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UNIVERSITÀ DI ROMA

ATR SYSTEMS UPGRADE

INFORMATIVE SYSTEMS UPGRADE BY INFOIGEA

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ABSTRACT

The public transport company ATR, the metropolitan transport manager of a major Italian city, received European funds to upgrade its IT facilities. Following a call for tenders by ATR, the company InfoIGEA was awarded the contract to implement the project.

InfoIGEA SPA is a software development company offering consultancy services in the IT field. Founded in 1996 in Trieste, it has offices in Italy, Spain, the Netherlands, Australia and Brazil, with sales offices in major US cities.

The computer system renewal project will follow the incremental model, using careful planification in order to optimize resource management and reduce development time and costs.

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EXECUTIVE SUMMARY

This document is intended to be a concise description of the Project Work that is presented below, defining the main aspects that characterized it.

The project under analysis concerns the replacement of elements of the information system of ATR, a transportation company of a large Italian city. This replacement involves the development of the new systems, the integration of data with the previous systems, and the implementation of the systems.

Following the establishment of a tender, the company InfoIGEA was awarded the project worth €2000000 (excluding VAT).

This tender was established following the allocation of European funds for technology upgrading.

The project includes three milestones, related to the completion of the three macro-systems:

- Workshop management system
- User management system
- Employee management system

The project will follow the incremental model, following current standards in terms of architecture, technologies used and management of hardware resources.

The discussion is divided into four chapters broken down as follows. In the first, on the context and objective of the project, a brief overview of the project and the companies involved is given. The Business Case and Project Charter are also given. At the end of the chapter there is a description of the project objectives and output.

In the second chapter, aspects concerning project planning will be covered. In this chapter, cost and time management will be analyzed in detail, starting with the breakdown of activities in the Work Breakdown Structure and analyzing the scheduling of activities and the costs related to them based on this. The approaches to be followed during the project regarding quality, communication, risk management and other relevant aspects will also be analyzed.

The third chapter deals with project execution management, analyzed according to all the parameters described in the second chapter. It will show how critical issues of varying degrees were addressed, some of which caused schedule changes and increased costs.

The fourth chapter provides an analysis of the project results from the perspective of the companies involved, providing an analysis of success criteria, critical factors and future implications for the companies.

CHAPTER 1.
PROJECT GOALS AND CONTEXT

1.1. PROJECT DESCRIPTION

The project concerns the replacement of the following systems:

- Vehicle maintenance management system
- Vehicle tracking system
- Workshop Management System
- Tickets and Subscriptions management system
- Customers Management System
- Employees Management System
- Controllers Management System
- Drivers Management System

For each of these systems, software implementation is planned, together with product design and testing, data merging from the systems currently in use, and hardware/software deployment and installation. It is intended to replace the systems in their entirety, in terms of business logic, data persistence and user interface.

Throughout the duration of the project, meetings will be held between the InfoIGEA team, the project manager, ATR management and ATR's IT department, in order to validate the work done and cooperate in order to conclude the project on schedule.

Due to factors concerning security and privacy regulations, it is necessary that data merging and installation take place on ATR's premises.

The planned duration of the project is 15 months, with a budget (the result of winning the tender) of 2000000€ (excluding VAT).

The project specifications in the tender specifications model the requirements of the systems in terms of performance, adherence to graphical characteristics, security and quality.

1.2. COMPANY DESCRIPTION

InfoIGEA SPA is a renowned software development company that provides expert consultancy services in the field of Information Technology (IT). The company was founded in 1996 in Trieste, Italy, and has since expanded globally, with offices in Spain, the Netherlands, Australia, and Brazil. Additionally, they have sales offices in major US cities, making them a truly global company.

InfoIGEA SPA specializes in software development, providing services such as custom software development, web and mobile application development, and software testing and quality assurance. They have a team of highly skilled professionals who are experienced in the latest software development technologies and methodologies.

One of the company's key strengths is its ability to provide end-to-end solutions to its clients, from initial consultation and analysis to implementation, maintenance, and support. They work

closely with their clients to understand their business needs and requirements, providing tailored solutions that meet their specific needs.

In addition to their software development services, InfoIGEA SPA also offers consultancy services in IT strategy and planning, project management, and IT governance. They help their clients to align their IT strategies with their overall business objectives, ensuring that their technology investments are optimized to deliver maximum value.

Overall, InfoIGEA SPA is a highly reputable software development company with a global presence and a proven track record of delivering high-quality solutions to their clients. Their expertise in software development and IT consultancy makes them an ideal partner for businesses looking to leverage technology to achieve their strategic goals.

ATR is the public transport agency responsible for managing the public transport system in A major Italian city. It was established in 2001 and is responsible for the operation of buses, trams, and metro lines in the city. ATR also manages the city's bike-sharing system and provides information to passengers through its website and mobile app.

ATR operates a fleet of over 2,300 buses, 27 tram lines, and 4 metro lines, serving millions of passengers each day. The metro system is particularly important, as it provides a fast and efficient mode of transport for commuters and tourists alike.

In addition to its operational responsibilities, ATR also focuses on improving the quality and sustainability of public transport in Rome. For example, the agency has implemented a number of measures to reduce emissions from its fleet, including the use of hybrid and electric buses.

On 05/09/2021, ATR, with the support of the public entities that hold all its shares, instituted a tender for the replacement of information systems responsible for vehicle management and maintenance, user, subscription and ticket management, and administrative software. This tender is divided into five different supplies:

- supply of the design of the building modifications
- implementation of the building modifications
- supply of the design of the information systems
- provision of the software design, data merging from the systems in use, and the implementation of the systems
- provision of the necessary hardware

On 10/10/2021, InfoIGEA won tender 4 in the amount of 2000000€ (excluding VAT and expenses regarding security). The specifications include systems that must meet minimum constraints in terms of:

- features
- adherence to the features in terms of UI provided in the prototype systems of the tender specifications
- performance
- security
- quality
- availability
- modularity
- code quality

InfoIGEA management wants to use this project as a study to increase productivity in projects that do not involve adherence to stringent quality standards. In fact, InfoIGEA management believes that by using resources with high technical value, it is possible to increase gains over competitors who use lower quality resources in greater numbers.

1.3. BUSINESS CASE

Introduction

This paper is intended to provide an analysis to justify the actual start of the project. This project concerns the replacement of systems concerning workshop management, user, ticket and subscription management, and personnel management that are part of ATR's information system. Within the scope of the project are the software-level design and implementation of these systems, data merging from the currently existing systems, and on-site HW/SW installation. Funds made available by the European Union, amounting to XXX€, will be used for this project. Time-wise, the project is scheduled to start in early 2022 and to be completed no later than April 2023.

The three planned milestones correspond to the actual deployment of each of the 3 macro-systems:

1. Vehicle and workshop management system
2. User, ticket and subscription management system
3. Personnel management system

Business Objective

The upgrade of the Information System used by ATR, the metropolitan transport manager of a major Italian city, will bring a range of benefits to the company. These benefits include:

1. Improved operational efficiency: The new system will provide a more efficient and effective platform for ATR's employees to manage and operate the public transport system. This will help to streamline processes, reduce errors and delays, and improve the overall efficiency of ATR's operations.
2. Enhanced customer experience: The new system will offer a more user-friendly experience for clients, with improved access to real-time information about routes, schedules, and service updates. This will help to improve customer satisfaction and loyalty, while also attracting new customers to use ATR's public transport services.
3. Increased sustainability: The upgraded Information System will contribute to the sustainability of public transport in the city, by improving the efficiency and effectiveness of ATR's operations. This will help to reduce greenhouse gas emissions, traffic congestion, and air pollution, while also promoting the use of public transport as a sustainable mode of transportation.

4. Better resource management: The AGILE software development methodology used in the project will optimize resource management, reduce development time and costs, and improve the quality of the final product. This will help to ensure that ATR's resources are used effectively and efficiently, while also reducing the risk of delays or cost overruns.
5. Competitive advantage: The new system will provide ATR with a competitive advantage in the public transport market, by offering a more modern, efficient, and sustainable platform for its operations. This will help to differentiate ATR from its competitors, while also attracting new customers and retaining existing ones.

Overall, the benefits of the project for ATR include improved operational efficiency, enhanced customer experience, increased sustainability, better resource management, and a competitive advantage in the market. These benefits will contribute to the long-term success and growth of ATR, while also improving the quality of life for the residents and visitors of the city.

Project Scope

The aim of the project is to replace ATR's information systems concerning vehicle and workshop management, user management and employee management. The vehicle and workshop management system deals with vehicle maintenance and vehicle tracking and workshop management, the user management system deals with the management of tickets, subscriptions and personal profiles of users, the employee management system deals with the management of the administrative aspects of the users and the rosters and management of controllers and drivers. The scope of the project envisages for each of these systems, which are currently operating albeit with obsolete technology, the complete HW/SW replacement, the development of frontend and getaway APIs for interaction with clients, and the transfer of data from the systems currently in use.

Current situation and problem / Opportunity statement

The information system of ATR, which was designed poorly in the late 1990s and had new features added in a raw way during the following years, has several weaknesses:

- Lack of scalability: The system may not be able to handle increased usage or demands, such as a larger number of users or an increased volume of data. This can lead to slow performance, crashes, and other issues.
- Poor usability: The system may be difficult to use, with an outdated or confusing interface. This can lead to user frustration and errors, as well as a lack of adoption of the system.
- Security vulnerabilities: The system may have security vulnerabilities due to outdated technology or poor design. This can lead to data breaches, unauthorized access, and other security incidents.
- Lack of integration: The system may not be able to integrate with other systems or technologies, which can limit its usefulness and functionality.

- Limited functionality: The system may not include all the necessary features and functionality required by ATR or may have features that are no longer useful or relevant. This can limit the ability of the system to meet the needs of ATR and its customers.
- Poor data quality: The system may have poor data quality due to data entry errors or lack of data validation. This can lead to incorrect or incomplete data, which can have negative impacts on decision-making and operations.

Overall, a poorly designed and maintained information system can lead to a range of weaknesses and issues that can negatively impact the performance, functionality, and security of the system. It is important for ATR to upgrade its system to address these weaknesses and improve its overall efficiency and effectiveness.

Critical assumption and constraints

Assumptions:

- ATR will provide InfoIGEA with all necessary access to existing systems, data, and resources required for the project.
- ATR will provide timely and accurate feedback throughout the project to ensure that the development process is aligned with its expectations.
- The project will be completed within the agreed-upon timeframe and budget.
- The upgraded system will be compatible with ATR's existing hardware and software infrastructure not interested by the upgrade.
- The upgraded system will meet all regulatory and legal requirements for public transport systems in the city.

Constraints:

- The project must be completed without disrupting ATR's ongoing operations, ensuring that the public transport system continues to operate smoothly throughout the project.
- The upgraded system must be fully tested and validated before deployment to ensure that there is no negative impact on ATR's operations or customer experience.
- The project budget must be adhered to, and any changes to the project scope or requirements must be approved by ATR.
- The upgraded system must be compatible with existing ATR hardware and software infrastructure, and any necessary upgrades or modifications to this infrastructure must be completed within the project budget and timeline.
- The project must comply with all relevant regulatory and legal requirements for public transport systems in the city.

Preliminary project requirements

Collaboration between ATR and InfoIGEA will be required in several areas during the project, including management, operational aspects, and facilities.

In the management area, ATR and InfoIGEA will need to work closely together to ensure that the project is planned and executed effectively. This will involve regular communication and collaboration between the two teams, with a focus on identifying and resolving any issues or concerns that arise during the project. A project manager will be appointed by both ATR and InfoIGEA to oversee the project and ensure that it is delivered on time and within budget. The project manager will also be responsible for coordinating the activities of both teams and ensuring that they are aligned with the project objectives.

In terms of operational aspects, ATR and InfoIGEA will need to work together to ensure that the upgraded system is fully integrated with ATR's existing infrastructure and operations. This will involve a thorough understanding of ATR's operational processes and requirements, as well as a detailed analysis of the existing system. InfoIGEA will need to work closely with ATR's operations team to ensure that the upgraded system meets their needs and is able to support their day-to-day activities. Additionally, ATR and InfoIGEA will need to work together to conduct testing and quality assurance to ensure that the upgraded system is fully functional and reliable.

Regarding facilities, ATR and InfoIGEA will need to coordinate their activities to ensure that the project is delivered in a suitable environment. This may involve sharing office space or other resources, as well as coordinating the use of equipment and facilities. Additionally, ATR and InfoIGEA will need to ensure that the upgraded system is compatible with ATR's existing facilities and infrastructure, and that any necessary modifications or upgrades are completed within the project timeline and budget.

Overall, the collaboration between ATR and InfoIGEA will be critical to the success of the project, with close cooperation required in the management area, operational aspects, and facilities. By working together effectively, ATR and InfoIGEA will be able to deliver a modern, efficient, and sustainable platform that enhances the quality and sustainability of public transport in the city while improving the customer experience.

Budget estimate

The budget agreed between InfoIGEA and ATR at the procurement stage is 2000000€. This value was previously validated by InfoIGEA management, based on a rough estimate made by management based on the opinion of different departments in the company. This estimate is 400000€ for labor costs, 650000€ for costs related to the necessary software and equipment and 110000€ for travel costs, for a total of 1200000€, with an expected margin of 800000€.

According to the specifications, each day of delay in the scheduled delivery of milestone deliverables results in a penalty of 10000€, equal to 0.5 of the total budget.

InfoIGEA management team is confident that it will be able to meet these targets, thanks to the quality of resources (human and material) in the company and the successful termination of similar projects conducted by InfoIGEA in recent years.

Schedule estimate and milestone chart

The following is a table of expected milestones with corresponding delivery date.

MILESTONE 1 Workshop Management System	01/07/2022	600000€
MILESTONE 2 Users, tickets and subscriptions management system	01/11/2022	700000€
MILESTONE 3 Employees Management System	01/04/2023	700000€

Table 1 - Milestone Chart

Benefits statement

The benefits of upgrading the Information System used by ATR, the metropolitan transport manager of a major Italian city, include economic savings, process improvement and efficiency, effectiveness, and employee satisfaction and retention.

1. Economic savings: The upgraded system will improve the efficiency and effectiveness of ATR's operations, which will lead to cost savings. For example, the system will help to streamline processes, reduce errors and delays, and improve resource management, all of which can help to reduce costs and increase profitability.
2. Process improvement and efficiency: The upgraded system will provide a more efficient and effective platform for ATR's employees to manage and operate the public transport system. This will help to streamline processes, reduce errors and delays, and improve the overall efficiency of ATR's operations.
3. Effectiveness: The upgraded system will enhance the quality and sustainability of public transport in the city, by improving the efficiency and effectiveness of ATR's operations. This will help to reduce greenhouse gas emissions, traffic congestion, and air pollution, while also promoting the use of public transport as a sustainable mode of transportation.
4. Employee satisfaction and retention: The upgraded system will provide a more modern and user-friendly platform for ATR's employees to use, which can help to increase employee satisfaction and retention. Additionally, the AGILE software development methodology used in the project can improve employee engagement and collaboration, leading to a more positive work environment.

Overall, the benefits of the project for ATR include economic savings, process improvement and efficiency, effectiveness, and employee satisfaction and retention. These benefits will improve the

long-term success and growth of ATR, while also enhancing the quality of life for the residents and visitors of the city.

Potential risks and Risk Register

To collaborate on risk mitigation, project managers from InfoIGEA and ATR would use a risk log to identify, evaluate, and manage potential risks associated with the project. The risk log is a document that lists all identified risks, their likelihood and potential impact, and the strategies and actions to mitigate or address them.

