



D2.4

Final MOBiNET technical and non-technical requirements

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Abbreviations and definitions

Abbreviation	Definition
B2BTS	Business-to-Business Traffic related Services
GLOSA	Green Light Optimal Speed Advice
UBI	Usage Based Insurance
MMTA	Multi Model Travel Assistant
AH-PRIO	Ad-Hoc Priority Route
NST	Non-Stop Truck
DRT	Demand Responsive Transit
RTTI	Real-Time Traffic Information
FVD	Floating Vehicle Data
IDP (IdP)	Identity Provider
IDM	Identity Manager
SDK	Service Development Kit
TSP	Telematics Service Provider
DQA (tool)	Data Quality Assessment (tool)
CA	Communication Agent
MLE	MOBiNET Legal Entity

Executive Summary

This deliverable is an update of deliverable D2.3 Technical and Non-Technical Requirements Release 4.0. It provides additional sections that describe the evolution of the platform for the final release by describing the implemented requirements in detail as well as providing an overview of the requirements that have been collected throughout the duration of the project and have been marked as relevant requirements for a possible commercialization of the platform.

Deliverable D2.3 provided an update of deliverables D21.2.1 (MOBiNET Requirements release 1) and D63.6.1 (Non-technical requirements release 1) and documents the evolution of the MOBiNET platform. It describes the overall development methodology of the project and the focus and evolution of the different releases of the platform. How requirements are gathered for each release and from which sources, how they are prioritized and planned for development as also how their implementations are validated and improved.

Next to that, this deliverable provides a section describing all the technical requirements that have been implemented for each release, with a detailed description of all these requirements within Annex I. Another section within this deliverable describes non-technical requirements and new insights that were gained during the course of the project by the evolving market and the work done on the Organization and Governance and Business Models Deliverables of MOBiNET.

As this deliverable provides an update of Deliverable D2.3, the sections describing the MOBiNET platform up to release 3.1 are equal to those sections in Deliverable D2.3.

1. Introduction and overview

1.1. Purpose and scope of this document

This deliverable is an update of deliverable D2.3, by providing additional sections that describe the requirements that have been implemented for the fourth and final release of the MOBiNET platform (sections 2.7, 3.8 and section 6.6) as well as a section that describes the requirements that have been gathered throughout the duration of the project and have been identified as relevant for a possible commercialization of the MOBiNET platform (Annex II).

1.2. Overall methodology

The development of the MOBiNET platform has been following an agile use case driven approach, as shown in Figure 1. The agile approach allows a more evolutionary process of developing the platform as iterative releases of the platform can be validated and corresponding feedback in cooperated within a next iteration of the platform development process.

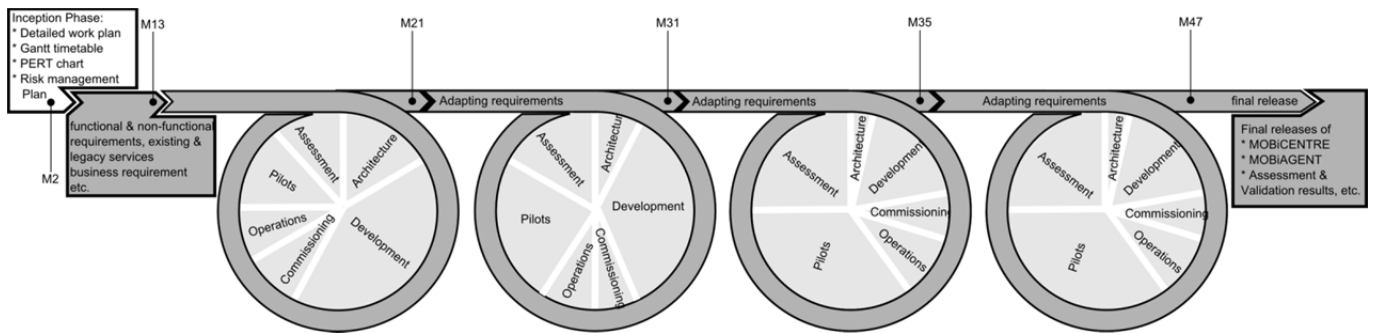


Figure 1 MOBiNET development iterations

During each iteration, the basic activities of requirement gathering and refinement, architectural design and implementation as well as testing are closely aligned:

- **Requirement phase:** During this phase requirements and functionality for the platform is gathered from multiple sources and discussed and re-defined with platform developers in order to have clearly described requirements.
- **Development phase:** During this phase the functionality for the newly gathered requirements is being developed whereby the development-related activities are organized in sub-iterations to ensure constant feedback and to handle requirement prioritization.
- **Commissioning phase:** During this phase the developed platform functionalities are rolled out onto a pre-production environment to make sure that the newly developed functionality meets both non-functional and specific operational requirements.
- **Validation phase:** As soon as new versions of the platform components are available on the production environment; dedicated test sites validate the platform based on pre-defined use cases. The results of the validation are used to further adapt the platform requirements to better shape the platform scope.

D2.4 Final MOBiNET technical and non-technical requirements

Initially it was foreseen that the MOBiNET platform would be developed in three major and three minor releases, as described in D21.2.1 and shown in Figure 1. Where the major releases would introduce new functionalities to the platform components and the minor releases would only provide small improvements and possible bug fixes.

However, during the development of the third major release of the platform the MOBiNET consortium concluded that an additional platform release would be necessary to thoroughly validate the developed platform functionality of the third major release.

To that extend, the MOBiNET platform knows the following releases:

- Release 1.0: available since June 2014
- Release 1.1: available since September 2014
- Release 2.0: available since February 2015
- Release 2.1: available since July 2015
- Release 3.0: available since September 2015
- Release 3.1: available since September 2016
- Release 4.0: available since March 2017

The evolution of the different releases is described in section 2. Section 3 describes the implemented technical requirements for each release, while in section 4 the non-technical requirements are described. A complete list of requirements is added in Annex I and II.

2. Evolution of the platform

This section describes the evolution of the MOBiNET platform in detail. It described the details of each release of the MOBiNET platform with regards to how the requirements have been gathered, from which sources, how these requirements have been prioritized as also how the requirements have been validated. As at the time of writing the most recent version of the MOBiNET platform is release 3.1, this section will describe the platform evolution up until release 3.1. The final release of the platform will be described in an updating deliverable.

2.1. Release 1.0

The first release of the MOBiNET platform has been developed based on requirements collected during an initial requirements study of three initial use cases and on the input from service provider partners participating within the project, as described in deliverable D21.1.

In conjunction with the initial kick-off of the MOBiNET project, a requirements workshop was held to collect high-level requirements from partners involved within the project. Besides these requirements, the following three selected use cases were evaluated to provide platform requirements:

- **Green Light Optimal Speed Advice (GLOSA):** This service provides drivers with advice on an optimal driving speed to pass a traffic junction upon green.
- **Usage Based Insurance (UBI):** This service calculates vehicle insurance cost based on real usage of a vehicle.
- **Multi Modal Travel Assistant (MMTA):** This service provides a multimodal journey planner and necessary information to a traveler during a journey.

Each of these use cases provides a different kind of perspective for platform exploitation, special domain specific requirements but in the same time they are also good candidates to exploit most of the main MOBiNET platform components.

All the input coming from the above mentioned sources were recorded in JAMA, a use case management tool. Via this tool, requirements were extracted and recorded in JIRA, a requirement management tool. For the first release, all requirements were reviewed by the IP-IT, which was at the time the management body of the project responsible for the technical part of the project. The IP-IT prioritized requirements based on the principles of the three initial use cases and constrains to time and resources for the first release. The outcome initiated the first iteration of the SP3 development process.

In parallel with the development of the first iteration of the MOBiNET platform, SP2 continued working on evaluating and selecting 7 more use cases that would benefit from a MOBiNET platform and would also provide additional input on the platform requirements. Out of the 24 candidate use cases that would benefit from a MOBiNET like platform, the below 7 use cases have been selected based on the corresponding selection criteria as described in D21.1.

- **Ad-hoc Priority Route:** This service plans and implements a fast and prioritized route through the network for ad-hoc use such as VIP vehicles and Emergency service vehicles. Vehicles involved can get priority at intersections (depending on the service level; e.g. fire brigade very high, visiting VIP moderate).

- **Non-stop Truck (NST):** This service transfers the weight information from a truck directly to the road administrator, while the truck is driving. When the vehicle passes a road-side ITS-Station, the in-vehicle ITS-Station broadcasts the weight of the vehicle together with an identifier to the road-side ITS-Station.
- **Parking Services:** This service gives information to drivers on available parking spaces and navigates the driver to find the space and use the service to automatically pay the parking cost.
- **B2B Traffic related services (B2BTS):** This service is focused on (1) Floating Vehicle Data - marketplace and value added services (data profiling and data quality); and (2) on the delivery of traffic maps & images to be included in B2C services and XFCD.
- **Demand Responsive Transit or Dial-A-Ride:** This service provides a booking system for door to door travel for people with disabilities. Users will receive automated alerts sent to them warning of imminent vehicle arrival.
- **Real-Time Traffic Information:** This service is to provide real-time information on incidents and provide a warning to a driver who registers for the service. Also, realtime speed advices are given on highways and within cities based on traffic density and traffic light control information.
- **VoicelInfo:** This service is a mobile, location-based social media service which uses audio messages to enable contextual voice communication between end users, location-based audio information distribution from 3rd party service providers, and crowdsourcing of mobility related data.”

The functionalities and requirements implemented for the first release of the different MOBiNET platform components is described within deliverable D21.2.1. That deliverable serves as an interim report between the first and the second release of the MOBiNET platform and therefor summarizes the status of requirements study between the first and second release.

2.2. Release 1.1

This release of the MOBiNET platform is based on the Verification and Validation of release 1.0 done by the Helmond Pilot site and only provides bug-fixes for identified issues with the login functionality of the Dashboard and the graphical service lookup functionality of the Service Directory. The results of release 1 Verification and Validation are described in deliverable D52.6.1.

2.3. Release 2.0

For the second release the requirements were mostly gathered from the MOBiNET platform component owners and users and contained both functionality already captured as requirements during earlier stages and not yet implemented as also newly proposed functionality not yet captured as requirements.

As the validation of Release 1 was done in parallel with the development of Release 2.0, the validation results were planned to be considered within Release 2.1 of the platform. Therefore, release 2.0 only took into account the verification results of Release 1.

In June 2014, SP2 organized a webinar for all platform component owners with the goal to gather input for the requirements for the second release of the platform. During this webinar the component owners

presented their component status as of release 1 and their proposed new functionality and requirements for future releases. Their input was added to the JIRA requirements system.

WP2.1 also carried out a public survey to gain more insight into user needs and expectations of the MOBiNET platform. The results of this public survey were analysed by WP2.1 and also added to the JIRA requirements system.

The input from the webinar and the public survey was combined by WP2.1 as input for a physical meeting in Brussels in September 2014 to further discuss the requirements. The main objectives of this meeting were to:

- Consolidate requirements from different sources and identify gaps/misunderstandings.
- Prioritize requirements and decide which requirements will be fulfilled by Release 2.0 or later, here the focus was more towards a technical functioning platform and less on user friendliness.
- Refine the current architecture for Release 2.0 to meet the requirements.
- Examine current resources and work plan to meet the requirements.

The outcome of this meeting was a first consolidated version of a list of requirements for Release 2.0 of the MOBiNET platform. During the period towards the Consortium meeting in Aalborg at the end of October 2014, WP2.1 further consolidated the requirements for Release 2.0.

The results of this work were presented during the Consortium meeting in Aalborg, after which only minor modifications were done and the requirements were added to JIRA and assigned to the corresponding SP3 component developers.

2.4. Release 2.1

Next to requirements collected in earlier phases of the project that were not yet implemented at the point of release 2.1, additional requirements were collected from various sources. So were the results of the validation of Release 1 (which was done in parallel with the release 2.0 development) taken into account, but also input from an extensive platform usability exercise done by one of the project partners and input from the business partners of SP6 and the service working groups of SP7 were collected.

During the Consortium meeting in Grenoble (January 2015) there were quite some agenda slots reserved to present and discuss platform requirements from different sources. This way the results and recommendations of an extensive platform usability exercise, that was performed by one of the project partners, were presented to and discussed with WP2.1 and SP3. Additionally, also the business partners from SP6 and the Service Working Groups from SP7 presented and discussed their additional requirements based on the first release of the MOBiNET platform with WP2.1 and SP3.

The output of the Consortium meeting in Grenoble was collected and consolidated by WP2.1. These consolidated requirements were the basis for a dedicated requirements session organized by WP2.1 in February 2015 in Brussels. The purpose of the first part of this requirements session was to create a common understanding between all partners on the collected requirements and perform a consistency check between the implemented functionality in previous releases and the requirements listed within the JIRA requirements system.

After reaching a common understanding on the collected requirements, the second part of the session was used to prioritize the requirements from a business point of view. By keeping in mind the

requirements and functionalities listed in deliverable D63.6.3, the business partners from SP6 were requested to prioritize the different requirements. The outcome of this prioritization was then discussed with SP3, to coordinate the implementation planning of the requirements based on the resources reserved for release 2.1.

During the Consortium meeting in Turin (May 2015) the final list of requirements (which were already added to the JIRA requirements system) was presented, as well as a new and improved structure for the WP2 to better involve the feedback from the Pilot Sites and Service Working Groups.

2.5. Release 3.0

Starting with the third release of the MOBiNET platform, the requirements process was improved to be able to better involve the feedback from Pilot Sites and Service Working Groups. At this time the MOBiNET project started implementing the new structure, dedicating a separate work package to requirements (WP2). Therefore, during the Consortium meeting in Turin (May 2015), an improved process of gathering and evaluating requirements for future releases was discussed and agreed upon. It was agreed that:

- Requirements for R3.0 will be based on
 - Input from Verification and validation R2.0, Verification R2.1
 - Input from Service (exploitation)
 - Input from Business and stakeholders
 - Input from Technical review
- Requirements for R3.1, will be based on
 - Input from Verification and validation R3.0, Validation R2.1
 - Input from Service (exploitation)
 - Input from Business and stakeholders
 - Input from Bordeaux

Also, the scope for release 3.0 and onwards was refined after the Consortium meeting in Turin, so that the main additional features, compared to R2.0, should lead to the status that:

1. All services should be able to demonstrate (live or in recording or..) the added value of MOBiNET in Bordeaux.
 - a. Bordeaux will demonstrate this
2. Usability of the platform should be up to the level that “external parties” should be able to use it.
 - a. The hackathon will prove this
3. All platform components should have their core functionality as described in DoW and other documents available. R3.1 will only provide additional functionality

Based on these improvements, WP5 documented the outcome from the validation of release 2.0 and the verification of release 2.1 in a living document, meaning that while validation and verification was still ongoing the already gathered output was accessible for WP2. This way, WP2 could evaluate the output of the WP5 activities and identify issues and improvement requests.

Based on that, new requirements were extracted and periodically discussed with corresponding WP3 component developers during the weekly WP3 development calls. Next to the WP5 input, WP2 also

organized Question & Answer sessions with the individual WP7 Service Working Groups to clarify their usage and demands of platform functionality and identify possible gaps.

These requirements have been documented within the WP2 requirements list document and once the list of requirements for release 3.0 was completed, it was again discussed with the WP3 component owners to estimate amount of resources that would be necessary to develop the requirements.

All this input was used for the MOBiNET CMT call in June 2015, where the MOBiNET CMT prioritized the release 3.0 requirements based on the earlier refined scoping.

2.6. Release 3.1

The goal of release 3.1 was to have all functionality required by the different Service Working Groups available and have a platform with a level of maturity that it would allow external parties to gain access to the platform. So, besides requirements that would technically improve earlier developed functionality, the requirements for release 3.1 were also focused towards end-user usability.

As agreed upon during the Consortium meeting in Turin (May 2015), the requirements of release 3.1 would consist of:

- Input from Verification and validation R3.0, Validation R2.1
- Input from Service (exploitation)
- Input from Business and stakeholders
- Input from Bordeaux

During the ITS World Congress in Bordeaux (October 2015), the MOBiNET Consortium organized a hackathon for external parties with the purpose to improve the MOBiNET platform by providing these external parties early access to the platform and gather their feedback via an additional survey. An important result of this hackathon was that for using the MOBiNET platform, not only the functionality and maturity of the platform itself is important, but it is also necessary to make many high-quality services available.

The same as with release 3.0 of the platform, the requirements input from the internal and external parties was analysed by WP2.1 after which new requirements were extracted. These new requirements were discussed with the corresponding WP3 component owners during the weekly WP3 development calls to clarify what exactly needs to be developed as also identify the amount of resources needed. The final prioritization for release 3.1 was done by the MOBiNET MT during a webinar organized before the Technical Review and Consortium meeting in Brussels in December 2015.

Also, initially release 3.1 would be the final release of the MOBiNET platform, based on the refined scoping as agreed upon in May 2015. However, due to unforeseen delays in the development of some of the platform components, most notably the billing component, it was agreed upon during the Technical Review meeting in Brussels (November 2015) to extend the MOBiNET platform development with an additional release. This way, the delayed components could also be extensively validated and possible improvements be considered for the final release of the platform.

2.7. Release 4.0

Since the focus of release 3.1 was to have all functionality required by the different Service Working Groups available and have a platform with a level of maturity that it would allow external parties to gain access to the platform, this release only in cooperates minor improvements to most platform components.

The suggestions for the minor improvements have been gathered and analysed by WP2 from the validation of release 3.1 by WP5. These extracted requirements have been clarified with the corresponding WP3 component owners after which they have been prioritized by the MOBiNET MT for the implementation for the final release of the platform.

The Communication Agent and Billing component, however, need to be improved more extensively as the development of certain functionality of these components has been delayed during earlier releases.

3. Technical requirements

Following the evolution of the MOBiNET platform, as described in section 2, this section gives details on the technical requirements that have been implemented for each release of the MOBiNET platform. For each release, the technical requirements are presented in a table, grouped per component. More detailed descriptions of each requirement, as managed in the JIRA requirements system, can be found in Annex I.

3.1. Release 1.0

The first release of the platform contained six different platform components to facilitate the three use cases as described in deliverable D21.1. As the focus of the first release of the platform was to technically support the demands of the GLOSA, UBI and MMTA use cases, this resulted in the below list of requirements implemented for the first release.

Key	Summary	Component
MP-87	Define Cost for Service Usage	Billing, ServiceDirectory
MP-54	Login to Dashboard	Dashboard, IdentityManager
MP-57	Supported Browsers	Dashboard
MP-79	Create New MOBiNET account	IdentityManager
MP-46	G5 (802.11p) Support	MOBiAGENT
MP-45	Cellular Network Support	MOBiAGENT
MP-43	Search App Store	MOBiAGENT, ServiceDirectory
MP-29	Mobile Device Screen Size	MOBiAGENT
MP-26	Android Operating System	MOBiAGENT
MP-41	App Store UI	MOBiAGENT
MP-50	Location info	MOBiAGENT, SDK
MP-89	Define Service Coverage Area	SDK, ServiceDirectory
MP-86	Define Service Technical Details	SDK, ServiceDirectory
MP-85	Associate Metadata With a Published Service	SDK, ServiceDirectory
MP-84	Publish a Service to Service Directory	SDK, ServiceDirectory
MP-95	Extend Service Metadata Description for a Service	SDK, ServiceDirectory
MP-91	Associate a Standard Data Format with a Service	SDK, ServiceDirectory
MP-24	Supported Platforms	SDK

MP-23	Support for desktop style web applications	SDK
MP-90	Define Networking Requirements For Service Usage	ServiceDirectory
MP-83	Search Service Directory	ServiceDirectory
MP-96	Remove Service From Service Directory	ServiceDirectory
MP-39	Publish Application To MOBiNET App Store	ServiceDirectory
MP-38	MOBiNET App Store	ServiceDirectory

As Release 1.1 of the MOBiNET platform only contained bug fixes, as described in section 2.2, no additional requirements have been implemented for that release of the Platform.

3.2. Release 2.0

The second release of the MOBiNET platform needed to facilitate seven more use cases in comparison with the first release of the platform, by which an additional platform component was introduced. The Telematics Service Provider (TSP) component for the UBI use case. The other platform components, as available after Release 1.0, have been functionally improved according to the list of requirements in the table below.

