

YOUMOBIL – Documentation of pilot-tested tools: aMo's Pilot.

Novel tools successfully tested in YOUMOBIL pilots are documented using the agreed template	version 1 03-2022
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1. Introduction

This task is the third step of the Activity T1.6 “Documentation of pilot-tested tools” and concerns the documentation of the five smart rural transport tools that are tested in the YOUMOBIL project.

The Deliverable T1.6.1 “Tool Documentation Template” has been used as template. The goal of this document is to summarize the useful tools of smart rural transport experiences developed in YOUMOBIL pilot project, in order to deliver extensive knowledge on different types of tools, their characteristics and their replicability in similar rural contexts.

The services developed and documented in this document are the following:

- DRT services;
- Mobility apps;
- Digital loyalty program.
- Infomobility panels.

All of these services are implemented in rural areas. The following map reminds the locations where the analysed tools are developed.

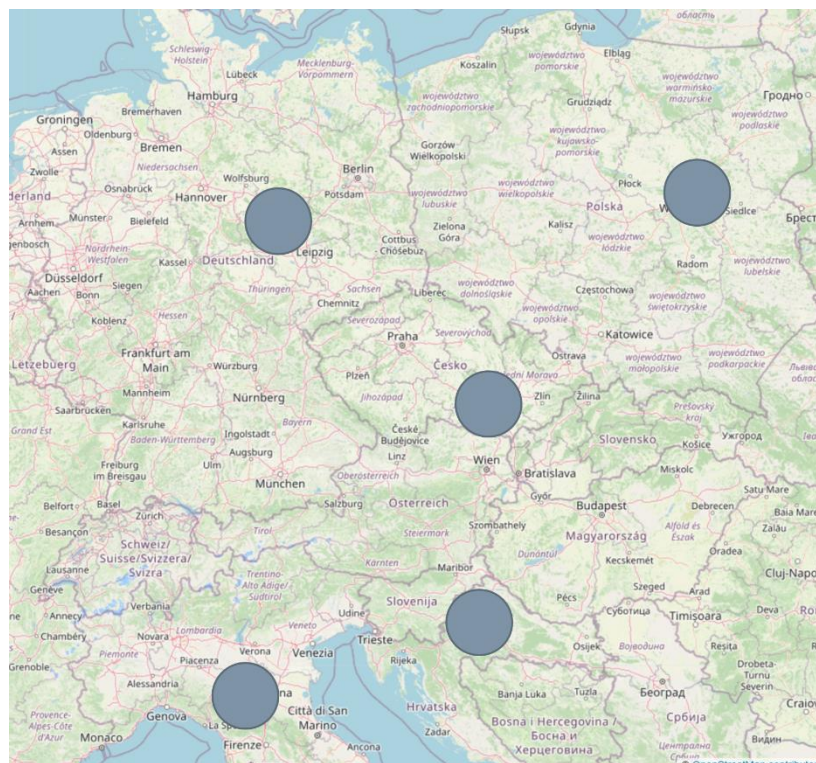


Figure 1 – Smart rural transport tools location

In the next chapter, the five developed solutions will be described briefly, focusing on both the description of the transport service and the technological solutions associated with it.



The forth chapter follows, in which a new template has been developed, in order to answer - always for the same project - to the question: “Which steps are needed to take if someone would like to implement the aMo’s technological solution?”

2. Smart rural transport tools

Table 1 shows the main characteristics of the solutions, e.g. where are implemented, what added value they have for YOUMOBIL and finally how they have been affected by the COVID-19 pandemic.

Table 1 – Smart rural transport tool

Name of the service	Type of service and tool used	Where is implemented	Added value	How COVID-19 has affected the service
Modena night taxi bus line	A “medley” of other existing services such as the normal scheduled PT services, the Prontobus (a DRT service) and the Night Taxi (a semi-DRT service carried out by the taxi company).	Modena - Emilia-Romagna, Italy	A new form of public transport will be tested which has never been adopted before in the Emilia-Romagna Region. In addition to offering a service to rural areas, the service has a cost only if it is used while if there are no travelers there are no additional costs to be incurred.	The pilot project started on the weekend of 10 December; unfortunately in a moment of resurgence of the pandemic then at the moment it is not used satisfactorily, also evaluating new initiatives to publicize it again during normalcy and collecting the considerations that emerged during the workshop dedicated to taking advantage of the pilot's results. For this reason, it was planned to keep it active even after the end of the YOUMOBIL project to verify its effectiveness outside the pandemic.
Night trains on Zagreb Main Station – Dugo Selo line	An innovative service of night trains going from Zagreb to Dugo Selo (and back), accompanied by the systematic display of timetable information in the	Continental Croatia - Zagreb County		The pilot started in summer 2020 and shortly after the real benefits could be seen (school starting in September), the second wave of Covid-19 hit Croatia strongly in November 2020. Partial lockdown was introduced at the