The collaboration process would typically involve the following steps:

1. Identification of risks: Both project managers would work together to identify all potential risks associated with the project, including risks related to project scope, timeline, budget, resources, technology, and human factors.
2. Evaluation of risks: Once risks have been identified, both project managers would evaluate the likelihood and potential impact of each risk. This involves assigning a probability and severity rating to each risk, which can be determined through analysis or expert judgment.
3. Prioritization of risks: Based on the likelihood and potential impact of each risk, the project managers would prioritize risks according to their severity and develop a risk mitigation plan.
4. Mitigation of risks: The project managers would work together to develop and implement strategies to mitigate or address each identified risk. This could involve developing contingency plans, allocating additional resources, or changing project plans.
5. Monitoring of risks: Both project managers would monitor the risk log regularly to ensure that all identified risks are being managed effectively. They would also update the risk log as necessary and communicate any changes or updates to the project team and stakeholders.

By collaborating on risk mitigation using a risk log, project managers from InfoIGEA and ATR can ensure that potential risks are identified, evaluated, and managed effectively throughout the project, helping to ensure successful project outcomes.

1.4. PROJECT CHARTER

Background

Following an analysis of obsolescence by competent authorities and following a solicitation by the European Union to improve the transportation system, it was deemed appropriate for ATR to initiate this project to enable it to stay abreast of the times.
The project is about upgrading ATR's information system that will deliver more efficient service, improve monitoring of transportation assets, and increase the usability and learnability of the various software modules for both customers and employees.
Through a SWOT (Strength, Weakness, Opportunity, Threat) analysis, it is possible to get an overview so as to fully understand the need for such a project.

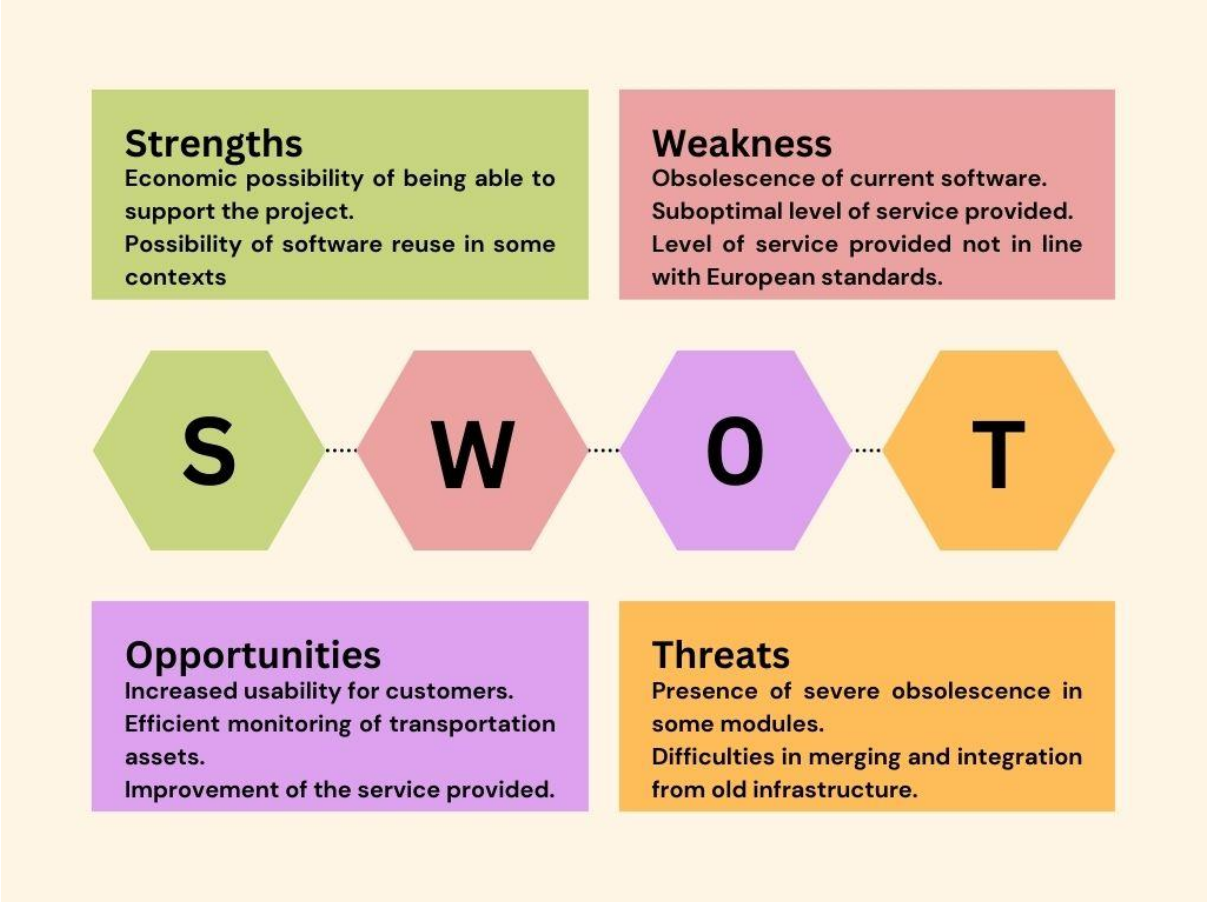


Figure 1 - SWOT analysis

Project Goals

The goal of the project is, as mentioned earlier, to upgrade the information system of the ATR transportation company.
The project will aim to implement software modules that are currently absent and to re-develop the software modules that are already present due to a high degree of obsolescence of the latter.
Through the software upgrade, changes will be made to the interfaces on which

ATR employees interact with on a daily basis, so it is necessary that the project include phases where testing can be performed to ensure a proper high level of usability, learnability and efficiency of the software.
The project objective is to be considered SMART:

- S (Specified): it is well specified since the project boundaries are known in detail.
- M (Measurable): It is measurable because you can assess the progress of the project.
- A (Achievable): Experimental technologies that greatly increase the risk of overall project failure will not be adopted and the company InfoIGEA has already tackled projects of this magnitude
- R (Relevant): It is relevant to the improvement of the service provided
- T (TimeBoxed): Through an appropriate analysis of the activities that will have to be
- carried out and the resources available, an estimated project end date can be calculated

Scope of the project

IN SCOPE

The project focuses on updating the information system of ATR. This upgrade is being carried out by InfoIGEA and covers the following items:

- Vehicle maintenance management system
- Vehicle tracking system
- Workshop Management System
- Workshop Frontend and API Getaway System
- Tickets and Subscriptions management system
- Customers Management System
- Customers Frontend and API Getaway System
- Employees Management System
- Controllers Management System
- Drivers Management System
- Employees Frontend and API Getaway System

OUT OF SCOPE

Any activity not specified in the "In scope" section is excluded from the scope of service, such as the following items:

- Introduction of new features or functionality not listed in the paragraph of the scope
- The provision of hardware components to upgrade the information system being part of a different tender under European funds.
- Training in the use of the new system for ATR employees
- Changes in deadlines
- Changes in deliverables related to the milestones

Schedule of products to be delivered:

Milestone	Delivered systems	Date
1	• Vehicle maintenance management system • Vehicle tracking system • Workshop Management System • Workshop FE and API Getaway System	05/30/22
2	• Tickets and Subscriptions management system • Customers Management System • Customer FE and API Getaway System	09/19/22
3	• Vehicle maintenance management system • Employees Management System • Controllers Management System • Drivers Management System • Employees Frontend and API Getaway System	01/09/23

Table 2 - Planned Goals

Success Criteria

One of the key criteria for achieving success in the project is to be able to finish it and close it by the end of February 3, 2023.
In order to achieve this goal, moreover, reports will be sent at the beginning and end of each phase, reports in which all the objectives that have been completed will be described so that the continuation of the project will always be closely monitored and the timeline is respected.
At each milestone will be analyzed:

- Variation between planned costs and actual costs incurred.
- Variation between planned value and earned value
- Schedule variance
- Adherence of information system performance obtained to those planned in the specifications
- Compliance with security specifications for implemented software modules
- Compliance of regulatory requirements and standards.

Initial constraints
The total project budget is 2000000€ (excluding VAT).
The costs are allocated according to the following percentages, in conjunction with the following payment milestones and project phases:

- First milestone – Workshop Management Systems: 600000€ - 30%
- Second Milestone – Customer Management Systems: 700000€ - 35%
- Third Milestone – Employees Management Systems: 700000€ - 35%

Initial assumptions

The following assumptions are made:

- The DEV team's work will be done completely onsite at the InfoIGEA offices
- The DATA team's work and the IT team's work will be done on travel at ATR facilities
- Language of the project will be English. Therefore, all documents, communications and results will be provided in English
- ATR is responsible for the training of its employees
- ATR is responsible for changes to its business processes
- ATR's IT team will provide support, when necessary, for operations carried out by the InfoIGEA IT team
- It is ATR's responsibility to train all end users and provide them with the relevant documentation
- Members of the InfoIGEA teams will perform the systems integration (SIT)
- It is assumed that there are no competing projects that may conflict with any activity
- ATR will provide adequate and timely services for the InfoIGEA teams including office space, workspace with workstations and telephone lines, consumables, meeting space, Internet access, access to hardware and software as well as password security
- Periodic database and application server backups, including recovery, are the responsibility of ATR. ATR will therefore ensure that, in the event of a failure, the environment can be restored with minimal data loss. A daily backup is recommended at minimum
- ATR project management will provide project milestone approvals in a meeting with ATR management, InfoIGEA management, the project manager, and senior team members
- InfoIGEA will create and execute test plans on integrated modules
- Senior members are responsible for testing results that will be discussed at every milestones

Risks and initial Issues

The project in question, being a software upgrade project, is subject to technical risks or failures in security, usability, and availability.

The risks were classified into three categories according to the severity of the damage they could cause to the final product and to the proper continuation of the project.

Risk category	Risks
Low	• Inability to start or restart the system following standard procedures • Graphical defects • A functional module or major component fails to function according to specifications • Inefficient performance • Incompatibility with pre-existing infrastructure systems
Medium	• Loss of a functional module • An error that affects the operational stability or usability of the system/service • Serious problem that prevents effective service to some users
Critical	• Security breach • Severe corruption of data • Inefficient protection against DDoS attack • Severe performance degradation • Data loss during merging operation • Severe degradation of service for a significant number of users • Total system outage, system crashes repeatedly or frequently

Table 3 - Project risks

Team and communication

In the following sections, guidelines for the proper handling of
communications and meetings:

a) Interested parties, roles and responsibilities

The parties involved in the project are 2:
- ATR, the company commissioning the project and needing the updated
of the information system;
- InfoIGEA, company that will carry out the software upgrade

Below is a table useful for understanding the professional figures required in the project. For each of them we specify the interested party (i.e. the company to which it belongs), the role it plays and its responsibilities.

Interested party	Role	Responsibility
InfoIGEA	Team DEV	Design, build and test of the systems source code
InfoIGEA	Team DATA	Design, build and development of data merging
InfoIGEA	Team IT	Hw/SW installation and data merging run
InfoIGEA	InfoIGEA Management	Coordination with PM
InfoIGEA	Project Manager	
ATR	ATR Management	Coordination with PM and milestone specs verification

Table 4 - Project Responsibility

b) Project Organizational Structure

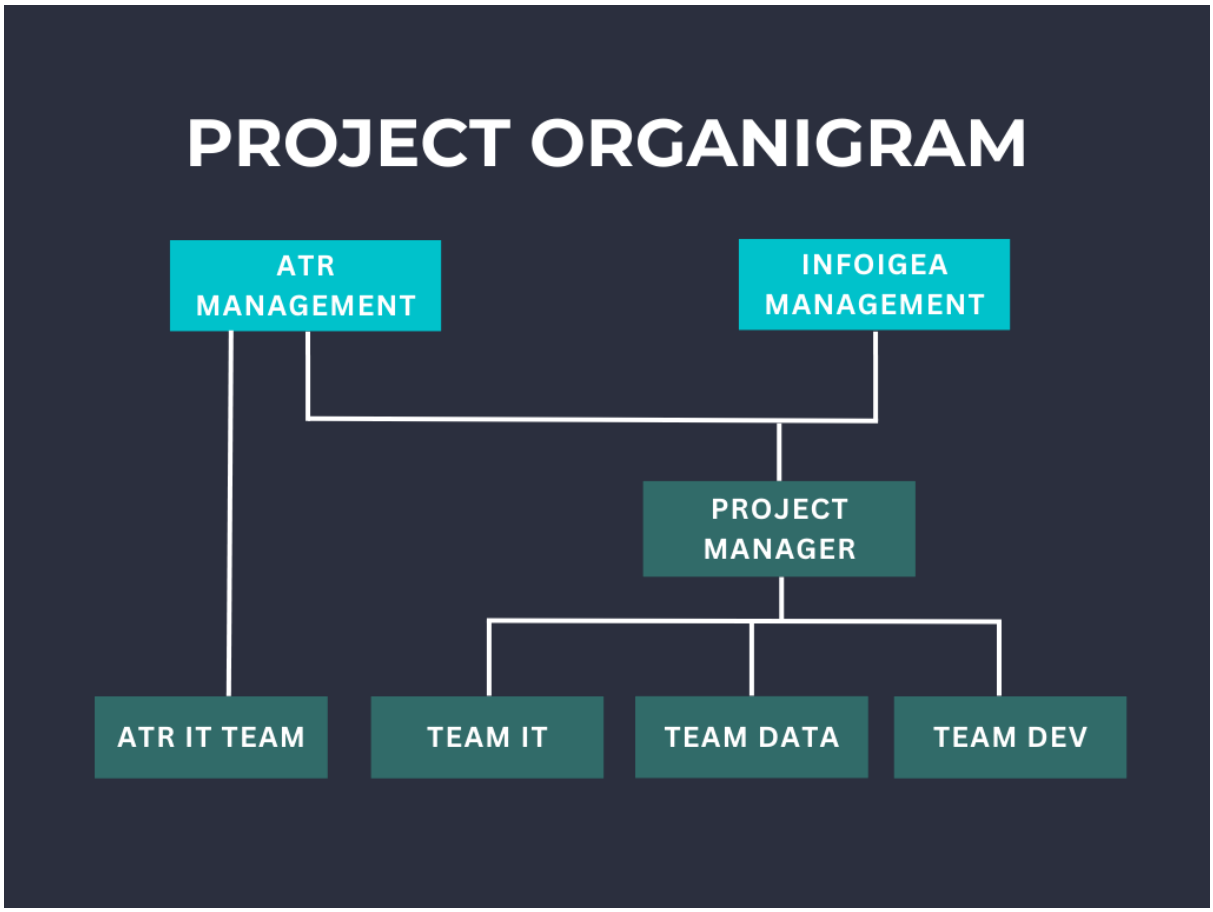


Figure 2 - Project organization chart

c) Initial Communication Plan

Internal communication:

Internal InfoIGEA team communications and urgent communications between teams and the project manager take place via the unified communication and collaboration platform provided in the software suite on all InfoIGEA employee devices.

Communication between ATR's IT team and InfoIGEA IT team:

Since InfoIGEA IT team shares working environments with ATR's IT team, communication between the two teams will take place daily by interacting in person. Any relevant requests or communications on the systems currently in use will take place via email to keep track of these types of requests.

Meeting:

At the beginning of each project phase, for each activity, a meeting is scheduled between the project manager and the senior team related to the activity in question to discuss design specifications and scheduling of work packages and related tasks.

At the end of each project phase, a meeting is scheduled for each activity between the project manager and the senior team related to the activity in question to discuss the completion of deliverables, issues encountered, and any uncompleted features to be resolved in subsequent phases.

