

INTERMODEL EU

Simulation using Building Information Modelling Methodology of Multimodal, Multipurpose and Multiproduct Freight Railway Terminal Infrastructures

Grant agreement: 690658

MINUTES GLOBAL MEETING 04-06 April 2017 Kiruna

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0.3	02/05/2017	Gisela Soley	IDP	Revision
0.4	04/05/2017	Pau Morales Fusco Francisco Roderó	CENIT	Revision
1.0	10/05/2017	Gisela Soley	IDP	Final version

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1 Agenda

The meeting was held in Camp Ripan Hotel, at Campingvägen 5, SE 981 35 Kiruna (Sweden).

1.1 First Day Agenda

Tuesday 4th April 2017

Arrival of partners at the meeting venue around 09:00

Starting: 09:30 – Ending: 18:30

1. Welcome act (9.00 – 09.15)

2. Presentation of the event and agenda items (09.15 – 09:30): IDP

- **Activity:**
 - Presentation of the event and agenda items.
- **Objective:**
 - Make clear the objectives of the event and its activities.

3. Project Overview (9:30 – 10:00): IDP

- **Activity:**
 - Project overview – status, presentation by the project leaders.
- **Objectives:**
 - Understand the main project issues, changes from the envisaged plan, objectives, risks and opportunities.

4. WP10: Ethical Issues & Data Management Plan (10:00 – 10:30): IDP

- **Activity:**
 - Description of the project administration
- **Objectives:**
 - Provide information and discuss:
 - The Role of F-Iniciativas (IDP & F-Iniciativas).
 - Recommendations and advises from the project officer:
 - Coordinator, beneficiary and publicity obligations. (IDP & F-Iniciativas).
 - Financial management. (IDP & F-Iniciativas).
 - Reporting and documentation. (IDP & F-Iniciativas).
 - Ethic Requirements WP10 (IDP & F-Iniciativas).

COFFEE BREAK 10:30 – 11:00

5. Project Administration and Management (11:00 – 12:30): IDP, E-Iniciativas

- **Activity:**
 - Description of the project administration
- **Objective:**
 - Provide information and discuss:
 - Project administration report. (IDP)
 - Project modifications accepted by the P.O. (IDP).
 - Latest recommendations and advises from the project officer. (IDP)
 - Workshop: presentation of project administration templates and how to use them. (IDP & F-Iniciativas).

6. WP3: Data & Indicators definitions (12:30 – 13:15): FGC

- **Activity:**
 - WP Presentation 30 minutes + 15 minutes for open questions
- **Objective:**
 - Provide an overview of the WP status
- **Tasks:**
 - Major objectives and deliverables.
 - Work done
 - Immediate objectives for next 6-month plan → What I expect from the partners in the WP I lead?
 - Changes from envisaged plan, potential risks and opportunities.

LUNCH 13:15– 14:15

7. WP2: Integrated planning environment and decision support overview (14:15 – 15:00): VTT

- **Activity:**
 - WP Presentation 30 minutes + 15 minutes for open questions
- **Objective:**
 - Provide an overview of the WP status
- **Tasks:**
 - Major objectives and deliverables.
 - Work done
 - Immediate objectives for next 6-month plan → What I expect from the partners in the WP I lead?
 - Changes from envisaged plan, potential risks and opportunities.

8. WP4: BIM Intermodal Terminal (15:00 – 15:45): IDP

- **Activity:**
 - WP Presentation 35 minutes + 10 minutes for open questions
- **Objective:**
 - Provide an overview of the WP status.
- **Tasks:**
 - Major objectives and deliverables.
 - Work done
 - Immediate objectives for next 6-month plan → What I expect from the partners in the WP I lead?
 - Changes from envisaged plan, potential risks and opportunities.

