

FEASIBILITY STUDY OF ACTION PLAN FOR PP2 (AIRPORTS OF APULIA)

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I. DOCUMENT CONTROL SHEET

Project acronym	ADRIGREEN
Project Title	Green and intermodal solutions for Ports and Airports
Start of the project	01/01/2019
Duration	31/12/2021
Related activity:	4.1 –Testing phase
Deliverable name:	Feasibility study and testing result of AP implementation
Type of deliverable	Report
Language	English
Work Package Title	Testing and evaluating innovative intermodal and low-carbon solutions
Work Package number	4
Work Package Leader	Dubrovnik airport
Status	Final Version
Author (s)	Benedetto Fanelli, Francesco Mazzone
Version	2
Due date of deliverable	30/06/2021
First draft:	26/10/2020
Final delivery date	30/06/2021

II. EXECUTIVE SUMMARY

This document aims to test and evaluate the demonstration actions that is going to be realised by PP4 according to the AF of ADRIGREEN Project. Contents of this document will participate (as contribution of PP4) in the implementation of Manual of Activity 4.2: an investigation to how these evaluated measures could be adapted and implemented also on other territories with similar characteristic.

In particulars, Airports of Puglia is involved in the Testing and evaluating innovative intermodal and low-carbon solutions with the purchase of **Electric Utility Vehicles**. This particular equipment will participate in the definition of a strategy for creating a low-carbon and environmental friendly airport system towards the objective of Europe 2020 in the related area.

This feasibility study will evaluate the environmental impact of the using of this vehicle in connection with collected data inserted in the environmental analysis of Activity 3.1 and 3.2 of PP4. Difference will be analysed proposing the benefits of an electrical conversion of this kind of machineries in an Airport context.

In general, this assessments will provide additional data to successfully plan the measures (and future investments), which will contribute to the creation of low carbon transport system and new environmentally sustainable services in ports and airports.

III. BACKGROUND OF THE PROJECT

One of the main problem that characterize the Adriatic coastal area is the imbalance in the development of infrastructures and modes of transport, caused by low level of investments and insufficient approach to innovation. In Italy and in Croatia there are many maritime cities, which have to deal with a very high number of passengers, especially during the peak season. Even though the road transportation is still predominant, the number of people that are reaching Adriatic cities by ferries and airplanes is significantly increasing year by year. However, most of Adriatic ports and airports are suffering from lack of integration with various modes of transportation, causing serious traffic congestion problems during the summer season.

On the other hand, it is very important to decrease environmental impact of port and airport transport activities by creating a more environmental-friendly and low carbon transportation system of Adriatic area, through the identification and implementation of innovative technological solutions. The Adriatic area is generally lagging behind the EU average with reference to innovation performance in transportation sector and most of facilities must be renewed in order to reach modern EU environmental standards. It is necessary to significantly improve environmental performance of involved airports, through demonstration actions that can pave the way to future investments in infrastructure and sustainable and green management such as the purchase of Electric Utility Vehicles.

IV. PROJECT OBJECTIVES, PROJECT APPROACH AND COOPERATION NEEDED

Low level of integration among different modes of transportation and insufficient investments in sustainable and low-carbon transportation technologies are characterizing several regions in the Adriatic area. The Croatian and Italian Adriatic coasts are rich of touristic destinations, which are reached by millions of tourists every year. Even though the road transportation is still predominant, the number of tourists that are reaching Adriatic towns and cities by ferries and airplanes is significantly increasing. Unfortunately, most of Adriatic ports and airports are suffering from lack of connections with other modes of transportation, causing serious traffic congestions problems, especially during the summer seasons. In addition, the majority of ports and airports facilities are lagging behind the EU average when it comes to sustainable environmental performances.

The main objective of ADRIGREEN project is to improve the integration of Croatian and Italian ports and airports with other modes of transportation in order to enhance the processing of passengers during the summer seasons and to improve environmental performances of the Adriatic maritime and aviation systems.

