	0,50	3,00
	TOTAL	6,92	10,20	55,00

The table below gives the same information up to month 11th

TABLE 2.20: Consumption of PM in WP8 on month 11th

		WP8		
nº	Name	PM	PM Lineal	PM GA
1	TECNALIA	4,20	4,28	14,00
2	JOWAT	0,00	0,40	1,00
3	CIKAUTXO	0,39	0,40	1,00
4	B4P	0,00	0,40	1,00
5	AEP	0,14	0,40	1,00
6	VERTECH	4,26	10,08	28,00
7	EXERGY	0,08	0,92	3,00
8	GAIKER	0,38	0,92	3,00
9	LEITAT	0,50	0,92	3,00
	TOTAL	9,95	18,70	55,00

2.10 WP9: Ethics Requirement

TABLE 2.21: WBS FOR WP9

Participant number	1	2	3	4	5	6	7	8	9
Short name of participant	TECNALIA	JOWAT	CIKAUTXO	B4P	AEP	VERTECH	EXERGY	GAIKER	LEITAT

ID	Description	Lead	Participants	Depends	Start	Due
D9.1	A - Requirement No. 1	1	2, 3, 4, 5, 6, 7, 8, 9	-	-	6
D9.2	EPQ - Requirement No. 2	1	2, 3, 4, 5, 6, 7, 8, 9	-	-	1

2.11 Personnel costs

The personnel cost of the project up to month 11th are as resumed in table below:

TABLE 2.22: Personnel costs up to month 11th

		Personel Cost		
nº	Name	Personel Cost	PC Lineal	PC GA
1	TECNALIA	242.955,82	224.212,56	719.940,00
2	JOWAT	28.217,93	12.242,62	155.131,25
3	CIKAUTXO	5.317,18	5.178,69	115.125,00
4	B4P	14.838,72	114.792,23	232.000,00
5	AEP	21.346,31	6.297,64	147.000,00
6	VERTECH	0,00	76.151,93	275.750,00
7	EXERGY	54.769,51	108.243,67	245.100,00
8	GAIKER		5.472,26	156.676,00
9	LEITAT	6.934,71	6.810,81	176.250,00
	TOTAL	**374.380,18**	**559.402,41**	**2.222.972,25**

The reduction on the expected cost by B4P is being at this moment discussed in order to be included in an amendment that is under preparation for the time being.

From the relation between the Personnel cost and the PM used by each partner in the action there can be obtained the average value of the PM. In this case, the values are very close to the approved into the Grant Agreement in all the cases but in the case of B4P, although it was already discussed how to amend this breakdown to adjust the value of the PM to the one justified in these internal reports.

TABLE 2.23: Person Month tariff

nº	Name	PM/rate	GA
1	TECNALIA	3.962,74	4.260,00
2	JOWAT	0,00	13.608,00
3	CIKAUTXO	5.937,67	5.756,25
4	B4P	3.239,90	8.000,00
5	AEP	6.608,76	7.000,00
6	VERTECH	0,00	4.520,49
7	EXERGY	4.961,01	6.450,00
8	GAIKER	0,00	3.013,00
9	LEITAT	3.467,36	3.750,00
	TOTAL		

2.12 Other Direct Costs and Subcontracting

Although we include also for this category of costs a comparison with the lineal distribution of efforts, in this case it has not got so much sense since this kind of cost do not have to comply with this kind of lineal distribution.