For each activity, a meeting is also scheduled between the project manager and the entire team related to the activity in question to discuss the completion of the activity, issues encountered, and any changes in the implementation processes followed by the team.

At each milestone, upstream of payment, a meeting will be held between the project manager, ATR management, ATR's IT team, and the 3 senior teams to discuss the progress of the project, the results achieved in the milestone, and an analysis will be conducted on the actual working software.

In addition to the general meeting at the end of each milestone, the project manager will have a meeting with ATR management at the end of each phase to discuss the results achieved.

Meeting Type	Frequency	ATR participants	InfoIGEA participants
Start-Phase activity Meeting	For each activity within the project phase		• Project Manager • Senior team members
End-Phase activity meeting	For each activity within the project phase		• Project Manager • Senior team members

Activity-Report meeting	For each activity		• Project Manager • Team members
Milestone meeting	At each milestone	• Management • IT Team	• Project Manager • Senior team members
Management meeting	At each milestone	• Management	• Project Manager

Table 5 - Project Meeting

1.5. DETAILED DESCRIPTION OF PROJECT GOALS

In the following section, the project output, the expected timeframe and the budget made available to the project will be analyzed in detail.

1.5.1. PROJECT OUTPUT

For each of the three macro-systems (workshop, users, and employees), the project output consists of the fully operational system, source code of all software components, documentation of all software systems, written according to current standards, user manual, and development, data merging, and installation reports.

1.5.2. PROJECT DURATION

The start date for the project is scheduled for the 10/01/2022, the expected duration is 13 months, with the end date scheduled for the 10/02/2023.

1.5.3. PROJECT BUDGET

The budget for the project is 2000000€ (excluding VAT), with the following specifications for the milestones:

- First milestone – Workshop Management Systems: 600000€ - 30%
- Second Milestone – Customer Management Systems: 700000€ - 35%
- Third Milestone – Employees Management Systems: 700000€ - 35%

CHAPTER 2.
PROJECT SCOPE AND PLANNING

2.1. PROJECT SCOPE MANAGEMENT

2.1.1. PROJECT SCOPE STATEMENT (DESCRIPTION AND DEFINITION)

Project objectives and critical success factors

The goal of the project is to replace ATR systems related to workshop, user and personnel management. This replacement involves implementing the systems from scratch, transferring data from the systems currently in use to those that will be implemented, and setting up the systems on ATR's premises.

The goal of the project is to be considered SMART:

- Specific: the features and systems to be developed and installed have been precisely defined.
- Measurable: it is possible to quantitatively track the progress of the project. The final specifications of the systems have been carefully outlined.
- Achievable: projects similar to this one in size, complexity, goals, and technologies have been conducted in recent times by InfoIGEA with excellent results.
- Realistic: according to preliminary studies conducted by InfoIGEA management, the time and cost objectives of this project are in line with current industry standards.
- Time-boxed: the project has well-defined start, end, and delivery dates for individual milestones.

Project scope description

A list of systems to be replaced is presented below:

- Workshop and vehicles management system
    - Workshop management system
    - Vehicle tracking management system
    - Vehicle maintenance management system
- User and ticketing management system
    - User management system
    - Ticket and subscription management system
- Employees management system
    - Employees management system

- Controller management system
- Driver management system

Three different activities are planned for each of the individual services (internal bulleted lists):

- Service design and implementation
- Data merging from existing systems (except for the vehicle tracking system)
- HW/SW deployment

For each of the three macrosystems, the design and implementation of the frontend for end-user interaction and the getaway API for handling requests is planned.

The design and implementation of the systems will follow the latest guidelines in terms of architectures and technologies used to ensure modularity and expandability.

Project Budget

The planned budget is 2000000€, divided among the three milestones as indicated:

- 600000€ upon delivery of the deliverables related to the first milestone
- 700000€ upon delivery of the deliverables related to the second milestone
- 700000€ upon delivery of the deliverables related to the third and final milestone

Project Stakeholders

The major stakeholders for the ATR project are individuals or groups who have a personal stake and influence in the project's success or failure. Here are some examples of the major stakeholders for the ATR project:

1. ATR's customers: The customers who use the transportation services offered by ATR are one of the major stakeholders of this project, by representing the largest revenue through the payment of tickets and subscriptions. They will benefit from the new transportation management system and as a result the improved efficiency and reliability of ATR's services.

2. ATR's employees: ATR's employees, including drivers, controllers, and other staff members, are major stakeholders in the project. They will use the new systems on a daily basis, therefore they will need to be trained and supported to effectively use them in the proper way.

3. ATR's management: ATR's management team is integrally involved in the project since they will be responsible for the successful implementation of the new transportation management system, complying with the established time and costs. Additionally, to increase the business value of the company, they will have to meet the needs of ATR's customers and employees.

4. InfoIGEA management: InfoIGEA management team is strictly linked to the project since they are the service provider. Their role is to supervise and coordinate the work with the ATR’s management team respecting the requirements, timelines and costs established.

5. Team DEV: The software development team responsible for developing the new systems is the first of the three teams working in the project implementation. They will be responsible for delivering high-quality software that meets the project's requirements.

6. Team DATA: The systems integration and merging team responsible for integrating the various systems is the second of the three teams working in the project implementation. They will be responsible for ensuring that the various systems work together seamlessly.

7. Team IT: The team responsible for building, testing and deployment is the third of the three teams working in the project implementation. They take care of the hardware configuration, software installation and data merging tool configuration.

8. ATR Shareholders: ATR's shareholders are a major stakeholder in the project, being the ATR's investors. They will be interested in the project's success and how it will impact the company's financial performance.

9. Regulators: Law enforcement agencies who oversee ATR's transportation services are the least influential stakeholder in the project. They will need to ensure that the new transportation management system meets regulatory requirements and standards.

2.1.2. PROJECT SCOPE VERIFICATION (ACCEPTANCE CRITERIA)

Upon delivery of the deliverables for each milestone, the results of performance, security, and installation-related testing, the results and description of black box testing, system user manuals, and design-related documentation will be reviewed in a meeting attended by ATR management, InfoIGEA management, the project manager, the ATR IT team, and a representative of the InfoIGEA teams.

At this meeting, the results achieved will be evaluated in relation to the project specifications defined in the tender phase and the milestone will be accepted or not. A stress test of the system, along with a practical demonstration of operation, will be performed at the meeting.

2.1.3. PROJECT SCOPE CHANGE CONTROL (CRITERIA FOR ANALYSIS AND RESPONSE TO POTENTIAL CHANGES)

Due to the nature of the project, the initiation of which is directly subject to the disbursement of European funds to ATR and the subsequent tendering process, there is no provision for making changes to the technical, functional, safety and performance specifications of the systems.

2.2. Project Planning

2.2.1. Project Integration Management (critical issues in the definition/management of activities also in relation to the requirements requested by the different stakeholders)

Below is the project Work Breakdown Structure with the division of stages into Work Packages and Tasks and the associated deliverables.

2.2.1.1. Work Breakdown Structure

The overall WBS, prepared by InfoIGEA with the support of ATR management and IT, divides the stages into Work Packages and Tasks, refining the level of detail according to the different activities. The WBS is characterized by a breadth of 11 and a depth of 4.

Activity ID	Activity
1	Vehicle maintenance management system
1.1	System Implementation
1.1.1	System design
1.1.2	System Development
1.1.3	System Build
1.1.4	System Test
1.2	Data Merging
1.2.1	Analysis
1.2.2	Design
1.2.3	Development
1.3	System Installation
1.3.1	HW Configuration
1.3.2	SW Configuration
1.3.3	Data Merging Configuration
2	Vehicle tracking system
2.1	System Implementation
2.1.1	System design
2.1.2	System Development

2.1.3	System Build
2.1.4	System Test
2.2	System Installation
2.2.1	HW Configuration
2.2.2	SW Configuration
2.2.3	Data Merging Configuration
3	Workshop Management System
3.1	System Implementation
3.1.1	System design
3.1.2	System Development
3.1.3	System Build
3.1.4	System Test
3.2	Data Merging
3.2.1	Analysis
3.2.2	Design
3.2.3	Development
3.3	System Installation
3.3.1	HW Configuration
3.3.2	SW Configuration
3.3.3	Data Merging Configuration
4	Workshop Frontend and API Getaway System
4.1	API Getaway Implementation
4.1.1	System design
4.1.2	System Development
4.1.3	System Build
4.1.4	System Test
4.2	Frontend Implementation
4.2.1	System design

4.2.2	System Development
4.2.3	System Build
4.2.4	System Test
4.3	System Installation
4.3.1	HW Configuration
4.3.2	SW Configuration
5	Tickets and Subscriptions management system
5.1	System Implementation
5.1.1	System design
5.1.2	System Development
5.1.3	System Build
5.1.4	System Test
5.2	Data Merging of existing Tickets System
5.2.1	Analysis
5.2.2	Design
5.2.3	Development
5.3	Data Merging of existing Subscriptions System
5.3.1	Analysis
5.3.2	Design
5.3.3	Development
5.4	System Installation
5.4.1	HW Configuration
5.4.2	SW Configuration
5.4.3	Data Merging Configuration
6	Customers Management System
6.1	System Implementation
6.1.1	System design
6.1.2	System Development

6.1.3	System Build
6.1.4	System Test
6.2	Data Merging
6.2.1	Analysis
6.2.2	Design
6.2.3	Development
6.3	System Installation
6.3.1	HW Configuration
6.3.2	SW Configuration
6.3.3	Data Merging Configuration
7	Customers Frontend and API Getaway System
7.1	API Getaway Implementation
7.1.1	System design
7.1.2	System Development
7.1.3	System Build
7.1.4	System Test
7.2	Frontend Implementation
7.2.1	System design
7.2.2	System Development
7.2.3	System Build
7.2.4	System Test
7.3	System Installation
7.3.1	HW Configuration
7.3.2	SW Configuration
8	Employees Management System
8.1	System Implementation
8.1.1	System design
8.1.2	System Development

8.1.3	System Build
8.1.4	System Test
8.2	Data Merging
8.2.1	Analysis
8.2.2	Design
8.2.3	Development
8.3	System Installation
8.3.1	HW Configuration
8.3.2	SW Configuration
8.3.3	Data Merging Configuration
9	Controllers Management System
9.1	System Implementation
9.1.1	System design
9.1.2	System Development
9.1.3	System Build
9.1.4	System Test
9.2	Data Merging
9.2.1	Analysis
9.2.2	Design
9.2.3	Development
9.3	System Installation
9.3.1	HW Configuration
9.3.2	SW Configuration
9.3.3	Data Merging Configuration
10	Drivers Management System
10.1	System Implementation
10.1.1	System design
10.1.2	System Development

10.1.3	System Build
10.1.4	System Test
10.2	Data Merging
10.2.1	Analysis
10.2.2	Design
10.2.3	Development
10.3	System Installation
10.3.1	HW Configuration
10.3.2	SW Configuration
10.3.3	Data Merging Configuration
11	Employees Frontend and API Getaway System
11.1	API Getaway Implementation
11.1.1	System design
11.1.2	System Development
11.1.3	System Build
11.1.4	System Test
11.2	Frontend Implementation
11.2.1	System design
11.2.2	System Development
11.2.3	System Build
11.2.4	System Test
11.3	System Installation
11.3.1	HW Configuration
11.3.2	SW Configuration

Table 6 - Project Work Breakdown Structure

2.2.1.2. DESCRIPTION OF WORK PACKAGES, TASKS AND DELIVERABLES

Given the similarities of type of tasks and deliverables between the systems, in this section each type of activity will be described.

Activity	Activity IDs	Work Package	WP ID	Tasks	Deliverables
System Implementation	1.1, 2.1, 3.1, 5.1, 6.1, 8.1, 9.1, 10.1	System design	1.1.1, 2.1.1, 3.1.1, 5.1.1, 6.1.1, 8.1.1, 9.1.1, 10.1.1	System Analysis • Domain Driven Design • Functional Analysis • Performance Analysis System Design • DB Design • Business Logic Structure Design • Communication Protocols Design Black Box Tests Design	• System Design Documentation • DB ER model • Services UML structure
		System Development	1.1.2, 2.1.2, 3.1.2, 5.1.2, 6.1.2, 8.1.2, 9.1.2, 10.1.2	DB Development • Initialization • Indexes Development • Queries Development Business Logic Development • Classes creation • Algorithm Development	• System Documentation • System endpoints guidelines • System dependencies report

				• Middleware Realization • Dependencies Management Communication Middleware Development • Endpoints Definition • Endpoints Development • Router-Controller communication development	
		System Build	1.1.3, 2.1.3, 3.1.3, 5.1.3, 6.1.3, 8.1.3, 9.1.3, 10.1.3	Conflicts Resolution Dependencies Conflicts Resolution	• Build report
		System Test	1.1.4, 2.1.4, 3.1.4, 5.1.4, 6.1.4, 8.1.4, 9.1.4, 10.1.4	Unit Tests • Tests Design • Tests Development • Tests Integration • Tests Run Black Box Testing • Tests Development • Tests Integration	• Unit Tests Documentation • Unit Tests Report • Black Box Testing Report • Performance Analysis

				• Tests Run • Performance Testing	
					• System Docker Images • System Developer Report
Data Merging	1.2, 3.2, 5.2, 5.3, 6.2, 8.2, 9.2, 10.2	Analysis	1.2.1, 3.2.1, 5.2.1, 5.3.1, 6.2.1, 8.2.1, 9.2.1, 10.2.1	Previous System Analysis DB Index Analysis Query Analysis	• System Documentation • DB Report • Query Report
		Design	1.2.2, 3.2.2, 5.2.2, 5.3.2, 6.2.2, 8.2.2, 9.2.2, 10.2.2	Tool Comparison Algorithm Design	• Design documentation • Performance Analysis
		Development	1.2.3, 3.2.3, 5.2.3, 5.3.3, 6.2.3, 8.2.3, 9.2.3, 10.2.3	Algorithm Development Tools Configuration	• Development report • Configuration package • Scripts executables
System Installation	1.3, 2.2, 3.3, 4.3, 5.4, 6.3,	HW Configuration	1.3.1, 2.2.1, 3.3.1,	HW Installation	• Cable management project

	7.3, 8.3, 9.3, 10.3, 11.3		4.3.1, 5.4.1, 6.3.1, 7.3.1, 8.3.1, 9.3.1, 10.3.1, 11.3.1	• Cable Management • Heat Management • Power Supply Management HW Testing • Idle Test • Stress Test • Connectivity Test	• Heat management project • Power Supply project • Building adjustments report • Installation report • Idle/stress tests report • Connectivity report
		SW Configuration	1.3.2, 2.2.2, 3.3.2, 4.3.2, 5.4.2, 6.3.2, 7.3.2, 8.3.2, 9.3.2, 10.3.2, 11.3.2	Environment Configuration • SO Configuration • Router Configuration • Docker Configuration System Configuration System Test • Idle Test • Stress Test	• Environment Configuration report • Environment Manual • Environment Configuration report • System Configuration manual • System Configuration Report • System Tests report
		Data Merging Configuration	1.3.3, 2.2.3, 3.3.3, 5.4.3, 6.3.3, 8.3.3,	Tool Installation Tool Configuration Tool Test	• Tool installation report • Tool configuration report