9. WP5: Terminals Operational Simulations (15:45 – 16:30): MAC

- **Activity:**
 - WP Presentation 35 minutes + 10 minutes for open questions
- **Objective:**
 - Provide an overview of the WP status.
- **Tasks:**
 - Major objectives and deliverables.
 - Work done
 - Immediate objectives for next 6-month plan → What I expect from the partners in the WP I lead?
 - Changes from envisaged plan, potential risks and opportunities.

COFFEE BREAK 16:30 – 17:00

10. WP6: External Mobility Effects (17:00 – 17:30): CENIT

- **Activity:**
 - WP Presentation 35 minutes + 10 minutes for open questions
- **Objective:**
 - Provide an overview of the WP status.
- **Tasks:**
 - Major objectives and deliverables.
 - Work to be done
 - Immediate objectives for next 6-month plan → What I expect from the partners in the WP I lead?
 - Potential risks and opportunities.

11. WP7: Interconnection Simulations (17:30– 18:00): MAC

- **Activity:**
 - WP Presentation 20 minutes + 10 minutes for open questions
- **Objective:**
 - Provide an overview of the WP status.
- **Tasks:**
 - Major objectives and deliverables.
 - Work to be done
 - Immediate objectives for next 6-month plan → What I expect from the partners in the WP I lead?
 - Potential risks and opportunities.

12. WP8: Functional, economic and environmental analysis (18:00 – 18:30): DHL + CENIT

- **Activity:**
 - WP Presentation 20 minutes + 10 minutes for open questions
- **Objective:**
 - Provide an overview of the WP status.
- **Tasks:**
 - Major objectives and deliverables.
 - Work to be done
 - Immediate objectives for next 6-month plan → What I expect from the partners in the WP I lead?
 - Changes from envisaged plan, potential risks and opportunities.

1.2 Second Day Agenda

Wednesday 5th April 2017

Arrival of partners at the meeting venue around 08:45

Starting: 08:30 – Ending: 16:30

13. WP9: Exploitation, dissemination and communication (8:30 – 10:00): IDP & ZNIK

- **Activity:**
 - Communication and dissemination presentation by ZNIK (20')
 - Workplan for project's videos - bring your cameras 😊 ! (10')
 - Scientific dissemination by CENIT & F.Iniciativas (10')
 - Exploitation workshop (50')
- **Objective:**
 - Provide an overview of the WP status

- Exploitation workshop
- **Tasks:**
 - Major objectives and deliverables.
 - Work done
 - Immediate objectives for next 6-month plan → What I expect from the partners in the WP I lead?
 - Changes from envisaged plan, potential risks and opportunities.

14. Innovative bulk handling (10:00 – 13:00) – KIR

- **Activity:**
 - Presentation of Kiruna Wagons innovative ideas for bulk handling based on LEAN principles (~50 minutes + 10 minutes of open Questions).
 - Demonstration of the Kiruna Wagon new SD system (~120 minutes including transportation).
- **Objective:**
 - Innovative bulk wagons demo.
 - Prepare dissemination materials for the videos.

LUNCH 13:00 - 13:30

15. Mining Tour (13:30 – 16:30) – KIR

- **Activity:**
 - Site visit to see Europe most productive bulk handling company LKAB (~3 hours).
- **Objective:**
 - Provide innovative perspective to bulk handling in terminals.

SOCIAL DINNER 18:00 (Ice Hotel and starts with a tour at 17:00)

1.3 Third Day Agenda

Thursday 6th April 2017

Arrival of partners at the meeting venue around 08:45

Starting: 09:00 – Ending: 11:30

16. 9:00 – 11:00 Workshops and internal discussions

09:00 – 10:00 Transfer of effort from DHL to CENIT (DHL, CENIT, F.Iniciativas, IDP)

10:00 – 11:00 Methodology for the development of the ontology – Task 5.2
(MAC, CENIT F.Iniciativas)

09:00 – 11:00 Definition of the case studies – Task 3.3 (All partners)

17.Consolidation and Closing (11:00 – 11:30): IDP

- **Activity:**
 - Consolidation of tasks, responsibilities and deadlines
- **Objectives:**
 - Define the next meeting date in consensus.
 - Resolutions and closure of the meeting.