TABLE 2.24: Other Direct Costs at Month 11th

		TRAVEL			OTHER G&S			EQUIPMENT		
nº	Name	€	€ Lineal	GA	€	€ Lineal	GA	€	€ Lineal	GA
1	TECNALIA	1.362,25	16.500,00	54.000,00	43.422,22	27.194,44	89.000,00	0,00	687,50	2.250,00
2	JOWAT	1.667,54	3.055,56	10.000,00	0,00	3.055,56	10.000,00	0,00	7.638,89	25.000,00
3	CIKAUTXO	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
4	B4P	2.348,01	3.361,11	11.000,00	16.766,88	12.222,22	40.000,00	3.958,33	40.104,17	131.250,00
5	AEP	1.402,71	4.125,00	13.500,00	400,10	10.083,33	33.000,00	0,00	8.690,00	28.440,00
6	VERTECH	1.024,00	6.111,11	20.000,00	129,00	6.111,11	20.000,00	0,00	0,00	0,00
7	EXERGY	2.011,67	3.300,00	10.800,00	9.113,00	6.623,22	21.676,00	0,00	0,00	0,00
8	GAIKER	5,85	3.055,56	10.000,00	1.601,66	3.666,67	12.000,00	226,52	3.666,67	12.000,00
9	LEITAT	2.109,53	3.208,33	10.500,00	1.313,24	9.625,00	31.500,00	0,00	0,00	0,00
	TOTAL	**11.931,56**	**42.716,67**	**139.800,00**	**72.746,10**	**78.581,56**	**257.176,00**	**4.184,85**	**60.787,22**	**198.940,00**

TABLE 2.25: Subcontracting at Month 11th

		SUBCONT		
nº	Name	€	€ Lineal	GA
1	TECNALIA	280,00	3.055,56	10.000,00
2	JOWAT	0,00	0,00	0,00
3	CIKAUTXO	0,00	0,00	0,00
4	B4P	0,00	0,00	0,00
5	AEP	0,00	0,00	0,00
6	VERTECH	0,00	0,00	0,00
7	EXERGY	0,00	0,00	0,00
8	GAIKER	9.052,40	1.527,78	5.000,00
9	LEITAT	0,00	0,00	0,00
	TOTAL	**9.332,40**	**4.583,33**	**15.000,00**

2.13 Continuous Reporting (Gender and SME)

Along with the internal reporting periods, it has also been uploaded into the Sygma tool some information related with the continuous reporting module, as it is for instance the one related with Gender and SME activities.

In the case of the Gender balance amongst the people involved in the project in the table below are collected the statistics which resume the participation of female and male, the same in the researcher category than in the other than researcher.

TABLE 2.26: Gender balance up to the end of 2018

Beneficiaries	Number of female researchers	Number of male researchers	Number of females in the workforce other than researchers	Number of males in the workforce other than researchers	Total number of females in the workforce	Total number of males in the workforce
1 - FUNDACION TECNALIA RESEARCH & INNOVATION	11	1	1	1	12	2
2 - JOWAT SE	1	1	0	0	1	1
3 - CIKAUTXO S COOP	1	1	0	0	1	1
4 - B4PLASTICS	1	0	0	0	1	0
5 - AEP POLYMERS SRL	2	2	0	0	2	2
6 - VERTECH GROUP	3	2	4	5	7	7
7 - EXERGY LTD	2	1	0	0	2	1
8 - FUNDACION GAIKER	1	2	0	0	1	2
9 - ACONDICIONAMIENTO TARRASENSE ASSOCIACION	5	1	1	1	6	2
	27	11	6	7	33	18

As it is seen the balance between female and male is very positive in favour of female, being that at the end of the year 2018 there were 27 female researcher and 11 male researchers. Moreover, the project coordinator is a female.

In relation with the Small and Medium Enterprise figures, these statistics tried to measure the impact of the project over their performance by measuring some key indicators as they are the *turnover* and the *number of employees*. The values with which the impact of the project has to be compared are the values at the last closed financial year before the beginning of the project (which was 2017), which are resumed in table below:

TABLE 2.27: SME activity at 31 – 12 - 2017

	2017	
	Turnover	**Number of Employees**
AEP Polymers	460.221,00 €	4
B4Plastics		
Exergy Ltd.	1.614.943,00 €	23
Gaiker	6.520.399,00 €	75
Vertwch Group	1.114.000,00 €	14

3. GRAPHICAL PRESENTATION OF TASKS INTERDEPENDENCIES

The Figure 3.1 graphically summarises the inter-relationships among the different project tasks presented in the sections before.