Key	Summary	Release
MP-658	Transaction manager	Billing
MP-659	Transaction Order (TrO) requirement	Billing
MP-662	Bank Order (BO)	Billing
MP-661	Payment Order (PO)	Billing
MP-671	Customize Dashboard Login Page for MOBiNET	Dashboard
MP-629	Third party is able to have an interface to analytics Server	Dashboard
MP-626	Dashboard Analytics Server	Dashboard
MP-613	Management of User Identities in MOBiNET IdP	IdentityManager
MP-620	Add Google as external IDP to MOBiNET	IdentityManager
MP-618	Access control of an app to use specific MOBiNET service using OAuth 2.0 (Client Credential grant)	IdentityManager
MP-617	Provision by the IDM of some authorized user attributes	IdentityManager
MP-619	Access control based on some attributes of the authenticated user	IdentityManager

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MP-56	Manage Service Providers	IdentityManager, ServiceDirectory
MP-32	Background Alerts and Notifications	MOBiAGENT
MP-33	Control Events and Notifications	MOBiAGENT
MP-37	Vehicle ITS Station (On-Board Unit) (OSGi) Support	MOBiAGENT
MP-636	MOBiAGENT SDK	MOBiAGENT
MP-420	Install MOBiAGENT from App Store	MOBiAGENT
MP-612	MOBiAGENT API's	MOBiAGENT
MP-652	MOBiAGENT end-user UI integration	MOBiAGENT
MP-610	Install MOBiAGENT extensions	MOBiAGENT
MP-605	Update AppDirectory UI	MOBiAGENT, ServiceDirectory
MP-647	Service Discovery Widget	ServiceDirectory
MP-602	Extend Service Description for apps	ServiceDirectory
MP-597	Language to be included in Service Description	ServiceDirectory
MP-596	For all type of end user services	ServiceDirectory
MP-595	Make widgets browser independent	ServiceDirectory
MP-591	REST API of Service Directory	ServiceDirectory
MP-590	Search for services based on output data type/format	ServiceDirectory
MP-589	Data catalogue of available data types	ServiceDirectory
MP-588	Extended widget functionalities	ServiceDirectory
MP-586	Associate USDL description with service description	ServiceDirectory
MP-584	Link service description to organization	ServiceDirectory
MP-582	search function	ServiceDirectory
MP-581	Service description should include owner and who registers this service	ServiceDirectory
MP-593	administrator of Service Directory is able to delete and de-active any services	ServiceDirectory
MP-92	Publish a MOBiNET-Standard Data Format on MOBiNET	ServiceDirectory
MP-631	Extended Tutorials including a MOBiNET user manual of how to use components for service developers	SDK

MP-633	Cover more advanced web service development aspects	SDK
MP-632	Improved Service Editor	SDK
MP-749	Editor: adapt to the new (updated) service description format (work on-going)	SDK
MP-747	Editor: UI improvements: icons, tooltips	SDK
MP-748	Editor: Undo/redo operations	SDK
MP-670	Create TSP-Manager	TspManager

3.3. Release 2.1

This release introduced several improvements of existing platform component functionality as also new functionality and introduced a new platform component for the B2BTS use case, the Data Quality Assessment (DQA) component.

One of main focusses of this new functionality was the platform wide introduction of encryption, starting with this release, all communication with the MOBiNET platform needs to be encrypted (e.g., using HTTPS). The below table provides a list of the requirements implemented within this release.

Key	Summary	Release
MP-649	Neighbor table transfer	Communications Manager
MP-648	Neighbor table creation/maintenance	Communications Manager
MP-651	CA instructions execution	Communications Manager
MP-650	CA instructions reception	Communications Manager
MP-712	Improve Analytics Server	Dashboard
MP-714	Widget Management Interface	Dashboard
MP-713	Local IDM in Dashboard	Dashboard
MP-780	Save OpenID in localIdm	Dashboard
MP-784	Bugfix Sign Policy with only one car	Dashboard, TSPManager
MP-797	Upload service files with suffix msd	Dashboard, ServiceDirectory
MP-828	DQA deployment in the MOBiNET Platform	DQA
MP-700	User Registration API (for OPEN ID Users)	IdentityManager
MP-699	Authentication API	IdentityManager
MP-701	Https for IDM	IdentityManager

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MP-720	Possibility to list all existing apps/services/data	MOBiAGENT
MP-733	Local IDM in MOBiAGENT	MOBiAGENT
MP-605	Update AppDirectory UI, native apps	MOBiAGENT, ServiceDirectory
MP-741	Update SDK Documentation	SDK
MP-750	Editor: adapt to the new (updated) service description format (finalize)	SDK
MP-751	Editor: UI improvements (look & feel)	SDK
MP-635	API for Identity Management	SDK
MP-722	Display geographical area on map when showing details of Service Description	ServiceDirectory
MP-717	It should be possible to define a category based on pre-defined values	ServiceDirectory
MP-734	Possibility to list all existing services	ServiceDirectory
MP-706	Provide inline and context sensitive help	ServiceDirectory
MP-716	Add field "name" (searchable) to service description in addition to ID	ServiceDirectory
MP-721	Improvements searching for services (state of the art)	ServiceDirectory
MP-583	Multiple coverage areas for services for entry	ServiceDirectory
MP-684	Store TSP-data	ServiceDirectory
MP-685	get UserToken	ServiceDirectory
MP-782	Check for invalid IDs in service descriptions	ServiceDirectory
MP-785	Bugfix minimap not showing in managementWidget	ServiceDirectory

3.4. Release 3.0

With the third release of the MOBiNET platform, besides the technical functionality of multiple components that was extended also more emphasis was put into the graphical layout of the platform for it to be useable by external parties.

For example, the layout of the MOBiNET Dashboard and its widgets was adjusted to provide a more coherent experience for users, but also the User Interface of the MOBiAGENT was greatly improved based on validation feedback from earlier platform releases. The below list of requirements have been implemented in this release:

Key	Summary	Release
MP-580	Graphic design for interfaces to ensure interfaces user friendly and attractive	All components
MP-798	Integrate TSP Manager End-user client "App" functionality into AppDirectoryUI	AppDirectory UI / MOBiAGENT
MP-655	Neighbor relations	Communication Agent
MP-654	CA instructions transmission	Communication Agent
MP-653	Neighbor table reception	Communication Agent
MP-656	Dissemination strategy	Communication Agent
MP-827	CA keep track of location of CM and as Service Provider decide to stop sending data once CM is out of country to prevent roaming costs.	Communication Agent
MP-51	Service Usage Statistics	Dashboard
MP-627	Widgets to display the analytics	Dashboard
MP-710	Add security/privacy issues (https website)	Dashboard
MP-792	Improve widget management: Better management capabilities for the widgets.	Dashboard
MP-794	Get access-token from IDM on Login and make it available in the LocalIDM for the widgets to use.	Dashboard
MP-817	Apply Style Guide to Dashboard and Widgets	Dashboard
MP-822	Polish dashboard widgets	Dashboard
MP-829	IDM authentication for accessing DQA service	DQA
MP-795	A user interface for a service provider to insert/modify/delete his IBAN (in order to be paid by MOBiNET) in his service attributes and user interface for a end-user to insert/modify/delete his Credit Card attributes (credit card number, expiration date, back CVV2 three digit code, owner's name/surname – it	Identity Manager

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	could be different from the logged MOBiNET user name/surname) in his profile attributes.	
MP-818	Apply Style Guide to IDM UI	Identity Manager
MP-731	Provide accelerometer data from mobile phones	MOBiAGENT
MP-790	Integrate Webviews into UI of MOBiAGENT (e.g. AppDirectory UI)	MOBiAGENT
MP-791	Change start screen of MOBiAGENT to MOBiNET Login-Page	MOBiAGENT
MP-783	Make MOBiAGENT compatible with Android version 5.x	MOBiAGENT
MP-743	Overhaul Service Description Editor (Standalone Version)	SDK
MP-745	Update Wrapper API for Service Directory	SDK
MP-746	Privacy Manager instructions	SDK
MP-752	Editor: Online-Help	SDK
MP-753	Editor: Mandatory Fields	SDK
MP-756	Editor: update documentation for Editor	SDK
MP-754	Editor: Editor as separate eclipse executable (Windows 32-bit)	SDK
MP-25	API for Searching Service Directory	SDK, ServiceDirectory
MP-711	File upload facility using common port open from business environment (443)	ServiceDirectory
MP-718	Add licenses agreement description to service description	ServiceDirectory
MP-793	Ensure that a developer only can manage/modify service descriptions from his own organization. This should be handled via the widgets, and not by the back end service directory component (for simpler implementation within the short timeframe)	ServiceDirectory
MP-781	Initialize geolocation index after (re-)start with already registered services	ServiceDirectory
MP-814	Update DataCatalog Widget	ServiceDirectory
MP-816	Update SD widgets	ServiceDirectory
MP-815	Update Generals Discovery Widget	TSP Manager

3.5. Release 3.1

This release further improved the usability of the platform by incorporating feedback from external parties of the Hackathon of the ITS Bordeaux as well as validation input from earlier releases. For example, a so called Roles & Rights model has been implemented which, based on the type of user, automatically shows the allowed platform functionality. Also, the user interface of the Dashboard and MOBiAGENT have been further improved and a new version of the Billing component has been added to the platform.

Key	Summary	Release
MP-886	Identify and possibly implement the steps required to provide basic authentication protection for the web interfaces and APIs of the component.	All components
MP-895	Import user details from Identity Manager	Billing
MP-896	Log events relevant for billing purposes	Billing
MP-897	Create a general framework for invoice generation	Billing
MP-898	Widget/User interface: search and visualization of invoices	Billing
MP-899	Widget/User interface of MOBiNET Administrator - search and visualization of invoices	Billing
MP-900	Generate SEPA file for bank direct debit	Billing
MP-901	Configuration of monthly MOBiNET subscription fee invoices	Billing
MP-902	Log B2B prepaid sales	Billing
MP-903	Generate B2B billing data for commissions	Billing
MP-879	Provide more feedback in response on REST API request	Communication Agent
MP-880	Provide "back-wards" communication interface	Communication Agent
MP-822	Polish dashboard widgets	Dashboard
MP-825	Maps in service details often not working properly	Dashboard
MP-836	Parallel login to COM2 and COM3	Dashboard
MP-837	Provide an API for automated data submission of connection performance data (QoS)	Dashboard
MP-838	Providing a set of analytics allowing good overviews of collected data.	Dashboard
MP-839	Provide an API for retrieval of connection performance data	Dashboard

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MP-840	Providing widgets for visualization of Analytics data	Dashboard
MP-842	Sort the services/item list within the Dashboard (SD-Widget) alphabetically	Dashboard
MP-852	Provide full Service Description file upon downloading from Dashboard	Dashboard
MP-859	Show the results from a search on map	Dashboard
MP-872	Add a button to clear the search field for simple search functionality.	Dashboard
MP-873	Change Dashboard widget default file upload type	Dashboard
MP-882	Validate Map Coordinates	Dashboard
MP-884	Client-side validation of uploaded service description (Client side, user experience validation)	Dashboard
MP-894	Test Widget Identity Manager	Dashboard
MP-908	Widget: Owning and Registering Organizations	Dashboard
MP-914	Different SSC pages for Users	Dashboard
MP-915	Widget for "Terms of Service"	Dashboard
MP-919	Clear obsolete sections from default / background widget	Dashboard
MP-922	Login with Google can be disabled by configuration	Dashboard
MP-923	Single Sign On for Dashboard	Dashboard
MP-925	Persistence of the menu structure	Dashboard
MP-885	Align Categories	Dashboard, MOBiAGENT, SDK, ServiceDirectory
MP-870	Improve the Simple Search functionality of the Dashboard widget	Dashboard, ServiceDirectory
MP-926	Use extended search API for searching Service Directory	Dashboard, ServiceDirectory
MP-830	DQA service for FVD	DQATool
MP-844	DQA should implement Oauth 2.0	DQATool
MP-845	Provide a widget for the Dashboard	DQATool
MP-788	Provide general way of extending storable attributes	IdentityManager
MP-813	Treat Google users as each individual companies	IdentityManager
MP-823	Integrate IDM into dashboard	IdentityManager

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MP-826	Optimize behaviour of OpenId verification page	IdentityManager
MP-846	Fully implement the MOBiNET Layout Style	IdentityManager
MP-847	Validate newly created users by confirming their e-mail account	IdentityManager
MP-848	Change the role of a Google-user to a "Developer user"	IdentityManager
MP-849	Apply the Roles & Rights model; Manage platform without accounts	IdentityManager
MP-850	Apply the Roles & Rights model; Manage accounts for own party	IdentityManager
MP-869	Google Account should provide read-only access to the MOBiNET platform	IdentityManager
MP-876	As a Business Party Administrator I need to be able to see other business party administrators	IdentityManager
MP-861	Facilitate login to all MOBiNET platforms	MOBiAGENT
MP-862	Be able to rotate the screen while using Service Directory UI	MOBiAGENT
MP-864	Use native Android "back-button" within Service Directory UI	MOBiAGENT
MP-866	MOBiAGENT should be compatible with Android 6.x	MOBiAGENT
MP-867	Standard show only B2C Services in Service Directory UI	MOBiAGENT
MP-868	Change default environments of Service Directory UI	MOBiAGENT
MP-757	Editor: finalizing Editor	SDK
MP-758	Editor: minor usability and other improvements on the basis of evaluation comments	SDK
MP-851	Make Service Description Editor platform independent	SDK
MP-871	Provide information on all fields (what is expected, examples).	SDK
MP-874	Improve layout of Service Description Editor.	SDK
MP-875	Check whether Mandatory fields of the Service Description are filled upon saving.	SDK
MP-799	Encoding of Service description file	ServiceDirectory
MP-820	Search in a geographical area without a service-type	ServiceDirectory

MP-821	User authentication and authorization before deleting content in the Data Format Catalog	ServiceDirectory
MP-824	Make searching in tags case independent	ServiceDirectory
MP-853	Apply the Roles & Rights model	ServiceDirectory
MP-857	Expand Server-Side validation of the uploaded service description	ServiceDirectory
MP-858	Provide a more standardized approach to the data format	ServiceDirectory
MP-860	Searching for one of the categories/tags should return service description	ServiceDirectory
MP-883	Filter on the "input" and "output" fields from data catalog	ServiceDirectory
MP-907	OAuth Authentication Data Format Catalog	ServiceDirectory
MP-909	Add some online help for data format catalog upload dialog	ServiceDirectory
MP-920	Reformat UI for Data Format Catalog	ServiceDirectory

3.6. Release 4.0

This release is the final release of the MOBiNET platform as developed within the project. As the goal of release 3.1 was to have all functionality required by the different Service Working Groups available and have a platform with a level of maturity that it would allow external parties to gain access to the platform, this release only in cooperates minor improvements for most platform components.

The Communication Agent and the Billing component however, have been more extensively improved as the development of certain functionality of these components has been delayed in earlier releases.

The below table contains a summary of the requirements for the different components, that have been implemented for the final release of the platform.

Key	Summary	Release
MP-934	Billing menu should hide unavailable menu entries.	Billing
MP-935	Generating payment should not result in returning to homepage	Billing
MP-936	Add an event type code description	Billing
MP-937	Service Provider pays a fee one-off to MOBiNET for publishing in Service Directory	Billing
MP-938	Improve reliability of Billing processing Widget	Billing

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MP-939	Provide reporting for MOBiNET Administrator	Billing
MP-940	Provide real-time logging for Service Provider IDs	Billing
MP-941	Provide a "purchase" button within the Service Directory	Billing
MP-880	Provide "back-wards" communication interface	Communication Agent
MP-886	Identify and implement steps required to provide basic authentication protection	Communication Agent
MP-890	Identify and implement steps for basic authentication protection of Communication Agent API	Communication Agent
MP-942	Improve stability of CA Component	Communication Agent
MP-916	Widget for "Contact"	Dashboard
MP-929	A singleUser should not access to the IDM Authorization site from the Dashboard menu	Dashboard
MP-943	Hide unavailable functions from Dashboard menu	Dashboard
MP-944	Improve user-friendliness of Geographical area searching	Dashboard
MP-945	Improve user-friendliness of Dashboard menu choices	Dashboard
MP-948	Dashboard should support layout scaling	Dashboard
MP-949	Service Directory map view should open in Europe	Dashboard
MP-966	Improve stability and reliability of Analytics component	Dashboard
MP-971	Improve stability of map view of search results	Dashboard
MP-973	Add and display contact detail fields of Service Description in Service Directory	Dashboard
MP-969	DQA widget should check format validity of uploaded data before pressing Analysis button	DQA Tool
MP-950	Allow users to reset their password	Identity Manager
MP-952	Improve user-friendliness of navigating between Identity Manager and Dashboard	Identity Manager
MP-958	Add functionality to SDK specify language within Service Description	SDK
MP-959	Make the Service Description map coordinates functionality more robust	SDK
MP-970	Improve stability and reliability of Service Directory	Service Directory

D2.4 Final MOBiNET technical and non-technical requirements

	component	
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The extensive list of implemented requirements for release 4.0 with the full descriptions can be found in Annex I.

4. Non-technical requirements

During the first period of the MOBiNET project, a total of 66 non-technical requirements were gathered and categorized into the following categories:

- Governance
- Operation
- Ecosystem and market rules
- Safe transactions
- Security
- Legal aspects

These non-technical requirements were based on initial assumptions at the start of the project about the MOBiNET Business model, objectives and ecosystem. The results of this process are described in deliverable D63.6.3. During the course of the project new insights were gained by the evolving market and the work done on the Organization and Governance and Business Models Deliverables of MOBiNET. This section provides an update with regards to the non-technical requirements based on those new insights.

4.1. Insights as of Release 3.1

With each release of the platform, new insights have been gained about the future exploitation of MOBiNET. An important change, in comparison with assumptions of earlier releases, is that the MLE concept has been replaced with the concept of ownership by one company. This implies that the non-technical requirements from the section on governance of deliverable D63.6.3 are not applicable anymore.

During the course of the project it became clear that there was more commitment from project partners to have the platform operated by a single partner than for many partners or outside parties to become a member of an MLE. The main reason was a better overall efficiency in operating the platform by one member, compared to many members having to pay a significant amount of money to contribute to the operational costs, while still having to spend effort in assisting the governance. The latter would also be more complex with many members and therefore resulting in a higher overhead both for the MLE and the members.

Having one partner hosting the MOBiNET platform will, however, lead to other challenges to which the following new governance requirements apply:

ID	Title	Requirement	Priority	Relations
67	Impartial platform	The MOBiNET platform must be impartial, e.g. services from the platform operator should be ranked in the search engine with the same importance as other parties.	High	
68	Branding	The MOBiNET platform should be branded as an industry wide platform and not as a product of the platform operator.	High	

D2.4 Final MOBiNET technical and non-technical requirements

The main goal of these two non-technical requirements is to ensure that the platform is welcoming to all relevant entities in the field of mobility and not discouraging direct competitors of the platform operator to use the MOBiNET platform. The vision is still that MOBiNET is a business enabler and not a means to compete with others.

Additionally, since it is envisioned that there will be only one platform operator and no MLE member actors anymore, this influences the non-technical requirements described in deliverable D63.6.3. Hence, requirements 21, 22, 59 and 60 which target the cooperation between MLE members directly are not applicable anymore.

For operating the platform, new insights about costs and the service support centre have led to the following new requirements:

ID	Title	Requirement	Priority	Relations
69	FAQ	The MOBiNET platform must have a FAQ section to reduce number of support calls.	Medium	F:7
70	Documentation	The MOBiNET platform SDK must have extensive and complete documentation available at an easily accessible location.	High	D:69
71	Data rate costs	The MOBiNET platform front-end for end-users should keep data usage low to prevent discouraging users to use the platform.	Medium	
72	Data processing costs	The MOBiNET platform should be prepared for millions of end users being directly or indirectly connected and therefore keep the amount of incoming data low to prevent hosting costs to grow out of proportion.	High	
73	Compatibility	The MOBiNET front-end should be as platform independent as possible. Release of new front-end operating systems should not result in high life-cycle costs.	Medium	D:10, 57

Experiences with new Android OS versions leading to different versions of the MOBiAGENT front-end have led to non-technical requirement 73. Key element to keeping the operating costs low is to be able to keep the membership and transaction fees low as well. The latest business model evaluations showed the importance of this. With lower fees, there are likely more platform customers, which in turn reduces the costs per customer again. Therefore, keeping costs low in the initial stage is vital to the success of the platform.