CLOSING COFFE BREAK

2 Participants

NAME	INST.	Attended 04/04/17	Attended 05/04/17	Attended 06/04/17
Jose M. Robiou	IDP	YES	YES	YES
Gisela Soley	IDP	YES	YES	YES
M. Ángel Dombriz	FGC	YES	YES	YES
Pau Morales-Fusco	CENIT	YES	YES	YES
Francisco Rodero	CENIT	YES	YES	YES
Joachim Ritzer	DHL	YES	YES	NO
Janne Porkka	VTT	YES	YES	YES
Hinkka Ville	VTT	YES	YES	YES
Corne Versteegt	MAC	YES	YES	YES
Manuel Menéndez	VIAS	YES	YES	YES
Andrea Alcalde	VIAS	YES	YES	YES
Marek Świeczkowski	ZNIK	YES	YES	YES
Jarkko Sireeni	VIAN	YES	YES	YES
Alejandro Calvo Costa	BASF	YES	YES	YES
Fredrik Kangas	KIR	YES	YES	YES
Jerome Wiertz	KIR	YES	YES	YES
David Martín Moncunill	F.Iniciativas	YES	YES	YES
Pietro de Micheli	BED	NO	NO	NO
Nicolò Marrali	CSI	NO	NO	NO
Federica Montaresi	APSP	NO	NO	NO

3 Decisions made about each agenda item

FIRST DAY, 04/04/2017

1. Welcome act and presentation of the event and agenda items

- The meeting was open by Gisela Soley as project manager and representative of IDP.

2. Project overview

- Gisela Soley made an overview of the INTERMODEL project focused on the inconsistencies found in the DoA, the transfer of effort from DHL to CENIT, the deliverables submitted, the work done during the first 6-month period, and what is expected from each partner.
- DHL and CENIT agreed to proceed with the budget transfer ASAP. CENIT has started some of the transferred work

3. WP10: Ethical Issues & Data Management Plan

- Gisela Soley made a short presentation about main ethical issues concerning the activities developed throughout the project.
- The presentation continued with an overview of the content of the first version of the Data Management Plan submitted in month 6. As an updated DMP must be submitted again in month 18, corresponding with the final version, responsible partners of each dataset will need to check the information included in the first version of the DMP and also decide within the consortium which information is needed to develop the project. In case any partner considers that a dataset is missing in the previous list included in the DMP first version, it will have to communicate it to IDP.

Dataset (DS) name	Responsible partner	Related WP & task
DS1_Data_collection_terminals_operation	MACOMI	WP5 Task 5.1
DS2_Data_collection_external_mobility	CENIT	WP6 Task 6.2
DS3_Data_collection_terminals_layout	IDP & MACOMI	WP4 Task 4.2 WP7 Task 7.1
DS4_Data_collection_market_data	DHL & CENIT	WP8 Task 8.2

DS5_Project_deliverables	IDP	WP1 Task 1.1
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4. Project administration and management

- David Martin Moncunill explained the reporting documentation needed and how to use the administration templates.
- It was recommended to report all the invoices from the beginning of the project.
- It was explained that personnel cost and effort must be global, for the whole company and per work package (not split of effort). PM sheets filled by the company must be kept.
- References were made regarding the participant portal formats.
- Discussion about the importance of the scientific and research publications; as well as general dissemination
- All partners confirmed their understanding. No questions were made.