			9.3.3, 10.3.3		• Tool configuration manual • Tool test report
API Getaway Implementation	4.1, 7.1, 11.1	System Design	4.1.1, 7.1.1, 11.1.1	System Analysis • Endpoint Analysis • Performance Analysis System Design • Endpoint Design • Communication Protocols Design • Black Box Tests Design	• Endpoint design • Communication protocols design • Black Box tests manual • Endpoint documentation • Communication protocols documentation
		System Development	4.1.2, 7.1.2, 11.1.2	Endpoints Development Communication Development	• Development report
		System Build	4.1.3, 7.1.3, 11.1.3	Conflicts Resolution Dependencies Conflicts Resolution	• Build report
		System Test	4.1.4, 7.1.4, 11.1.4	Black Box Testing • Tests Development • Tests Integration • Tests Run Performance Testing	• Tests report • Tests Analysis report • Unit tests documentation
Frontend Implementation	4.2, 7.2, 14.2	System Design	4.2.1, 7.2.1, 11.2.1	System Analysis	• Domain Driven Design Analysis

				• Domain Driven Design (DDD) • Functional Analysis • Performance Analysis System Design • UI Design • Components Design • Communication Protocols Design • Black Box Tests Design	• Functional Analysis report • Performance Analysis report • User guide • Frontend design documentation • Frontend Architecture documentation • Black Box Tests documentation
		System Development	4.2.2, 7.2.2, 11.2.2	Common Elements Development • Classes Development • UI Development • Services Development Module Development • Classes Development • UI Development • Services Development	• Development report • Frontend documentation • Services documentation
		System Build	4.2.3, 7.2.3, 11.2.3	Conflicts Resolution Dependencies Conflicts Resolution	• Build report

		System Test	4.2.4, 7.2.4, 11.2.4	Unit Tests ● Tests Design ● Tests Development ● Tests Integration ● Tests Run Black Box Testing ● Tests Development ● Tests Integration ● Tests Run ● Performance Testing	● Unit Tests documentation ● Unit tests report ● Unit tests results analysis ● Black Box tests report ● Black Box tests Analysis

Table 7 - Project Deliverables

2.2.2. QUALITY MANAGEMENT PLAN

Regarding quality control, ATR management issued specifications to InfoIGEA concerning the following aspects:

- Functional requirements: InfoIGEA should ensure that the software development team has a clear understanding of the functional requirements of the transportation management system.
- User experience: InfoIGEA should ensure that the new transportation management system is user-friendly and intuitive for both employees and customers.
- Performance: InfoIGEA should ensure that the transportation management system meets the performance standards required for InfoIGEA's operations.
- Security: InfoIGEA should ensure that the transportation management system is secure and protects ATR's data and systems from unauthorized access.
- Compliance: InfoIGEA should ensure that the transportation management system meets all regulatory requirements and standards.

2.2.3. TIME MANAGEMENT PLAN

As for the time schedule, the planning should consider the following aspects:

1. DEV, DATA and IT team phases have coincident start and end dates.
2. Data merging from the system previously in use to the newly implemented system must follow the implementation of the new system and cannot be done concurrently, due to differences that might occur between the database design specifications and the final specifications.
3. System installation must necessarily follow the end of the system implementation phase and (where present) the data merging phase, the deliverables from these two phases being required during the HW/SW installation of the system.

In the following tables the dates are represented using American standard (mm/dd/yyyy)

Tasks	Activity ID	Assigned To	Start Date	End Date	Predecessors	Duration
Vehicle maintenance management system	1		01/10/22	04/01/22		60d
System Implementation	1.1	Team DEV	01/10/22	02/04/22		20d
Data Merging	1.2	Team DATA	02/07/22	03/04/22	1.1	20d
System Installation	1.3	Team IT	03/07/22	04/01/22	1.1, 1.2	20d
Vehicle tracking system	2		02/07/22	04/29/22		60d
System Implementation	2.1	Team DEV	02/07/22	03/04/22	1.1	20d
System Installation	2.2	Team IT	04/04/22	04/29/22	1.3, 2.1	20d
Workshop Management System	3		03/07/22	05/27/22		60d
System Implementation	3.1	Team DEV	03/07/22	04/01/22	2.1	20d
Data Merging	3.2	Team DATA	04/04/22	04/29/22	1.2, 3.1	20d
System Installation	3.3	Team IT	05/02/22	05/27/22	2.2, 3.1, 3.2	20d

Workhop FE and API Getaway System	4		04/04/22	06/24/22		40d
API Getaway Implementation	4.1	Team DEV	04/04/22	04/29/22	1.1, 2.1, 3.1	20d
Frontend Implementation	4.2	Team DEV	04/04/22	04/29/22	1.1, 2.1, 3.1	20d
System Installation	4.3	Team IT	05/30/22	06/24/22	3.3, 4.1, 4.2	20d
FIRST MILESTONE			**Workshop Systems Completed**			
Tickets and Subscriptions management system	5		05/02/22	08/19/22		60d
System Implementation	5.1	Team DEV	05/02/22	05/27/22	4.1, 4.2	20d
Tickets Merging	5.2	Team DATA	05/30/22	06/24/22	3.2, 5.1	20d
Subscriptions merging	5.3	Team DATA	06/27/22	07/22/22	5.1, 5.2	20d
System Installation	5.4	Team IT	07/25/22	08/19/22	4.3, 5.1, 5.2, 5.3	20d
Customers Management System	6		05/30/22	09/16/22		60d
System Implementation	6.1	Team DEV	05/30/22	06/24/22	5.1	20d
Data Merging	6.2	Team DATA	07/25/22	08/19/22	5.3, 6.1	20d
System Installation	6.3	Team IT	08/22/22	09/16/22	5.4, 6.1, 6.2	20d
Customer FE and API Getaway System	7		06/27/22	10/14/22		40d
API Getaway Implementation	7.1	Team DEV	06/27/22	07/22/22	5.1, 6.1	20d
Frontend Implementation	7.2	Team DEV	06/27/22	07/22/22	5.1, 6.1	20d
System Installation	7.3	Team IT	09/19/22	10/14/22	6.3, 7.1, 7.2	20d

SECOND MILESTONE			Customer Systems Completed			
Employees Management System	8		07/25/22	11/11/22		60d
System Implementation	8.1	Team DEV	07/25/22	08/19/22	7.1, 7.2	20d
Data Merging	8.2	Team DATA	08/22/22	09/16/22	6.2, 8.1	20d
System Installation	8.3	Team IT	10/17/22	11/11/22	7.3, 8.1, 8.2	20d
Controllers Management System	9		08/22/22	12/09/22		60d
System Implementation	9.1	Team DEV	08/22/22	09/16/22	8.1	20d
Data Merging	9.2	Team DATA	09/19/22	10/14/22	8.2, 9.1	20d
System Installation	9.3	Team IT	11/14/22	12/09/22	8.3, 9.1, 9.2	20d
Drivers Management System	10		09/19/22	01/06/22		60d
System Implementation	10.1	Team DEV	09/19/22	10/14/22	9.1	20d
Data Merging	10.2	Team DATA	10/17/22	11/11/22	9.2, 10.1	20d
System Installation	10.3	Team IT	12/12/22	01/06/23	9.3, 10.1, 10.2	20d
Employees Frontend and API Getaway System	11		10/17/22	02/03/22		40d
API Getaway Implementation	11.1	Team DEV	10/17/22	11/11/22	8.1, 9.1, 10.1	20d
Frontend Implementation	11.2	Team DEV	10/17/22	11/11/22	8.1, 9.1, 10.1	20d
System Installation	11.3	Team IT	01/09/22	02/03/23	10.3, 11.1, 11.2	20d
THIRD MILESTONE			Employees Systems Completed			

Table 8 - Timed Work Breakdown Structure

The Overall project Gantt is in Appendix 1 - GANTT.

In the Gantt chart, yellow bars represent team DEV tasks, cyan bars represent team IT tasks and blue bars represent team DATA tasks. The critical path is enlightened in red.

PHASE	START DATE	END DATE	TEAM	ACTIVITIES
1	01/10/2022	02/04/2022	DEV	1.1
2	02/07/2022	03/04/2022	DEV	2.1
			DATA	1.2
3	03/07/2022	04/01/2022	DEV	3.1
			IT	1.3
4	04/04/2022	04/29/2022	DEV	4.1, 4.2
			DATA	3.2
			IT	2.2
5	05/02/2022	05/27/2022	DEV	5.1
			IT	3.3
6	05/30/2022	06/24/2022	DEV	6.1
			DATA	5.2
			IT	4.3
7	06/27/2022	07/22/2022	DEV	7.1, 7.2
			DATA	5.3
8	07/25/2022	10/14/2022	DEV	8.1
			DATA	6.2

			IT	5.4
9	08/22/2022	09/16/2022	DEV	9.1
			DATA	8.2
			IT	6.3
10	09/19/2022	10/14/2022	DEV	10.1
			DATA	9.2
			IT	7.3
11	10/17/2022	11/11/2022	DEV	11.1, 11.2
			DATA	10.2
			IT	8.3
12	11/14/2022	12/09/2022	IT	9.3
13	12/12/2022	01/06/2023	IT	10.3
14	01/09/2023	02/03/2023	IT	11.3

Table 9 - Phase Activity Schedule

2.2.4. COST MANAGEMENT PLAN

Given the careful planning in phases, it is assumed that each member of each team works on the activities planned in the current sprint for the entire workday. InfoIGEA's internal policy is to assign small numbers of highly qualified personnel to projects of this type, rather than allocating a larger workforce whose members have lower levels of technical skill and seniority. Analyses conducted by InfoIGEA management have revealed that in situations where the specifications of the systems to be implemented/integrated are well structured and defined during the bidding process, as in the case of this project, this approach makes it possible to increase revenues while at the same time keeping the morale of the workforce high.

For the estimation of daily transportation costs, it should be considered that the DEV team does not need to work on-site, given the type of work to be done and the fact that ATR has proxy systems for interfacing with external systems (turnstiles, ticketing machines...) that can be accessed remotely. In compliance with company policies, DEV team members have the option of working either in the office (at InfoIGEA's headquarters in Trieste, Italy, or at the operational office in Pescara, where the frontend developer and UI/UX designer come from) or remotely, depending on seniority and the task at hand. The DATA team (whose members report to the Padua operational headquarters) needs to perform its tasks in the operational headquarters of ATR's IT team, located in Rome, given the impossibility of accessing ATR's databases remotely, in accordance with ATR's corporate policies on IT security. The IT team (whose members report to the Turin operations office) needs to perform its duties on-site, at the operations office of ATR's IT team, located in Rome.

The estimated travel costs for each member are broken down as follows:

- travel allowance costs of 30€/day for members with high seniority and 20€/day for other team members
- 120€/day per member for hotel accommodation (board/accommodation)
- 150€/week per member for transportation (train A/R + cab) for DATA team members coming from Padua)
- 200€/week per member for transportation (train A/R + cab) for IT team members coming from Turin, Italy)

Team member	Travel allowance costs (per week)	Hotel accommodation costs	Transportation costs	Total (per week)
DATA Team				
Senior DATA team				
Senior Data engineer	150€	120€	150€	420€

Data analyst	150€	120€	150€	420€
Senior information integration engineer	150€	120€	150€	420€
Senior DATA team total	450€	360€	450€	1260€
Junior DATA team				
Senior Data scientist	150€	120€	150€	420€
Junior Data scientist	100€	120€	150€	370€
Junior developer	100€	120€	150€	370€
Junior DATA team total	350€	360€	450€	1160€
DATA Team total	800€	720€	900€	2420€
IT Team				
Senior IT team				
Senior DevOPS engineer	150€	120€	200€	470€
Electrical engineer	150€	120€	200€	470€
Senior Civil engineer	150€	120€	200€	470€

Senior IT team total	450€	360€	600€	1410€
Junior IT team				
Senior electrician	100€	120€	200€	420€
Junior electrical expert	100€	120€	200€	420€
Junior DevOPS	100€	120€	200€	420€
Data scientist	100€	120€	200€	420€
Junior IT team total	400€	480€	800€	1680€
IT Team total	850€	840€	1400€	3090€

Table 10 - Estimated costs for InfoIGEA Teams

Team Member	Hour rate	Day rate (8h)
DEV Team		
Senior DEV team		
Senior software Architect	21.25€	170€
Senior Data Engineer	20€	160€
Cybersecurity Expert	18.75€	150€
Senior DEV team total	60€	480€
Backend DEV team		

Senior Software Developer	17.5€	140€
Junior Software Developer	12.5€	100€
Senior Backend Developer	17.5€	140€
Junior Backend Developer	12.5€	100€
Backend DEV team total	60€	480€
Frontend DEV Team		
Frontend Developer	12.5€	100€
UI/UX Designer	12.5€	100€
Frontend DEV team total	25€	200€
DEV Team total	145€	1160€
DATA Team		
Senior DATA team		
Senior Data engineer	20€	160€
Data analyst	17.5€	140€
Senior information integration engineer	20€	160€
Senior Data team total	57.5	460€
Operational DATA team		
Senior Data scientist	17.5€	140€

Junior Data scientist	12.5€	100€
Junior developer	12.5€	100€
Operational DATA team total	42.5€	340€
DATA Team total	100€	800€
IT Team		
Senior IT team		
Senior DevOPS engineer	20€	160€
Electrical engineer	20€	160€
Senior Civil engineer	20€	160€
Senior IT team total	60€	480€
Junior IT team		
Senior electrician	15€	120€
Junior electrical expert	12.5€	100€
Junior DevOPS	12.5€	100€
Data scientist	15€	120€
Junior IT team total	45€	440€
IT Team total	115€	920€

Table 11 - Estimated costs for InfoIGEA Teams

The project manager has a cost of 25€/hour. He/she will be on site at the beginning and end of each sprint for the required days. Estimated travel costs are as follows:

- 30€/day for travel allowance costs
- 120€/day for hotel accommodations
- 200€/sprint for transportation costs (train A/R + cab from Trieste)

In Appendix 2 – Table 1 – Effort Estimation , the specific efforts of the activity are provided.

Milestone	Date	Milestone budget	Milestone Payment
1 – Workshop Systems completed	24/06/2022	274200€	330000€
2 – Customers Systems completed	14/10/2022	247920€	330000€
3 – Employees Systems completed	03/02/2023	293720€	330000€

Table 12 - Costs of project milestones

In Appendix 2 – Table 2 – Team Cost Estimation, the specific cost estimation is provided.

In Appendix 2 – Table 3 – Travel Cost Estimation, the specific travel cost estimation is provided.

In Appendix 2 – Table 4 – Software Cost Estimation, the specific software cost estimation is provided.

2.2.5. INTEGRATED HUMAN RESOURCES MANAGEMENT PLAN

2.2.5.1. ORGANIZATIONAL FUNCTIONS INVOLVED IN THE PROJECT

A table with the overall average effort level of each team at each milestone.