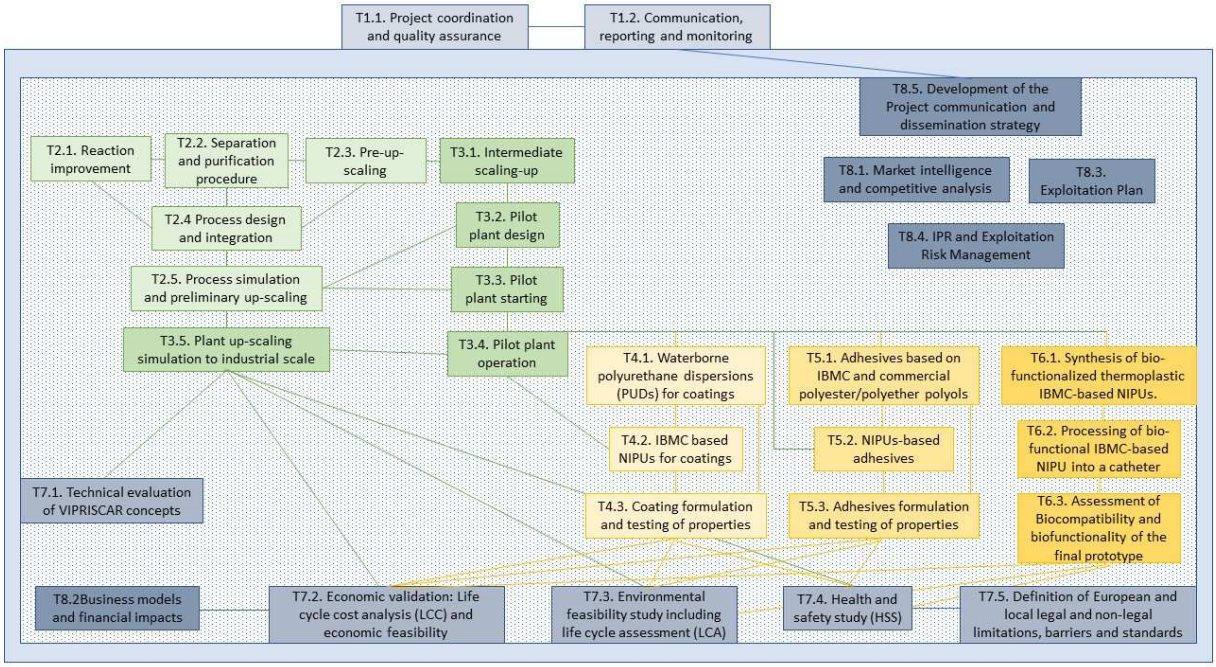


FIGURE 3.1: TASK INTERDEPENDENCIES

4. SCHEDULE MANAGEMENT

The project schedule will be managed through success criteria, milestones and periodic control mechanisms.

4.1 PROJECT SUCCESS CRITERIA

A set of success criteria have been defined per deliverable and Work Package as it is shown in Table

TABLE 4.1: PROJECT SUCCESS CRITERIA

WP	Success indicator	Deliverable	Status
1	First version of the Quality Assurance Plan documented	D1.1	Done
1	The Quality Assurance Plan revised	D1.2	Done
1	The Quality Assurance Plan revised	D1.3	
1	Definitive version of the Quality Assurance Plan	D1.4	
1	First version of the Project Management Plan available	D1.5	Done
1	Project Management Plan updated	D1.6	Done
1	Project Management Plan updated	D1.7	
1	Definitive version of the Project Management Plan	D1.8	
2	Intermediate results of the IBMC process development documented	D2.1	Done
2	IBMC process development. Lab Technology Manual available	D2.2	Delay M14
2	Process simulation and preliminary up-scaling completed	D2.3	Delay M14
3	Report confirming validation and giving adaptation/investment strategy for the IBMC pilot process	D3.1	
3	Protocol for IBMC process that has proven to result in the first 100-kg	D3.2	
3	Plant up-scaling simulation completed	D3.3	
4	Documented preparation of polyurethane dispersions (PUDs) with IBMC functional oligomers for coating formulation.	D4.1	
4	IBMC derived NIPUs with amino terminal groups available	D4.2	
4	IBMC based coatings form POUDs and NIPUS available	D4.3	