5. Scientific exploitation and communication

- The goal of this presentation was to explain the relevance of the communication and scientific exploitation for Intermodel, as a research and innovation project.
- Due to the effort required for publishing scientific articles, David Martín Moncunill, from F. Iniciativas, recommended to properly prepare the deliverables, previously thinking about the chance of getting an article/paper directly from them.
- A question raised by the consortium was how to distribute the effort for scientific publications. It was decided that CENIT, together with IDP, will list possible conferences and journals where the consortium could publish some articles/papers, and then decide the more suitable ones according to the development of the project and deliverables. Also, CENIT offered to make a template about how to write a deliverable in order to facilitate its conversion to a paper.
- VTT and CENIT showed their interest on publishing articles. VTT, together with CENIT and IDP, will prepare some abstracts before the 24th of April to be presented to the call for abstracts for the TRA Vienna 2018. Finally, two different abstracts have been sent for the call for abstracts:

- The selection of relevant KPIs to evaluate terminal for planning purposes (Premises for terminal planning: Selection of the most applicable KPIs to evaluate terminal performance). Authors: VTT, IDP, CENIT
- Integrated model-based terminal planning – its current use, challenges and further research needs. Authors: VTT, IDP, MACOMI, Viasys VDC

6. WP3 Data & Indicators definitions

- The main aim of this presentation was to describe the major objectives and deliverables for this work package, the work done during the first 6-month period, and what is expected from each partner, and changes from the envisaged plan, risks and opportunities.
- Discussion about possible problems when calculating KPIs. In that case, a solution will be reduce the KPIs list explaining the reasons and justifying. BASF commented that maybe it could be interesting to include some indicators regarding the life cycle, maintenance, etc. BASF will revise the document and if necessary, some other indicators will be included.
- Different points of view when talking about the definition of the pilot cases and scenarios (further discussion during the third meeting day).
- Discussion about improvements and innovations to be implemented. Some of the improvements proposed could be too difficult to implement in case of a low level of detail. Possible difficulties for the inclusion of Internet of Things in the case studies. However, Joachim Ritzer, from DHL, and other partners suggest including maintenance, delays on trains, handling, temperature control or pre-planning, as Internet of Things cases.

7. WP2 Integrated planning environment and decision support overview

- The main aim of this presentation was to describe the major objectives and deliverables for this work package, the work done during the first 6-month period, and what is expected from each partner, and changes from the envisaged plan, risks and opportunities.
- Janne Porkka, from VTT, proposed a holistic integrated planning environment in order to increase and boost the integration between simulation and modelling.
- Key issues: to consider life-cycle, which means from the planning phase to operation. Viasys should develop a combined software including simulation and modelling, and the integration of the three of them should have a common interface as decision-making tool, developed by VTT.

- Important to keep on progressing to define 'use case'. The consortium will be able to discuss about possible interfaces based on that information.
- Consider when defining terminals:
 - o Open formats
 - o Depending on policies, differentiate restricted areas from non-restricted areas
- VTT presented several areas identified within an intermodal terminal.
 - o It suits with BIM categorization in WP4 (BIM model) according to José Robiou, from IDP.
 - o According to Corné Versteegt, the definition of the areas within a terminal is not enough from a simulation point of view (i.e. stack area: the way you operate the stack, changes completely your performance). Besides the example abovementioned, it should be necessary to go deep into this detail in the stack area, quay, etc.
 - o Suggestion: two different BIM models: 1- high level planning (not even BIM, just area); 2. More detail planning for construction as suggested by Corné Versteegt, from MACOMI. If the objective is to optimize the operation, a more detail planning (construction is considered) will be needed.
- Important to define who the final user is. According to this, you will design high-level and more detail planning.
- Miguel Angel Dombriz, from FGC, suggested including also swap-bodies and semitrailers in the identified areas.
- Joachim Ritzer, from DHL, proposes to develop the 'dream' simulation and afterwards, include the constraints and boundary conditions.

8. WP4 BIM Intermodal Terminal

- The main aim of this presentation was to describe the major objectives and deliverables for this work package, the work done during the first 6-month period, and what is expected from each partner, and changes from the envisaged plan, risks and opportunities.
- Jose Robiou explained that the BIM Execution Plan, already submitted, is a live document, so it must be updated regularly according to the needs of the project.
- IDP asked to all WPs leaders to send which requirements have to be taken into account by BIM. If necessary, IDP will develop a template for the information request (to terminals) avoiding overlapped requested information. In fact, a list

of the information required by CENIT, MACOMI and IDP was already sent to both terminals before the visit from 29th to 31st of March.