TEAM	1° MILESTONE	2° MILESTONE	3° MILESTONE
Team DEV	45%	40%	42%
Team Data	37%	30%	25%
Team IT	18%	30%	33%

Table 13 - Involvement (%) companies in internships

2.2.5.2. PROJECT TEAM STRUCTURE

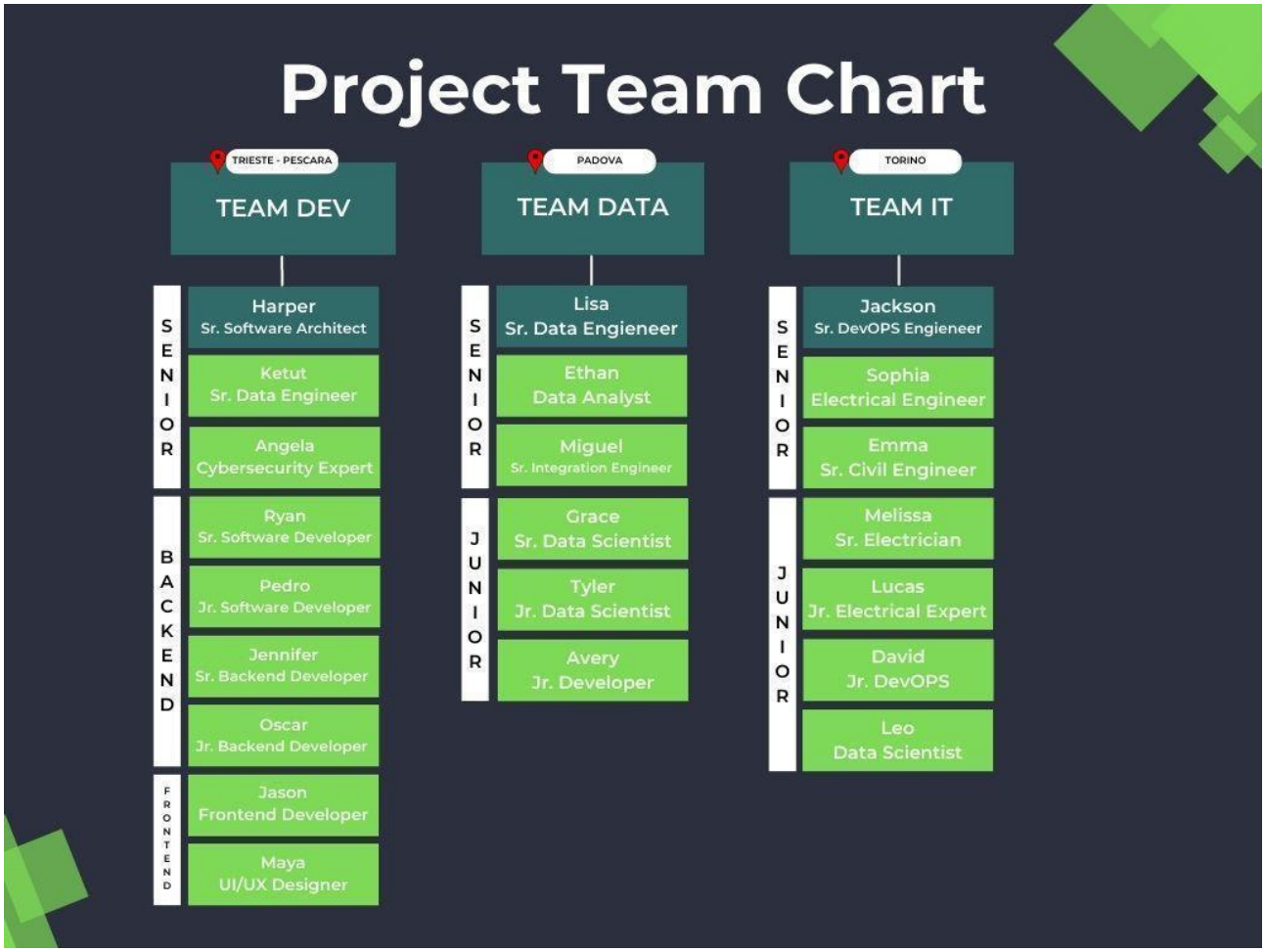


Figure 3 - Project Team Chart

The work is actually divided into three teams:

- DEV team, responsible for systems development, based in Trieste/Pescara
- DATA team, responsible for integrating data from existing systems, based in Padua
- IT team, responsible for implementing the systems, based in Turin

The DEV team is itself composed of three teams:

- senior team, responsible for the analysis, design, and build of the systems, consisting of professionals with high seniority, a high degree of experience, and relevant technical skills
- backend team, which deals with the actual implementation of the services and API getaways
- frontend team, which is in charge of GUI design and the implementation of frontend clients

The DATA team is in turn divided into senior team and operational team, the former with analysis and design tasks, the latter responsible for developing merging algorithms and configuring tools.

The IT team is in turn divided into senior team and junior team, the former with tasks of design and verification of the work done, the latter materially responsible for HW/SW installation of the systems.

2.2.5.3. ASSIGNMENT OF RESPONSIBILITIES

In the Appendix 3 – RACI Matrix, the specific RACI Matrix shows the responsibility of each stakeholder.

2.2.6. RISK MANAGEMENT PLAN

The project in question, being a software upgrade project, is subject to technical risks or failures in security, usability, and availability.

A probability-impact matrix is used to represent the possible risks identified at the beginning of the project.

The risks were classified into three categories according to the severity of the damage they could cause to the final product and to the proper continuation of the project:

- **Low**: Easily solvable problems of technical or graphical nature
- **Medium**: Technical risks with a significant impact on the project
- **Critical**: Risks with a massive impact on the continuation of the project

Given the absence of data on the probability of a certain risk coming true, a division within the matrix was made into four probability areas having a range of 25%.

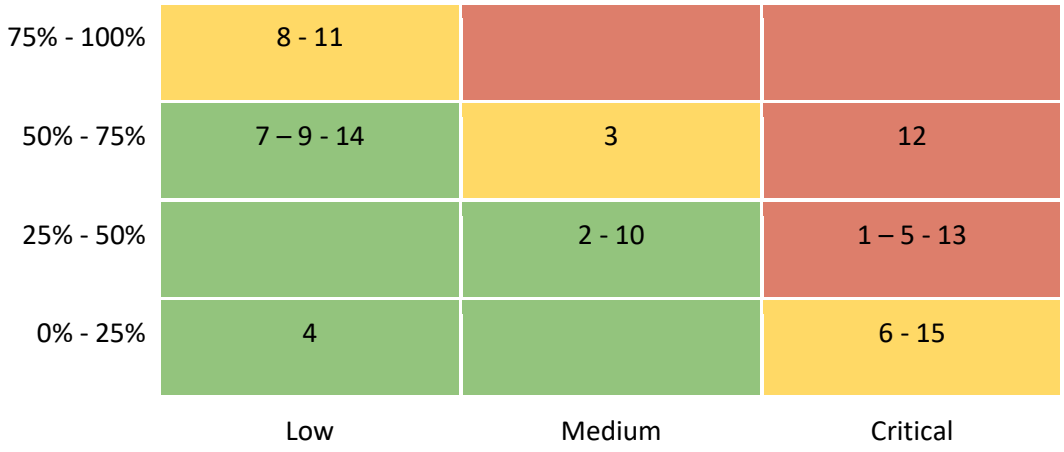


Figure 4 - Probability-Impact matrix

Possible risks:

1. Security breach
2. Loss of a critical functional module
3. An error that affects the operational stability or usability of the system/service
4. Inability to start or restart the system following standard procedures
5. Severe corruption of data
6. Inefficient protection against DDoS attack
7. Severe performance degradation
8. Graphical defects
9. A functional module or major component fails to function according to specifications
10. Fundamental problem that prevents effective service to some users
11. Inefficient performance
12. Data loss during merging operation
13. Severe degradation of service for a considerable number of users
14. Incompatibility with pre-existing infrastructure systems
15. Total system outage, system crashes repeatedly or frequently

Due to the nature of the project, technical and graphical risks related to system implementation are mitigated during the testing phase by the DEV team. System security risks that are not addressed at the design level are part of the IT team's tasks. Critical issues that arise during the implementation, data merging and installation phases of the system, when so significant that they cannot be mitigated during the current sprint, will be rescheduled in subsequent sprints, avoiding postponement of milestone dates. It is assumed that compliance with specifications in terms of security, performance, usability and system architecture will ensure the necessary mitigation of risks. Any issues encountered in the operational life of the system fall outside the boundaries of this project.

2.2.7. PROCUREMENT MANAGEMENT PLAN

InfoIGEA purchasing department, following an enquiry from the project manager regarding the costs and approval details of the project, provided guidelines for the project, based on previous agreements with a leading multinational company:

- The cost of the development software used by the DEV team amounts to 30€/day
- The cost of cloud services for maintaining a single development environment for the DEV team amounts to 120€/day
- The cost of software used by the DATA team amounts to 20€/day
- The cost of cloud services used by the DATA team in the Development phase amounts to 50€/day
- The cost of cloud services used by the IT team during the Data merging configuration phase amounts to 80€/day
- The cost of HW devices provided to the IT and DATA teams is not to be considered, as it is part of the annual procurement plan foreseen by InfoIGEA for personal devices provided to employees

The DEV Team will need three development environments (Dev, Test, Prod) during his activities to reach their goals.

Expenditure	DEV team	DATA team	IT team
Development SW – DEV Team	30€	0€	0€
Cloud Services – DEV team	120€	0€	0€
DATA team - SW	0€	20€	0€
DATA team – cloud expenses	0€	50€	0€
IT team – cloud expenses	0€	0€	80€

Table 14 – Software Cost Summary

2.2.8. STAKEHOLDER MANAGEMENT PLAN

In the table below, for each of the stakeholders considered, the role is assessed with a brief description of how each is involved in the project, the phases of greatest interest, the requests in the project, the degree of interest and influence, and the relationship between the stakeholders.

Stakeholder	Role	Phase of interest (Activity ID)	Demands	Interest Rate	Influence Rate	Stakeholder Dependencies
ATR customers	Customers whose needs will be met by the upgrade	2, 5, 6, 7	SW Usability, learnability, usefulness, pleasure of use	High	Low	
ATR employees	Employees who will deal with the SW on a daily basis	1, 2, 3, 4, 8, 9, 10, 11	SW Usability, learnability, usefulness, pleasure of use	High	Low	ATR management
ATR management	Project owner	All	Increase of business value, adherence to time and costs schedules	High	High	ATR shareholders
InfoIGEA management	Project provider	All	Facilities availability, ATR IT team cooperation, on-time payments	High	High	ATR management
Team DEV	Software developmen t team	All	Clear specifications , team self-organization, cooperation with ATR and InfoIGEA management	High	High	InfoIGEA management

Team DATA	Data integration and merging	All	Clear specifications, team self-organization, cooperation with ATR and InfoIGEA management, cooperation with ATR IT team	High	High	InfoIGEA management
Team IT	Building, testing and deployment	All	Clear specifications, team self-organization, cooperation with ATR and InfoIGEA management, cooperation with ATR IT team	High	High	InfoIGEA management
ATR shareholders	Investors of ATR	All	Increase of business value, adherence to time and costs schedules	High	Low	
Regulators	Law enforcement agencies	All	Compliance with the current laws	Low	Low	

Table 15 - Stakeholder involvement

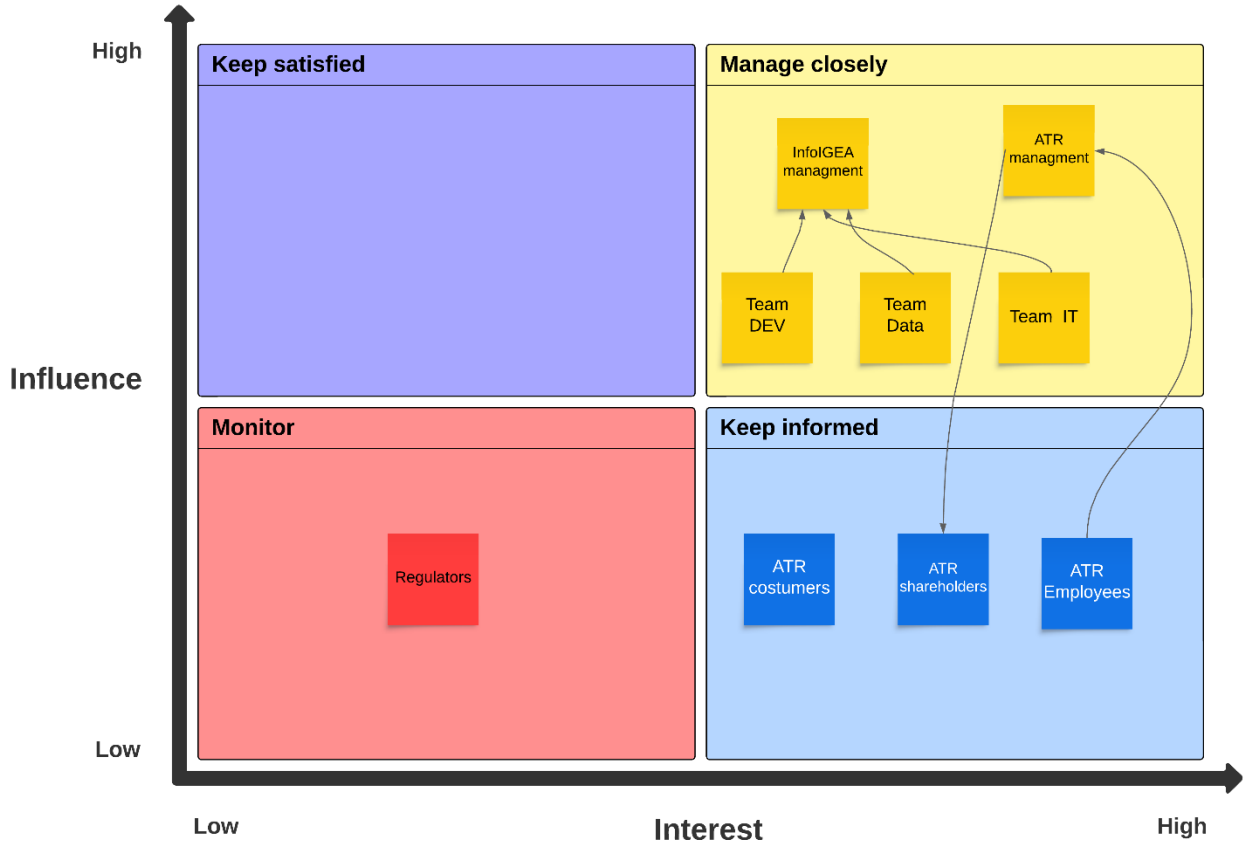


Figure 5 - Interest-Influence matrix

The matrix shows that:

- the management of InfoIGEA, the management of ATR and the three InfoIGEA work teams must be carefully managed, taking their requests into strong consideration, as they have a high influence and impact on the success of the project.
- ATR's customers, ATR's employees and shareholders should be informed about the developments and progress of the project because of their high interest.
- regulators should be closely monitored.

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
ATR customers			E	D	
ATR employees		E		D	
ATR management					D – E
InfoIGEA management					D - E

Team DEV				E	D
Team DATA					D – E
Team IT				E	D
Team IT ATR		E		D	
shareholders			E		D
Regulators	E			D	

Table 16 - Stakeholder engagement

Given the outdated nature of ATR's IT system and ATR's managerial management characterized by excessive bureaucracy and general lack of efficiency, confidence in the success of the project is low on the part of ATR and its customers. Given the negative outcome of previous projects involving ATR, expectations toward this project appear low. ATR management has identified the provision of European funds as the driving factor for the implementation of the new information systems. The management and employees of InfoIGEA hope for a successful outcome of the project to dispel the misgivings and doubts of the public and ATR.

2.2.9. COMMUNICATION MANAGEMENT PLAN

Internal team communications and urgent communications between teams and the project manager take place via the unified communication and collaboration platform provided in the software suite on all InfoIGEA employee devices.

Relationships between the project manager and the teams

At the beginning of each project phase, for each activity, a meeting is scheduled between the project manager and the senior team related to the activity in question to discuss design specifications and scheduling of work packages and related tasks.

At the end of each project phase, a meeting is scheduled for each activity between the project manager and the senior team related to the activity in question to discuss the completion of deliverables, issues encountered, and any uncompleted features to be resolved in subsequent phases. For each activity, a meeting is also scheduled between the project manager and the entire team related to the activity in question to discuss the completion of the activity, issues encountered, and any changes in the implementation processes followed by the team.