5	Results documented.	D5.1	
5	50 g of polycarbonate polyols have been produced and characterized. Report is available.	D5.2	
5	First NIPUs are available.	D5.3	
5	2 kg raw materials for adhesive formulation has been delivered to JOWAT. Report is available.	D5.4	
5	Final formulation of NIPUs are available.	D5.5	
5	Adhesive formulations are developed and characterized.	D5.6	
6	IBMC-based biofunctionalized NIPU synthetized	D6.1	
6	A proof if principle catheter of IBCM-based NIPU processed	D6.2	
6	The biocompatibility and bifunctionality of the final prototype evaluated.	D6.3	
7	Preliminary technical feasibility study completed	D7.1	
7	Technical feasibility study completed	D7.2	
7	Preliminary economic feasibility study, including the Life Cycle Costing (LCC) methodology definition and screening analysis	D7.3	
7	Final economic feasibility analysis, including LCC results (CAPEX and OPEX quantification)	D7.4	
7	Preliminary environmental study, including the Life Cycle Assessment (LCA) methodology and screening analysis	D7.5	
7	Final environmental assessment, including LCA results	D7.6	
7	The health and safety study finished	D7.7	
7	First screening of European and local legal and non-legal limitations, barriers and standards identification	D7.8	Done
7	Update of the European and local legal and non-legal limitations, barriers and standards, validation from partners involved	D7.9	
7	Final analysis of the European and local legal and non-legal limitations, barriers and standards for VIPRISCAR products	D7.10	
7	Full list of Key Performance Indicators corresponding to the WP7 (technical, economic, environmental and health & safety aspects)	D7.11	
8	Market analysis available	D8.1	Done

8	First version of the Business plan of commercial KERs documented	D8.2	
8	Final version of the Business plan of commercial KERs available	D8.3	
8	First version of the Data management plan documented	D8.4	Done
8	Second version of the Data management plan updated	D8.5	
8	Final version of the Data management plan available	D8.6	
8	First version of the exploitation plan documented	D8.7	Done
8	Second version of the exploitation plan updated	D8.8	Done
8	Third version of the exploitation plan updated	D8.9	
8	Final version of the exploitation plan available	D8.10	
8	Full version of the dissemination and communication plan available	D8.11	Done
8	Assessment of the dissemination and communication activities deployed in the first year	D8.12	Done
8	Assessment of the dissemination and communication activities deployed in the second year	D8.13	
8	Assessment of the dissemination and communication activities deployed in the third year	D8.14	
8	Website operational with initial contents	D8.15	Done
9	Authorisations for the realization of experiments obtained	D9.1	Done
9	Authorisations for relevant facilities obtained	D9.2	Done

4.2 MILESTONES

The Table 4.2 list the significant milestones in the project, their timing and the means of verification. TECNALIA will be responsible to track progress to milestone achievement.

TABLE 4.2: PROJECT MILESTONES

Milestone	Milestone name	Related WP(s)	Due date	Means of verification	Status
MS1	Production of 1 kg of IBMC	2	12	1 kg of IBMC obtained at lab scale	Delay M14

MS2	100 kg of IBMC produces + Positive preliminary technical and economic study + Positive preliminary environmental feasibility and health study	3, 7	24	At least 100 kg of IBMC produced at PP scale + Reports	
MS3	At least 1 IBMC-based polymer shows preliminary suitable behaviour for one of the applications	4, 5, 6	27	Report	