	sales application, mobile application and online application			beginning of December 2020 and this particularly affected public transport. Although railway transport was suspended completely in March and April 2020, it operated with reduced capacities the entire pilot lifetime, but people are discouraged to use it.
POSEIDON App	improving the app POSEIDON, which is an official ticketing app for the South Moravian Region	South Moravia – Czech Republic		Due to the covid pandemic, by March, there were less passengers using public transport (overall mobility had decreased). On contrary, June was the month with the highest number of sold tickets in the app lifetime.
The loyalty programme “Young Traveller”	Loyalty programme via physical card / online train booking system	Mazowieckie Voivodeship, with the exception of the Warsaw Metropolitan Area - Poland		The main problem affecting the effectiveness of testing the pilot project was the delay in its launch (approx. 4 months after the planned date - in mid-November 2020). The second factor is the users of the system, i.e. adolescents and young adults aged 13 to 26. Until May 2021, junior high schools, older primary school classes, universities in Poland were learning remotely. Young people did not buy tickets, did not need travel to school, and therefore did not actively participate in the loyalty program.
INSA YOUNG App	INSA YOUNG is a public transport information app for young adults	Saxony-Anhalt - Germany		The COVID-19 pandemic has heavily impacted Germany since March 2020. The country went into multiple lockdowns



	living in rural areas of Saxony-Anhalt.			<p>and put many restrictions in place in order to reduce the spread of the virus. For Schools this meant that in-person teaching was not possible at times, although in some school the classes were split into two groups that alternated between online and in-person teaching. For the public transport sector this meant that less students were using buses, trams or trains to get to school and therefore the number of passengers decreased. For Universities the impact was severe, as the majority switched to online-teaching, which led to a reduced use of public transport for students at university. During the lockdown it was strongly advised that anyone who is able to should work from home, which again reduced the number of commuters and the number of passengers in general.</p>
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3. Tool-box

In this chapter, the template of a toolbox for youth-oriented smart rural transport solutions is used to document the aMo solution, in order to describe in more details the technological tools used and developed.

The proposed template consists of six main sections:

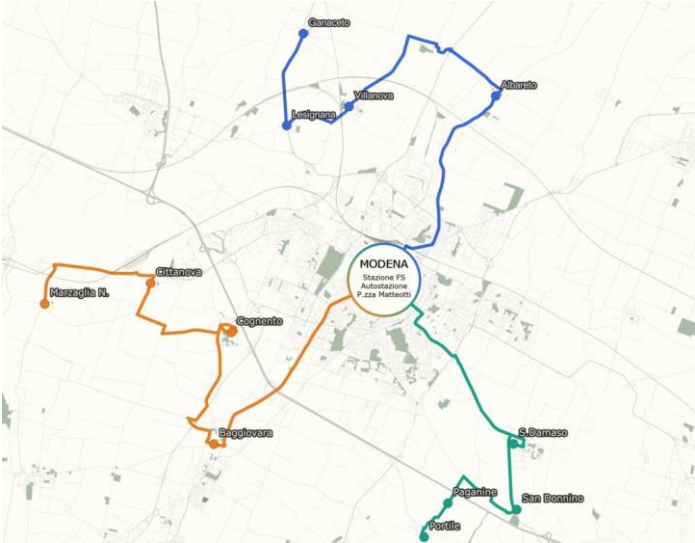
- General information, to better understand the services and the related tools;
- Stakeholders' engagement, in order to document which stakeholders were involved in the development, management and promotion of the services;
- Accessibility, to describe when the service is available (times, periods, etc.) And whether it provides the possibility for users to travel exploiting multimodality;



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- Technologies, in order to describe the tools and their functionalities in detail;
 - Tariff schemes, in which are documented the pricing models of the services.
 - Evaluation, in which are documented and commented the main KPI(s) of the technological tool developed.