At each milestone, upstream of payment, a meeting will be held between the project manager, ATR management, ATR's IT team, and the 3 senior teams to discuss the progress of the project, the results achieved in the milestone, and an analysis will be conducted on the actual working software.

Relationship between project manager and ATR management

In addition to the general meeting at the end of each milestone, the project manager will have a meeting with ATR management at the end of each phase to discuss the results achieved.

At the end of each phase, progress will be notified via email and a report on the systems installed.

At the end of each milestone, a report will be emailed to ATR management indicating variances from planned cost and schedule and analysis of testing and performance.

Relationships between ATR's IT team and InfoIGEA IT team

Since InfoIGEA IT team shares working environments with ATR's IT team, communication between the two teams will take place on a daily basis by interacting in person. Any relevant requests or communications on the systems currently in use will take place via email to keep track of these types of requests.

CHAPTER 3.
PROJECT EXECUTION AND CONTROL

This chapter outlines the process of execution, monitoring, and control of all project areas planned in the previous chapter, referring to control actions and initiatives and corrective actions, where these have been implemented.

3.1. SCOPE MANAGEMENT AND CONTROL

The following section evaluates the procedures adopted for scope control and modification.

3.1.1. CONTROL ACTIONS AND MEASURES

At the end of each phase, in the scheduled meeting between the project manager and the senior components of each team, the match between the implementation of the system covered by that phase and the specifications in terms of performance, security, architecture and functionality is carefully analyzed.

This adherence to specifications turns out to be the main topic of the meeting scheduled at the end of each phase between the project manager and ATR stakeholders.

Any issues will be discussed and resolution will be planned, trying to maintain adherence with respect to time and cost planning.

3.1.2. SCOPE CHANGE REQUEST, SCOPE CREEP AND CORRECTIVE ACTIONS

Due to the nature of the project, no scope changes are expected during implementation. Both in the meeting held on 11/11/2022 between the project manager and the DEV team and in the meeting held on 12/11/2022 between the project manager, InfoIGEA management, and ATR stakeholders, differences emerged between the graphic and UI-level specifications of the prototype implemented in the previous outline study and those of the frontend of the employee management system. These differences were due to the nonstandard nature of some components of the UI of the prototype. The agreement reached between ATR and InfoIGEA at the meeting is that the system will be accepted as being built in accordance with industry standards.

3.2. QUALITY MANAGEMENT AND CONTROL

3.2.1. CONTROL ACTIONS AND MEASURES

At the end of each phase, in the scheduled meeting between the project manager and the senior components of each team, the following is carefully analyzed:

- The correspondence between the implementation of the system covered by that phase and the project specifications.
- The adherence of the specifications of the system under consideration to industry standards.

Due to the nature of InfoIGEA's activities, whose business partners in most cases need to follow ISO/CMMI standards, quality control is scrupulously conducted even on projects with lower quality parameters.

In particular, when analyzing software, it is evaluated according to the following characteristics:

a) Functional Suitability
b) Reliability
c) Performance Efficiency
d) Usability
e) Security
f) Compatibility
g) Maintainability
h) Portability

in accordance with the standard ISO 25010.

3.2.2. PROBLEMS DETECTED AND CORRECTIVE ACTIONS

During the execution of activity 4.3 during phase 6 of the project, the IT team found that the system's HW specifications were undersized relative to the frequency of requests at peak times, causing performance degradation in terms of response time from the server and remaining just below the specifications described in the tender documentation. These issues emerged at the 24/06/2022 and 25/06/2022 meetings. At the 25/06/2022 meeting between InfoIGEA management, ATR management, the project manager, senior members of the three teams, and ATR IT management, it was agreed that additional HW would be provided by ATR and those systems would be installed by InfoIGEA's IT team, at no additional cost to ATR beyond what was stipulated in the contract.

3.3. ACTIVITY PROGRESS MANAGEMENT AND CONTROL

The following section discusses the procedures adopted to monitor project schedules, the

actions performed to catch up with delayed situations.

3.3.1. CONTROL ACTIONS AND MEASURES

Regarding the progress of activities, InfoIGEA provides, at the end of each project phase, to keep ATR updated on progress and problems encountered.
During the meetings it is reported, the list of the activities of the phase, and for each one it is specified whether the tasks contained within it have been completed, are in progress, or have yet to be started.
Constant monitoring of individual teamwork hours is done internally by InfoIGEA's information system. Monitoring of activities conducted by InfoIGEA teams is done by the project manager through reports carried out by team seniors and through unified communication and collaboration software.
No activity has been identified with a particular level of delay risk, so each stage is monitored in the same way and is assessed with the same level of detail.

3.3.2. PROBLEMS DETECTED AND CORRECTIVE ACTIONS

At the meetings held on 06/24/2022 and 06/25/2022, aspects of performance were found to be inconsistent with the specifications in the tender specifications.
As a result of agreements between InfoIGEA and ATR made in the meeting of 25/06/2022, it was decided that the InfoIGEA IT team would complete the task in the next phase.
Since the IT team was not expected to work in the next phase of the project this solution did not cause additional delays for the overall project success but caused a delay concerning the milestone of the workshop management system.
In the meetings of 11/11/2022 and 12/11/2022, features of the UI were found to be not in accordance with the specifications of the prototype in the tender specifications.
Following agreements between InfoIGEA and ATR made at the 12/11/2022 meeting, InfoIGEA took responsibility for making the necessary corrections.
It was planned that the front-end department of the DEV team would work during phase 12 of the project to make the necessary corrections.
Since no work was scheduled by the DEV team between phase 11 and the end of the project, and the completion of the activity within the scheduled time was not necessary for the other teams to proceed with the planned activities in the next phase (Work Package 11.2 is not part of the critical path), it was possible to integrate the DEV team's work into phase 12 without creating delay with respect to the scheduled timeline.

3.4. COST MANAGEMENT AND CONTROL

A table with actual, budgeted costs and the project budget is shown.

		Team Cost	Travel Cost	Software cost
Estimated Cost	€ 1.149.040,00	€ 401.240,00	€ 107.080,00	€ 640.720,00
Actual Cost	€ 1.172.340,00	€ 410.880,00	€ 107.300,00	€ 654.160,00
Difference	€ 23.300,00	€ 9.640,00	€ 220,00	€ 13.440,00
Tender Documentation	€ 2.000.000,00			
Total Earned	€ 827.660,00			

Table 17 – Project Budget

A table with budgeted costs and costs incurred divided by milestones is shown.

	Estimated	Actual	% Cost
Milestone 1	€ 370.570,00	€ 380.420,00	32,32%
Milestone 2	€ 352.490,00	€ 352.490,00	29,95%
Milestone 3	€ 427.260,00	€ 444.070,00	37,73%

Table 18 - Project Budget divided by milestones

Going to decrease the level of aggregation on the rows of the table, we can have a clear representation of costs divided by Activity IDs:

	Cost	
Activity ID	Estimated	Actual
1.1	€ 46.840,00	€ 46.840,00
1.2	€ 26.700,00	€ 26.700,00
1.3	€ 22.770,00	€ 22.770,00
2.1	€ 46.840,00	€ 46.840,00
2.2	€ 22.770,00	€ 22.770,00
3.1	€ 46.840,00	€ 46.840,00
3.2	€ 26.700,00	€ 26.700,00
3.3	€ 22.770,00	€ 22.770,00
4.1	€ 49.880,00	€ 49.880,00
4.2	€ 43.720,00	€ 43.720,00
4.3	€ 14.740,00	€ 24.590,00
5.1	€ 55.240,00	€ 55.240,00
5.2	€ 35.100,00	€ 35.100,00
5.3	€ 26.700,00	€ 26.700,00
5.4	€ 22.770,00	€ 22.770,00
6.1	€ 46.840,00	€ 46.840,00
6.2	€ 26.700,00	€ 26.700,00
6.3	€ 22.770,00	€ 22.770,00
7.1	€ 49.880,00	€ 49.880,00
7.2	€ 43.720,00	€ 43.720,00
7.3	€ 22.770,00	€ 22.770,00
8.1	€ 55.240,00	€ 55.240,00
8.2	€ 26.700,00	€ 26.700,00
8.3	€ 17.010,00	€ 17.010,00
9.1	€ 55.240,00	€ 55.240,00
9.2	€ 35.100,00	€ 35.100,00
9.3	€ 22.770,00	€ 17.560,00
10.1	€ 46.840,00	€ 46.840,00
10.2	€ 26.700,00	€ 26.700,00
10.3	€ 23.610,00	€ 23.610,00
11.1	€ 49.880,00	€ 49.880,00
11.2	€ 44.560,00	€ 66.580,00
11.3	€ 23.610,00	€ 23.610,00

Table 19 - Cost divided by Activity IDs

Since infoIGEA structured and divided the project according to the concept of phases, a detailed cost analysis was performed following the division by phases

	Cost	
	Estimated	Actual
Phase 1	€ 46.840,00	€ 46.840,00
Phase 2	€ 73.540,00	€ 73.540,00
Phase 3	€ 69.610,00	€ 69.610,00
Phase 4	€ 143.070,00	€ 143.070,00
Phase 5	€ 78.010,00	€ 78.010,00
Phase 6	€ 96.680,00	€ 96.680,00
Phase 7	€ 120.300,00	€ 130.150,00
Phase 8	€ 104.710,00	€ 104.710,00
Phase 9	€ 104.710,00	€ 104.710,00
Phase 10	€ 103.870,00	€ 103.870,00
Phase 11	€ 136.870,00	€ 136.870,00
Phase 12	€ 23.610,00	€ 37.060,00
Phase 13	€ 23.610,00	€ 23.610,00
Phase 14	€ 23.610,00	€ 23.610,00
	€ 1.149.040,00	€ 1.172.340,00
	CV	2,03%

Table 20 - Cost Analysis divided by phases

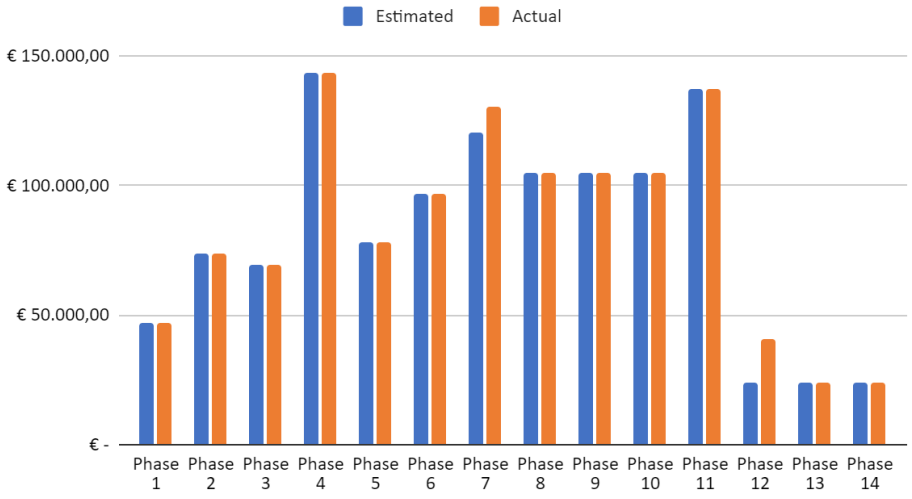


Figure 6 - Estimated Cost and Actual Cost

The table shown with the division of costs by phases does not align perfectly with costs by milestones because within a phase, to increase the parallelization of work, teams may work on activities of interest to another milestone.
Below are 3 tables containing costs divided by phase and by expenditure context.
The expenditure contexts considered are:

- Team work Cost
- Travel Cost
- Software Cost

	Team Cost			
	Project Manager	DEV Team	DATA Team	IT Team
Phase 1	€ 800,00	€ 12.960,00	€ -	€ -
Phase 2	€ 1.200,00	€ 12.960,00	€ 9.920,00	€ -
Phase 3	€ 1.200,00	€ 12.960,00	€ -	€ 11.160,00
Phase 4	€ 1.600,00	€ 22.520,00	€ 9.920,00	€ 11.160,00
Phase 5	€ 1.200,00	€ 15.360,00	€ -	€ 11.160,00
Phase 6	€ 1.600,00	€ 15.360,00	€ 9.920,00	€ 9.840,00
Phase 7	€ 1.600,00	€ 22.520,00	€ 9.920,00	€ 6.240,00
Phase 8	€ 1.600,00	€ 15.360,00	€ 9.920,00	€ 11.160,00
Phase 9	€ 1.600,00	€ 15.360,00	€ 9.920,00	€ 11.160,00
Phase 10	€ 1.200,00	€ 15.360,00	€ 9.920,00	€ 11.160,00
Phase 11	€ 1.600,00	€ 22.520,00	€ 9.920,00	€ 11.160,00
Phase 12	€ 1.000,00	€ 2.800,00	€ -	€ 11.160,00
Phase 13	€ 800,00	€ -	€ -	€ 11.160,00
Phase 14	€ 800,00	€ -	€ -	€ 11.160,00

Table 21 - Team work Cost

	Travel cost			
	Project Manager	DEV Team	DATA Team	IT Team
Phase 1	€ 680,00	€ -	€ -	€ -
Phase 2	€ 920,00	€ -	€ 4.780,00	€ -
Phase 3	€ 920,00	€ -	€ -	€ 5.210,00
Phase 4	€ 1.160,00	€ -	€ 4.780,00	€ 5.210,00
Phase 5	€ 920,00	€ -	€ -	€ 5.210,00
Phase 6	€ 1.160,00	€ -	€ 4.780,00	€ 4.260,00
Phase 7	€ 1.160,00	€ -	€ 4.780,00	€ 2.970,00
Phase 8	€ 1.160,00	€ -	€ 4.780,00	€ 5.210,00
Phase 9	€ 1.160,00	€ -	€ 4.780,00	€ 5.210,00
Phase 10	€ 720,00	€ -	€ 4.780,00	€ 5.210,00
Phase 11	€ 720,00	€ -	€ 4.780,00	€ 5.210,00
Phase 12	€ 800,00	€ -	€ -	€ 2.100,00
Phase 13	€ 680,00	€ -	€ -	€ 5.210,00
Phase 14	€ 680,00	€ -	€ -	€ 5.210,00

Table 22 - Travel Cost

	Software Cost			
	Project Manager	DEV Team	DATA Team	IT Team
Phase 1	€ -	€ 32.400,00	€ -	€ -
Phase 2	€ -	€ 32.400,00	€ 11.360,00	€ -
Phase 3	€ -	€ 32.400,00	€ -	€ 5.760,00
Phase 4	€ -	€ 69.600,00	€ 11.360,00	€ 5.760,00
Phase 5	€ -	€ 38.400,00	€ -	€ 5.760,00
Phase 6	€ -	€ 38.400,00	€ 11.360,00	€ -
Phase 7	€ -	€ 69.600,00	€ 11.360,00	€ -
Phase 8	€ -	€ 38.400,00	€ 11.360,00	€ 5.760,00
Phase 9	€ -	€ 38.400,00	€ 11.360,00	€ 5.760,00
Phase 10	€ -	€ 38.400,00	€ 11.360,00	€ 5.760,00
Phase 11	€ -	€ 69.600,00	€ 11.360,00	€ -
Phase 12	€ -	€ 13.440,00	€ -	€ 5.760,00
Phase 13	€ -	€ -	€ -	€ 5.760,00
Phase 14	€ -	€ -	€ -	€ 5.760,00