Regarding platform certification and payments two new non-technical requirements have been identified, related to the Data Format Catalog:

ID	Title	Requirement	Priority	Relations
74	Data format catalog procedures	The MOBiNET platform must have a well-defined objective procedure to evaluate additions to the data format catalog.	Medium	
75	Financial capability check	The MOBiNET platform must have a financial clearing procedure to execute before partners are allowed to let MOBiNET handle transactions for them, which incur higher fees than just a regular membership fee. This should be charged separately as an option to the	High	

		membership.		
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The latter requirement came from the analysis of the parking services. Here MOBiNET is used for potentially large B2B payments and it should be prevented that fake companies emerge that will let their users park for free until the payment deadline of their first bill has been expired.

The requirements 24-27 and 31-32, about users auctioning their positioning data and profiling end users, as described in deliverable D63.6.3, will be dropped in the earlier stages to keep operating costs low and reduce risks with privacy authorities. All other requirement subtopics are still valid and have not changed. The background on licensing, liability, SLA and contractual issues has been expanded in deliverable D6.5, but the essential requirements have not changed.

5. Continuation of the platform

Besides the technical requirements listed in section 3 of this deliverable (and detailed in Annex I), which have been used to develop the MOBiNET platform (leading to the final release R4.0), during the course of the project there have also been requirements gathered that have not been implemented within a release of the platform but that have been identified as relevant requirements for after the project. An extensive list of those requirements can be found in Annex II of this deliverable.

During the validation of the final release of the MOBiNET platform, an additional assessment has been carried out in order to check the market readiness of the final release of the platform. The results of this validation as well as this assessment are described in deliverable D5.7.2, *Final integrated analysis of platform & pilots validation*.

There it describes that the assessment was done more from an end-user perspective and more strict than necessary when evaluating a Proof-of-Concept platform. From that, it could be concluded that additional work is required to transform MOBiNET into an appealing and user-friendly platform since the Dashboard and related components are mainly designed from a research oriented view, rather than a design based on a user's point of view.

On the other hand, however, the suggested main improvements are related to human interaction and not so much to the overall technical platform design. As a technical solution, the concept of MOBiNET is viable and the amount of work for further commercialization of the platform is considerable, but predictable and manageable.

Annex I

This annex lists, for each release of the platform, an export from the JIRA requirement management system, containing a detailed description of the implemented requirements as recorded within JIRA. The requirements have been described by both the responsible WP leaders during the different periods of the project, as well as the component owners of the corresponding components.

Release 1.0

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Support for desktop style web applications	MP-23	Requirement	Done	Release 1.0	SDK	<p>As a Service Provider, I need to be able use MOBiNET SDK in my web application so that I can use its features from this type of application.</p> <p>Details</p> <p>The MOBiNET SDK provides developers the API libraries & developer tools necessary to build, test and debug apps for MOBiNET</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p> <p>Which functionality we need to cover</p> <p>As a Service Provider, I need to be able have consistency of interfaces despite of change of devices or operation system.</p> <p>Details</p> <p>The MOBiNET SDK interfaces should be consistent when a developer uses different web browsers and different operation systems.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>SDK should give minimum requests on hardware and software.</p> <p>Open Issues</p> <p>What kind of browsers and operation system we need to cover</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Supported Platforms	MP-24	Requirement	Done	Release 1.0	SDK	<p>As a Service Developer, I need to have the MOBiNET SDK available for my development platform, so that I can develop services using MOBiNET core functionalities.</p> <p>Details</p> <p>SDK should be usable from most popular mobile and web development platforms:</p> <ul style="list-style-type: none"> - SDK must be available for Java platform - SDK should be available for Microsoft .NET platform <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
Android Operating System	MP-26	Requirement	Done	Release 1.0	MOBiAGENT	<p>As a Mobile End User, I need to access MOBiNET services using my Android based mobile phone or tablet PC, so that MOBiNET can be used with my current mobile devices</p> <p>Details</p> <p>MOBiNET shall operate on the following versions of Android OS on both Smartphone and Tablet devices</p> <p>Android HoneyComb 3.2</p> <p>Android Ice Cream Sandwich 4.0.4</p> <p>JellyBean 4.3</p> <p>KitKat 4.4</p> <p>Exceptions</p> <p>KitKat 4.4 will be a later requirement as it is not supported on many devices currently</p> <p>Exclusions</p> <p>Only JellyBean 4.3 are required in release 1 of MOBiNET</p> <p>Acceptance Criteria</p> <p>Load and execute a MOBiNET service on 3 different smartphones and tablet devices that have the above mentioned operating systems installed.</p> <p>Clarifications</p> <p>Open Issues</p> <p>None</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Mobile Device Screen Size	MP-29	Requirement	Done	Release 1.0	MOBiAGENT	<p>As a End User, I need to access MOBiNET applications using devices with different screen sizes, so that I can use MOBiNET applications from different devices which I possess</p> <p>Details MOBiNET shall operate on devices with following screen sizes:</p> <p>iPhone 5: 1136×640 4S: 640×960 3GS: 320×480</p> <p>iPad First & second generations: 1024×768 Third generation: 2048×1536</p> <p>iPad Mini 1024×768</p> <p>Android Phones & Tablets Small screens: 426dp x 320dp Normal screens: 470dp x 320dp Large screens: 640dp x 480dp Extra-large screens: 960dp x 720dp Exceptions</p> <p>Exclusions Only Android support is required for Release 1 on a phone only</p> <p>Acceptance Criteria Load and execute MOBiAGENT with a running MOBiNET application on devices with defined screen sizes. For Android devices repeat the test for at least 3 different manufacturers for each of the screen sizes.</p> <p>Clarifications</p> <p>Open Issues</p>
MOBiNET App Store	MP-38	Requirement	Done	Release 1.0	ServiceDirectory	<p>As a Application Developer I need to be able to advertise my applications via the MOBiNET app store, so that I increase my visibility on the market.</p> <p>Details</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Publish Application To MOBiNET App Store	MP-39	Requirement	Done	Release 1.0	ServiceDirectory	<p>As an Application Developer I need to be able to publish my MOBiNET application to the MOBiNET app store, so that it becomes visible to all MOBiNET users, providing me a better chance of selling my service.</p> <p>Details</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p> <p>We need to have process for registering application / service developers.</p>
App Store UI	MP-41	Requirement	Done	Release 1.0	MOBiAGENT	<p>As an End User, I need to be able to have UI for the app store, so that I can use its features.</p> <p>Details</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p> <p>We need to define both the L&F and the workflows app store will provide.</p>
Search App Store	MP-43	Requirement	Done	Release 1.0	MOBiAGENT, ServiceDirectory	<p>As an End User, I need to be able to Search the App store, so that I can find application which I want to use</p> <p>Details</p> <p>It shall be possible to execute a text based search against the app store.</p> <p>It should be able to execute a search based on application category.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Start the app store. Ensure that there are applications existing in the app store. Select search function and type in partial name of the application you are searching for. Verify that it has appeared in the search results. Verify that also all other applications which have the search text in name or application description have appeared in the search.</p> <p>Clarifications</p> <p>Open Issues</p> <p>Do we need more search options?</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Cellular Network Support	MP-45	Requirement	Done	Release 1.0	MOBiAGENT	<p>As an End User, I need to be able to access MOBiNET services from my mobile device using Cellular Network, so that I can use my MOBiNET application</p> <p>Details</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
G5 (802.11p) Support	MP-46	Requirement	Done	Release 1.0	MOBiAGENT	<p>As an End User, I need to be able to access MOBiNET services from my mobile device using 802.11p Network, so that I can use my MOBiNET application requiring the 802.11p network.</p> <p>Details</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
Location info	MP-50	Requirement	Done	Release 1.0	MOBiAGENT, SDK	<p>As an Application Developer, I need to be able to easily get the location information from the Communication Manager, so that I can use the information in my application without knowing actual implementation details for getting the information.</p> <p>Details</p> <p>MOBiNET Communication Agent must receive input (e.g. coverage, location) from the following entities:</p> <ul style="list-style-type: none"> · Road Side Unit Operator (RSUO); · Mobile Network Operators (MNO); · Service Providers (SP); · Vehicles (Communication Manager). <p>Exceptions</p> <p>Exclusions</p> <p>MOBiNET application can gain access to location information only if End User has agreed to allow this in the privacy policy.</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p> <p>The MOBiNET Communication Agent must support SPs to disseminate data to target locations by implementing mechanisms that determine the best strategy for multi-technological information dissemination.</p> <p>The output of the component should be a resolution of a geographical area to certain set of vehicles together with instructions how to perform high-quality</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						information dissemination to reach target vehicles
Login to Dashboard	MP-54	Requirement	Done	Release 1.0	Dashboard, IdentityManager	<p>As a Service Developer, I need to be able to login to Dashboard, so that I can manage my services.</p> <p>Details Service Developer shall be able to login to the Dashboard using one of supported Internet Browsers, with assigned username/password combination.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria Start one of supported internet browsers and open the URL of Dashboard. Verify that Login page is shown. Enter invalid username/password combination for the user. Verify that invalid message was shown. Enter valid username/password for the user. Verify that user was able to login.</p> <p>Clarifications</p> <p>Open Issues Do we use Email/Password for user identification? Added text.</p>
Supported Browsers	MP-57	Requirement	Done	Release 1.0	Dashboard	<p>As a End User, I need to be able to use all the dashboard features and have similar look and feel in most commonly used internet browsers, so that I can access it from different work stations which have different hardware/software.</p> <p>Details Dashboard shall support latest versions of following browsers: - Internet Explorer [Windows] - FireFox [Windows] - Chrome [Windows] - Safari [Mac]</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria Define several most common workflows for the dashboard. Execute each of the workflows using each of the above defined browsers. Repeat the test for at least two latest versions of above mentioned operating systems</p> <p>Clarifications</p> <p>Open Issues How do we specify version of the browser / os. During the project many versions of OS/browser engines will be changed.</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Create New MOBiNET account	MP-79	Requirement	Done	Release 1.0	IdentityManager	<p>As an End User, I need to be able to create a MOBiNET account, so that I can access MOBiNET AppStore and other MOBiNET publicly available functions.</p> <p>Details</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
Search Service Directory	MP-83	Requirement	Done	Release 1.0	ServiceDirectory	<p>As a Developer, I need to be able to search the Service Directory, so that I can find service which best suites my current development project.</p> <p>Details</p> <p>MOBiNET shall provide possibility to search the services against metadata associated with the service It shall be possible to combine criteria using AND and OR logical operators.</p> <p>INTERPRETED DATA FLOW</p> <p>developer asks its request for running instances of services at the SD</p> <p>developer gets list back running instances of the service</p> <p>OPEN QUESTION</p> <ul style="list-style-type: none"> * How do we identify and authenticate a developer * Is there a different user interface for different actors, e.g. end users * what metadata parameters could be queried <p>STATUS</p> <p>User interfaces are not specified and have not been implemented. It is identified in de architecture. The related service interfaces are not specified either</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Start the MOBiNET search engine and for different combinations of search criteria ensure that the search results match the given criteria.</p> <p>Prerequisite is that the service database contains multiple services matching each of the possible criteria options or boundary values.</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						<p>Repeat the test for each of the test criteria, for combinations of 2-5 different search parameters and for a selection of criteria values (must include boundary values if applicable)</p> <p>Clarifications</p> <p>Open Issues</p> <p>Clarify how and if the UI will be available</p> <p>Define level of complexity in regards to search criteria</p>
Publish a Service to Service Directory	MP-84	Requirement	Done	Release 1.0	SDK, ServiceDirectory	<p>As a Service Developer, I need to be able to publish my service in Service Directory, so that it becomes discoverable by other Service and Application developers after activation</p> <p>Details MOBiNET shall provide user interface which will allow Service Developer to register a service with the service directory.</p> <p>After being published service will not be discoverable for any other user except users registered as Service Developers for the Service Provider, for the purposes of testing, until the service is explicitly activated by the Service Developer</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria Start the Dashboard and login as Service Developer. Select to publish a new service.</p> <p>Provide service details and service metadata.</p> <p>After completing the entry use the query engine to verify the service is discoverable.</p> <p>Clarifications</p> <p>Open Issues Do we allow service provider to publish any service after being registered with the system or is there a verification process? Should verification be done only at activation?</p> <p>Do we provide API or UI or both for this feature?</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Associate Metadata With a Published Service	MP-85	Requirement	Done	Release 1.0	SDK, ServiceDirectory	<p>As a Service Developer, I need to be able to provide additional metadata associated with my service, so that the service can be more easily discovered by other developers and used without the need to directly negotiate usage details.</p> <p>Details</p> <p>MOBiNET shall allow that in scope of publishing process or while the service is in production to define and modify metadata associated with the service.</p> <p>Exceptions</p> <p>If one or more 3rd party Service Providers are already connected to the service then once changes to the metadata are saved, all connected Service Providers will be notified on the change.</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <ol style="list-style-type: none"> 1. Login on Dashboard as a Service Developer, select to publish a new service in the service directory. Define metadata associated with the service. After publishing the service use the query engine to lookup the service targeting the added metadata. Verify that service can be found in search results 2. Login on Dashboard as a Service Developer, select to modify existing service metadata. Change metadata associated with the service. After publishing the service use the query engine to lookup the service targeting the defined metadata. Verify that service can be found in search results. <p>Verify that previous version of metadata is visible by the Service Developer</p> <p>Clarifications</p> <p>Open Issues</p> <p>What to do in case Service Developer changes payment rate/model for the service?</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Define Service Technical Details	MP-86	Requirement	Done	Release 1.0	SDK, ServiceDirectory	<p>As a Service Developer, I need to define technical details of a service, so that 3rd party developer can know the technologies required for consuming my service.</p> <p>Details</p> <p>Each service must have defined:</p> <ul style="list-style-type: none"> - Network type[s] - IP address / Host name and port [for each instance] - Protocol type [http/https] - Authentication type[s] - Push or Pull type subscription <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Login on Dashboard as a Service Developer, select to modify existing service or publish a new service. Define technical details associated with the service. After publishing the service use the query engine to lookup the service. Check if service information contains the defined technical details.</p> <p>Clarifications</p> <p>Open Issues</p> <p>Do we support any other service type except HTTP web services?</p>
Define Cost for Service Usage	MP-87	Requirement	Done	Release 1.0	Billing, ServiceDirectory	<p>As a Service Developer, I need to define cost for service usage, so that anyone using the service is aware of the cost associated and account of application/service providers using my service are automatically charged using the payment model I have defined.</p> <p>Details</p> <p>MOBiNET should allow assigning different kinds of payment models for service usage:</p> <ol style="list-style-type: none"> 1. Flat rate - fix payment rate per period 2. Per usage - payment per single usage 3. Temporal - define multiple recurring periods when different rates can apply (different day/night usage fees..) <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Login on Dashboard as a Service Developer, select to modify existing service or publish new service. Define metadata associated with the service. After publishing the service use the query engine to lookup the service targeting the defined metadata. Verify that service can be found in search results.</p> <p>Clarifications</p> <p>Open Issues</p> <p>Define full list of payment models</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Define Service Coverage Area	MP-89	Requirement	Done	Release 1.0	SDK, ServiceDirectory	<p>As a Service Developer, I need to be able to define coverage area for my service, so that I avoid anyone trying to use the service where it is not geographically applicable.</p> <p>Details See US: Publish Multiple Service Instances (MOB-STY-36) for more details on assigning coverage for a service.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
Define Networking Requirements For Service Usage	MP-90	Requirement	Done	Release 1.0	ServiceDirectory	<p>As a Service Developer, I need to be able to define networking requirements for service usage, so that any 3rd party Service Provider consuming the service is aware of possible cost or performance impacts.</p> <p>Details Contents and services providers are requested to indicate for each application the needed resources in terms of networking, bandwidth, amount of generated traffic and access mode (both in case of B2B than B2C services); in this way the user is aware about possible factor which can affect the service performances or impacting in tariff plan</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria Login on Dashboard as a Service Developer, select to modify existing service or publish a new service. Define metadata associated with the service. After publishing the service use the query engine to lookup the service targeting the defined metadata.</p> <p>Clarifications</p> <p>Open Issues</p>
Associate a Standard Data Format with a Service	MP-91	Requirement	Done	Release 1.0	SDK, ServiceDirectory	<p>As a Service Developer, I need to be able to associate a Standard Data Format which a published service can accept in input data or produces as output data, so that any 3rd party developer can easily connect to the service.</p> <p>Details MOBiNET shall contain a registry of standard data formats which can be associated with services through metadata. This will allow other developers to search for services based on format they can consume/provide.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria Login on Dashboard as a Service Developer, select to modify existing service metadata / publish a new service. Define the data format service can consume / produce. After publishing the service use the query</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						<p>engine to lookup the service targeting the defined metadata. Verify that service can be found in search results.</p> <p>Clarifications</p> <p>Open Issues Do we provide any additional info except textual for a standard data format?</p>
Extend Service Metadata Description for a Service	MP-95	Requirement	Done	Release 1.0	SDK, ServiceDirectory	<p>As a Service Developer, I need to be able to extend the metadata description with additional fields so that I can provide additional information regarding my service to anyone intending to use it.</p> <p>Details MOBiNET should allow extending the list of fields included in the metadata of a service. Service Provider should be able to add any additional field from a list of predefined fields or additional textual description.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria Login on Dashboard as a Service Developer, select to modify existing service or publish a new service. Define metadata associated with the service. After publishing the service use the query engine to lookup the service by executing a text-based search. Verify that service can be found in search results.</p> <p>Clarifications</p> <p>Open Issues Do we allow only adding additional textual descriptive fields?</p>
Remove Service From Service Directory	MP-96	Requirement	Done	Release 1.0	ServiceDirectory	<p>As a Service Developer, I need to be able to remove a published service from the service directory, so that a service which is no longer operational cannot be discovered anymore.</p> <p>Details MOBiNET shall allow that services which were once published to the service directory can be removed.</p> <p>Once removed from the service directory, service will no longer be considered a MOBiNET service and cannot use MOBiNET features.</p> <p>History and statistics usage data for the service must remain in the MOBiNET system for purposes of accounting.</p> <p>Exceptions If service had connections established to service providers: all providers connected to the service will get a notification that service is no longer available.</p> <p>Exclusions</p> <p>Acceptance Criteria Login to Dashboard as a Service Provider, find a service which is published in the service directory and remove it. Try to execute the service. No usage statistics should be updated, and any calls from the service against the MOBiNET should fail.</p>

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						Clarifications Open Issues