9. WP5 Terminals Operational Simulations

- The main aim of this presentation was to describe the major objectives and deliverables for this work package, the work done during the first 6-month period, and what is expected from each partner, and changes from the envisaged plan, risks and opportunities.
- Corné Versteegt, from MACOMI, explained the status of the deliverables under this work package. Deliverable 5.2 draft already written, so it has to be reviewed by all partners that are at the same time users of the ontology.
- The simulation will be carried out for the two real case studies: Melzo inland terminal and La Spezia seaport terminal. Once developed, they will be calibrated with the real data obtained from the two terminals.
- Discussion on different formats that are compatible with the software used for the simulation, taking into account also what is needed for the BIM modeling.
- Corné Versteegt commented that RailML does not include where the trains can stop, where diesel locomotives can park, where locos can remain stopped, etc.
- At this moment of the presentation, the simulation is focused on container terminals. Bulk handling and reefer containers have not been considered.

10. WP6 External Mobility Effects

- The main aim of this presentation was to describe the major objectives and deliverables for this work package, the work to be done, what is expected from each partner, and risks and opportunities.
- Francisco Rodero, from CENIT, explained the type of indicators that will be obtained from the external mobility study.

He explained that there are different software to do this kind of traffic studies, but, after carrying out a benchmarking of existing products, he recommends specifically one (Aimsun), which fits perfectly within the goal of this project, for several reasons: powerful unattended batch mode, built-in environmental models or possibility to extend features using programming.

- CENIT asked IDP for the type of road network format, so that they can check compatibility with Aimsun software.

11. WP7 Interconnection simulations

- The main aim of this presentation was to describe the major objectives and deliverables for this work package, the work to be done, what is expected from each partner, and risks and opportunities.
- Corné Versteegt, from Macomi, put a question to the consortium and asked how detailed must be the simulation of the interconnection network. It should be balanced with the level of abstraction of the railway interconnection.
- Getting information of the railway interconnection (traffic, geometric data of the layout, etc.) is supposed to be difficult. Thus, Corné Versteegt suggests to go for an alternative plan, if any, to do some simulations.
- After the visit in La Spezia during the last week of March, we knew that there are three different railway terminals in La Spezia, so Corné Versteegt, together with other partners, explained that is decisive to define the scope of the simulation.
- When talking about KPIs concerning resilience and reliability, FGC is asked to check them during the development of the work package.
- It is decided that cargo bundling will be included in the simulation.

12. WP8 Functional, economic and environmental analysis

- Main aim of this presentation was to describe the major objectives and deliverables for this work package, the work to be done, what is expected from each partner, and risks and opportunities.
- Pau Morales, from CENIT, after explaining main objectives, said that due to the transfer of effort from DHL to CENIT, the task has started with some delay. However, there is no risk to finish the tasks on time.
- Pau Morales explained that according to the project Gantt chart, deliverable 8.1 is due on M20 and deliverable 8.2 on M27, but CENIT's idea is to have a first draft of both deliverables by the end of 2017, so that some feedback from partners' opinion and know-how can be taken in to account. That is to say that they will try to speed up the process in order to get some feedback and assess the information.
- Pau Morales reminded that next year, the consortium will have to deal with the strategy to assess the KPIs.