In order to do that, the project will implement a set of structured activities based on transnational and cooperative approach. The main idea is to identify and analyse a number of existing operational and technological solutions that can be easily transferred and adapted by involved ports and airports. The partners are not interested in inventing new solutions as there are a plenty successful models and schemes implemented in other parts of the world that can be replicable also in the Programme area. Once the solutions have been identified and analyses, the project partner will test the operational and technological models on their facilities so as to improve intermodal connections and to put in practices new schemes for a sustainable management of ports and airports.

The objective of the testing phase will be to demonstrate the feasibility, the effectiveness and the replicability of the identified solutions. The last but not least intention of the project is to disseminate the results of tested solutions so as to explain also to other ports and airports how the operational procedures and technological innovation can be successfully transferred and used.

The overall objective is to improve the integration of Adriatic ports and airports with other modes of transportation in order to enhance the processing of passengers that are reaching the main touristic destinations located on Adriatic coasts and to improve environmental performances of the regional maritime and aviation system, whose standards are still lagging behind EU average. These goals contribute to the fulfillment of the Specific Objective 4.1 of Programme, as the project will produce specific outputs which will concretely contribute to enhance the environmental sustainability of coastal transportation services. Project activities and outputs will contribute to a higher coordination between Italy and Croatia in the development and implementation of integrated passengers transportation systems and intermodal connections, reducing disparities and creating opportunities to implement new and smart solutions to solve identified problems in field of coastal tourists' transportation.

The identified solutions will represent the basis for further improvement of situations in all involved area. In addition, after the conclusion of the project, each port/airport will have a clear picture of what must be done so as to improve its environmental performance to reach EU standards. Several solutions will be directly tested and evaluated through the project, which will produce concrete results in terms of feasibility, effectiveness, costs-benefits, level of satisfaction of passengers, environmental performances and sustainable management of ports and airports. The evaluation will provide fundamental data to efficaciously plan further measures and investments. Moreover, through project publications, trainings and events, the staff but also other ports and airports will have improved their knowledge on how to adapt and use the tested solutions aimed at improving multimodal connections and environmental performances.

With the testing phase the partnership will put into practice several solutions identified in WP4 with the aim to test new mechanism which will speed up the passengers processing from/to airports and ports and as well as operating codes/technological innovation to improve (e.g. reduce) environmental performances of transportation facilities involved in the project, which are lagging behind the EU average with reference to innovation performances. Different fields will be tackled by the testing phase, in accordance with the specific problems identified by partners. Considering also that at present each partner has achieved different level of development in implementing strategies for a sustainable and intermodal management, it is likely that the testing actions will differ in terms of direct impact and results. The testing phase will strictly pursue a transnational perspective, since the final aim is to experiment solutions that could be easily adapted in each area involved in the project.

The partnership already identified 4 main fields on which the testing will be focused:

- 1) implementation of low-costs and smart solutions to better connect airports and ports with local public transportation system, such as railways and public bus lines;
- 2) implementation of integrated timetabling and information for passengers that must continue their travel by other means of transportation;
- 3) adoption of smart solutions to improve waste&water management and to reduce energy consumption in small-medium regional Airports;
- 4) new protocols with public&private transportation providers to experiment new services to speed up the process of passengers from/to touristic destinations which are not well-connected.

The test equipment foreseen for WP4 is included in the 3rd field and its evaluation will allow the identification of a possible solution that could be easily adapted on majority of ports and airports located in Adriatic area. It means that also airports and ports not directly involved in the project could benefit from solutions tested in Bari.

The cooperation vision at project level is easily considered in the results of this assessment that will contribute in the preparation of the Manual on identified solutions and practices: a tool which can be easily transferred to other organizations as it will contain several recommendations on how tested measures should be implemented in the best and sustainable manner.

V. NEEDS ANALYSIS AIRPORTS OF PUGLIA

“Aeroporti di Puglia”, manages the airports of Bari, Brindisi, Foggia and Taranto Grottaglie, which make up the Apulian airport network, under a total concession for forty years. This airport network is the first to be designated in Italy by implementing the EU Directive 2009/12, law no. 27/2012 and in compliance with the National Airport Plan.

The feasibility study concerns the investment of one electric tractor to be used in the Brindisi airport. Brindisi airport is already equipped with seven electric tractors for the same use.