Release 2.0

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Background Alerts and Notifications	MP-32	Requirement	Done	Release 2.0	MOBiAGENT	<p>As an Application Developer I wish to be able to publish alerts for the End User, based on the current MOBiNET context even if the application is running in the background, so that I can inform user about any urgent or important information gathered from my service.</p> <p>Details</p> <p>Alerts have a defined text information and severity information. Alert can have following severities:</p> <ul style="list-style-type: none"> - Critical [example: emergency broadcasts] - Important [example: traffic congestion ahead] - Notification [general information for the user] <p>Alert can be associated with a timeout which determines how long the alert is shown on screen, and it may be indicated if alert is requiring user acknowledgement.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Start multiple MOBiNET applications on a mobile device. Make sure that the application sending an alert is in the background.</p> <p>Cause the background application to send an alert by simulating or executing any action which will trigger the alert.</p> <p>Verify that the alert is shown to the user.</p> <p>Clarifications</p> <p>Open Issues</p>
Control Events and Notifications	MP-33	Requirement	Done	Release 2.0	MOBiAGENT	<p>As an End User, I need to be able to control events and notifications I receive from background applications, so that I am informed about any urgent or important information regarding my trip.</p> <p>Details</p> <p>MOBiAGENT shall allow End User to control per application the type of notifications which user wants to screen on the UI in case an application broadcasts the alert.</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						<p>User must be able to control these settings globally, per alert severity and separately per application.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Make sure that an application which will raise the alert is running on a mobile device</p> <p>Configure so that no alerts are shown on screen.</p> <p>Simulate or invoke conditions which will trigger the applications to issue the alert.</p> <p>Make sure alert is not shown.</p> <p>Configure so that application alert will be shown.</p> <p>Again simulate or invoke conditions which will trigger the applications to issue the alert.</p> <p>Make sure this time alert is shown.</p> <p>Clarifications</p> <p>Open Issues</p>
Vehicle ITS Station (On-Board Unit) (OSGi) Support	MP-37	Requirement	Done	Release 2.0	MOBiAGENT, SDK	<p>As an Application Developer, I need to be able to build my MOBiNET application for a vehicle on board unit, so that I can use MOBiNET applications within vehicle on board systems I am developing</p> <p>Details MOBiAGENT shall support any OBUs which use one of MOBiAGENT supported operating systems.</p> <p>Exceptions This is only valid for the Android OS</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues We need to define which devices are required to be supported</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Install MOBiAGENT from App Store	MP-420	Requirement	Done	Release 2.0	MOBiAGENT	<p>As a End User, I need to be able to install the MOBiAGENT by downloading it from one of well-known App Stores, so that I can use it to install additional MOBiNET applications</p> <p>Details</p> <p>MOBiAGENT should be available for download and installation from:</p> <ul style="list-style-type: none"> - Google Play - Apple App Store - Windows Phone Store <p>Acceptance Criteria</p> <p>For each of the app stores defined above:</p> <ul style="list-style-type: none"> - Register as app store user - Search for the MOBiAGENT application - Download and install it on the phone - Verify that MOBiNET app store is now available
Manage Service Providers	MP-56	Requirement	Done	Release 2.0	IdentityManager, ServiceDirectory	<p>As an Administrator I need to be able to manage list of registered service providers, so that I know which Service Providers are registered with the system</p> <p>Details</p> <p>Dashboard shall allow Administrator to:</p> <ul style="list-style-type: none"> - Define new Service Provider - Update Service Provider information - Activate/Deactivate service provider <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
Service description should include owner and who registers this service	MP-581	Requirement	Done	Release 2.0	ServiceDirectory	<p>Decided: some open data may be registered by the consortium on behalf of the data owner since public authorities may not do it by themselves. Distinguish owner and who registers</p>
search function	MP-582	Requirement	Done	Release 2.0	ServiceDirectory	<p>Search service descriptions based on key words (Tags). Search parameters to be defined, may include types of services, city, etc.</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Link service description to organization	MP-584	Requirement	Done	Release 2.0	ServiceDirectory	Link a service description to the organization of the user adding it to the service directory, such that it only is that user, or other users of his organization that can modify or delete the service description. This may link to ID manager to give certain right to different types of users.
Associate USDL description with service description	MP-586	Requirement	Done	Release 2.0	ServiceDirectory	USDL descriptions should be part of the service description. This is to take advantage of the advanced and extensive coverage offered by USDL;
Extended widget functionalities	MP-588	Requirement	Done	Release 2.0	Dashboard	The widgets should be modified to comply with the added functionalities
Data catalogue of available data types	MP-589	Requirement	Done	Release 2.0	ServiceDirectory	Containing the data formats/types available via the services in the service directory, and to see the data formats recommended by MOBiNET
Search for services based on output data type/format	MP-590	Requirement	Done	Release 2.0	ServiceDirectory	By searching for services based on the data format a query can be more focused on the content of services rather than the form or type
REST API of Service Directory	MP-591	Requirement	Done	Release 2.0	ServiceDirectory	API of the Service Directory must be provided to perform operations on it
administrator of Service Directory is able to delete and de-active any services	MP-593	Requirement	Done	Release 2.0	ServiceDirectory	Administrator should check if information about a service is correct. If not, take actions.
Make widgets browser independent	MP-595	Requirement	Done	Release 2.0	Dashboard	Currently the widgets are only guaranteed working in Firefox; it should be available for all mainstream browsers
For all type of end user services	MP-596	Requirement	Done	Release 2.0	ServiceDirectory	Service directory for all types of end user services rather than limited to web Services and Mobile Apps only. But for end user services too.
Language to be included in Service Description	MP-597	Requirement	Done	Release 2.0	ServiceDirectory	In the app description, it should provide which languages the service uses. That will be used for searching for customers.
Extend Service Description for apps	MP-602	Requirement	Done	Release 2.0	ServiceDirectory	Extend the Service Description to also include apps: including owner, logo/imagines etc.

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Update AppDirectory UI	MP-605	Requirement	Done	Release 2.0	MOBiAGENT, ServiceDirectory	<p>App Directory should be able to be accessed through MOBiAGENT.</p> <p>This is done by the already existing AppDirectory UI. It needs to adapt to the changes from the AppDirectory (new App-Description, extended Search-possibilities, etc.).</p> <p>After adoption to changes from AppDirectory, it should be (re)integrated within MOBiAGENT.</p> <p>ACCEPTANCE CRITERIA:</p> <ol style="list-style-type: none"> 1. The AppDirectory UI shall list the names of all apps in the AppDirectory matching the search criteria 2. For each item in the list: <ul style="list-style-type: none"> - detailed Information (description etc.) can be requested - Installation can be initiated <p>TESTING:</p> <ol style="list-style-type: none"> 1. Search for keyword of an existing app (e.g. Helsinki for Helsinki Timetable App) 2. Verify that for all apps in the app directory: app is in the result list <=> app matches at least one keyword 3. View Details of app 4. Start Installation of app and verify app has been properly installed on the device <p>the above must work for all types of apps (native, web-based and OSGi)</p>
Install MOBiAGENT extensions	MP-610	Requirement	Done	Release 2.0	MOBiAGENT	<p>As an End User, I need to be able to install additional MOBiNET services as extension to the MOBiAGENT. E.g., when a MOBiNET service is provided as OSGi component instead of native OS application.</p> <p>Functionality will be provided by updated version of AppDirectory UI, see also MP-605</p> <p>ACCEPTANCE CRITERIA:</p> <ol style="list-style-type: none"> 1. For each service (no native OS application) shown as a result of a "search query", the installation process can be initiated.

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						<p>TESTING:</p> <ol style="list-style-type: none"> 1. Search for keyword of an existing service 2. View Details of service 3. Start Installation of service and verify service has been properly installed and added to the list of available services within the MOBiAGENT. <p>The above must work for osgi based services.</p>
MOBiAGENT API's	MP-612	Requirement	Done	Release 2.0	MOBiAGENT	<p>As a native OS (e.g. native Android) application I need to be able to communicate with the MOBiAGENT via predefined REST API's in order to retrieve information from the different MOBiAGENT components like the Communication Manager, Positioning & Timing and Preferences component.</p>
Management of User Identities in MOBiNET IdP	MP-613	Requirement	Done	Release 2.0	IdentityManager	<p>An IdM site is created that manages MOBiNET user accounts.</p> <p>* Management of an account means CRUD (i.e. Create, Read, Update, Delete) and Disable, Enable the account.</p> <p>* Update of an account = CRUD of attributes associated with the account (see issue).</p> <p>* Any user is permitted to execute the following functions on the following accounts:</p> <p>** irrespective of roles: his own account: CRUD, where C is done on a MOBiNET end-user account.</p> <p>** if he has the role 'PartyAdmin': CRUD and enable/disable on all accounts of the Party to which he belongs.</p> <p>** if he has the role 'PlatformAdmin':</p> <ul style="list-style-type: none"> - CRUD and enable/disable on all accounts that have a PartyAdmin role (possibly create new MOBiNET account of users based on pre-existing registration in the Party - CRUD and enable/disable on all accounts that do not belong to a specific party.
Provision by the IDM of some authorized user attributes	MP-617	Requirement	Done	Release 2.0	IdentityManager	<p>Services that login with the MOBiNET IdP (OpenID) must supply the attribute types that the IdP is to send back to the Service (if login is ok).</p> <p>Open question:</p> <p>Are there services that also need to obtain attributes without logging in (so that we</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						have to make a separate REST interface)? Because during OpenID process those attributes can be already requested.
Access control of an app to use specific MOBiNET service using OAuth 2.0 (Client Credential grant)	MP-618	Requirement	Done	Release 2.0	IdentityManager	<p>This feature is related to have an authorization based on client credentials [Client Credential grant type of the OAuth 2.0 specification] to ensure a proper publication process for apps/services allowing to have this kind of access control in MOBiNET. Registered trusted clients are then allowed to obtain an access token by the MOBiNET Authorization Server providing their client key and client secret.</p> <p>The implementation of such a grant in MOBiNET allows recognizing whether a registered app/service is doing something like calling a MOBiNET registered service. The usage of a specific user entity of the underlying services that are called by the app is out of the scope of this access control and possibly is a matter of the app itself, being MOBiNET only a B2B platform.</p>
Access control based on some attributes of the authenticated user	MP-619	Requirement	Done	Release 2.0	IdentityManager	On the basis of some attributes of the authenticated user, the requesting application can provide the appropriate access control.
Add Google as external IDP to MOBiNET	MP-620	Requirement	Done	Release 2.0	IdentityManager	<p>Just use other IdP being a social media IdP and that is google</p> <p>Needed for the Bordeaux Workshop</p>
Dashboard Analytics Server	MP-626	Requirement	Done	Release 2.0	Dashboard	<p>Dashboard Analytics Server</p> <p>The Dashboard requires an additional server component taking care of analytics of service requests, app requests and service usage</p>
Third party is able to have an interface to analytics Server	MP-629	Requirement	Done	Release 2.0	Dashboard	An interface to push local service information like current position, user input to the service and additional information provided by the device (sensor information).
Extended Tutorials including a MOBiNET user manual of how to use components for service developers	MP-631	Requirement	Done	Release 2.0	SDK	Usability and new enhancements in file format of service description format
Improved Service Editor	MP-632	Requirement	Done	Release 2.0	SDK	Improved Service Editor

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Cover more advanced web service development aspects	MP-633	Requirement	Done	Release 2.0	SDK	Cover more advanced aspects of service development for MOBiNET: - Usage of Service Editor - How to register a service - Tutorial for dashboard interface - web service development aspects, REST API (Identity Manager)
MOBiAGENT SDK	MP-636	Requirement	Done	Release 2.0	MOBiAGENT	As an application developer I need to be able to develop MOBiNET services as component of the MOBiAGENT as well as native OS application. Therefore I need guidelines (e.g. an SDK) on how this can be done, e.g. interact with the MOBiAGENT API's
Service Discovery Widget	MP-647	Requirement	Done	Release 2.0	Dashboard	The Service Discovery in MOBiCENTRE is a user interface for end users to search and discover end user service like insurance products. It is designed as a widget running in the Dashboard component of MOBiCENTRE. For a detailed description see chapter 4 of the attached document
MOBiAGENT end-user UI integration	MP-652	Requirement	Done	Release 2.0	MOBiAGENT	As an End User I should be presented with "uniform" and easy to access UI, meaning that all MOBiAGENT functionality should be accessible from the MOBiAGENT application itself, either by integrating the UI's of the different components/extensions within the MOBiAGENT application interface or via automatic redirection to the corresponding interface (e.g. web interface of App Directory UI).
Transaction manager	MP-658	Requirement	Done	Release 2.0	Billing	The TrM shall manage all TrOs coming from Services and App which imply payment, billing or clearing (in coherence with APP and Service SLA as recorded by the SP in Service/App Directory)
Transaction Order (TrO) requirement	MP-659	Requirement	Done	Release 2.0	Billing	The TrO shall include all financial transactions involving either a payment or a taking operation among MOBiNET actors (EnU, SP, MOBiCENTRE)
Payment Order (PO)	MP-661	Requirement	Done	Release 2.0	Billing	The TrM shall send a payment order to Licensed bank
Bank Order (BO)	MP-662	Requirement	Done	Release 2.0	Billing	Licensed bank answers (REST) to TrM with a payment operation summary.

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Create TSP-Manager	MP-670	Requirement	Done	Release 2.0	TspManager	<p>The TSP Manager is responsible for the following:</p> <ul style="list-style-type: none"> • All the communications between TSPs and Insurance Providers; • Communication between Insurance Providers and TSPs when there is a change of Insurance Providers; and, • Communication between different TSPs for delivering data from a vehicle to the selected IP. <p>The new IP, chosen by the end customer, will notify MOBiNET. At this point MOBiNET will do the following:</p> <ul style="list-style-type: none"> • Inform the previous IP that it will not receive any more the data from the TSP in charge of the previous customer's on-board device. • Notify the two TSPs involved, the one of the previous IP and the one the current IP. <p>This will allow the correct handling of the UBI data flow, with information retrieved from the TSP of the previous IP arriving, passing through MOBiNET first and through the new IP TSP afterwards, to the new IP.</p> <p>Main use cases can be divided in two categories, the ones belonging to data provisioning on IP switch, and the ones belonging to Telematics data transfer (when the switch is done).</p> <p>See attached Documents</p>
Customize Dashboard Login Page for MOBiNET	MP-671	Requirement	Done	Release 2.0	Dashboard	<p>Customize the login page of the Dashboard so it fits to MOBiNET.</p> <ul style="list-style-type: none"> * remove "default" Rave login * select between "available" Open-ID providers, so that the user does not need to enter an Open-ID-URL <p>Mockups will follow</p>
Editor: UI improvements: icons, tooltips	MP-747	Requirement	Done	Release 2.0	SDK	Editor: UI improvements: icons, tooltips
Editor: Undo/redo operations	MP-748	Requirement	Done	Release 2.0	SDK	Editor: Undo/redo operations

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Editor: adapt to the new (updated) service description format (work on-going)	MP-749	Requirement	Done	Release 2.0	SDK	Editor: adapt to the new (updated) service description format (work on-going)
Publish a MOBiNET-Standard Data Format on MOBiNET	MP-92	Requirement	Done	Release 2.0	ServiceDirectory	<p>As a Service Developer-, I need to be able to publish a MOBiNET-Standard Data Format, so that I can associate it with my service and increase its visibility.</p> <p>Details MOBiNET shall allow Service Developers to publish Standard Data Formats in the System. Data format will be consisted out of a textual description. In case of well-known standard formats it can be a hyperlink to location of the description on the internet.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria Login on Dashboard as a Service Developer, select to publish a new Standard Data Format. After adding the format, verify it can be found in the list of all Standard Data Formats and verify that it can be added to the description of a service metadata.</p> <p>Clarifications</p> <p>Open Issues</p>

Release 2.1

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Multiple coverage areas for services for entry	MP-583	Requirement	Done	Release 2.1	ServiceDirectory	A service may cover multiple coverage areas. It should be provide options to register such service.
API for Identity Management	MP-635	Requirement	Done	Release 2.1	SDK	Java Wrapper around REST API of the Identity Manager
Neighbor table creation/maintenance	MP-648	Requirement	Done	Release 2.1	Communications Manager	CM should maintain a neighbor information table based on received CAMs. Table entries should expire after a definable amount of time.
Neighbor table transfer	MP-649	Requirement	Done	Release 2.1	Communications Manager	<p>Every CM sends to the CA the ids of its neighboring stations (related to neighbor table creation requirement).</p> <p>Need to extend CM->CA message with additional field containing; # of neighbors, <neighbor ids></p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
CA instructions reception	MP-650	Requirement	Done	Release 2.1	Communications Manager	<p>CM receives and decodes CA forwarding instructions message.</p> <p>Need to extend CA->CM message with a new field containing; # of cluster head ids, <CH ids></p>
CA instructions execution	MP-651	Requirement	Done	Release 2.1	Communications Manager	CM broadcasts payload of CA message
store TSP-data	MP-684	Requirement	Done	Release 2.1	ServiceDirectory	store TSP-data
get UserToken	MP-685	Requirement	Done	Release 2.1	ServiceDirectory	get UserToken
Authentication API	MP-699	Requirement	Done	Release 2.1	IdentityManager	The authentication REST service is provided since release 2.1
User Registration API (for OPEN ID Users)	MP-700	Requirement	Done	Release 2.1	IdentityManager	User Registration API (for OPEN ID Users)
Https for IDM	MP-701	Requirement	Done	Release 2.1	IdentityManager	<p>HTTPS/SSL connection</p> <p>Owner: Bastiaan Wissingh</p>
Provide inline and context sensitive help	MP-706	Requirement	Done	Release 2.1	ServiceDirectory	<p>It was one of the major validation recommendations that it is necessary to have inline help and context sensitive help.</p> <p>*Owner:* Alessandro Taddei</p>
Improve Analytics Server	MP-712	Requirement	Done	Release 2.1	Dashboard	Improve Analytics Server
Local IDM in Dashboard	MP-713	Requirement	Done	Release 2.1	Dashboard	<p>Local IDM in Dashboard</p> <p>acceptance criteria:</p> <p>* in the dashboard, there exist a localIDM javascript object with values</p> <p>* a javascript console (firefox web console) localIDM.getCompany() returns the organization id.</p> <p>* a javascript console localIDM.getOpenId()</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Widget Management Interface	MP-714	Requirement	Done	Release 2.1	Dashboard	<p>Widget Management Interface</p> <p>tbd if feasible for Release 2.1</p> <p>acceptance criteria:</p> <ul style="list-style-type: none"> • Login to the Dashboard with a user who has the role platformAdmins or partyAdmins. Push the Link Admin in the right upper corner. • The admin view list all w3c widgets installed in the dashboard. • The upload button uploads a new widget • The delete button deletes a widget • The reset button will reset the default arrangement of the widgets.
Add field "name" (searchable) to service description in addition to ID	MP-716	Requirement	Done	Release 2.1	ServiceDirectory	<p>In Release 2.0 the service provider has to enter the ID in the Service Description which is the only searchable value.</p> <p>A validation recommendation is that the ID should be auto-generated by the platform and the user should have to enter a "name" which is searchable.</p> <p>It has to be further detailed when a new ID is auto-generated and when an update of the data is done keeping the same auto-generated ID (updating service description).</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
It should be possible to define a category based on pre-defined values	MP-717	Requirement	Done	Release 2.1	ServiceDirectory	<p>For searching and grouping of search results a categorization of services/data/apps is required based on pre-defined values (like "Parking", "Public Transport", .etc.) .</p> <p>For Release 2.1 SP2 will provide a list of categories used within the prototype.</p> <p>acceptance criteria:</p> <p>* In the Service Directory - Search" widget of the dashboard test the dropdown field in advanced mode</p> <p>there should be a list with the following values:</p> <ul style="list-style-type: none"> ** all categories ** Navigation and route guidance ** Journey planning ** Parking ** Traffic information ** Traffic management ** Logistics ** Safety ** Insurance ** Driver Assistance Systems <p>* test also the type field with the list:</p> <ul style="list-style-type: none"> ** all service types ** B2B – service ** B2B – data ** B2C – service ** B2C - app
Possibility to list all existing apps/services/data	MP-720	Requirement	Done	Release 2.1	MOBiAGENT	<p>As an end user I want to be able to list all existing apps/services and browse through them without a specific search (MOBiAGENT / AppDirectory UI).</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Improvements searching for services (state of the art)	MP-721	Requirement	Done	Release 2.1	Dashboard	<p>Having a state of the art search was one of the major validation recommendations. There is no need to reinvent the wheel and therefore SP3 should study what is available and can easily be reused/integrated in MOBiNET.</p> <p>Search should be improved by:</p> <ul style="list-style-type: none"> * allow searching for area by entering city, country, POI, address, coordinates using a map * search by category (introduced by MP-717) * search term suggestions <p>acceptance criteria:</p> <ul style="list-style-type: none"> * in the dashboard check the advanced search of the "Service Directory - Search" widget. * check the address field and the km field with a known service you just have to search with the address and the km of the service. <p>*Owner:* Andreas Rickling</p>
Display geographical area on map when showing details of Service Description	MP-722	Requirement	Done	Release 2.1	Dashboard	<p>When displaying the details of the service description the geographical area should be displayed on a map (colour geographical area defined in service description).</p> <p>On the dashboard are widgets to display services in a list view. For example the "Service - Directory Search" and the "Service Directory - Management" widgets.</p> <p>A details view can be viewed by the details button. In this popup view there should be shown a map in which a service is available.</p> <p>acceptance criteria:</p> <ul style="list-style-type: none"> * details view has to include the minimap * the minimap shows a rectangle for the region of the service. <p>*Owner:* Andreas Rickling</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Local IDM in MOBiAGENT	MP-733	Requirement	Done	Release 2.1	MOBiAGENT	Local IDM in MOBiAGENT - SSO solution Should also take storing of user credentials for easy login after first login into account.
Possibility to list all existing services	MP-734	Requirement	Done	Release 2.1	ServiceDirectory	As a business user I want to be able to list all existing services/data and browse through them without a specific search (Service Directory Widgets). In the dashboard the "Service Directory - Management" widget has to list all widgets for the business user. acceptance criteria: * login to the dashboard and go to the "Service Directory - Management" * all services should be listed here and can be managed (add, delete).
Update SDK Documentation	MP-741	Requirement	Done	Release 2.1	SDK	Update SDK Documentation
Editor: adapt to the new (updated) service description format (finalize)	MP-750	Requirement	Done	Release 2.1	SDK	Editor: adapt to the new (updated) service description format (finalize)
Editor: UI improvements (look & feel)	MP-751	Requirement	Done	Release 2.1	SDK	Editor: UI improvements (look & feel)
Save OpenID in localldm	MP-780	Requirement	Done	Release 2.1	Dashboard	The localldm should save the openid profile in the localldm.
Check for invalid IDs in service descriptions	MP-782	Requirement	Done	Release 2.1	ServiceDirectory	Check for invalid IDs in service descriptions A space in a service description (and other special characters) must not crash the server
Bugfix Sign Policy with only one car	MP-784	Requirement	Done	Release 2.1	Dashboard, TSPManager	The sign policy for the UBI case sent all cars to the UBI. Only the chosen one should be sent together with the profile base 64 encoded.
Bugfix minimap not showing in managementWidget	MP-785	Requirement	Done	Release 2.1	ServiceDirectory	The details view does not show the google minimap.
Upload service files with suffix msd	MP-797	Requirement	Done	Release 2.1	Dashboard, ServiceDirectory	The upload of the service files should not only with the file ending xml. The Editor from the SDK saves the description files with the file ending msd. Because of this the upload dialog has accept this suffix. The Service Directory must also accept the file ending msd.
DQA deployment in the MOBiNET Platform	MP-828	Requirement	Done	Release 2.1	DQATool	Provision of the DQA on fix sensor as component of the MOBiNET Platform