SECOND DAY, 05/04/2017

13. WP9 Exploitation, dissemination and communication

- The main aim of this presentation was to describe the major objectives and deliverables for this work package, the work done during the first 6-month period, and what is expected from each partner, and changes from the envisaged plan, risks and opportunities.
- Marek Świeczkowski, from ZNIK, explained dissemination and communication tools. He also recommended to all partners to identify local, regional and country-scale journalists and media, which could be interested in the results obtained within the project.
- ZNIK said that they are developing the brochure and project presentation for M10 (June 2017). ZNIK also asked to all partners to identify local media for dissemination.
- IDP reminds to ZNIK about the importance of updating the news section in the website.
- David Martín, from F. Iniciativas, raised up some questions to all partners about expectations concerning exploitation. All partners wrote their answers, and were discussed. IDP will send the exploitation questionnaire to all partners and will get the answers during May, so that can start working on a draft of the Exploitation Agreement.

Main goals within the project expected by some of the partners:

- DHL: 0% CO2 emissions in 2050 and intermodal transport development. Simulation engine prototype for designing new intermodal terminals, decision support as a service.
- VIAS: a new tool for construction companies to step forward in front of other companies in a tender procedure, in case that BIM is established as a standard.
- VIASYS and MACOMI: giving some inputs, one can get a model and assess the operation through the simulation.
- VTT: get some key figures for clients allowing them making decisions. See different technologies available and increase/improve our knowledge about them.
- FGC and IDP: tool with BIM technology and during life cycle. Impacts during design phase and effects after the implementation. As it is difficult to predict the future, it is a good chance to develop a tool that allows assessing decision impacts in future investments. Not just a tool but also a service to support decision-making.

14. Innovative bulk handling and mining tour

- Fredrik Kangas, from Kiruna Wagon, presented their innovative wagons solution for bulk transport.
- After the presentation, the consortium went to see the prototype of the new designed wagon under the HERMES project.
- Afterwards, all the partners went to visit KLAB mines in Kiruna.

THIRD DAY, 06/04/2017

15. Workshops and internal discussions

- Some changes were done in the previous agenda according to the questions raised during the two previous meeting days. The workshops finally carried out were as follows:
 - o Conference papers – scientific communication
 - o Definition of the case studies
- Concerning the transfer of effort from DHL to CENIT, several meetings have been held in order to define both tasks and the methodology to develop the tasks under WP8.
- A draft of the deliverable 5.2 about ontology has been already distributed by MACOMI to some partners, waiting for some feedback. It must be submitted by the end of May (M9).
- Regarding conference papers and scientific communication:
 - o VTT, CENIT and IDP will present several abstracts to the TRA2018 Call for Abstracts.
 - o According to the recommendation of the PO, Intermodel could be presented during the TRA2018.
 - o CENIT, together with IDP, will list possible conferences and journals where the consortium could publish some articles/papers, and then decide the more suitable ones according to the development of the project and deliverables.
- Discussion about how case studies must be designed:
 - o Real cases should be understood as the current Italian Melzo and La Spezia terminals (current situation).

- In case of real cases, it is necessary to have real data available as input for the models (volumes, operational programs, etc.).
- Virtual cases should be understood as the Italian Melzo and La Spezia terminals including the improvements/projects they plan in the near future. Thus the consortium will be able to assess the impacts and effects thanks to them.
- Two questions on the table:
 - What is the goal of modeling two virtual cases if there is no simulation?
 - What about bulk data and refrigerated cold chain data? How may we calibrate the models?
- The consortium proposes a change in the schedule to develop the case studies, taking into account that both must be demonstrated in M18:
 - Firstly, definition of real cases
 - Secondly, definition of virtual cases
 - Small test in few weeks developed by MACOMI – IDP – CENIT, starting with the access area, and considering peak shift (8 hours simulation)
- It is decided to have three different loops:
 - Loop for conference/publications
 - Loop for definition of case studies
 - Loop for integration model + BIM (WP leaders and APSP – CSI)

16. Consolidation and Closing

- Janne Porkka, from VTT, proposed to hold next global meeting in VTT headquarters in Finland around September 2017. All partners agreed on that.
- Corné Versteegt, from MACOMI, proposed to visit Port of Rotterdam in the short term together with partners involved in modeling and simulation.
- The project coordinator briefed all the agreements reached during the project meeting as described in the following subsection 'main decision / relevant issues raised'.
- The Project Coordinator closed the meeting after thanking all the partners for their participation and Kiruna Wagon for the event organization.