4.3 CONTROL MECHANISMS

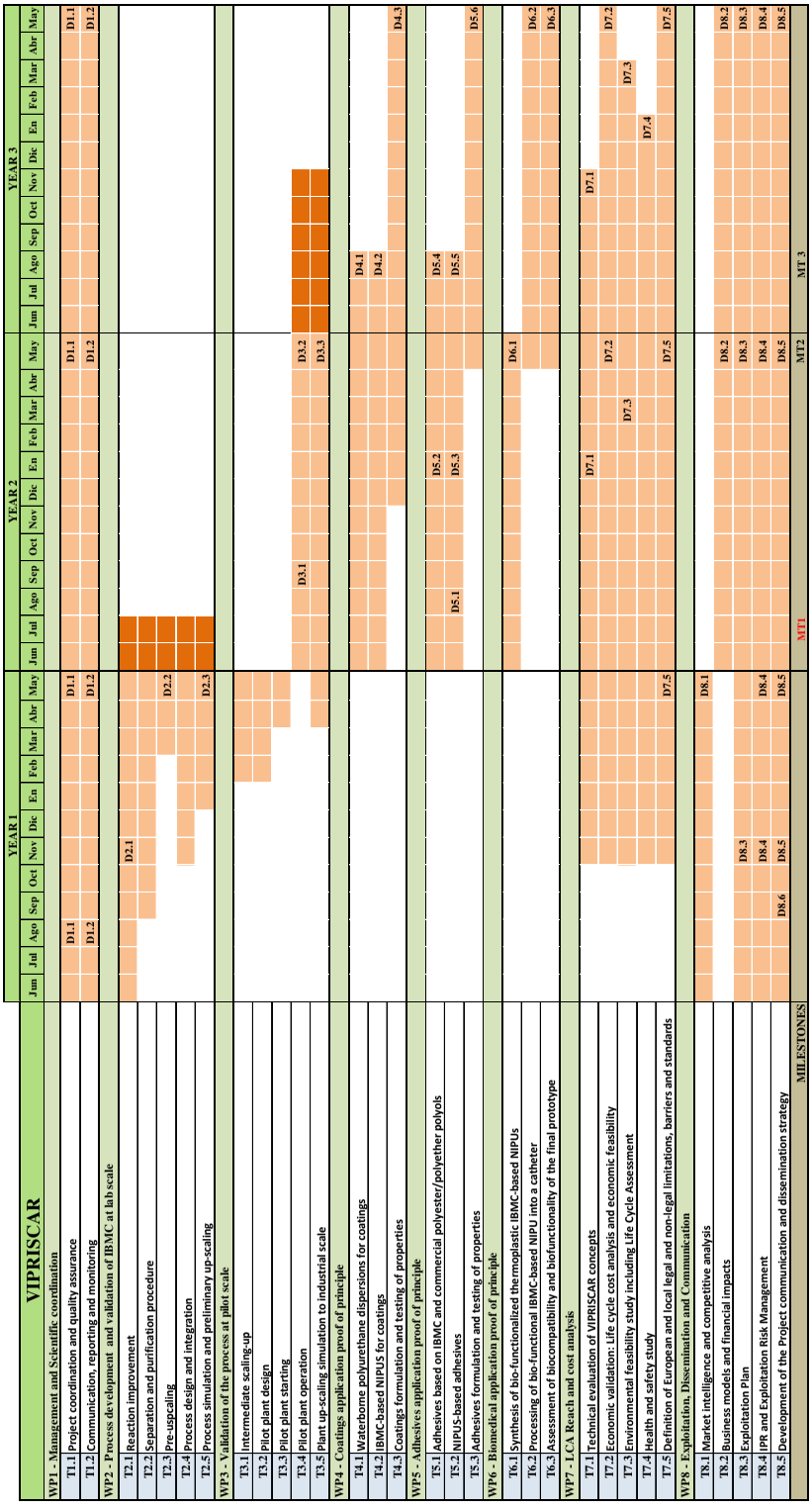
The actual schedule performance will be compared to planned performance in order to implement corrective action when actual performance deviates from planned or required performance.

The Project Management Plan will be updated three times during the project execution (at Months 12, 24 and 36).

Furthermore, Work Package and Tasks Leaders will be responsible of reporting on their activities at every Project Steering Committee meeting (every 6 months) in order to allow project progress to be tracked seamlessly.

The actual Gantt Chart will then reflect progress achieved and agreement of the revised schedule, if necessary.

ANNEX I: VIPRISCAR GANTT CHART



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