Brindisi is one of the most important cities in the Apulian region. It is an important center of Salento in southern Italy. Brindisi is located on a small promontory within an inlet that branches out into two arms of the sea (Seno di Levante e Seno di Ponente), communicating with the Adriatic Sea, which together form an inland port, one of the most important on the Apulian Adriatic coast. Brindisi has always been known for its port, the gateway to the East, one of the safest ports in the whole Mediterranean. The city is a transit point for tourists traveling to Greece and other Eastern countries.

The port is also of considerable importance for merchant traffic, dedicated to petroleum products, and for trade with the Near East. There are several ways to reach the city of Brindisi including direct bus from the main places in Italy, trains, cars and national and international flights. The provincial road network is closely connected both to the network of the capital (Bari), and to that of all the municipalities.

Only one motorway route serves the area: the A14 Bologna-Taranto, to which most of the province is well connected. The railway network includes the connecting sections with Bari, Taranto and Lecce. The connection with the air traffic network is guaranteed from the Brindisi airport, which plays an important role for the air traffic of the Center-South of the peninsula and in particular for Salento.

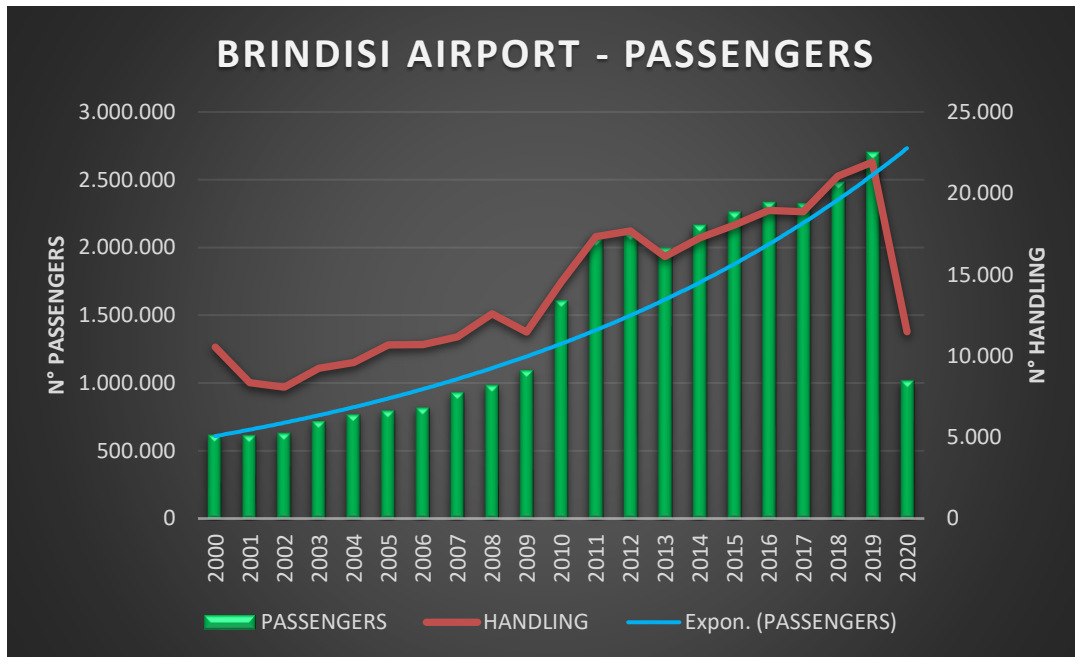
The airport is located about 5 kilometers from the city center, and getting there is easy both by public transport and by car.

The region's economy is mostly based on agriculture and tourism. Therefore, the traffic in Brindisi airport is mostly international traffic, including various destination worldwide, especially during summer. During the main holiday summer season, in Puglia more than 2,3M tourists reach the main attractions, both cultural and naturalistic, of the region.