Release 3.0

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
API for Searching Service Directory	MP-25	Requirement	Done	Release 3.0	SDK, Service Directory	<p>As a Developer, I need to be able to programmatically invoke search against the service directory, so that I can dynamically search for available services from within my application.</p> <p>Details MOBiNET SDK shall include an API for searching the service directory which can be incorporate into 3rd party applications to allow dynamic lookups against the service directory or browsing the service directory from 3rd party applications</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria Build an application using the MOBiNET SDK and verify that executing queries against the service directory returns expected results.</p> <p>Execute all the tests which are associated with US: Search Service Directory (MOB-STY-18)</p> <p>Clarifications</p> <p>Open Issues</p>
Service Usage Statistics	MP-51	Requirement	Done	Release 3.0	Dashboard	<p>As a Service Provider, I need to be able to see usage statistics of my service, so that I understand how the service is used and am able to improve it.</p> <p>Details MOBiNET MUST provide the Service Provider with statistical data on the service usage. This SHOULD include an analysis of the origin and destination of the users (e.g. local traffic, visitors, passers-by etc.), vehicle class, fuel type. Ultimately this information can be used to change to the GLOSA service, local traffic policies, the road network etc., broken down per subscriber , After use periodic reporting (i.e. weekly, monthly reporting to monitor KPI stated in SLA)</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues 1. Not clear if we can/should monitor service access which is not MOBiNET-related. 2. Define exact list of statistics which</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						should be monitored
Graphic design for interfaces to ensure interfaces user friendly and attractive	MP-580	Requirement	Done	Release 3.0		Professional graphic design for interfaces; requirements for interfaces are from developers
Widgets to display the analytics	MP-627	Requirement	Done	Release 3.0	Dashboard	An interface to report service requests towards the analytics server
Neighbor table reception	MP-653	Requirement	Done	Release 3.0	Communication Agent	The CA receives CAM data from vehicles along with the ids of its neighboring stations. Need to extend CM->CA message (# of neighbors, <neighbor ids>)
CA instructions transmission	MP-654	Requirement	Done	Release 3.0	Communication Agent	The CA creates and transmits forwarding instructions messages. Need to extend CA->CM message (# of cluster head ids, <CH ids>)
Neighbor relations	MP-655	Requirement	Done	Release 3.0	Communication Agent	The CA maintains an updated network connectivity graph based on received information.
Dissemination strategy	MP-656	Requirement	Done	Release 3.0	Communication Agent	The CA determines the best strategy to disseminate information to a geographical area.
Https for Dashboard	MP-710	Requirement	Done	Release 3.0	Dashboard	Add security/privacy issues (HTTPS / SSL)
Https for Service directory (Use a common Port 443)	MP-711	Requirement	Done	Release 3.0	ServiceDirectory	Port 8090 is often blocked in business environments therefore a possibility to upload file using common port which is open from business environments is required (port 443). *Owner:* Robbin Blokpoel
Add licenses agreement description to service description	MP-718	Requirement	Done	Release 3.0	ServiceDirectory	A Service Provider wants to add the licenses agreement related to the use of the described service to service description (free text or by entering a URL pointing to the license agreement on the service providers website). The license agreement in the service description is only for information and has not to be accepted by the user of the service within MOBiNET. It is still the responsibility of the service provider to make sure that the license agreement is accepted.
Provide accelerometer data from mobile phones	MP-731	Requirement	Done	Release 3.0	MOBiAGENT	Provide accelerometer data from mobile phones *Owner:* Olli Pihlajamaa
Overhaul Service Description Editor (Standalone Version)	MP-743	Requirement	Done	Release 3.0	SDK	Overhaul Service Description Editor (Standalone Version)
Update Wrapper API for Service Directory	MP-745	Requirement	Done	Release 3.0	SDK	Update Wrapper API for service Directory

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Privacy Manager instructions	MP-746	Requirement	Done	Release 3.0	SDK	Provide documentation how to use the Privacy Framework as part of the SDK to enable Service providers and users to use the Privacy Framework and generate/manage/enforce their specific Privacy Management.
Editor: Online-Help	MP-752	Requirement	Done	Release 3.0	SDK	Editor: Online-Help
Editor: Mandatory Fields	MP-753	Requirement	Done	Release 3.0	SDK	Editor: Mandatory Fields A newly created service description must contain all mandatory fields, that a user is motivated to fill in necessary input. Additional (not mandatory) fields can be added by the user optionally.
Editor: Editor as separate eclipse executable (Windows 32-bit)	MP-754	Requirement	Done	Release 3.0	SDK	Editor: Editor as separate eclipse executable (Windows 32-bit)
Editor: update documentation for Editor	MP-756	Requirement	Done	Release 3.0	SDK	Editor: update documentation for Editor
Initialize geolocation index after (re-)start with already registered services	MP-781	Requirement	Done	Release 3.0	ServiceDirectory	Initialize geolocation index after (re-)start with already registered services
Compatibility with Android 5	MP-783	Requirement	Done	Release 3.0	MOBiAGENT	MOBiAGENT should compatible with Android 5
MOBiNET Platform Scoping Release 3.0	MP-787	Requirement	Done	Release 3.0		As discussed within the CMT (during Consortium Meeting May 2015), scoping of MOBiNET R3.0: Main additional features, compared to R2.0, should lead to the status that: # All services should be able to demonstrate (live or in recording or..) the added value of MOBiNET in Bordeaux. (Bordeaux will demonstrate this) # Usability of the platform should be up to the level that "external parties" should be able to use it. (The hackathon will prove this) And maybe as well # All platform components should have their core functionality as described in DoW and other documents available. R3.1 will only provide additional functionality
Integrate Webviews into UI of MOBiAGENT (e.g. AppDirectory UI)	MP-790	Requirement	Done	Release 3.0	MOBiAGENT	Integrate Webviews into UI of MOBiAGENT (e.g. AppDirectory UI)
Change start screen of MOBiAGENT to MOBiNET Login-	MP-791	Requirement	Done	Release 3.0	MOBiAGENT	Change start screen of MOBiAGENT to MOBiNET Login-Page

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Page						
Improve widget manager: Better management capabilities for the widgets	MP-792	Requirement	Done	Release 3.0	Dashboard	<p>Improve widget manager: Better management capabilities for the widgets.</p> <p>Move the position of the widgets in the list view.</p>
Ensure that a developer only can manage/modify service descriptions from his own organization.	MP-793	Requirement	Done	Release 3.0	ServiceDirectory	<p>Ensure that a developer only can manage/modify service descriptions from his own organization. This should be handled via the widgets, and not by the back end service directory component (for simpler implementation within the short timeframe).</p> <p>See e-mail exchange with Benjamin Ernst and Lars Mikkelsen for more details.</p>
Get access-token from IDM on Login and make it available in the LocalIDM for the widgets to use.	MP-794	Requirement	Done	Release 3.0	Dashboard	<p>Get access-token from IDM on Login and make it available in the LocalIDM for the widgets to use.</p>
User interface for entity bank account attributes (e.g. IBAN) specific for the Billing component	MP-795	Requirement	Done	Release 3.0	IdentityManager	<p>A user interface for a service provider to insert/modify/delete his bank account specific attributes (e.g. IBAN) (in order to be paid by MOBiNET) and the use of a standard (for IDM) interface provided by the Billing component in order to manage the store od that attributes.</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
TSP Service Discovery in AppDirectory UI (on MOBiAGENT)	MP-798	Requirement	Done	Release 3.0	MOBiAGENT	<p>From: Ulf.Noyer@dlr.de [mailto:Ulf.Noyer@dlr.de]</p> <p>Sent: Tuesday 23 June 2015 1:51</p> <p>To: Cercato Pierandrea; bastiaan.wissingh@tno.nl</p> <p>Cc: Joerg.Belz@dlr.de; Andreas.Rickling@dlr.de</p> <p>Subject: AW: AW: AW: TSP Service Discovery in MOBiAGENT</p> <p>Hi Pierandra,</p> <p>the App Directory UI should be quite similar to the Service Search Widget.</p> <p>Based on the exchanged mails, Jörg / DLR would be willing realize an Extension of the App Directory UI / MOBiAGENT for the UBI/TSPManager Use-Case with the following steps:</p> <ol style="list-style-type: none"> 1. User enters credentials into a form to login 2. User is presented a list of vehicles 3. User chooses a vehicle from the list 4. User is presented a list of UBI offers available for that vehicle 5. User chooses UBI offer from the list, can view details 6. User is redirected to a website with the chosen UBI offer <p>For that he would rely on the BASIC-Auth and REST-API from Enzo, if it provides the needed functionality.</p> <p>From my side, I could also imagine, that Jörg could use some functionality of the Local Identity Manager of the MOBiAGENT to use its registered identity.</p> <p>However, in this case probably Bastiaan would have to provide this information.</p>
Update DataCatalog Widget	MP-814	Requirement	Done	Release 3.0	ServiceDirectory	* Display "newLines" (\n) in DataFormat-Details
Update Generals Discovery Widget	MP-815	Requirement	Done	Release 3.0	TspManager	<p>* change field-label to "Searchterm"</p> <p>* Check is search is working correctly</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Update SD widgets	MP-816	Requirement	Done	Release 3.0	ServiceDirectory	<p>* find all services:</p> <p>example:</p> <pre><?xml version="1.0" encoding="UTF-8"?> <si:discoverServicesRequest xmlns:si="http://www.neclab.eu/schema/IOTServiceResolutionInterface.xsd"> <si:serviceSpecification> </si:serviceSpecification> </si:discoverServicesRequest></pre> <p>* add price to details-dialog</p>
Apply Style Guide to Dashboard an Widgets	MP-817	Requirement	Done	Release 3.0	Dashboard	Apply Style Guide to Dashboard an Widgets
Apply Style Guide to IDM UI	MP-818	Requirement	Done	Release 3.0	IdentityManager	Apply Style Guide to IDM UI
Polish dashboard widgets	MP-822	Requirement	Done	Release 3.0, Release 3.1	Dashboard	<ul style="list-style-type: none"> - include price in service details - Remove "General Service Discovery" - Link to IDM on Login Page - Company behind Name
CA to prevent roaming costs	MP-827	Requirement	Done	Release 3.0	Communication Agent	CA keep track of location of CM and as Service Provider decide to stop sending data once CM is out of country to prevent roaming costs.
IDM authentication for accessing DQA service	MP-829	Requirement	Done	Release 3.0	DQATool	User can use the MOBiNET credential to access the DQA service. The DQA needs to use the REST API from the Identity Management to verify the credential of the user.

Release 3.1

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Editor: finalizing Editor	MP-757	Requirement	Done	Release 3.1	SDK	Editor: finalizing Editor
Editor: minor usability and other improvements on the basis of evaluation comments	MP-758	Requirement	Done	Release 3.1	SDK	<p>Editor: minor usability and other improvements on the basis of evaluation comments</p> <p>A new dynamic help about service description editor area, a generic description text (Eclipse dynamic help). Minor user interface improvements: in model area there are icon buttons for</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						saving the description to file ("disk" icon) and other ("plus" icon) for saving the selected part of description into palette.
Provide general way of extending storable attributes	MP-788	Requirement	Done	Release 3.1	IdentityManager	<p>The new feature we are implementing, because it was seen as feasible during the Turin meeting (Billing and UBI), is the one I described in my previous email and in the following I will try to better define.</p> <p>We are going to provide a general way to easily extend, even in the future, the available attributes that needs to be recorded in the IDM because some MOBiNET module requires some of them.</p> <p>The PlatformAdmin will be able to handle new attributes that can be relevant for a specific service that some entity want to register for (e.g. the service provider entity in charge of handling the UBI TSP, is registered in the MOBiNET IDM and it can provide some TSP specific needed attributes. The service types that can be handled by an IDM entity should be defined by the administrator (possibly a PartyAdmin) that creates that entity itself (even though, at least for the time been, also the entity itself could be able to register in its profile also new services that he wants to handle).</p> <p>So the PlatformAdmin will do a mapping among attributed registered in the IDM by and specific services an entity could register to.</p> <p>e.g.</p> <p>The PlatformAdmin map that UBI TSP services needs the following attributes:</p> <ul style="list-style-type: none"> · ftp endpoint, username/password · services endpoint, username/password · base and additional identity attributes of the service provider · the URL of the TSPM exposed service that want to be notified of any value change of these attributes. <p>When a PartyAdmin create an entity in charge to handle an UBI TSP, it will specify that it can handle that kind of service, and so it will be possible to define the value for each of the previously listed attributes.</p> <p>In the same way, if an entity (i.e. a service provider entity that needs to be paid,</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						maybe at the end of the month, for the use of its service) needs to handle (among possibly other services) a Billing service that allows to insert the IBAN attribute (till now, the only one associated with that kind of service). Also in this case there could be possible to define an URL where the Billing component exposes a service to be notified at every change of its value). NOTE: if a MOBiNET module wants the IDM to notify any change of service type attributes, it must expose a service in a standard way that we are going to specify and that endpoint must be specified by the PlatformAdmin when it defines the list of attributes and their relation to each specific service. When that "standard" will be defined in order to have a common way to exchange each service attributes, also the already implemented service of the TSPM should be adapted to that standard way of notification.
Encoding of Service description file	MP-799	Requirement	Done	Release 3.1	ServiceDirectory	<p>Encoding of service description file should be UTF8. Special characters as EUR symbols should cause no problems, where they are used in XML elements (e.g. company owner name).</p> <p>Edit:</p> <p>This is handled by the service directory converting uploaded service descriptions to UTF8 if they are in another format. This is to ensure consistency in the back end component, and to avoid "breaking" it with an unsupported encoding. Furthermore, the correctness of the XML is also checked. This means that all service descriptions requested from the service directory will be returned in UTF8 encoding.</p>
Treat Google users as each individual companies	MP-813	Requirement	Done	Release 3.1	IdentityManager	<p>A user authenticated by Google should not have the company Google. Each of these users should have an own company with only one member.</p> <p>So these users cannot delete services from other Google users.</p>
Search in a geographical area without a service-type	MP-820	Requirement	Done	Release 3.1	ServiceDirectory	<p>Right if you want to search in geographical area (address & radius) you need to enter a service-type. This should be independent.</p> <p>In fact all search-term should be independent from each other.</p>
User authentication and authorization before deleting content in the Data	MP-821	Requirement	Done	Release 3.1	ServiceDirectory	<p>User authentication and authorization before deleting content in the Data Format Catalog</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Format Catalog						
Polish dashboard widgets	MP-822	Requirement	Done	Release 3.0	Dashboard	<ul style="list-style-type: none"> - include price in service details - Remove "General Service Discovery" - Link to IDM on Login Page - Company behind Name
Integrate IDM into dashboard	MP-823	Requirement	Done	Release 3.1	IdentityManager	<ul style="list-style-type: none"> - Possibility to change/edit your personal MOBiNET account in the dashboard maybe iframe for IDM ???
Make searching in tags case independent	MP-824	Requirement	Done	Release 3.1	ServiceDirectory	<ul style="list-style-type: none"> - Could be also meaningful for other attributes and not only tags. Is searching done in the database with "LIKE" operator? Maybe just change to ILIKE? - Do not search for "exact match" but for "contains" when searching for a term.
Maps in service details often not working properly	MP-825	Requirement	Done	Release 3.1	Dashboard	<p>Maps in service details often not working properly.</p> <p>Please do some more testing, when there are not perfect coordinates provided.</p>
Optimize behaviour of OpenId verification page	MP-826	Requirement	Done	Release 3.1	IdentityManager	<p>When someone logs in to the MOBiNET dashboard using the MOBiNET Identity Provider the user has to grant his choice on the next page by clicking "Allow transfer" (alternative is "No Thanks")</p> <p>This decision should be probably stored (e.g. with a cookie) that the person does not have to see this page again and again.</p> <p>By clicking on the "Info" button there also opens a dialog "Attributes", which should probably inform the user, which of his identity attributes are accessed by the dashboard?</p> <p>However, this popup is currently empty and probably should be fixed.</p>
DQA service for FVD	MP-830	Requirement	Done	Release 3.1	DQATool	DQA provides services to assess Floating Vehicle Data (probe data) with respect to accuracy and value. The computation of such values is done through statistical analysis and predictive modelling through machine learning frameworks.
Parallel login to COM2 and COM3	MP-836	Requirement	Done	Release 3.1	Dashboard	Session handling seems somehow confused, when you are logged in into several environments at the same time.
Provide an API for automated data submission of	MP-837	Requirement	Done	Release 3.1	Dashboard	Definition & implementation of an API for automated data submission of connection performance data (QoS) including

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
connection performance data (QoS)						mandatory and optional fields.
Providing a set of analytics allowing good overviews of collected data.	MP-838	Requirement	Done	Release 3.1	Dashboard	Providing a set of analytics which allow for a good overview over the collected data as well as fast and easy access to the data of a specific area
Provide an API for retrieval of connection performance data	MP-839	Requirement	Done	Release 3.1	Dashboard	Definition & implementation of an API for retrieval of processed connection performance data
Providing widgets for visualization of Analytics data	MP-840	Requirement	Done	Release 3.1	Dashboard	Providing widgets for statistical and real time visualization of the processed connection performance data in form of a map
Sort the services/item list within the Dashboard (SD-Widget) alphabetically	MP-842	Requirement	Done	Release 3.1	Dashboard	This should be possible to implement based on the current information available from the SD
DQA should implement Oauth 2.0	MP-844	Requirement	Done	Release 3.1	DQATool	DQA should implement Oauth 2.0
Provide a widget for the Dashboard	MP-845	Requirement	Done	Release 3.1	DQATool	DQA should provide a widget for the Dashboard
Fully implement the MOBiNET Layout Style	MP-846	Requirement	Done	Release 3.1	IdentityManager	Identity Manager needs to fully implement MOBiNET Layout Style. Seems like for example button styles are implemented but not all fonts. In MOBiCENTRE login "Allow tranfer" should be "Allow transfer".
Validate newly created users by confirming their e-mail account	MP-847	Requirement	Done	Release 3.1	IdentityManager	Identity Manager should validate new users, by sending them e-mail to confirm their account
Change the role of a Google-user to a "Developer user"	MP-848	Requirement	Done	Release 3.1	IdentityManager	Change the role of a Google-user to a "Developer user". Enzo Contini: Function that allows the PlatformAdmin to possibly change for an end user (e.g. a Google registered one) the role of EndUser (the default one when he log-in for the first time into MOBiNET) to a Developer one, can be implemented in next February release.
Apply the Roles & Rights model; Manage platform without accounts	MP-849	Requirement	Done	Release 3.1	IdentityManager	Apply the roles&rights model; Manage platform without accounts (party, party admins, users, service specific attributes) only for users with role "PlatformAdmin"
Apply the Roles & Rights model; Manage accounts for own party	MP-850	Requirement	Done	Release 3.1	IdentityManager	Apply the roles&rights model; Manage accounts for his own party only for users with role "PartyAdmin"
Make Service Description Editor platform independent	MP-851	Requirement	Done	Release 3.1	SDK	Service Description Editor platform independent. Currently only for Windows? Make it also available for Linux and Mac