Table 23 - Software Cost

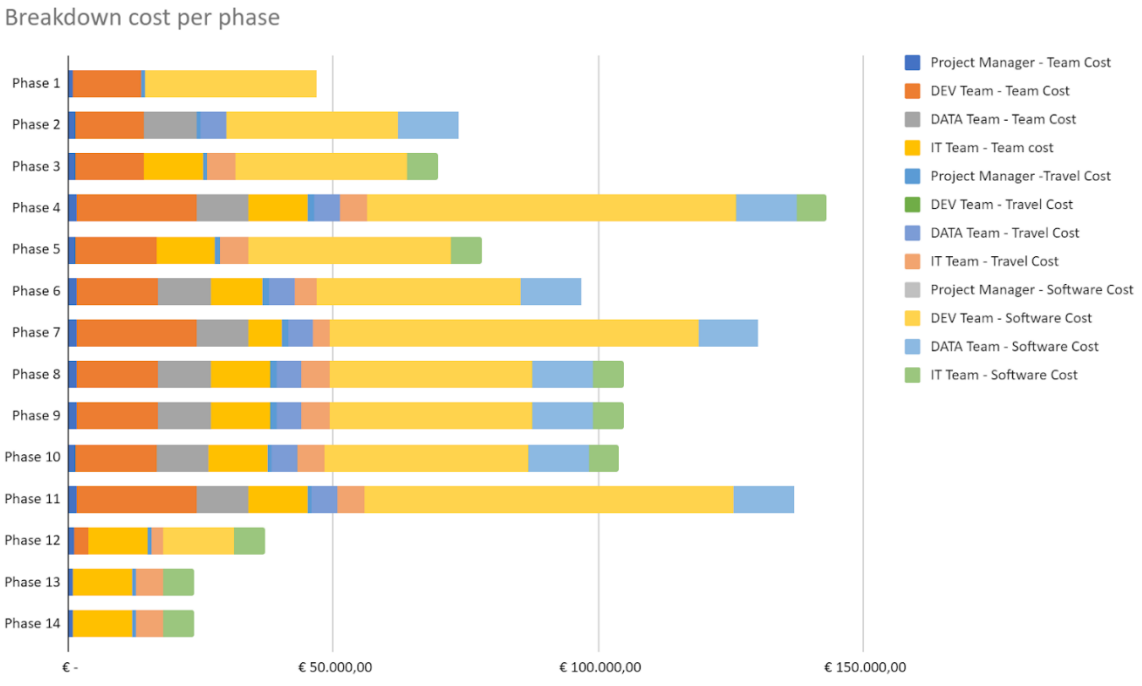


Figure 7 - Breakdown Cost per phase

In Appendix 2 Table 5 – Actual Effort, the effective effort has been represented.

In Appendix 2 Table 6 – Actual Team Cost, the effective Team Cost has been represented.

In Appendix 2 Table 7 – Actual Travel Cost, the effective Travel Cost has been represented.

In Appendix 2 Table 8 – Actual Software Cost, the effective Software Cost has been represented.

3.4.1. CONTROL ACTIONS AND MEASURES

In order to monitor whether or not the actual project costs met the budget, track was kept of the attendance of each infoIGEA team and the days they were engaged in each activity. Specifically, the cost calculation was divided into phases to follow the pattern that was defined for the project's achievement.
Monitoring of team costs is done by seniors through an internal company system, and the actual costs are presented through a report during the start and end of phase meetings.

3.4.2. PROBLEMS DETECTED AND CORRECTIVE ACTIONS

With reference to the above, only two sections experienced a delay compared to what was budgeted. The plan envisaged by Infoigea's management provided such flexibility that the final result was not affected by the delays and problems encountered. No macroscopic problems were found for the InfoIGEA teams, only delays were found due to too conservative an assessment of the workload.

3.5. RISK MANAGEMENT AND CONTROL

In this section, risk management and corrective actions taken to mitigate the effects of issues will be analyzed.

3.5.1. CONTROL ACTIONS AND MEASURES

During the project, the three teams kept an Issue Log with the following fields:

- Activities
- Day
- Issue type
- Severity
- Detailed description
- Man-hours spent on resolution
- Problem solved at the end of the phase

This Issue Log is shared with the project manager and updated constantly.

In the event of an Issue that is so serious that it may jeopardize the success of the activity, an emergency meeting (carried out remotely via the platforms used by the teams) is held between the team and the project manager, who takes the necessary corrective action.

3.5.2. Identified Issues and Update of Risk Register

The following is an analysis on the issues in the Issue Log, grouped by type, with reference to the risks indicated in section 2.2.6.

Issue Type	Frequency	Mean gravity
1	3	3
2	10	3
3	7	2
4	2	2
5	25	3
6	4	4
7	10	3
8	15	1
9	24	3
10	7	2
11	40	2
12	60	2
13	25	3
14	10	4
15	2	4

Table 24 - Issue Log Summary

The following table represents the main encountered issues, summarizing the corrective actions.

Date	Team	Issue Type	Activity	Corrective Action
24/06/2022	IT	13	4.3	Delivery delayed to the next phase.
22/07/2022	DEV	8	7.2	No action needed
11/11/2022	DEV	8	11.2	Delivery delayed to the next phase

Table 25 - Main Issue Summary

3.6. Procurement Management and Control

This section will analyze supply management, the control measures used and the corrective actions taken.

3.6.1. Control Actions and Measures

As no changes to the project scope are planned, since all procurements needed during the entire project duration were planned and executed at the beginning of the project, no specific control actions are foreseen and no standards are set for corrective actions.

The correctness of the hardware supplies for each system will be checked by the IT team at the beginning of the corresponding installation phase.

Any discrepancies between the project hardware specifications and the supplied hardware will be promptly notified by the IT team to the project manager and by the latter to the ATR management, which is responsible for resolving the issue in the most appropriate timeframe and manner.

3.6.2. Problems detected and corrective actions

As a result of issues encountered during Activity 4.3 in Phase 6, previously described in Section 3.2.2, it was agreed that the supply of the additional HW for the installation of the getaway API of the workshop management system would be provided by the end of the following week. This delivery by ATR took place in the time and manner agreed upon during the meeting on 06/25/2022.

During the preliminary hardware inspection phase prior to the installation of system 6 (customers management system), during phase 9, the IT team found discrepancies in router specifications between the tender specifications and the actual supply. Following a meeting held on 23/08/2022 between ATR management, the project manager, ATR's IT team, InfoIGEA's IT team, and the hardware supplier (IrpiniaSolutions), it was agreed that ATR and IrpiniaSolutions would supply the necessary hardware by 08/30/2022 so as not to compromise the IT team's activities. This supply and subsequent installation presented no problems.

3.7. Project Team and Human Resources Management

This section will review issues related to human resource management, control actions and corrective actions taken in this area.

3.7.1. Control Actions and Measures

Due to the nature of the project, there are no control actions and intervention standards regarding human resource management. Due to InfoIGEA's resources, any issues related to team member management will be absorbed by InfoIGEA's internal human resource management.

3.7.2. Problems detected and corrective actions

During the development of the frontend related to the customer management system, activity 7.2 during phase 7, Jason (frontend developer) requested days off due to family issues. The Pescara office of InfoIGEA, which does frontend development, provided the availability of a frontend developer, Lorenzo, for this activity. The activity was completed with Lorenzo's input with no consequences for timing, cost or quality.

3.8. STAKEHOLDER MANAGEMENT AND CONTROL

This section will review the control strategies and plans implemented for managing the stakeholder relationships, to preserve their business goals.

3.8.1. CONTROL ACTIONS AND MEASURES

The control approach used to manage the various stakeholders was tailored according to their influence and interest with respect to the different phases of the project. For stakeholders with a high degree of influence and interest such as ATR's management team, InfoIGEA management team and the 3 teams involved in the development and design of the project, special attention was given being that the success of the project depended heavily on their degree of satisfaction and the quality of communication between them, with the goal of ensuring maximum involvement and overall satisfaction. This was achieved through constant communication and careful understanding of their needs. For stakeholders with a high degree of interest but low degree of influence, such as ATR customers and ATR employees, a trust-building strategy was implemented through a marketing campaign funded by ATR. This strategy helped to strengthen the trust and positive perception of customers and employees toward the company, despite their limited influence on business decisions. The main objective was to maintain a good relationship with these stakeholders and make them feel valued, to promote loyalty and reduce the risk of losing key customers or employees.

3.8.2. CHANGES IN STAKEHOLDER INFLUENCE/INTEREST DETECTED AND UPDATE OF THE STAKEHOLDER REGISTER/MAP

During the project implementation, the interest of some stakeholders increased due to InfoIGEA's achievements in systems implementation. In particular:

- ATR customers appreciated the new system dedicated to them, finding the graphical user interface particularly successful in terms of usability and the entire system much more responsive
- ATR employees, who were initially skeptical about the results of the upgrade, were neutral about it at the end of the project, given the few problems they encountered in using the new systems
- ATR's shareholders, local governments in the area in which ATR operates, were enthusiastic about the project's success at the end of it, due to the positive implications in the political arena
- regulators, initially unaware of the project, were neutral about it at the end of the work

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
ATR customers			E	D - E	
ATR employees		E	E	D	
ATR management					D – E
InfoIGEA management					D - E
Team DEV				E	D
Team DATA					D – E
Team IT				E	D
Team IT ATR		E		D	
shareholders			E	E	D
Regulators	E	E		D	

Table 26 - Updated Stakeholder Commitment Matrix

3.9. Communication Management and Control

The communication plan outlined above was followed without any problems whatsoever. Scheduling meetings at the beginning and end of each phase allowed communication to be precisely organized and issues that arose in the process to be managed without having to hold additional meetings, causing additional costs.

3.9.1. Problems Detected and Corrective Actions

The communication plan was followed in a timely manner, and given the careful planning of meetings, there was no need to schedule additional meetings. In the following meetings, critical issues addressed in the previous paragraphs emerged:

- 11/11/2022 - the frontend of the employee management system does not meet the specifications of the tender specifications
- 06/25/2022 - during the installation of the API getaway system for workshop management, the system does not meet the performance specifications
- 23/08/2022 - the routers provided for installation by the vendor do not meet the design specifications

CHAPTER 4.
PROJECT CLOSURE AND CRITICAL EVALUATION

4.1. PROJECT CLOSURE

The project was completed in the week following 03/02/2023, the date of completion of the last activity by the IT team. Following a series of evaluation meetings between ATR management, the ATR IT team, InfoIGEA management, the project manager, and the InfoIGEA teams, the systems inherent in the third milestone were evaluated, along with the totality of the systems as a whole.

In the analysis of the deliverables related to the third milestone, minor critical issues emerged regarding discrepancies between the graphical components of the prototype provided in the specifications and the final system. These critical issues did not affect the acceptance of the system for the third milestone, as they were considered to be of minor importance and irrelevant to the usability of the system.

In analyzing the operation of the systems in their entirety, performance lapses were noted under particular load situations. However, these performance lapses are within the parameters specified in the tender documentation.

The management of ATR and the management of InfoIGEA evaluated the work done positively. Indeed, the installation of the systems at the software/DevOPS level allows full scalability of the system by modifying the configuration files, enabling hardware-level upgrades of the systems later in an easy and modular way.

The planned timelines for the three milestones were met in the case of the second and third milestones. In the case of the first milestone, agreements reached between ATR and InfoIGEA resulted in the completion of the milestone at the end of the phase following the scheduled one, without incurring penalties. Delivery of the other two milestones and subsequent analysis by ATR found no critical issues that would delay completion.

The timelines provided in the planning stage were met for all activities except for 4.3 and 11.2. Careful planning of the teams' work allowed them to absorb these delays without affecting the delivery timelines for the second and third milestones.

The cost analysis shows that actual costs marginally exceeded budgeted costs, remaining well below budget. Such adherence to budgeted costs is very positive for InfoIGEA.

The specifications given in the tender were evaluated in meetings scheduled at the end of each phase and in meetings related to the closing of each milestone. The discrepancies found, except for those involving activities 4.3 and 11.2, mostly concern discrepancies between the graphical components of the prototype and those of the realized system. These discrepancies, which were deemed unimportant in these meetings, did not result in non-acceptance of the deliverables.

4.2. Analysis of Critical Success Factors and Results (performance and benefits obtained)

The successful termination of the project led ATR to conduct an analysis on the benefits achieved and the policies to be implemented in the short to medium term to make the most of these benefits. ATR management noted how, compared to previous systems:

- workshop management processes can increase their efficiency up to 20%
- the vehicle log management enabled by the new systems can increase the number of vehicles running in the fleet by 20%, reducing breakdowns, a chronic problem for ATR, up to 40%
- the integrated user management system, together with the controller management system, can allow, following careful analysis and integration of the two systems, to increase the volume of fines issued to passengers by 30% by optimizing the controllers' shifts
- the employee management system will make it possible to reduce employee absenteeism, a chronic problem for ATR

One of the critical success factors for the success of the project was communication management. Careful scheduling of meetings and stakeholder relations enabled the work to be optimized, validating each component immediately after its implementation and streamlining the processes of accepting deliverables and validating specifications.

Another critical success factor turned out to be the close interaction between time planning and the judicious choice of human resources to be used for the project. The high technical skill of InfoIGEA's employees made it possible to meet the established timelines without encountering major critical issues, which would not have been possible using less experienced human resources.

Careful planning of the timelines made it possible to absorb the delays encountered in activities 4.3 and 11.2, without compromising the delivery time of the second and third milestones and without incurring additional costs or the use of auxiliary staff.

4.3. Lessons learned

This project allowed ATR management to evaluate different approaches to IT systems management than in the past. ATR's management, composed mainly of experienced resources from public administration, has always taken a critical approach to upgrades of its IT resources, evaluating these interventions only when strictly necessary and not considering them relevant from the perspective of cost and resource optimization. As a result of the results obtained from this project, the benefits of upgrades of this type were found to be significant. Therefore, ATR's future investment plans will include more resources dedicated to IT, and an analysis of system obsolescence and possible features to be integrated is planned every 24 months.

InfoIGEA management used this project as a test bed for a different approach to projects of this type. In fact, they wanted to evaluate the possibility of completing projects that do not involve stringent quality standards using human resources with relevant technical skills in teams of a few people. Such an approach, if the project finishes successfully in terms of adherence to the budgeted time and cost, allows for greater margins than the methods used previously, which involve larger teams composed of less-skilled average personnel. The presence of highly qualified staff, with experience in environments characterized by adherence to high quality standards, also allowed for an efficient response to delays in unplanned schedules. This approach necessitates careful planning of the expected effort to complete each task and in the drafting of time schedules.

Most of the projects followed by InfoIGEA together with its business partners follow the waterfall or agile model, in accordance with the practices used by the partners. Thus, the results of this project turn out to be a benchmark in terms of InfoIGEA's use of the incremental model. InfoIGEA's management considers the results obtained in this project to be above expectations, so the incremental model will be considered as a viable alternative for future projects without efficiency degradation.

Following meetings held at InfoIGEA's headquarters to assess the satisfaction of employees employed on this project, it became apparent that the results were in line with those obtained at the end of projects InfoIGEA had carried out previously. Management was concerned that due to the qualitatively lower nature of the project specifications than usual, employee satisfaction might decline, leading to the loss of important human resources to competitors. This was not the case due to greater freedom to experiment in design and implementation, which allowed team members to acquire and consolidate different skills than usual. Management will leverage this knowledge when acquiring projects of this type, being able to efficiently mitigate risks given by the context.

Both InfoIGEA and ATR rated the collaboration between the two parties as very fruitful, both in terms of management and the collaboration of InfoIGEA employees with ATR's IT team. InfoIGEA will positively consider opportunities for collaboration with ATR in the future. ATR has seen InfoIGEA as a quality partner with significantly greater diligence and a propensity for problem solving than the industry suppliers ATR has worked with previously.