General information	Name	Modena night taxi bus line
	Youmobil Project Partner	aMo
	Type of solution	a mix between DRT services and normal line services
	Start date	December 10, 2021
	End date	September 30, 2022 (further extension are possible)
	Where (city, country)	Modena - Emilia-Romagna, Italy
	Type of context (urban, suburban, rural)	A big urban centre with small villages and rural areas surrounding
	Target users	Young people who live in the peripheral and rural areas around Modena

	<p>Description</p>	<p>The pilot project of aMo is a new service, which is a mix between DRT services and normal line services.</p> <p>Three new lines (see image below) will be established which will be carried out by the Modena Taxi Cooperative CoTaMo.</p>  <p>The lines will be active on Friday and Saturday evenings and the trips will be performed only in case of reservations; to optimize the use of economic resource in case there are no reservations on a trip, it will not be done.</p> <p>Reservations and related payments will be managed by a new app (Android, iOS and Huawei stores) expressly developed for the Project.</p> <p>Travel routes are also optimized according to the stops that have been booked in order to minimize the number of kilometers traveled by taxis needed to perform the service.</p> <p>The network of new lines will connect the following hamlets to the city center of Modena:</p> <ul style="list-style-type: none"> • BLU Line: will connect the hamlets of Ganaceto, Lesignana, Villanova and Albareto to the Center; • RED Line: will connect the hamlets of Marzaglia, Cittanova, Cognento, Baggiovara to the Center;
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		<ul style="list-style-type: none"> • GREEN Line: will connect the hamlets of Portile, Paganine, S.Donnino and S.Damaso to the Center. <p>The number of lines, trips and stops may vary depending on the results that will occur during the duration of the pilot project as the software has been implemented in order to manage different scenarios.</p> <p>For further details more information are available in the dedicated web site youmobil-modena.eu</p>
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	Previous experiences on which it is based	The pilot is based on the experiences gained in the management of non-standard services (DRT and night Taxibus) and on the experiences gained in the European projects RUMOBIL and RegiaMobil.
Stakeholders' engagement	How is the solution financed?	<p>These costs are borne by the YOUMOBIL Project.</p> <p>Part of the costs will be covered, instead, by the payment of the trip by those who will use the service.</p> <p>The costs incurred at the moment are equal to € 20,000 for the development of the booking app and an additional cost of about € 15,000 is estimated for the execution of the service.</p> <p>Since it is planned to keep the service active even after the end of the YOUMOBIL project, economic resources will be made available by aMo to be able to carry it out until the end of September 2022 but further extensions are not excluded if the service is used satisfactorily.</p>
	Stakeholders involved	<ul style="list-style-type: none"> • Young people living in the rural areas around Modena who have been involved in targeted meetings and workshops in order to gather information on their needs; • Young people who participated in the Interrail initiative who provided them with proposals also based on the travel experience made within the YOUMOBIL project; • The Municipality of Modena, which provided its evaluations and endorsement of the pilot project.
Accessibility	When is it available? When does it operate?	The new service will be available every weekend on Friday and Saturday evenings. Two services will initially be active from the hamlets towards the center at 21:00 and 00:00 and one from the center to the hamlets at 23:30. The service will be carried out by taxi and the availability of seats will be that provided for by the legislation in force.
	Is it a multimodal solution? Why?	No, it is not a multimodal solution.



Technologies	ICT solution (smartcard, on-board technologies, panel information, etc.)	<p>In order to manage the pilot project, a new ICT tool was introduced which allow users to book and pay for services while the backend will optimize the resources necessary for its performance.</p> <p>It will also allow accurate reporting of the services performed: number of trips performed, number of taxis used, kilometers traveled, number of passengers transported, origin and destination of the trips, etc.</p> <p>These data will make it possible to modify the available service in order to better meet the needs of users; the system is in fact completely parameterized, thus allowing at any time its modification, extension and implementation in areas other than Modena.</p>
	App (real time info, payment, booking, etc.)	<p>An app has been developed to book the trip of interest selecting the line, the origin and destination stops and paying for it with different fares depending from age and the ownership of a public transport season card.</p> <p>In addition to the app, a backend system will be made available to configure the main features of the new service, which are:</p> <ul style="list-style-type: none"> • stops • routes • rates • timetables and trips available • service calendar • interface with the taxi booking system <p>The development cost of the entire system was of € 20,000.</p>
Tariff schemes	Fares/Pricing models	<p>Fares are higher than those of normal public transport services but considerably lower than those of taxis.</p> <p>They range from € 3.00 for a single journey up to a maximum of € 7.00 for a round trip and depend on age and whether or not the user is a subscriber of a public transport season card.</p> <p>It is possible to pay trips only through the app.</p>
	Does it offer some awards/benefits?	Fares are discounted for those under 27 and for those who have a public transport season card
Evaluation	Downloaded apps	63 downloaded app



	No. of trips	38 trips
	No. Visits YOUMOBIL site	326 different visitors

4. “How to” guide

This chapter aims to describe how to develop a similar technological tool, in order to transfer and disseminate knowledge.