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Provide full Service Description file upon downloading from Dashboard	MP-852	Requirement	Done	Release 3.1	Dashboard	<p>Downloading a Service Description should provide you with the total file, so that it can be used to re-upload.</p> <p>R3.0 version is missing opening rows as well as closing rows within the XML file.</p>
Apply the Roles & Rights model	MP-853	Requirement	Done	Release 3.1	ServiceDirectory	<p>Apply the Roles & Rights model for:</p> <ul style="list-style-type: none"> - Uploading / changing / deleting of Service Descriptions / Data formats of the own party/company must only be possible for users with role "Party Admin" or "DeveloperUser". - Deleting any service or data format must only be possible for users with role "PlatformAdmin" - Searching the Data Format Catalog must only be available to users with roles "PlatformAdmin", "Party Admin" or "DeveloperUser"
Expand Server-Side validation of the uploaded service description	MP-857	Requirement	Done	Release 3.1	ServiceDirectory	<p>Server-Side validation of the uploaded service description (Server side, data quality validation) -> validate the "Category" and "Type" fields.</p> <p>"If an description is uploaded, check if it is completely ok, before it is (partially) stored and an "ok" is replied. Missing elements: tag, type, category currently cause problems. As an security issue all inputs from web applications are to validate by the server side.</p> <p>To check the input from the client (browser) is only useful for the user experience,</p> <p>e. g. with JavaScript, but never ensure a proposition of the data quality.</p> <p>This is because security checks in the browser could be turned off or could be arbitrary manipulated.</p> <p>For the requirements this means we need two new issues, one for the client side (user experience validation) and the server side (data quality validation).</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Provide a more standardized approach to the data format	MP-858	Requirement	Done	Release 3.1	ServiceDirectory	<p>More standardized approach to the data format: name, description, endpoint mandatory and standard format (Json/XML + guidelines).</p> <p>Lars Mikkelsen: The point of the data format catalog is to not put restraints of how to describe data formats. However, some fields could be made mandatory, such as name, id, poster and contact info.</p> <p>Bastiaan Wissingh: But if you would like to search for data formats, because as Data Provider for example I like to comply with data formats that are already used for example traffic light data so that other Service Providers can make use of my data easily. There would be some mandatory fields needed right? Otherwise searching would become a bit difficult?</p> <p>Lars Mikkelsen: Approved with list of proposed required fields:</p> <ul style="list-style-type: none"> -tags: minimum 1 tag -id: user chosen id -formatDefinition formatDefinition.externalUrl: any content -version: x.y.z -publishingOrganization: contact info, organization name + id -dataFormatName: human readable name (not empty) -textualDescription: human readable description (not empty)
Show the results from a search on map	MP-859	Requirement	Done	Release 3.1	Dashboard	<p>Show the results from a search on map (Partly implies showing data sets available for each region).</p> <p>Andreas Rickling: Needs clarification. Is this related to the data services published in the service directory?</p> <p>Bastiaan Wissingh: Related to MP-820? Based on the feedback received from the Hackathon I'm assuming that the developers would like to have some kind of functionality to see what kind of data sets are available, instead of having to search for data sets. So e.g. in Amsterdam a list shows there are multiple parking data sources, traffic light data sources, bicycle rental data sources available. Instead of having to search for all data sources types individually as you might not know what to search for. Is that</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						<p>already possible? Issue for the Service Directory Widget?</p> <p>[Benjamin Ernst]: We could show the markers for all services in the current result-set of the current query. This means we are not showing the service-areas (rectangles), but one marker for each service in the center of its area.</p>
Searching for one of the categories/tags should return service description	MP-860	Requirement	Done	Release 3.1	ServiceDirectory	Service Description could contain more than one category/tag. Searching one of it should deliver the service.
Facilitate login to all MOBiNET platforms	MP-861	Requirement	Done	Release 3.1	MOBiAGENT	MOBiAGENT login functionality must provide the possibility to select all MOBiNET environments not only test2 and mobicentre.mobinet.eu.
Be able to rotate the screen while using Service Directory UI	MP-862	Requirement	Done	Release 3.1	MOBiAGENT	Rotating the screen while using the Service Directory UI results in re-initializing the interface which is unwanted behaviour.
Use native Android "back-button" within Service Directory UI	MP-864	Requirement	Done	Release 3.1	MOBiAGENT	Native Android "back-button" should also provide the "back" functionality when in the Service Directory UI of the MOBiAGENT
MOBiAGENT should be compatible with Android 6.x	MP-866	Requirement	Done	Release 3.1	MOBiAGENT	<p>The MOBiAGENT seems currently incompatibility with Android 6.x.</p> <p>Because currently foreseen that within the timeframe of the project Android 6.x will not be available on most devices, suggestion is to spend 2 days to investigate the issue and try to come up with a solution, if not possible within 2 days shift to backlog.</p>
Standard show only B2C Services in Service Directory UI	MP-867	Requirement	Done	Release 3.1	MOBiAGENT	Change the Service Directory UI of the MOBiAGENT to standard show the B2C Services Only
Change default environments of Service Directory UI	MP-868	Requirement	Done	Release 3.1	MOBiAGENT	Change the default environment to mobicentre2.mobinet.eu and rename "com2" to "mobicentre2.mobinet.eu"
Google Account should provide read-only access to the MOBiNET platform	MP-869	Requirement	Done	Release 3.1	IdentityManager	<p>Google Account should provide read-only access to the MOBiNET platform.</p> <p>"EC: Needs Clarification– What does it mean? I always suggest that Google authentication should be maintained only for endUsers that, because of its role, should only do limited things in MOBiNET (use end user services). However this kind of log-in was adopted, in my understanding, also for developers and may be service providers. Anyway, if some limitation in the access to the MOBiNET platform should be done (e.g. limitation in access /register services in the SD), this logic should be implemented in the specific MOBiNET module: what</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						<p>the IDM can do, and already does, is to notify that a specific user has a role of endUser and he is Google authenticated.</p> <p>BW: As far as I understood from the Brussels meeting was the request that when a end user creates a ""Google"" user account it should only be able to Search the Service Directory, so act as an end-user. Looking at the requirement for the dashboard of providing different functionality to different user roles (as discussed during SP3 telco on 17-11-15) I think this request will be fulfilled."</p>
Improve the Simple Search functionality of the Dashboard widget	MP-870	Requirement	Done	Release 3.1	Dashboard, Service Directory	<p>Improve the Simple Search functionality of the Dashboard widget to automatically provide results on more fields, much like the Service Directory UI search functionality of the MOBiAGENT.</p> <p>Currently as search is performed on contents of limited amount of fields, returned results often do not match with what is expected.</p>
Provide information on all fields (what is expected, examples).	MP-871	Requirement	Done	Release 3.1	SDK	<p>Provide information on all fields (what is expected, examples).</p> <p>Currently some information regarding the expected content for each field is provided within the documentation, however not for all fields. Provide this information within the editor itself.</p>
Add a button to clear the search field for simple search functionality.	MP-872	Requirement	Done	Release 3.1	Dashboard	<p>Add a button to clear the search field for simple search functionality.</p> <p>With the current implementation it proves to be more difficult to do an "empty" search after one has been trying to search for certain terms.</p>
Change Dashboard widget default file upload type	MP-873	Requirement	Done	Release 3.1	Dashboard	<p>While using the Dashboard widget to upload a Service Description file, it seems like only XML files are accepted.</p> <p>Could be that the default settings are set to XML instead of all files when using the "file-browser" to upload new files.</p>
Improve layout of Service Description Editor.	MP-874	Requirement	Done	Release 3.1	SDK	<p>Improve layout, so more room for adding like description text.</p> <p>Improve the layout of the editor for adding text for the different fields. The current implementation makes it difficult to add longer description texts.</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Check whether Mandatory fields of the Service Description are filled upon saving.	MP-875	Requirement	Done	Release 3.1	SDK	<p>Check whether Mandatory fields of the Service Description are filled upon saving the Service Description.</p> <p>Currently it is possible to save a Service Description where the mandatory fields are not filled, resulting in having an invalid Service Description.</p>
As a Business Party Administrator I need to be able to see other business party administrators	MP-876	Requirement	Done	Release 3.1	IdentityManager	As a Business Party Administrator of a party I need to be able to see the other Business Party Administrators of the same party
Provide more feedback in response on REST API request	MP-879	Requirement	Done	Release 3.1	Communication Agent	CA must provide more feedback on the REST API request that is being send, except only a timestamp in order to make it more user friendly.
Provide "back-wards" communication interface	MP-880	Requirement	Done	Release 3.1	Communication Agent	<p>CA must provide "back-wards" communication interface towards Service Providers to retrieve e.g. Floating Car Data. Service Provider needs to be able to gain access to CM data collected in CA.</p> <p>First the interface between CA AND SP has to be defined (URL/UDP request). Second the data format has to be agreed upon (last received CAM from CM?). Required development effort on both SP and CA.</p>
Validate Map Coordinates	MP-882	Requirement	Done	Release 3.1	Dashboard	Validate the coordinates of the google map when there is no data, no map should be visible when the data is invalid, the feedback should be given to the user.

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Filter on the "input" and "output" fields from data catalog	MP-883	Requirement	Done	Release 3.1	ServiceDirectory	<p>Filter on the "input" and "output" fields from data catalog in order to easily connect data formats to Service Descriptions.</p> <p>LM: I think we still need to discuss this next week at the consortium meeting, both regarding functionality and implications. But a possible solution could be that it is entirely done at the widget side.</p> <p>LM: Possible understandings of this requirement:</p> <p>1: It is related to the service discovery (search), i.e. that it should be possible to discover services based on the data format listed in the hasOutput/hasInput fields.</p> <p>2: It is related to making it easier for the user to see data formats listed in a service description, e.g. when looking at a service description in the service directory it should be possible to "click" on the data format id/name, which will lead the user to the data format description</p> <p>3: It is related to when service descriptions are added to the service directory, where a check is performed if the data format listed in the service directory exists in the data format catalog.</p> <p>#1: Already a functionality of the service directory - Critical feature for enhanced automated M2M service discovery</p> <p>#2: Not currently available but should just require a simple lookup both ways (from SD to DFC, and from DFC to SD), and could be realized as a widget functionality - Nice-to-have feature</p> <p>#3: Not currently available - This could potentially block the adding of service description as the data format would need to be present</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Client-side validation of uploaded service description (Client side, user experience validation)	MP-884	Requirement	Done	Release 3.1	Dashboard	<p>If an description is uploaded, check if it is completely ok, before it is (partially) stored and an "ok" is replied. Missing elements: tag, type, category currently cause problems. As an security issue all inputs from web applications are to validate by the server side.</p> <p>To check the input from the client (browser) is only useful for the user experience, e. g. with JavaScript, but never ensure a proposition of the data quality.</p> <p>This is because security checks in the browser could be turned off or could be arbitrary manipulated.</p> <p>For the requirements this means we need two new issues, one for the client side (user experience validation) and the server side (data quality validation).</p>
Align Categories	MP-885	Requirement	Done	Release 3.1	Dashboard, MOBiAGENT, SDK, Service Directory	Align category description between MOBiAGENT, Dashboard, Service Directory, Service Description Editor, currently they seem to be a bit different in each above mentioned component.
Test Widget Identity Manager	MP-894	Requirement	Done	Release 3.1	Dashboard	This widget should provide some basic information from the identity manager.
Import user details from Identity Manager	MP-895	Requirement	Done	Release 3.1	Billing	Import user details from Identity Manager
Log events relevant for billing purposes	MP-896	Requirement	Done	Release 3.1	Billing	Log events relevant for billing purposes
Create a general framework for invoice generation	MP-897	Requirement	Done	Release 3.1	Billing	Create a general framework for invoice generation
Widget/User interface: search and visualization of invoices	MP-898	Requirement	Done	Release 3.1	Billing	Widget/User interface: search and visualization of invoices
Widget/User interface of MOBiNET Administrator - search and visualization of invoices	MP-899	Requirement	Done	Release 3.1	Billing	Widget/User interface of MOBiNET Administrator - search and visualization of invoices
Generate SEPA file for bank direct debit	MP-900	Requirement	Done	Release 3.1	Billing	Generate SEPA file for bank direct debit
Configuration of monthly MOBiNET subscription fee invoices	MP-901	Requirement	Done	Release 3.1	Billing	Configuration of monthly MOBiNET subscription fee invoices
Log B2B prepaid sales	MP-902	Requirement	Done	Release 3.1	Billing	Log B2B prepaid sales. Input from B2B2C Parking use case. It could be extended to PT ticketing in future implementations.

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Generate B2B billing data for commissions	MP-903	Requirement	Done	Release 3.1	Billing	Generate B2B billing data for commissions. Input from B2B2C Parking use case. It could be extended to PT ticketing in future implementations.
OAuth Authentication Data Format Catalog	MP-907	Requirement	Done	Release 3.1	ServiceDirectory	- the data format catalog widget has to implement the OAUTH authentication.
Widget: Owning and Registering Organizations	MP-908	Requirement	Done	Release 3.1	Dashboard	Set during Upload of Service Description: Registering Management Widget: List all services, which were "registered" by the uploading company Optionally for later: List all services, which were "registered" by the uploading company and also include services, which were "owned" by the current organization
Add some online help for data format catalog upload dialog	MP-909	Requirement	Done	Release 3.1	ServiceDirectory	Please provide some text available as popup or similar when preparing a format description in the Dashboard widget to upload into the data format catalog.
Different SSC pages for Users	MP-914	Requirement	Done	Release 3.1	Dashboard	- Developers/Administrators can see full support documents - likely this is also the right choice for partyUsers (even when they cannot do several things) - But singleUsers should only see a very shortened description of the SSC with minimal instructions for searching the SSC (This use case is quite important, because this user group is the default group, when users register over the web site. When MOBiNET is publically accessible this is an important scenario.)
Widget for "Terms of Service"	MP-915	Requirement	Done	Release 3.1	Dashboard	Just a widget with some text. Please copy&paste the text from the IDM site for "Terms of Service" This widget should be placed under "support" and it must be visible to all user roles
Clear obsolete sections from default / background widget	MP-919	Requirement	Done	Release 3.1	Dashboard	- Remove: link / text for (outdated) ITS 2015 - Remove: link / text for (outdated) ITS Hackathon - Remove: link / text for (outdated) survey Maybe add links/buttons, to terms, contact and docs ???

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Reformat UI for Data Format Catalog	MP-920	Requirement	Done	Release 3.1	ServiceDirectory	<p>Instead of the "Format Definition" field, there should be 2 fields:</p> <p>"definition" and "externalUrl".</p> <p>These structured as follows:</p> <pre>"formatDefinition":{ "definition":"this is the definition", "externalUrl":"externalUrl.com"</pre> <p>The [this is the definition] can be replaced with anything(!) while the [externalUrl.com] must be a valid URL.</p> <p>At least one of these fields must contain content!</p> <p>As it is now I can only add a data format if I myself define the "definition":"[content]" or "externalUrl":"[URL]".</p>
Login with Google can be disabled by configuration	MP-922	Requirement	Done	Release 3.1	Dashboard	<p>Login with Google can be disabled by configuration.</p> <p>We will need this feature, when we make the platform publically available.</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Single Sign On for Dashboard	MP-923	Requirement	Done	Release 3.1	Dashboard	<p>Related to the integration with the Dashboard, consider the following:</p> <p>1) The Dashboard's menu items that forward to the IDM User Management site and to the IDM Authorization Administration site should now send a parameter in order to specify the return URL (that is the link the IDM site will set, in a specific new menu item, in order to allow to go back to the Dashboard: possibly is the URL of the Dashboard page where the user clicked to reach an IDM site):</p> <p><code>http(s)://[server]/IdentityManager/{color:red}idmLogin{color}?returnTo=[return URL]</code></p> <p><code>http(s)://[server]/AuthorizationAdministration/{color:red}idmLogin{color}?returnTo=[return URL]</code></p> <p>... so only that new parameter should be added Dashboard side.</p> <p>2) The Login from the Dashboard remains the same as it was:</p> <p><code>http(s)://[server]/IdentityAccess/OpenId</code></p> <p>3) Related to the Logout, in order to let the SSO feature from the OpenID client, that has used that protocol for the authentication, there is the need to implement a redirect to a return URL (that is the page of the Dashboard for not authenticated users):</p> <p><code>http(s)://[server]/IdentityAccess/logout?returnTo=[return URL]</code></p>
Persistence of the menu structure	MP-925	Requirement	Done	Release 3.1	Dashboard	The menu structure should be saved persistent. So when the dashboard is restarted the old menu structure is loaded.
Use extended search API for searching Service Directory	MP-926	Requirement	Done	Release 3.1	Dashboard, Service Directory	<p>Use new API provided by Flavio:</p> <ul style="list-style-type: none"> - Search substrings - Search case independent - Search metadata and other attributes (connected with logical OR)

Release 4.0

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Billing menu should hide unavailable menu entries.	MP-934	Requirement	Done	Release 4.0	Billing	<p>In the Billing menu of the Dashboard, the menu entries to functionality that is not available for a specific type of user shouldn't be shown.</p> <p>So visualize the billing widgets according to the user's account and his/her profile.</p> <p>Widget User's account</p> <ol style="list-style-type: none"> 1. Billing configuration MOBiNET administrator 2. Billing XML ALL 3. Billing invoices ALL 4. Billing SEPA ALL 5. Billing Event list MOBiNET administrator 6. Billing processing MOBiNET administrator 7. Purchase simulation MOBiNET administrator
Generating payment should not result in returning to homepage	MP-935	Requirement	Done	Release 4.0	Billing	Check that when generating the payment, the error that causes the user to return to the home page does not occur.
Add an event type code description	MP-936	Requirement	Done	Release 4.0	Billing	<p>Daniela: Insert a description of each event type tracked in the billing event list.</p> <p>A description of every event type now is available on the billing component. This requirement has been implemented and tested. it is done.</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Service Provider pays a fee one-off to MOBiNET for publishing in Service Directory	MP-937	Requirement	Done	Release 4.0	Billing, ServiceDirectory	<p>Service Provider pays a fee one-off to MOBiNET for each product published in Service Directory. (see Par 4.3.4, 5.4 Pluservice_MOBiNET Billing_V2.5.2.docx).</p> <p>Daniela: Service directory calls the billingevents web API to notify the publication of items on the dashboard.</p>
Improve reliability of Billing processing Widget	MP-938	Requirement	Done	Release 4.0	Billing	<p>"Improve the billing processing widget for more reliability:</p> <ul style="list-style-type: none"> - Invoice generation - SEPA generation - XML generation <p>(see Par. 5.5.1, 5.5.2, 5.5.3, 5.5.4 Pluservice_MOBiNET Billing_V2.5.2.docx)</p> <p>Improve the billing processing widget for more reliability:</p> <ul style="list-style-type: none"> - Invoice generation - SEPA generation - XML generation <p>(see Par. 5.5.1, 5.5.2, 5.5.3, 5.5.4 Pluservice_MOBiNET Billing_V2.5.2.docx)</p> <p>Daniela: Some checks will be introduced to be sure that event will be not considered twice. Button "Annul last operation" is visible only for the last operation.</p>
Provide reporting for MOBiNET Administrator	MP-939	Requirement	Done	Release 4.0	Billing	<p>Reporting for MOBiNET Administrator (see Par 5.5.5 Pluservice_MOBiNET Billing_V2.5.2.docx)</p> <p>Daniela: MOBiNET Administrator can select a time frame and visualize all commissions billed for that period. Data are extracted from data mart of billing, i.e. of invoices generated by MOBiNET</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Provide real-time logging for Service Provider IDs	MP-940	Requirement	Done	Release 4.0	Billing	<p>Real time log for service provider ID. (see Par 5.5.6 Pluservice_MOBiNET Billing_V2.5.2.docx)</p> <p>Daniela: Service Providers can query real time log for verification and monitoring their own purposes.</p>
Provide a "purchase" button within the Service Directory	MP-941	Requirement	Done	Release 4.0	Billing, ServiceDirectory	Daniela: Allow to buy from the SD the purchasable service thanks a button that calls the WEB API published (billingevents).
Provide "back-wards" communication interface	MP-880	Requirement	Done	Release 4.0	Communication Agent	<p>CA must provide "back-wards" communication interface towards Service Providers to retrieve e.g. Floating Car Data. Service Provider needs to be able to gain access to CM data collected in CA.</p> <p>First the interface between CA AND SP has to be defined(URL/UDP request). Second the data format has to be agreed upon. (last received CAM from CM?). Required development effort on both SP and CA.</p>
Identify and implement steps required to provide basic authentication protection	MP-886	Requirement	Done	Release 3.1, Release 4.0	Communication Agent, Dashboard, DQATool, ServiceDirectory	<p>Identify and possibly implement the steps required to provide basic authentication protection for the web interfaces and APIs of the component.</p> <p>Background: Each component should be protected by some kind of authentication from unauthorized access. Best approach is to use mechanisms provided by Identity Manager (OAuth2). If this is not possible, HTTP basic authentication should be used as fallback solution.</p>
MP-886 Identify and implement steps for basic authentication protection of Communication Agent API	MP-890	Implementation-Task	Done	Release 4.0	Communication Agent	The result of this implementation-task should provide an analysis on how to provide basic authentication protection for the use of the Communication Agent API and possible also implement this basic authentication protection. As currently there is no authentication protection provided, resulting in anyone that can make use of the Communication Agent API.