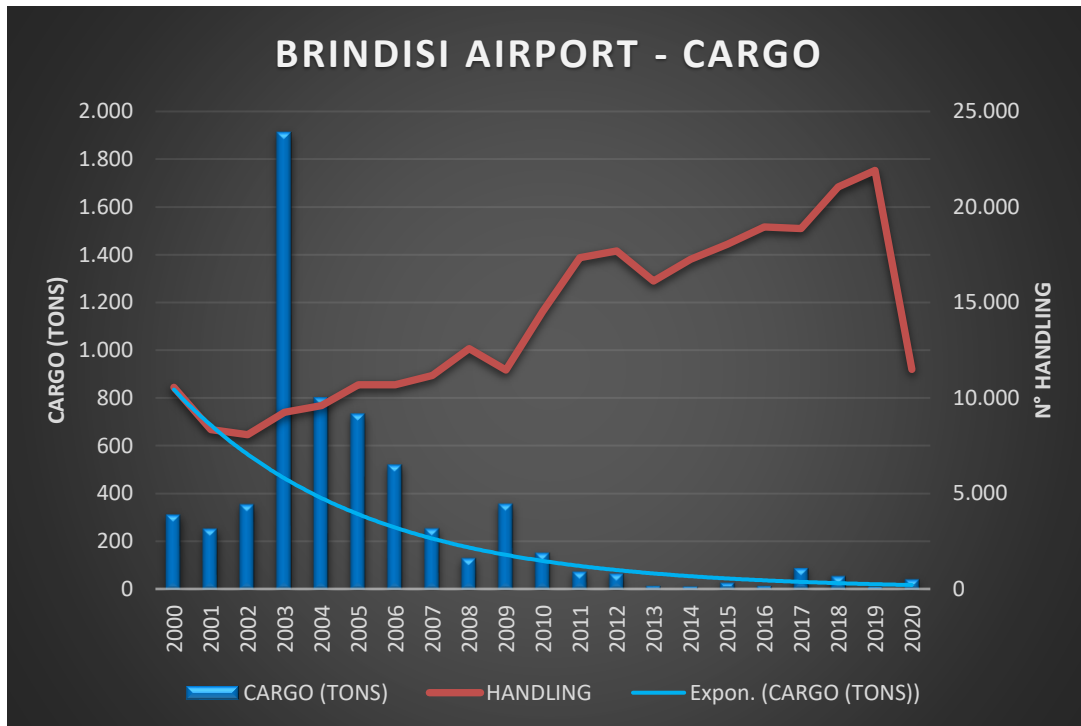
The Brindisi economy is characterized by the expansion of the secondary sector: there are numerous industries operating in the petrochemical, chemical and food sectors food (wineries, oil mills, pasta factories and dairies), fishing and agricultural center, favored by the climate, with production of cereals, vegetables, fruit, olives and wine grapes. Brindisi is a city rich in history, culture and beauty. Festivals and cultural events of all kinds enrich the Salento atmosphere, in combination with the delicious products of local gastronomy. In the surrounding area, is also located Ostuni, called the White City because of the colour of most of the houses in the city. In this area there are numerous farms ("masserie"), imposing rural buildings used as farms. They included areas for breeding, for processing the crops and for housing the farmers.

In the remaining territory the landscape is characterized by the typical Trulli, typical buildings of southern Puglia, which are located in the beautiful village of Cisternino. Very famous for the presence of the trulli is mainly the town of Alberobello, in the province of Bari.

The Brindisi Airport experienced continuous growth in last years. From 2000 to 2019, Brindisi airport recorded a constant increase of yearly passenger turnover passing from 0,6M to 2,7M passengers, with a clear and common decline in 2020 due to the COVID-19 pandemic (see the graph below).



The Brindisi airport has increased over the years the air traffic for passengers, decreasing instead the cargo transport. In fact, air cargo transport passed from the peak of 1913 tons per year recorded in 2003 to just 43 tons per year in 2020 (see the graph below).



This decrease in air cargo transport coincided with an increase in container traffic in the port of Brindisi.

In fact in 2019 the Port of Brindisi handled 7.165.315 tons of goods. This amount represented 49% of the total tons handled in all the Puglia ports overlooking the Adriatic Sea (Bari, Brindisi, Manfredonia, Barletta and Monopoli) which constitute the Port System Authority of the Southern Adriatic Sea (AdSP MAM). The number of berths was 1.812 units, and represented 38% of the entire port system. These two data fully demonstrate the importance of the port of Brindisi both for the port system of the Southern Adriatic Sea and for the reference production system.