It is important to note that this kind of guide allows to better understand one of the possible uses of the tools used and, above all, it could help to better understand the YOUMOBIL actions done, in order to:

- Allow easy reproduction of the developed IT tool by reducing the obstacles caused by lack of adequate tools, incorrect timing prediction and an underestimated consideration of possible risks;
- avoid the mistakes that have occurred;
- Create general guidelines, in order to suggest suitable strategies for LPT decision makers.

It has been developed a template that is interpretable as the answer for the question: “if someone would like to implement the aMo’s technological solution, which steps are needed to take?”.

The template consists in the following seven sections:

- Step, or what steps should be taken if someone would like to implement the solution. In this case six steps have been individuated;
- Description of each action carried out;
- Competencies and tools (technological and not) needed into the development of the step;
- Timing occurred into the complete development of the step;
- Risk(s), or what to pay attention to;
- Mitigating actions done, in order to obtain the result.

Step	Description	Competencies and tools needed	Timing	Risk(s)	Mitigating actions
#1	General definition of the service with LPT decision makers	Competencies in LPT planning from a technical and political point of view	1 month	From the beginning it is important to correctly define the size of the service, its placement, the available budget in order	Making mobility and demand data available on the services to which one responds and potential



				not to run the risk of compromising the subsequent steps that are based on the choices made in this phase.	
#2	Precise definition of the service together with the Stakeholders (principally end users) starting from what was defined in the previous step	Competencies in LPT planning and end user knowledge	2 months	When potential users of the new service are involved, valuable information can be gathered on how to structure a service, but care must be taken not to turn it into a kind of “dream book”, keeping it sustainable.	Appropriately govern the involvement of Stakeholders by making them understand the problems, rules and sources of funding that govern the implementation and planning of public transport services
#3	Involvement of the subjects who should carry out the service: the LPT Operator and the taxi company	Competencies in LPT planning	2 weeks	Who will have to carry out the service will have to be involved to give his contribution on how to perform it in order to avoid problems on the practical side.	Existing contractual relationships with the LPT Service Manager must be considered to define the economic and tariff areas within which the new service must be performed
#4	Definition of technical specifications for the management software system (app + backend)	Competencies in IT	1 month	The main risk is not to make technical specifications accurate enough and then not everything is handled correctly.	The technical specifications must be as accurate as possible to ensure that the whole system is managed as expected. Furthermore, it is good to think of



					a system that is parameterized as much as possible so that it can adapt to different future needs
#5	Implementation of the new service	Competencies in LPT organization and in IT	2 months	The main risk that you run in the implementation of the new service is to have something wrong in the previous steps. Perhaps the most critical aspect is related to the technological part that requires more time and money to be adapted	To minimize the risks of problems during the activation phase of the service, the only solution is to put maximum effort and accuracy in the previous phases
#6	New service management	Competencies in LPT organization and in IT	12 months	The main risk in this phase is not having tools to be able to adequately monitor the service performed	It is important to have a good reporting system that allows to know in depth how the new service is carried out. Good monitoring makes it possible to adopt corrective measures to eliminate any criticalities detected



5. Conclusions

Unfortunately, the Modena driver took place in a period of increased infections so it was not possible to make reliable assessments as the possibility of using the service was objectively penalized by the pandemic.

In addition, the pilot lasted much shorter than expected and is still ongoing.

If it is difficult to evaluate the real usefulness of this type of service for the reasons mentioned above, it is instead possible to affirm that from an organizational and functional point of view as regards the technological part, everything worked as expected and in a positive way.

In the belief that the new service under normal conditions can have a good success led to the decision to keep it active even after the end of the YOUMOBIL Project.

In its implementation, the main difficulties that have been encountered were due to the pandemic which forced continuous changes in the planning of activities, difficulties in the relationships to be held with all the actors concerned, for which some of these experiences cannot be considered as a reference for those who want to implement similar services that it is hoped that can be activated under normal conditions.

In continuing the activities of the new service, the indications received from those who used the service who were involved in a questionnaire and in a workshop will be taken into account.

In general the main request is to increase the availability of the service, especially as regards the part relating to the return at home and evaluations will be made in this regard.

Obviously, an intensification of the service means higher costs to be incurred and for this reason it will be considered whether to act also on the part of the tariffs to compensate the higher expenses with higher revenues.

This type of services is not among those that must be made available (such as services for going to school or to work); they are aimed at free time and for this reason the higher quality of the service provided may coincide with an increase in its cost; always taking care not to make it become too expensive for those who have to use it in order not to compromise its use.