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Improve stability of CA Component	MP-942	Requirement	Done	Release 4.0	Communication Agent	<p>Improve overall stability of CA component, current version often not available for unknown reasons while from Service Providers side almost impossible to check if it is working correctly.</p> <p>Related to MP-880 and MP-890</p>
Widget for "Contact"	MP-916	Requirement	Done	Release 4.0	Dashboard	<p>Add a widget "Contact" to group Support:</p> <p>This widget must be visible to all user groups/roles.</p> <p>Please add a this text as initial placeholder:</p> <p>For more information on MOBiNET or to gain developer access please contact MOBiNET@mail.ertico.com</p>
A singleUser should not access to the IDM Authorization site from the Dashboard menu	MP-929	Requirement	Done	Release 3.1, Release 4.0	Dashboard	<p>A singleUser should not access to the IDM Authorization site from the Dashboard menu, being that site only for business purposes so for <code>_BusinessUsers_and_singleDeveloper_ones</code> (see D3.5 ch. 5.1)</p>
Hide unavailable functions from Dashboard menu	MP-943	Requirement	Done	Release 4.0	Dashboard	<p>Hide data format catalog from menu when user role is singleUser or partyUser. Remove link from data format id in service details view when user role is singleUser or partyUser.</p> <p>It could be better that not available functions for a user role should be hidet at menu stage.</p> <p>Example, A partyUser cannot see the Data Format Catalogue widget, but a singleUser can access to it.</p>
Improve user-friendliness of Geographical area searching	MP-944	Requirement	Done	Release 4.0	Dashboard	<p>It is unclear how to search in a geographical area without a service-type.</p> <p>Improve it in Service Directory widget by -> advanced search -> change "Address" to "Locality/city".</p>
Improve user-friendliness of Dashboard menu choices	MP-945	Requirement	Done	Release 4.0	Dashboard	<p>Current menu items/choices not understandable for users, improve by:</p> <p>In service directory menu, change naming of "Service Discovery" to "Telematics Service Discovery"</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
						<p>In service directory management widget, rename "Upload" button to "Upload new service description"</p> <p>In service directory management widget, for individual service, change icon of update-button + change mouse-over text to "Update service description"</p>
Dashboard should support layout scaling	MP-948	Requirement	Done	Release 4.0	Dashboard	<p>Dashboard layout scaling does not seem to work. If the width of the screen is smaller than an x amount of pixels, items start to drop off from the navigation bar. Make the navigation bar double rows for example.</p> <p>DLR: add responsive design to dashboard</p>
Service Directory map view should open in Europe	MP-949	Requirement	Done	Release 4.0	Dashboard, ServiceDirectory	Map view should open to Europe rather than somewhere in Pacific Ocean by default.
Improve stability and reliability of Analytics component	MP-966	Requirement	Done	Release 4.0	Dashboard	Improve currently establish features of the Analytics Component in terms of stability and reliability. Bug fixing.
Add and display contact detail fields of Service Description in Service Directory	MP-973	Requirement	Done	Release 4.0	Dashboard, ServiceDirectory	<p>In order to support the Business requirement of the so called "Yellow Pages" model, additional fields in the Service Description should be available and displayed.</p> <p>By "Yellow Pages" model is meant, to be able to deploy a "service" page without a service, but where partners can add a description and contact details.</p> <p>In order to do so, additional fields in the Service Description for contact details should be available as also a field to add a link to additional information.</p>
DQA widget should check format validity of uploaded data before pressing Analysis button	MP-969	Requirement	Done	Release 4.0	DQATool	<p>Check that Analytics server does not gives error when clicking into "Trigger DQA Service" after the successful upload of a file with a csv with correct format.</p> <p>The DQA widget should verify whether uploaded data has valid format before letting user press the "analysis" button.</p>
Allow users to reset their password	MP-950	Requirement	Done	Release 4.0	IdentityManager	Sending an email to the users registered email address to reset the password.
Improve user-friendliness of navigating between Identity Manager and Dashboard	MP-952	Requirement	Done	Release 4.0	IdentityManager	<p>Clicking on Identity Manager, a new page is displayed and it's difficult to go back to the Dashboard.</p> <p>Rename the "back" button of the Identity Manager to "back to the Dashboard" or something.</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Issue Type	Status	Fix Version/s	Component/s	Description
Add functionality to SDK specify language within Service Description	MP-958	Requirement	Done	Release 4.0	SDK	Currently it does not seem possible to indicate the language in the description of the service, when using the SDK.
Make the Service Description map coordinates functionality more robust	MP-959	Requirement	Done	Release 4.0	SDK, ServiceDirectory	Map coordinates works if well defined in the service description file: in some services does not work probably because they are not properly checked at description upload.
Improve stability and reliability of Service Directory component	MP-970	Requirement	Done	Release 4.0	ServiceDirectory	Improve currently establish features in terms of stability and reliability to support requirements. Bug fixing

Annex II

This annex lists an export from the JIRA requirement management system, containing a detailed description of the requirements as recorded within JIRA that are listed as requirements to be taken into account for future take up of the platform.

Summary	Issue key	Component/s	Description
IOS Operating System	MP-27	MOBiAGENT	<p>As a Mobile End User, I need to access MOBiNET services using my iPhone or iPad, so that MOBiNET can be used with my current mobile devices</p> <p>Details MOBiNET shall operate on the following versions of IOS on both Iphone and iPad devices</p> <p>IOS 5.x IOS 6.x IOS 7.x</p> <p>Exceptions None</p> <p>Exclusions IOS 7.x is not required at this point in time</p> <p>Acceptance Criteria Execute a MOBiNET service on 3 different smartphones and tablet devices that have the above mentioned operating systems installed.</p> <p>Clarifications</p> <p>Open Issues None</p>
Windows Phone Operating System	MP-28	MOBiAGENT	<p>As a Mobile End User, I need to access MOBiNET services using my Windows Phone device, so that MOBiNET can be used with my current mobile devices</p> <p>Details MOBiNET shall operate on the following versions of Windows Phone OS</p> <p>Windows Phone 7.0 Windows Phone 7.5 Windows Phone 8.0</p> <p>Exceptions None</p> <p>Exclusions Only Windows Phone 8.0 is required in release 1</p> <p>Acceptance Criteria Load and execute a MOBiNET service on 3 different smartphones and tablet devices that have the above mentioned operating systems installed.</p> <p>Clarifications</p> <p>Open Issues None</p>
Proactive Application Offering	MP-31	MOBiAGENT	<p>As an Application Developer I need to be able to advertise my application to the End User based on current context information, so that I can offer my services to new users or inform a current user about an additional feature within my application.</p> <p>Details MOBiAGENT should expose for the Application Developer current location information in the MOBiAGENT context. MOBiNET applications should be able to subscribe to context information changes. Application can activate it self if it was in the background based on the current context or other information it may receive via different sources.</p> <p>Exceptions</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Component/s	Description
			<p>MOBiNET Applications can get location information only if it is allowed by the current privacy policy accepted by the End User</p> <p>Exclusions</p> <p>Acceptance Criteria Use an application which subscribes to context change notifications and becomes activated when entering a certain predefined area. Simulate entering the predefined area or use a physical device to enter the defined area. Check if the application has activated upon entering the specified area.</p> <p>Clarifications</p> <p>Open Issues</p>
Easy Access To Device Sensor Data	MP-34	MOBiAGENT, SDK	<p>As a Application Developer, I need to be able to access device sensor data in an uniform way without having to know the hardware details of the exact device, so that I can minimize my application development time</p> <p>Details MOBiAGENT should provide API allowing access to device sensor data: - Location information - Accelometer</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria Ensure that API for fetching location information is present in MOBiAGENT Use the API from a MOBiNET application and ensure that it provides correct location information. Check using multiple devices of various types.</p> <p>Clarifications</p> <p>Open Issues We need to define list of devices which are required.</p>
Control which services/applications to allow in an in-vehicle OBU	MP-40	MOBiAGENT, ServiceDirectory	<p>As a Service Provider, I need to be able to control which applications to allow to be installed in my OBU, so that only those applications which can execute with optimum performance can be installed on the device</p> <p>Details</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues We need to rethink is this correct role? Do we need an additional role for this function? Is the reasoning correct? Which parameters decide if app can or cannot be installed?</p>
Version Change Notifications	MP-42	MOBiAGENT	<p>As a End User, I want to be notified on version updates of applications I have installed so that I always have latest version of the software.</p> <p>Details</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p>

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Summary	Issue key	Component/s	Description
			Open Issues
History of Usage	MP-52	Billing, Dashboard, IdentityManager	<p>As a Service Provider, I need to be able to see the history of service usage, so that I can identify which users were using which of service functions in a previous period.</p> <p>Details</p> <p>MOBiNET must track following data:</p> <ul style="list-style-type: none"> - End User logins [last month] - Service Provider authentications [last month] - Payments (including payment brakedown if exists) [entire history] <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p> <ol style="list-style-type: none"> 1. Not clear if MOBiNET should/can track non-MOBiNET related history (ie: do we allow service providers publishing internal logging information on MOBiNET) 2. We need to define full list of history items will be recording on MOBiNET as well as the duration for keeping the records
Register users	MP-55	Dashboard, IdentityManager	<p>As a Administrator, I need to be able to register other users to be able to login to the dashboard, so that they can perform activities on the dashboard assigned to their role</p> <p>Details</p> <p>Adminitrator must be able to register other users of the same Role, and users with a Service Developer role.</p> <p>Each Administrator user must be registered with following information:</p> <ul style="list-style-type: none"> - First Name - Last Name - Email - Password <p>Each Service Developer must be registered with following information:</p> <ul style="list-style-type: none"> - First Name - Last Name - Email - Password - Service Provider [Selection from a list of existing service providers] <p>Registered user is automatically active and can perform all assigned functionalities</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Login as Administrator on the Dashboard. Register a user. Use the email/password to login to Dashboard. Verify that login was successful. Verify that newly registered user can be found in list of registered users</p> <p>Clarifications</p> <p>Open Issues</p> <p>What data is needed to register each of the users types?</p>
Privacy Agreement on Registration	MP-58	PrivacyManager	<p>As a End User, I need to be able to accept or decline usage of my location information within MOBiNET as a part of my registration process with MOBiNET, so that I no service can access my private location information if I</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Component/s	Description
			<p>do not wish so.</p> <p>Details</p> <p>Before using any MOBiNET services the end user (driver) MUST sign up with MOBiNET. A part of this process MUST be an agreement on the collection of data, and their use, by MOBiNET.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p> <p>How to align this when users are registered via their respective organizations</p>
Update privacy policy settings	MP-59	PrivacyManager	<p>As a End User, I need to be able to change my privacy policy settings after I have once defined them, so that I am able to adjust the settings to my personal preferences.</p> <p>Details</p> <p>The service MUST adhere to the last settings that the user has set, and discard any information that it has that is in conflict with such settings</p> <p>Exceptions</p> <p>Exclusions</p> <p>MOBiNET privacy settings are applied only to private user data which is managed by MOBiNET, which includes as an example:</p> <ul style="list-style-type: none"> - Location information - User payment account information <p>Default setting for all privacy settings must prevent data sharing, until user explicitly decides to share the data.</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
Inspection of Private Data	MP-60	PrivacyManager	<p>As a End User, I need to be able to inspect my own private data which I've selected to be shared with service providers, so that I know which data is shared and I have more confidence in the MOBiNET privacy management system.</p> <p>Details</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
Clear Private Tracking Data	MP-61	PrivacyManager	<p>As a End User, I need to be able to clear my private tracking data, so that any data which I do not want to share from the past is no longer visible in the system.</p> <p>Details</p> <p>User must have the "Right To Be Forgotten". Personal user data is considered property of the End User and user should be able to manage the data according to own preference.</p> <p>Exceptions</p> <p>Exclusions</p>

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Summary	Issue key	Component/s	Description
			<p>User data cannot be removed from statistical data sets derived from End Users data, but End Users data will not be included in future statistical queries.</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
Private Data EU Legislation	MP-62	IdentityManager, PrivacyManager	<p>As a End User, I wish to have consistent approach in regards to handling private data when using my applications and services in accordance with EU legislation, so as I do not have to learn how privacy management works for each different application.</p> <p>Details</p> <p>MOBiNET should provide a framework/API to the Service and Application Developers which allows applications and services to offer consistent UI and workflow for defining End User private data handling.</p> <p>Exceptions</p> <p>MOBiNET governing organization is not liable for how the applications/services use End User data.</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p> <p>Does this requirement provide any confidence in users as MOBiNET does not guarantee fulfillment of the privacy acknowledgement?</p>
Private Data Local Legislation	MP-63	IdentityManager, PrivacyManager	<p>As a End User, I wish to have consistent approach in regards to handling private data when using my applications and services in accordance with locally applicable legislation, so as I do not have to learn how privacy management works for each different application</p> <p>Details</p> <p>Although privacy data is affected by the EU laws, in cases of any country within or outside the EU, other laws might be applicable which override the EU directives. Local laws also must be adhered in order to obtain trust between all parties in MOBiNET.</p> <p>MOBiNET should provide a framework for Service/Application Developers which will allow consistent UI and workflow in defining privacy rules for the End Users.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
Connect End Users Payment Means With MOBiNET account	MP-67	Billing	<p>As a End User, I need to be able to associate my existing payment means with my MOBiNET account, so that I can pay for using MOBiNET applications.</p> <p>Details</p> <p>MOBiNET shall allow end user to define credit card details associated with his MOBiNET account so that his credit card is automatically charged for executing MOBiNET applications</p> <p>Exceptions</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Component/s	Description
			<p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p> <p>Does user provide this details via a web interface or through MOBiAGENT or through a service provider App?</p> <p>Do we need to associate other payment means with a MOBiNET account?</p>
MOBiNET Prepaid Account	MP-68	Billing	<p>As a End User I need to be able to add money to my MOBiNET account so that I can pay for services and applications used.</p> <p>Details</p> <p>MOBiNET shall allow End User to transfer money from a credit card to the MOBiNET account.</p> <p>If user transferred money to the MOBiNET account then payment for all the services will be done only by using the MOBiNET account.</p> <p>Payment transaction cannot be executed in case there are no funds on the MOBiNET account.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p> <p>If user does not have money on MOBiNET account, but has assigned credit card as payment means, do we allow payments? Can user configure this?</p>
Handling of Failures in Case Transaction Fails	MP-71	Billing	<p>As a Service Provider, I need to have MOBiNET handle all payment transaction failures, so that I can save effort in implementing a service by not having to handle all possible payment failure scenarios</p> <p>Details</p> <p>Handling the failures (at least in payment point of view) when service providers cannot complete their part of the complex multi-party transaction and part or the whole transaction is cancelled.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Clarifications</p> <p>Open Issues</p>
Define Temporal Information for Service	MP-88	ServiceDirectory	<p>As a Service Developer, I need to be able to define temporal usage information for the service, so that anyone using the service can expect any service regular downtime.</p> <p>Details</p> <p>It should be possible to associate any service planned downtime with a service description</p> <p>Downtime can be a single occurrence, or a periodic occurrence with defined time interval.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Login on Dashboard as a Service Developer, select to modify existing service or publish a new service. Define required metadata associated with the service. After publishing the service use the query engine to lookup the</p>

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Summary	Issue key	Component/s	Description
			<p>service. Verify that service contains the defined downtime intervals.</p> <p>Clarifications</p> <p>Open Issues</p>
Publish Multiple Service Instances	MP-93	ServiceDirectory	<p>As a Service Developer, I need to be able to publish multiple instances of my service with different metadata associated, so that I can provide better and more cost efficient services to 3rd party application and service developers.</p> <p>Details</p> <p>A service can have one or more instances spanning the territory of the EU. Service developer must be able to define multiple instances of the same service, defining for each separate coverage area. A Service Developer can also publish the service in multiple languages.</p> <p>The service will still contain only a single entry in the service directory.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Login on Dashboard as a Service Developer, select to modify existing service / publish new service. Define multiple service instances, with different coverage and geo-location. After publishing the service use the query engine to lookup the service targeting one of defined regions. Verify that a single service record for modified service can be found in search results.</p> <p>Clarifications</p> <p>Open Issues</p> <p>What can differ between different instances of a service: Geo location, IP address, coverage... ?</p>
Associate Country-Specific Legislation Restrictions with a Service	MP-94	ServiceDirectory	<p>As a Service Developer, I need to be able to associate country specific usage restrictions for the service so that anyone using the service is aware of restrictions applicable.</p> <p>Details</p> <p>MOBiNET will enable that part of the service metadata is a list of areas (countries) where usage of a certain service is not allowed due to legal restrictions. With each area where a restriction is applicable an additional textual description will be associated.</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p> <p>Login on Dashboard as a Service Developer, select to modify existing service / publish a new service. Define legal restrictions associated with the service. After publishing the service use the query engine to lookup the service and verify that defined restrictions are visible.</p> <p>Clarifications</p> <p>Open Issues</p> <p>Can we also forbid access to a service based on these restrictions if we can detect location of the client?</p>
Communication security - end user	MP-482		<p>As a end user, I need to be sure that communication between the system & my mobile device/vehicle are secure, so that any unauthorised access should be prevented and notified to me</p> <p>Details</p> <p>Exceptions</p> <p>Exclusions</p> <p>Acceptance Criteria</p>

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Summary	Issue key	Component/s	Description
			Clarifications Open Issues
Communication security - developer/ service provider	MP-483		As a service provider or developer, I need to be ensured that the communication between my server & the MOBiNET platform is secure, so that any unauthorised access will be prevented and notified to me Details The communication must be secure whenever I use the MOBiNET components Exceptions Exclusions Acceptance Criteria Clarifications Open Issues
Securing communications between mobile device and the system	MP-551	Communication Agent	In order to be sure that communication between the system & my mobile device/vehicle is secure, all communications should be done using (a secure implementation of) SSL/TLS
Secure communications between Apps/Services amongst themselves	MP-552	AppDirectory, Billing, Communication Agent, Dashboard, IdentityManager, MOBiAGENT, PrivacyManager, ServiceDirectory	The communications between service components within MOBiNET shall be encrypted using (a secure implementation of) SSL/TLS.
authorization of service components	MP-553	AppDirectory, Billing, Communication Agent, Dashboard, IdentityManager, MOBiAGENT, PrivacyManager, ServiceDirectory	In order to prevent unauthorised access, every service component (not being an application) within MOBiNET must be able to: 1) obtain an identity of the service component or application that it is called from (e.g. from the SSL/TLS setup), 2) verify that this identity belongs to a service registered in the service directory; 3) obtain the session account (see D33.6) of the (end)user on whose behalf the calling service acts; 4) establish whether or not both the calling service component and the (end)user on whose behalf the calling service acts are entitled to call/use the called service, and return an error if this is not the case.
Persistent service discover query	MP-585	ServiceDirectory	In the case where a certain type of service is required, e.g. a service providing information about parking spaces in the area, a service or an app could extend a discovery query containing specifications of the service and context of the user (e.g. location) , information from the user profile and when new services match the query they are automatically extended to the querying service or app
Service example usage	MP-587	ServiceDirectory	Add possibility to see an example of usage of the service described by the service description that is found via discover or lookup, i.e. example input/output;Service provider should be able to provide any kind of support information (including text, images) for the users.
MP-657 User should be able to report inaccurate information to administrator	MP-592		Users should be able to report issues on broken links etc. Administrator should verify it.
Interface between the communication unit and the application unit	MP-607	Communications Manager	The interface between the communication unit (the node owning the .11p interface) and the application unit (the node running the MOBiAGENT) must be well defined, so that test site specific communication units can be supported. (Needed for the NonStop Truck use case)
Facilitating porting to different communication	MP-608	Communications Manager	A reference implementation of the implementation of the abovementioned interface on the communication unit must be published including the source