MAIN DECISIONS / RELEVANT ISSUES RAISED

All the relevant information is included in the annexed presentations, as follows:

Presentation.pdf	WP3_Kiruna_FGC.pdf
Project Overview.pdf	WP4_Kiruna_IDP.pdf
Ethics and data mgmt.pdf	WP5_WP7_Kiruna_MAC.pdf
Project admin and mgmt.pdf	WP6_Kiruna_CENIT.pdf
Workshop Scientific_and_exploitation.pdf	WP8_Kiruna_CENIT-DHL.pdf
WP2_Kiruna_VTT.pdf	WP9_Kiruna_ZNIK.pdf

Decisions or relevant issues raised during presentations:

WP1

- IDP raised the need for a standard when asking information (methodology, formats, goals, etc.).

WP2

- VTT presented several areas identified within an intermodal terminal.
 - o It suits with BIM categorization in WP4 (BIM model) according to José Robiou, from IDP.
 - o According to Corné Versteegt, the definition of the areas within a terminal is not enough from a simulation point of view (i.e. stack area: the way you operate the stack, changes completely your performance). Besides the example abovementioned, it should be necessary to go deep into this detail in the stack area, quay, etc.
 - o Suggestion: two different BIM models: 1- high level planning (not even BIM, just area); 2. More detail planning for construction as suggested by Corné Versteegt, from MACOMI. If the objective is to optimize the operation, a more detail planning (construction is considered) will be needed.
- Important to define who the final user is. According to this, you will design high-level and more detail planning.
- Interface design according to KPIs list, which must be further discussed when progress is done throughout the project.
- Loop for integration model + BIM (WP leaders and APSP – CSI).

WP3

- Discussion about possible problems when calculating KPIs. In that case, a solution will be reduce the KPIs list explaining the reasons and justifying.
- Different points of view when talking about the definition of the pilot cases and scenarios (further discussion during the third meeting day).
- Discussion about improvements and innovations to be implemented. Some of the improvements proposed could be too difficult to implement in case of a low level of detail. Possible difficulties for the inclusion of Internet of Things in the case studies. However, Joachim Ritzer, from DHL, and other partners suggest including maintenance, delays on trains, handling, temperature control, pre-planning, etc. as Internet of Things.
- Loop for definition of case studies
- Exposure class as an input and not as an indicator.

WP4

- WPs leaders will send which requirements have to be taken into account by BIM. IDP will develop a template for the information request (to terminals) avoiding overlapped requested information.
- Request the information needed to La Spezia and Melzo (APSP and CSI).

WP5

- Deliverable 5.2 draft already written, so it has to be reviewed by all partners that are at the same time users of the ontology. Before the end of May.
- The consortium proposes a change in the schedule to develop the case studies, taking into account that both must be demonstrated in M18:
 - o Firstly, definition of real cases
 - o Secondly, definition of virtual cases
 - o Small test in few weeks developed by MACOMI – IDP – CENIT, starting with the access area, and considering peak shift (8 hours simulation)
- Regular meetings between IDP/MACOMI/CENIT

WP6

- After the benchmarking carried out by CENIT, Aimsun will be the software used to study the external mobility effects.

WP7

- Decisive to define the scope of the simulation of La Spezia, that has three different railway terminals.

WP8 – No decisions or relevant issues were raised

WP9

- ZNIK was urged to send a draft of the brochure and project presentation ASAP. Deadline is M10 (June 2017), but both dissemination tools must be approved by all partners.
- IDP will send the exploitation questionnaire to all partners and will get the answers during May, so that can start working on the Exploitation Agreement draft.
- CENIT, together with IDP, will list possible conferences and journals where the consortium could publish some articles/papers, and then decide the more suitable ones according to the development of the project and deliverables.
- Loop for conferences/publications.