There are other emerging environmental challenges that were identified in recent years. The future evolution of airport will introduce new challenges, mostly due to the increase of traffic and the implementation of new airport infrastructure. Buildings and facilities need to be project in efficient way, with lesser negative environmental effects.

In order to cope with new environmental challenges, Brindisi Airport has planned to increase the level of environmental performance at the airport through number of dedicated projects, as photovoltaic solutions, electrical vehicles and led panels, to decrease carbon footprint of airport.

The ADRIGREEN Project represents a unique opportunity for Brindisi Airport to continue its development toward an environmentally friendly airport. In addition, thanks to the project, the Airport will analyse and evaluate existing and future strategies, concepts and technology to improve intermodal solutions. Brindisi Airport is especially interested in improving and integrating communication and transport between units, and in opportunities to implement new innovative technologies according to the latest environmental and sustainable development principles.

Consequently, Brindisi Airport pilot action includes purchasing of electric vehicles to be used in airside and landside, covering the following pilot action field:

- adoption of smart solutions to improve wastewater management and to reduce energy consumption in small-medium regional Airports

The new solutions tested at the Airport will reduce airport air pollution and will better integrate airport systems. Gained experience and benchmark information will provide inputs for future sustainable development of the whole region.

VI. SAFETY AND INDUSTRY REGULATIONS

The airports are highly regulated and standardised environments due to specifics of global international air transportation system. There are a number of international organizations, standards, regulations and agreements that regulate airport performance in any fields. Beside the international regulations, all countries have their own national legislations dedicated to regulate air transportation in general and airports in specific. In addition, there are different industry standards form non-governmental organizations that are widely accepted as norms by government bodies.

In general, airport regulations can be divided in two major groups: airside and landside. The landside area is open to the public, while access to the airside area is tightly controlled. The airside area includes all parts of the airport around the aircraft, and the parts of the buildings that are accessible only to passengers and staff.

The most significant regulatory body is the International Civil Aviation Organization (ICAO), an UN specialized agency, which manages the administration and the governance of the Convention on International Civil Aviation (Chicago Convention). ICAO works within the Convention's UN Member States and industry groups to reach consensus on international civil aviation Standards and Recommended Practices (SARPs) and policies for civil aviation sector. These SARPs and policies are used by UN Member States to ensure that their local civil aviation operations and regulations conform to global norms.

For the EU Member States there is the European Union Aviation Safety Agency (EASA). The EASA is an agency of the EU with responsibility for civil aviation safety. Each State has its own Civil Aviation Agency (CAA) that is responsible to enforce international aviation regulations (ICAO SARPs and EU Directives) at national level. The CAA are regulated and appointed by national legislation and respective governments. CAA is responsible for safety performance of all national air transportation subjects, including airports of the particular state.

From industry standards most significant are those issued by the International Air Transport Association (IATA). The IATA is the trade association for the world's airlines which significantly influence airport performance as standards of this organization are widely recognized and enforced by national civil aviation agencies.

Both technology systems and vehicles at the airport landside or airside need to follow the basic national regulations for the specific filed, such as work safety bylaw commercial vehicle bylaws. Beside those there are same general airport standards that need to be followed at the airports, such as ICAO Annex 14 (airport infrastructure) and ICAO Annex 17 (airport security). For the airport airside there are additional safety regulations and standards that need to be follow. Those specific standards are based on ICAO Annex 14, and additionally defined by the CAA in form of national legislation such as Ordinance on airports, Ordinance on ground handling, and Ordinance on airport rescue and firefighting.

Equipment purchased within Adrigreen project is implemented in airport processes and put in use obeying all mentioned standards. Additionally, Brindisi Airport safety manager is continuously controlling processes from safety point of view with regular reporting process implemented.

VII. DESCRIPTION OF PILOT ACTION IMPLEMENTED

Brindisi Airport pilot action implemented is in compliance to third main pilot action field identified within the project: “adoption of smart solutions to improve waste & water management and to reduce energy consumption in small-medium regional Airports”. The focus of the Brindisi airport is to reduce energy consumption and carbon emissions, the proposed intervention is:

- Replacement of diesel tractors with new electric tractors used for aircraft assistance activities (handling)

According to the need’s analysis performed, Brindisi Airport has identified following fields for improvement in landside and airside area:

- energy efficiency improvements within airport processes
- cost effective optimisation of business processes
- CO2 emission reduced

Purchase and implementation of the electric vehicle for handling process will significantly lower CO2 emission and it will reduce energy consumption in performing daily processes within Brindisi Airport premises since old diesel vehicles are fully replaced and put out of the function.