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Summary	Issue key	Component/s	Description
units			code, in order to facilitate porting to different communication units.
MP-657 Resist the 10 most critical web application security risks	MP-638		"All implementations of web services must resist the 10 most critical web application security risks as mentioned in the OWASP Top Ten project document http://owasptop10.googlecode.com/files/OWASP%20Top%2010%20-%202013.pdf . Further information is on https://www.owasp.org/index.php/Category:OWASP_Top_Ten_Project , which also provides the necessary implementation guidance."
MP-657 OWASP vulnerabilities	MP-639		During development all security techniques mentioned in the OWASP Top Ten Proactive Controls list should be used (https://www.owasp.org/images/0/07/OWASP_Proactive_Controls_v1.pdf), and every developer (and architect) must have read this document.
MP-657 OWASP proactive controls	MP-640		Every time a service is called, it shall be logged for which purpose(s) the service is (to be) executed. (new EU regulation)
MP-657 Goal binding	MP-641		Every time a service is called, the service shall only use any PII data for during execution for which there is explicit user consent; that this is the case must be auditable (new EU regulation).
MP-657 User consent	MP-642		There shall be a widget that presents all PII of the logged in user, to that user (new EU regulation).
MP-657 User information	MP-643		There shall be a provision so that end-users may rectify their PII that is stored within MOBiNET (new EU regulation)
MP-657 PII rectification	MP-644		There shall be a provision so that end-users may (selectively) delete their PII without MOBiNET having the possibility of restoring such information (which means that any backups containing such information must be cleansed, too)
MP-657 right to be forgotten	MP-645		tracking should be removed
Metrics for the analytics server	MP-646	Dashboard	Metrics deriving user behaviour based on service, app usage, location information and additional sensor data provided by the MOBiAGENT
Create an implementation guide for component / service developers	MP-657	SDK	<p>Programmers/owners of a MOBiNET service need guidance w.r.t. the requirements that they must adhere to in order to become and remain part of the MOBiNET Services Ecosystem. For each of these requirements, support for programmers/owners such requirements must be listed, and also support for the fulfillment thereof must be provided, e.g. in terms of implementation patterns, example code, etc.</p> <p>This document (and any related files) should be part of the SDK. However, the contents for this document must be provided by the various MOBiNET components that pose such requirements. Note that MOBiNET Services, such as the SD, MIM, and others, must also satisfy these requirements as they are part of the ecosystem, too.</p> <p>Also add the B2B authentication to this guideline</p>
Billing and receipt	MP-664	Billing	<p>Transaction Manager sends by mail a receipt or a fiscally relevant document when transaction is successfully completed. (billing stage2)</p> <p>DEPENDENCIES Existence of a Fiscal entity MOBiNET (Business model decision)</p>
Add other IdPs	MP-668	IdentityManager	<p>THIS IS FOR RELEASE 3</p> <p>It has to be decided, if there is need for more IdPs. Has to be decided</p>
Implement Security Aspects from the SDK Guide-Line	MP-669	AppDirectory, Billing, Communication Agent, Dashboard, IdentityManager, MOBiAGENT, ServiceDirectory, TspManager	Implement the Security Guidelines that come out of MP-657
Comprehensive user profile based on user type is needed	MP-695	IdentityManager	It essential from a business point of view to have different user profiles based on the user type / role.

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Summary	Issue key	Component/s	Description
			<p>For example a company profile should include information like</p> <ul style="list-style-type: none"> * VAT# * keywords describing the services they offer * description why they want to join MOBiNET (Like for TISA, when applying they need to write small text to say why they want to join) * contact information <p>This information is not needed from end users, but for them other information like like users preferences useful for several applications should be stored in the user profile.</p> <p>Currently user profile is not differentiated based on user role.</p> <p>Further details have to be defined.</p>
Approval of business user accounts needed after registration	MP-696	IdentityManager	<p>From a business point of view it is required to have an approval step foreseen when a business user creates an account.</p> <p>Once a business user has registered the account must be checked and approved before the business user can actually access the Dashboard.</p>
Keep track of subscribed apps / services	MP-697		<p>As an end user and business user I want to know which apps / services I am having in use / I am subscribed to.</p>
End users should accept license terms and validate their email address	MP-698	IdentityManager	<p>When an end user registers at the MOBiNET platform license terms (related to actual use of MOBiNET platform like publishing a service,...) should be accepted and the email address should be validated (state of the art to avoid fake accounts).</p> <p>License terms have to be provided by SP7.</p>
Accessing the search and showing limited results for B2B content should be possible without being registered	MP-702	Dashboard, IdentityManager	<p>As a business user I want to check what kind of information is available before I register.</p> <p>Therefore the search functionality or a limited view on existing services should be provided for users that are not logged in.</p> <p>It has to be further clarified which information should be shown.</p> <p>Owner: Zeljko Jeftic</p>
Distinguish between data, service and apps when describing and displaying them	MP-703	Dashboard, ServiceDirectory	<p>The attributes when describing and searching for different content (data, services, apps) differ - therefore a differentiation between data / services / apps should be made when describing and displaying them.</p>
Publishing and editing service description should be possible using a form	MP-704	Dashboard	<p>For the usability it is crucial to have be able to fill in and upload the service description using a form.</p> <p>The form on the Dashboard should provide the same functionality as the Service Description Editor in the SDK (possibility to add all information as in the SDK, validation of mandatory fields).</p> <p>*Owner:* Alessandro Taddei</p>
Define geographical area in Service Description via map	MP-705	ServiceDirectory	<p>To improve usability it should be possible to define the geographical area in the Service Description via a map (entering city, country, POI, coordinates).</p> <p>This should be possible in the Service Description Editor (SDK) as well as on the Dashboard (linked to MP-704 once implemented).</p> <p>*Owner:* Alessandro Taddei</p>
Add button for activate / deactivate a service	MP-707	Dashboard, ServiceDirectory	<p>A recommendation of the validation of R2.0 was that a button should be added (f.e. in the management Widget) activate / deactivate a service.</p> <p>This recommendation came from validating MP-97 as it was not clear for the end users where / how to activate/deactivate a service.</p> <p>*Owner:* Robbin Blokpoel</p>

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Summary	Issue key	Component/s	Description
Possibility to provide feedback about B2B content	MP-708	Dashboard, ServiceDirectory	It should be possible for business users to add feedback about uploaded services / data. Therefore a feedback function should be provided where textual feedback for B2B content can be entered to report errors to the service owner or share feedback with other business users.
Enable bookmarking of services/data/apps	MP-709	Dashboard, MOBiAGENT, ServiceDirectory	As an end user I want to be able to bookmark apps and services to easily find the apps/services I am interested in again (MOBiAGENT). As an business user I want to be able to bookmark services / data which I am interested into easily find the apps/services I am interested in again (Dashboard).
Possibility to search for multiple coverage areas	MP-715	ServiceDirectory	As an end user or business user I want to be able to search for a service which covers multiple coverage areas. Therefore searching for multiple coverage areas is required.
Geographical are should be stored using polygons	MP-719	SDK, ServiceDirectory	Defining the geographical coverage of a service using a rectangle is insufficient. Instead polygons should be allowed. (multiple areas area allowed as well) There are predefined polygons provided by OpenStreetMap that can be reused for this purpose and would provide a more accurate definition of the geographical coverage than an rectangle. see also MP-705 which covers to define the coverage area using a map and check feasibility for Release 2.1
A service provider can define a tag or can select one from the existing set	MP-723	ServiceDirectory	A service provider can define a tag (entering free text), but can also select a tag from a list showing tags that were already entered. *Owner:* Alessandro Taddei
A service provider receives suggestions (partial matching) while entering a tag	MP-724	Dashboard, SDK, ServiceDirectory	A service provider receives suggestions (based on tags that were already entered - partial matching) while entering a tag. *Owner:* Alessandro Taddei
URL in service description should be optional	MP-725		It should be possible to publish a service description without an URL as "advertisement". This is a completely new use case and has to be considered in other components (separate Widgets for displaying them / searching for them) as well and needs to be further clarified with the owner. *Owner:* Alessandro Taddei
Possibility to verify and confirm content before uploading them to platform	MP-726	Dashboard, ServiceDirectory	As I service provider I want to be able to verify and confirm the content before I upload it to the platform.
Price should be mandatory in the service description	MP-727	ServiceDirectory	Required by Billing that price mandatory in the service description.
Rating of B2C apps/services	MP-728	MOBiAGENT, ServiceDirectory	As an end user I want be able to rate B2C apps/services. Even if the rating is present in the Google Play Store the in the context of general app store might not be comparable with the ratings in the mobility context in MOBiNET. Ranking is also important as not all B2C services are apps not available through app stores. Ranking would be useful for searching, filtering, sorting.
Give Recommendations about B2C apps to the end user	MP-729	MOBiAGENT, ServiceDirectory	Based on the context of the user or user profile recommendations about B2C apps are provided to the end user. This can also be linked to "advertisement".
Use of Web Audio API for web app	MP-730	MOBiAGENT	It would be nice to have access to platform independent services provided by Web Audio API that is currently supported in some platforms (but e.g., not in

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Summary	Issue key	Component/s	Description
			<p>iPhone) and working with different browsers in slightly different ways. Justification for this is that audio interfaces are an important asset for developing non-distractive user interfaces for car drivers.</p> <p>Basically, MOBiAGENT should provide standard methods for app developers to use platform-specific solutions. (E.g. the same "use audio" or "use gps" function would work in all platforms - platform independent development tools for general functions.)</p> <p>Of course this could be done case-by-case by each service provider (as is done now), but the point of MOBiNET was to make things easier and platform independent - to have some value for developers.</p> <p>*Owner:* Olli Pihlajamaa</p>
Periodically access OBD equipped with Bluetooth link	MP-732	MOBiAGENT	<p>It should be possible to access OBD equipped with Bluetooth Link via MOBiAGENT. There exist OBD specific SDKs to access data from OBD and depends on OBD to be used.</p> <p>*Owner:* Olli Pihlajamaa</p>
Define geographical area in Service Description Editor via map	MP-735	SDK	<p>To improve usability it should be possible to define the geographical area in the Service Description via a map (entering city, country, POI, coordinates).</p> <p>This should be possible in the Service Description Editor (SDK) as well as on the Dashboard (linked to MP-704 once implemented).</p> <p>Check feasibility in SDK for Release 2.1</p> <p>*Owner:* Alessandro Taddei</p>
Wrapper for Billing API	MP-742	SDK	<p>Wrapper for Billing API</p> <p>Programming Library to use Billing API from an Web Service or Android Phone</p>
PCI standards	MP-762	Billing	<p>Assess if there is a need to incorporate PCI standards.</p> <p>* https://www.pcisecuritystandards.org/security_standards/why_comply.php</p> <p>* http://en.wikipedia.org/wiki/Payment_Card_Industry_Data_Security_Standard</p> <p>Issue was raised by SP4 (Namik Erdogan) when discussing the Billing functionalities.</p>
B2B Brokering / Purchasing	MP-763	Billing	<p>Requirement was raised during the consortium meeting in Grenoble.</p> <p>A registered MOBiNET business user discovers the service (data) and decides to use it.</p> <ul style="list-style-type: none"> * he accepts the licence agreement * purchases the licence * perform financial transaction (either through a MOBiNET platform service or an external provider) ** approval of financial transaction (Clearing) or ** actual financial transaction via MOBiNET * receives the keys for accessing the <p>*Owner:* Marco Annoni</p>
Clearing Fee notification to service provider	MP-771	Billing	<p>Clearing Manager sends a notification by mail to the MOBiNET service provider (paying the fee) and store the notification in ClearingNotification DB</p> <p>DEPENDENCIES from Business Model</p>
The system authentication shall distinguish between user and service provider at login in the	MP-800	IdentityManager	<p>The system authentication shall distinguish between user and service provider at login in the platform. Both can not have the same options</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Component/s	Description
platform			
The system shall be prepare to accept naming convention for input date	MP-801	ServiceDirectory	The system shall be prepare to accept naming convention for input date(e.g. specific naming convention for the ID of the service)
The system shall show an error message when trying to upload a file with a wrong xml syntax	MP-802		The system shall show an error message when trying to upload a file with a wrong xml syntax
The system shall show an error message when trying to upload a non .xml file	MP-803	ServiceDirectory	The system shall show an error message when trying to upload a non .xml file
The system shall expand the scope of search terms in order to obtain more information	MP-804	ServiceDirectory	The system shall expand the scope of search terms in order to obtain more information(e.g. write word traffic and receive as output all the services containing traffic word)
The Service Directory-Management widget only shall be use to manage services of each service provider	MP-805	ServiceDirectory	The Service Directory-Management widget only shall be use to manage services of each service provider (own services)
The Service Directory-Search widget shall be used to search all the services in the platform	MP-806	ServiceDirectory	The Service Directory- Search widget shall be used to search all the services in the platform
Enable the option activate a Service in the Platform	MP-807	ServiceDirectory	Enable the option activate a Service in the Platform
Enable the option deactivate a Service in the Platform	MP-808	ServiceDirectory	Enable the option deactivate a Service in the Platform
Include in the .xml definition the service owner	MP-809	ServiceDirectory	Include in the .xml definition the service owner
The system shall show real time online information help for uploading a service	MP-810	ServiceDirectory	The system shall show real time online information help for uploading a service (e.g. .xml structure)
Improving the CM-CA roaming prevention functionality	MP-841	Communications Manager	Improve the CA roaming-prevention functionality developed for MP-827 by providing this functionality also within the CM (checking on current coordinates versus HomeCountry)
Allow creation of new MOBiNET user account from start-screen	MP-878	MOBiAGENT	Allow creation of new MOBiNET user account from start-screen of MOBiAGENT
Add captcha for account registrations	MP-921	IdentityManager	Account registration (IDM): add captcha so no robot can hack requesting so many accounts at the same time
Allow a login from the MOBiAGENT with a Google account	MP-932	MOBiAGENT	It is not allowed a login from the MOBiAGENT with a Google account (the procedure should be the one used by the Dashboard and described in D3.5 chapter 6.2.2.2).
Allow Party Admins to add existing users to their party	MP-951	IdentityManager	Party admins should be able to add existing users to their party instead of first deleting the user and then create a new one from the party admin role.
Auto-hide keyboard in search screen of Service Directory UI	MP-954	MOBiAGENT	Uncomfortable visualization with rotated screen due to the keyboard occupying the screen on Android 6.x. Improve search screen in the MOBiAGENT making sure that, when a search is done, the keyboard does not cover the results screen.
Optimize lay-out of Service Directory entry	MP-955	MOBiAGENT	Possibly the map could be put at the end of the page in order that one have not to scroll to reach the link/ INSTALL button.
MOBiAGENT should remember login	MP-956	MOBiAGENT	MOBiAGENT should remember credentials of previous session for quick start.

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Component/s	Description
credentials			
Implement the option to deactivate a service descriptionn	MP-965	ServiceDirectory	<p>Currently there is no option to deactivate a Service Description, e.g. make it invisible to anyone except the owner of the Service Description.</p> <p>Deactivating a Service Description does, however, not imply that the corresponding service is also deactivated. It only makes sure that it can not be discovered by "new users" until it is activated again.</p>
Modify a Service Description within the browser	MP-968	Dashboard, ServiceDirectory	Be able to modify my own service online
Improve stability of map view of search results	MP-971	Dashboard	Map view of search results never shows in IE 11 and crashes with chrome (without any search criteria).
External IdP users should not be able to access to IDM sites from the Dashboard menu	MP-982	Dashboard	<p>A user logged with Google IdP can do only few things: he cannot access IDM sites (i.e. when he clicks on the Dashboard menu on any voice related to the Identity Manager, he is requested for credentials – because he is only logged towards the Google IdP and not with the MOBiNET OpenId IdP, so no session is already open with it and no SSO can be performed – and he cannot proceed because he doesn't know neither his username nor his password in the MOBiNET domain: the procedure proposed by Benjamin Ernst and then implemented by Dashboard and IDM (see D3.5 paragraph 6.2.2.2) get the user Gmail address as username and a default password for all Google authenticated users.</p> <p>*Therefore it is much better to disable that menu voice related to IDM sites and possibly alert the google authenticated user that if he wants a full use of MOBiNET features he has to register with the MOBiNET IdP.*</p> <p>It is worth mention that the login with Google IdP was only introduced for the Bordeaux hackathon and it was clear since the beginning that a full operational user (as the platform is now implemented) must be a MOBiNET IdP registered user (since November 2014 emails: "No problem in associating any existing MOBiNET identity and profile to selected OpenId identities provided by external subjects - e.g. Google, Facebook, ...etc. - but if anybody want to use the MOBiNET services for its business (for example promoting its app) its REAL identity has to be known to MOBiNET. Just knowing that somebody has a valid Google account will never be sufficient to let him/her full access to MOBiNET.")</p> <p>This just to stress that the authentication with an external IdP (e.g. Google IdP), instead of the MOBiNET IdP, should be clearly suggested ONLY to people that only want to have a first look to the platform, but not to who really wants to get all the features provided by MOBiNET, even as only an end-users (especially if he wants to be elevated to a <code>_singleDeveloper_role</code> or also for a customer that has to pay for a service and so he needs to set some payment attributes in his MOBiNET profile).</p> <p>Therefore a Google authenticated user could not set any user attribute and should not be elevated by the platformAdmin to the <code>singleDeveloper</code> role because it could not access the Authorization site (possibly needed to a developer).</p> <p>If we really would like that also those Google users could manage their MOBiNET attributes (changing the initial purpose of the introduction of Google IdP authentication), when the first time a user asks to be authenticated with Google from the Dashboard homepage, he should be alerted that a MOBiNET user will be automatically created and associated to him with his google email account as username and as password the one that should be requested to him by the Dashboard during that new procedure and used when the Dashboard will send to the IDM the following REST API (from D3.5 chapter 6.2.2.2 External IdP authentication) for that user authentication for that user authentication/creation (currently the password is not set and/or it is a default one – i.e. "password"):</p>

D2.4 Final MOBiNET technical and non-technical requirements

Summary	Issue key	Component/s	Description
			<p>URL: https://[ENVIRONMENT].mobinet.eu/IdentityManager/authenticate/user</p> <p>Request:</p> <pre>authenticate ({ username: "benjamin.ernst@gmail.com", password: default one set by the dashboard – (optional: it could not be set) firstname: "Benjamin", lastname: "Ernst", email: "benjamin.ernst@gmail.com" openIdProvider: "accounts.google.com" });</pre> <p>Only in that way the IDM could create a user with the username = his Gmail and the password set to the one inserted by the user on that first log in. No email verification procedure is needed in that case (being his email already previously verified by Google IdP) and that user can, from now on, login into MOBiNET using the MOBiNET login button and using as credentials his Gmail (e.g. name.surname@gmail.com) and that inserted password. In that way, all features allowed by the IDM (e.g. insertion of attributes, change of password, possible password recovery) could be available also for that user (from now on logging into MOBiNET through the MOBiNET IdP, so clicking on the MOBiNET login button) ... therefore a strange procedure to be explained to an end-user!</p>
Compatibility of MOBiAgent with Android 7.x devices	MP-983	MOBiAGENT	The current version of the MOBiAGENT seems to be not compatible with new Android devices (ver. 7.X)