Also, since these vehicles are used on the airside area, it will be visible to the airlines company and general public contributing to the airport green field policy and zero emission strategy adopted within Brindisi Airport and presented to the public.

VIII. FINANCIAL AND ENVIROMENTAL ANALYSIS

Financial analysis

The Brindisi Airport has performed financial analysis of equipment purchased and used. In conducting financial analysis, the following assumptions were taken into the consideration:

- purchase price of new vehicle (electric or diesel);
- for electric tractors, the replacement of a battery every 5 years (5.600€) is considered, while for diesel tractors an extraordinary maintenance for engine and traction system rectification is estimated around the 8th and 9th year (5.000€);
- economic life usage period of vehicles (10 years);
- the cost of the energy considered (excluding fixed costs and without increases) is 0,07 €/kW/h; the estimated fuel cost (without increases) is 1,40 €/lt;
- the diesel tractor used for the comparison with electric tractor is COMET 4D (MULAG Fahrzeugwerk);
- the diesel tractor used for the handling activities inside the Brindisi airport is used for a total of 1800 hours/year, travelling for 2.000 km/year, with a consumption of average 5 liters/hour of fuel, for a total fuel consumption of 9.000 liters, corresponding to a total fuel cost of 12.600 € /year;
- for this analysis, the maintenance costs of the vehicles are considered similar (1.500 € every year);
- the tires will be considered to be replaced annually for both scenarios (400€);
- from the data provided by the supplier, the new electric tow tractor SIMAI TE252 is composed by two 10 kW rated power traction motors and by two 0,6 kW rated power steering engines, consuming on average 12,72 kW/h according to the EN16796-2 standard;

- the tractors will be used for aircraft handling operations, therefore the evaluations of use over the ten years are made through the use of traffic forecasts.

Environmental analysis

At this stage, environmental analysis performed relates to basic calculation of CO₂ emissions according to technical specifications of equipment purchased compared to the one replaced. In further steps of the pilot action testing, evaluation grid will be developed in order to assess action performance and to show how the environment and transit of passengers benefited from pilot actions. Also, it is important to specify that it is not yet fully investigated the impact of changing electric battery each five years on environment in respect of battery production and battery disposal.

Consequently, the annual CO₂ production is estimated below, considering that:

- Electric tractor - CO₂ emissions are estimated at 172 g / km, on an annual basis, assuming 2.000 km, is 344 kg.
- New Diesel Tractor - CO₂ emissions are estimated at 532 g / km, on an annual basis, assuming 2.000 km, is 1.064 kg.

The real consumption of the electric vehicle used will be better considered in the pilot action phase.

“Aeroporti di Puglia” demonstrates concrete attention to environmental protection in the choice of energy supply. The supply of electricity to all the airport sites of Bari, Brindisi, Foggia and Grottaglie, for the two-year period 2021-2022, is guaranteed by AGSM Energia. This electricity supplier certifies the energy consumed by “Aeroporti di Puglia” as produced from renewable sources (such as water, sun, wind and heat from the earth) through the GSE "Guarantees of Origin" system, in accordance with the provisions of the EC 2009 directive/28/EC.

The plant will make it possible to completely reduce the production of CO₂ deriving from the use of old vehicles by completely replacing them with electrical equipment.

Vehicle analysis

DIESEL TOW TRACTOR					
Fuel Cost (€/lt)		1,40			
Service (€) - forfait every year		1.500,00			
Tyres (€) - every year		400,00			
Utilization (km/year)		2.000	Utilization (km/day)		5,48
Utilization (hour/year)		1.800	Utilization (hour/day)		4,93
Average Consumption (l/h)		5,000	Average Consumption (l/day)		24,66
YEAR		PURCHASED	SERVICE	FUEL	NET CASH FLOW
1	2021	18.000,00 €	1.900,00 €	12.600,00 €	32.500,00 €
2	2022		1.919,00 €	12.726,00 €	14.645,00 €
3	2023		1.938,19 €	12.853,26 €	14.791,45 €
4	2024		1.957,57 €	12.981,79 €	14.939,36 €
5	2025		1.977,15 €	13.111,61 €	15.088,76 €
6	2026		1.996,92 €	13.242,73 €	15.239,65 €
7	2027		2.016,89 €	13.375,15 €	15.392,04 €
8	2028	2.500,00 €	2.037,06 €	13.508,91 €	18.045,96 €
9	2029	2.500,00 €	2.057,43 €	13.643,99 €	18.201,42 €
10	2030		2.078,00 €	13.780,43 €	15.858,44 €
	SUM	23.000,00 €	19.878,20 €	131.823,88 €	174.702,08 €
		% compared to purchased	86%	573%	760%

ELECTRIC TOW TRACTOR					
Fuel Cost (€/kWh)		0,07			
Service (€) - forfait every year		1.500,00			
Tyres (€) - every year		400,00			
Utilization (km/year)		2.000		Utilization (km/day)	5,48
Utilization (hour/year)		1.800		Utilization (hour/day)	4,93
Average Consumption (kWh)		12,72		Average Consumption (kWh/day)	62,73
YEAR		PURCHASED	SERVICE	FUEL	NET CASH FLOW
1	2021	32.885,00 €	1.900,00 €	1.602,72 €	36.387,72 €
2	2022		1.919,00 €	1.618,75 €	3.537,75 €
3	2023		1.938,19 €	1.634,93 €	3.573,12 €
4	2024		1.957,57 €	1.651,28 €	3.608,86 €
5	2025		1.977,15 €	1.667,80 €	3.644,94 €
6	2026	5.600,00 €	1.996,92 €	1.684,47 €	9.281,39 €
7	2027		2.016,89 €	1.701,32 €	3.718,21 €
8	2028		2.037,06 €	1.718,33 €	3.755,39 €
9	2029		2.057,43 €	1.735,52 €	3.792,94 €
10	2030		2.078,00 €	1.752,87 €	3.830,87 €
	SUM	38.485,00 €	19.878,20 €	16.768,00 €	75.131,20 €
		% compared to purchased	52%	44%	195%

IX. RISK ANALYSIS

Risk identification

Brindisi Airport has participated on several project meetings in order to discuss project implementation and to coordinate project activities.

In addition, Brindisi Airport has performed qualitative risk analysis for different stages of feasibility study (FS) and Action plan implementation as follows:

- Preparation phase – includes steps that are to be fulfilled prior to developing of FS and Action plan
- Implementation phase – includes steps that are to be taken for purchase of equipment or software necessary for testing pilot action
- Testing phase – includes steps that are to be undertaken during the testing phase of the Action plan and producing FS.

Per each phase of the Action plan lifecycle, engaged partners will perform following activities:

- Risk identification – all types of risks that can occur needs to be identified and addressed,
- Risk assessment – based on prescribed methodology, each risk shall be measured and assessed based on the probability of occurrence and impact on the project objectives achievement,
- Corrective measures and mitigation measures – measures prescribed by engaged parties in order to mitigate risk to acceptable level. Acceptable levels of risks are moderate or below, other risk levels should be addressed by appropriate measures.

Methodology for risk assessment

The qualitative risk analysis is based upon a combination of impact and probability and is evaluated according to the below risk matrix.

		Impact				
		I	II	III	IV	V
Probability	1	Low	Low	Low	Low	Moderate
	2	Low	Low	Low	Moderate	High
	3	Low	Moderate	Moderate	High	High
	4	Low	Moderate	High	Very high	Very high
	5	Moderate	High	High	Very high	Very high

Table: Qualitative risk analysis per FS and Action plan phases

PREPARATION PHASE						
Type of risk	Risk description / Effect on the project	Prob.	Impact	Risk	Measures implemented / mitigation measures	Status after measures on 23.02.2021
Replacement of key personnel	Due to the envisioned timeframe of the project, key personnel may change positions within the Company or leave Company which can result in delays in closing the project. Information level of the person taking over the position will inevitably be lower than for the one leaving the position.	3	III	Moderate	Project procedures needs to include clear directions on what measures are to be taken to secure information hand-over when a key person is replaced. This includes e.g. a hand-over meeting and a hand-over memorandum. The hand-over process will be supervised to ensure that it is thoroughly executed.	Internal project procedures identifying hand over procedures are adopted. Internal project team has been named. Risk is mitigated to low level
Lack of sufficient communication between WP coordinator and partners	Not adequate communication between WP coordinator and partners in producing FS and AP may result in inadequate purchase, and difficult in successive fases.	4	IV	Very high	Frequent contact with partners and supervisors will mitigate the possibility of making bad purchases.	The team contacts the ARGO representative on a weekly basis. This ongoing communication lowers the level of risk.

IMPLEMENTATION PHASE						
Type of risk	Risk description / Effect on the project	Prob.	Impact	Risk	Measures implemented / mitigation measures	Status after measures on 23.02.2021
Equipment not compliance	The purchase of equipment that does not comply with the requirements may have repercussions for the reporting in the project budget.	3	III	Moderate	Continuous feedback with the team, comparison of various purchases and product evaluations by the team.	All the necessary assessments have been carried out, purchases are awaited for final assessments, but it is believed that the level of risk has decreased.
TESTING PHASES						
Type of risk	Risk description / Effect on the project	Prob.	Impact	Risk	Measures implemented / mitigation measures	Status after measures on 23.02.2021
Not adequate testing plan	If testing plan does not include all necessary details and testing timeline, testing results may not be in accordance to project needs and project outputs underlined. Also, if Methodology for evaluating environmental impact is not described, results may be misinterpreted.	3	IV	High	The partners in charge of the testing phase develop an appropriate test plan and methodology for the environmental impact solutions implemented on time.	The purchase of the tractors suffered a delay and consequently the adoption of testing plans and procedures. The risk remained at a high level. After the FS has been sent, information is awaited regarding the performance of the test phase.

Testing procedures not performed according to plan	<p>If testing procedures are not performed according to prescribed plan, testing results will not be in line with project objectives and project outputs which can result in project funds decommitment.</p>	<p>3</p>	<p>///</p>	<p>Moderate</p>	<p>Testing procedures should be performed according to methods agreed and on representative sample to ensure adequate testing results.</p>	<p>N/A</p>
Not adequate actions implemented	<p>If Rimini Airport has not implemented adequate actions as prescribed by the AF, or actions are implemented in wrong manner, objectives and outputs of the project will not be reached.</p>	<p>3</p>	<p>///</p>	<p>Moderate</p>	<p>Rimini airport will purchase equipment according to AF specifications and put them into use in the first half of 2021. The results of the tests, carried out in accordance with the requirements of the partners, should confirm the improvement of the environmental impact solutions.</p>	<p>N/A</p>

Identified risks shall be monitored and evaluated through entire Action plan and FS lifecycle

X. CONCLUSION

Brindisi Airport has implemented process for monitoring and implementation of pilot action. Process consisted of following:

- identifying project team with clear responsibilities of each project team member,
- preparation of project implementation plan including pilot action implementation steps,
- identifying risks that can occur during pilot action implementation process with continuously monitoring and evaluation process,
- implementing purchased equipment in practice and measuring their performance,
- establishing monitoring system for environment analysis and process optimisation analysis for future benefits.

Furthermore, pilot action implemented is in compliance to third main pilot action field identified within the project: adoption of smart solutions to improve waste&water management and to reduce energy consumption in small-medium regional Airports.

Finally, according to testing results of implemented actions, feasibility of each implemented action is demonstrated as well as their positive impact on environment, which clearly demonstrates transferability and applicability of implemented pilot action to other airports and regions. Also, implemented pilot action is in compliance to aviation safety and security standards. In further steps of the pilot action testing, evaluation grid will be developed in order to assess action performance and to show how the environment benefited from pilot actions.

The Brindisi airport, from the project aims to obtain a greener footprint of an airport under development that is important for the region. This can be considered as the first step towards a sustainable development for the environment, without neglecting the important economic developments that green solutions can propose.