4.4. Critical Evaluation of the Project

Following the closure of the project, some more or less serious critical issues were noted and corrective actions were identified to be taken. This process was executed in internal InfoIGEA meetings carried out following project closure.

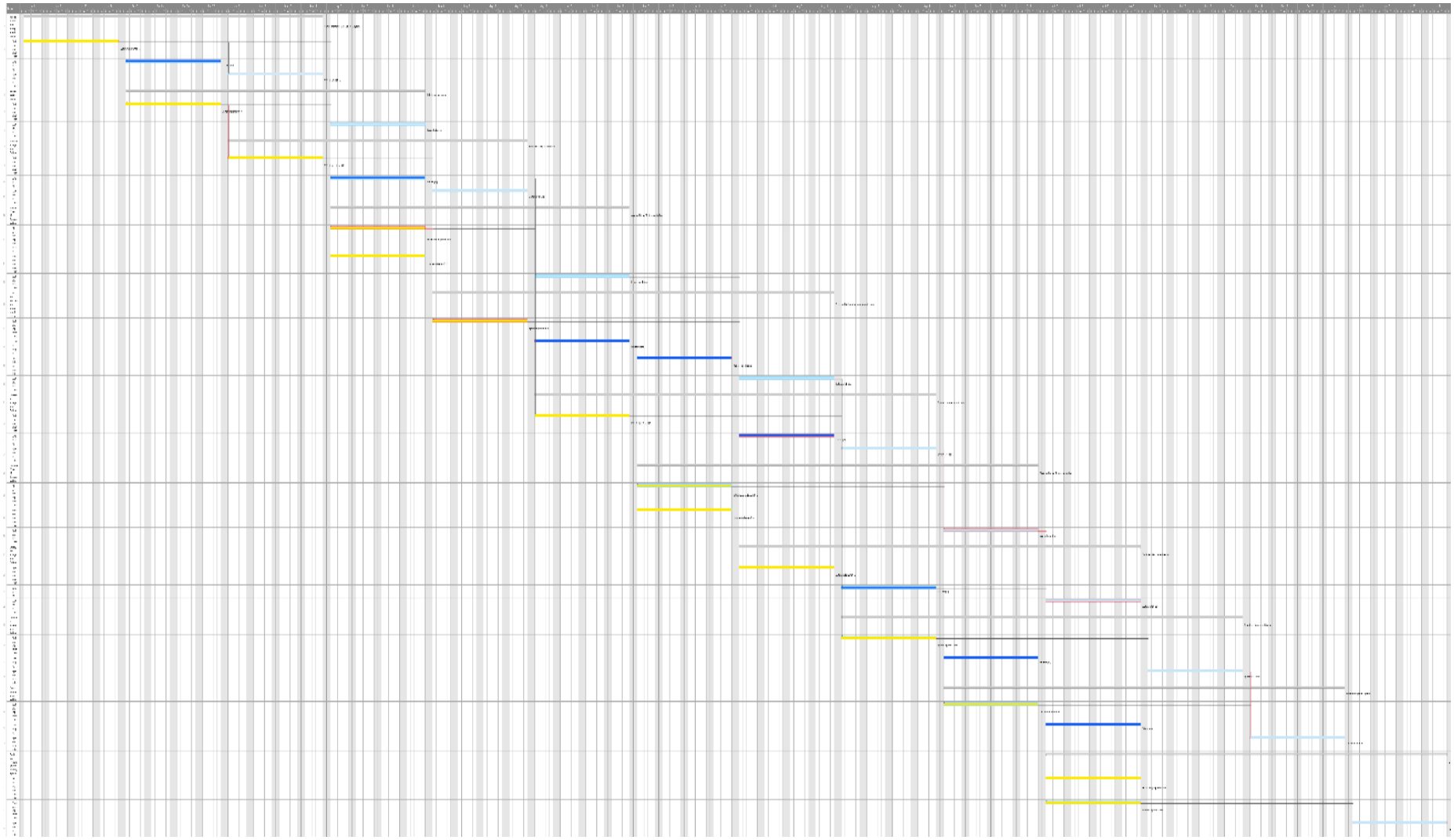
The presence of graphic defects identified in the meetings held at the end of each project phase represents a major criticality. Although ATR positively evaluated the deliverables related to the development of the user interface, discrepancies were found between the prototype specifications and the final product. InfoIGEA management believes that, although these critical issues did not cause major variances from the timelines and costs budgeted for this project and did not result in the payment of penalties, if they recur they could cause problems in future projects, damaging the company's reputation.

The issue will be analyzed in future meetings with management in the Pescara branch, responsible for frontend development.

Following a market analysis after the project was completed, it was noted that costs related to software, development environments, and cloud-related costs are 20 percent higher than standard. This is a significant issue as it goes to reduce the profit related to the project. Internal processes in management and vendor management will be initiated to resolve this issue.

InfoIGEA management also pointed out that although in line with project specifications, the quality of documentation produced by the DEV team appears to be lower than industry standards. InfoIGEA believes that this critical issue is of lower severity than the previous ones and originated from causes related to the context and not directly attributable to the team members. This critical issue will be analyzed as part of the analysis of development-related processes.

APPENDIX 1 - GANTT



APPENDIX 2 - TABLES

TABLE 1 – EFFORT ESTIMATION

		DEV Team			DATA team		IT team		
Activity ID	Project Manager	Senior	Backend	Frontend	Senior	Junior	Senior	Junior	Effort
PHASE 1	16								16
1.1	16						0	0	16
1.1.1		24	8	0	0	0	0	0	32
1.1.2		8	104	0	0	0	0	0	112
1.1.3		24	8	0	0	0	0	0	32
1.1.4		16	24	0	0	0	0	0	40
Total	32	72	144	0	0	0	0	0	248
PHASE 2	16								16
2.1	16								16
2.1.1		24	8	0	0	0	0	0	32
2.1.2		8	104	0	0	0	0	0	112
2.1.3		24	8	0	0	0	0	0	32
2.1.4		16	24	0	0	0	0	0	40
1.2	16								16
1.2.1		0	0	0	24	8	0	0	32
1.2.2		0	0	0	24	8	0	0	32
1.2.3		0	0	0	24	120	0	0	144

Total	48	72	144	0	72	136	0	0	472
PHASE 3	16								16
3.1	16								16
3.1.1		24	8	0	0	0	0	0	32
3.1.2		8	104	0	0	0	0	0	112
3.1.3		24	8	0	0	0	0	0	32
3.1.4		16	24	0	0	0	0	0	40
1.3	16								16
1.3.1		0	0	0	0	0	24	56	80
1.3.2		0	0	0	0	0	24	48	72
1.3.3		0	0	0	0	0	24	48	72
Total	48	72	144	0	0	0	72	152	488
PHASE 4	16								16
4.1	8				0		0		8
4.1.1		32	8						40
4.1.2		8	104						112
4.1.3		16	16						32
4.1.4		24	24						48
4.2	8				0		0		8
4.2.1		32		8					40
4.2.2		8		104					112
4.2.3		16		16					32
4.2.4		24		24					48
3.2	16	0					0		16
3.2.1					24	8			32
3.2.2					24	8			32

3.2.3					24	120			144
2.2	16	0			0				16
2.2.1							24	56	80
2.2.2							24	48	72
2.2.3							24	48	72
Total	64	160	152	152	72	136	72	152	960
PHASE 5	16								16
5.1	16				0		0		16
5.1.1		56	8						64
5.1.2		8	104						112
5.1.3		24	16						40
5.1.4		16	24						40
3.3	16	0			0				16
3.3.1							24	56	80
3.3.2							24	48	72
3.3.3							24	48	72
Total	48	104	152	0	0	0	72	152	528
PHASE 6	16								16
6.1	16				0		0		16
6.1.1		56	8						64
6.1.2		8	104						112
6.1.3		24	16						40
5.2	16	16	24				0		56
5.2.1					24	8			32
5.2.2					24	8			32
5.2.3					24	120			144

4.3	16	0			0				16
4.3.1							40	56	96
4.3.2							40	56	96
Total	64	104	152	0	72	136	80	112	720
	Milesone 1								
PHASE 7	16								16
7.1	8				0		0		8
7.1.1		32	8						40
7.1.2		8	104						112
7.1.3		16	16						32
7.1.4		24	24						48
7.2	8				0		0		8
7.2.1		32		8					40
7.2.2		8		104					112
7.2.3		16		16					32
7.2.4		24		24					48
5.3	16	0					0		16
5.3.1					24	8			32
5.3.2					24	8			32
5.3.3					24	120			144
Total	48	160	152	152	72	136	0	0	720
PHASE 8	16								16
8.1	16				0		0		16
8.1.1		56	8						64
8.1.2		8	104						112
8.1.3		24	16						40
8.1.4		16	24						40

6.2	16	0					0		16
6.2.1					24	8			32
6.2.2					24	8			32
6.2.3					24	120			144
5.4	16	0			0				16
5.4.1							24	56	80
5.4.2							24	48	72
5.4.3							24	48	72
Total	64	104	152	0	72	136	72	152	752
PHASE 9	16								16
9.1	16				0		0		16
9.1.1		56	8						64
9.1.2		8	104						112
9.1.3		24	16						40
9.1.4		16	24						40
8.2	16	0					0		16
8.2.1					24	8			32
8.2.2					24	8			32
8.2.3					24	120			144
6.3	16	0			0				16
6.3.1							24	56	80
6.3.2							24	48	72
6.3.3							24	48	72
Total	64	104	152	0	72	136	72	152	752
PHASE 10	16								16
10.1	16				0		0		16

10.1.1		56	8						64
10.1.2		8	104						112
10.1.3		24	16						40
9.2	16	16	24				0		56
9.2.1					24	8			32
9.2.2					24	8			32
9.2.3					24	120			144
7.3	16	0			0				16
7.3.1							24	56	80
7.3.2							24	48	72
7.3.3							24	48	72
Total	48	104	152	0	72	136	72	152	752
	Milestone 2								
PHASE 11	16								16
11.1	8				0		0		8
11.1.1		32	8						40
11.1.2		8	104						112
11.1.3		16	16						32
11.1.4		24	24						48
11.2	8				0		0		8
11.2.1		32		8					40
11.2.2		8		104					112
11.2.3		16		16					32
11.2.4		24		24					48
10.2	16			0			0		16
10.2.1					24	8			32
10.2.2					24	8			32
10.2.3					24	120			144

8.3	16	0			0				16
8.3.1							24	56	80
8.3.1							24	48	72
8.3.1							24	48	72
Total	48	160	152	152	72	136	72	152	944
PHASE 12	16								16
9.3	16	0			0				16
9.3.1							24	56	80
9.3.2							24	48	72
9.3.3							24	48	72
Total	32	0	0	0	0	0	72	152	256
PHASE 13	16								16
10.3	16	0			0				16
10.3.1							24	56	80
10.3.2							24	48	72
10.3.3							24	48	72
Total	32	0	0	0	0	0	72	152	256
PHASE 14	16								16
11.3	16	0			0				16
11.3.1							24	56	80
11.3.2							24	48	72
11.3.3							24	48	72
Total	32	0	0	0	0	0	72	152	256
Total (hours)	672	1216	1648	456	576	1088	800	1632	8088

Total (days)	84	152	206	57	72	136	100	204	1011

TABLE 2 – TEAM COST ESTIMATION

	Team Cost								
		DEV Team			DATA team		IT team		
Activity ID	Project Manager	Senior	Backend	Frontend	Senior	Junior	Senior	Junior	Total cost Team
PHASE 1	€ 400,00								€ 400,00
1.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
1.1.1	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
1.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
1.1.3	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
1.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
Total	€ 800,00	€ 4.320,00	€ 8.640,00	€ -	€ -	€ -	€ -	€ -	€ 13.760,00
PHASE 2	€ 400,00								€ 400,00
2.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
2.1.1	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
2.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
2.1.3	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
2.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
1.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
1.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
1.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
1.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
Total	€ 1.200,00	€ 4.320,00	€ 8.640,00	€ -	€ 4.140,00	€ 5.780,00	€ -	€ -	€ 24.080,00

PHASE 3	€ 400,00								€ 400,00
3.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
3.1.1	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
3.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
3.1.3	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
3.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
1.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
1.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
1.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
1.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.200,00	€ 4.320,00	€ 8.640,00	€ -	€ -	€ -	€ 4.320,00	€ 6.840,00	€ 25.320,00
PHASE 4	€ 400,00								€ 400,00
4.1	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
4.1.1	€ -	€ 1.920,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
4.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
4.1.3	€ -	€ 960,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
4.1.4	€ -	€ 1.440,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.880,00
4.2	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
4.2.1	€ -	€ 1.920,00	€ -	€ 200,00	€ -	€ -	€ -	€ -	€ 2.120,00
4.2.2	€ -	€ 480,00	€ -	€ 2.600,00	€ -	€ -	€ -	€ -	€ 3.080,00
4.2.3	€ -	€ 960,00	€ -	€ 400,00	€ -	€ -	€ -	€ -	€ 1.360,00
4.2.4	€ -	€ 1.440,00	€ -	€ 600,00	€ -	€ -	€ -	€ -	€ 2.040,00
3.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
3.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
3.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
3.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00

2.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
2.2.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
2.2.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
2.2.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.600,00	€ 9.600,00	€ 9.120,00	€ 3.800,00	€ 4.140,00	€ 5.780,00	€ 4.320,00	€ 6.840,00	€ 45.200,00
PHASE 5	€ 400,00								€ 400,00
5.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
5.1.1	€ -	€ 3.360,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 3.840,00
5.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
5.1.3	€ -	€ 1.440,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
5.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
3.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
3.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
3.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
3.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.200,00	€ 6.240,00	€ 9.120,00	€ -	€ -	€ -	€ 4.320,00	€ 6.840,00	€ 27.720,00
PHASE 6	€ 400,00								€ 400,00
6.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
6.1.1	€ -	€ 3.360,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 3.840,00
6.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
6.1.3	€ -	€ 1.440,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
5.2	€ 400,00	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.800,00
5.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
5.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
5.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
4.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00

4.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 2.400,00	€ 2.520,00	€ 4.920,00
4.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 2.400,00	€ 2.520,00	€ 4.920,00
Total	€ 1.600,00	€ 6.240,00	€ 9.120,00	€ -	€ 4.140,00	€ 5.780,00	€ 4.800,00	€ 5.040,00	€ 36.720,00
PHASE 7	€ 400,00								€ 400,00
7.1	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
7.1.1	€ -	€ 1.920,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
7.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
7.1.3	€ -	€ 960,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
7.1.4	€ -	€ 1.440,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.880,00
7.2	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
7.2.1	€ -	€ 1.920,00	€ -	€ 200,00	€ -	€ -	€ -	€ -	€ 2.120,00
7.2.2	€ -	€ 480,00	€ -	€ 2.600,00	€ -	€ -	€ -	€ -	€ 3.080,00
7.2.3	€ -	€ 960,00	€ -	€ 400,00	€ -	€ -	€ -	€ -	€ 1.360,00
7.2.4	€ -	€ 1.440,00	€ -	€ 600,00	€ -	€ -	€ -	€ -	€ 2.040,00
5.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
5.3.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
5.3.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
5.3.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
Total	€ 1.200,00	€ 9.600,00	€ 9.120,00	€ 3.800,00	€ 4.140,00	€ 5.780,00	€ -	€ -	€ 33.640,00
PHASE 8	€ 400,00								€ 400,00
8.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
8.1.1	€ -	€ 3.360,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 3.840,00
8.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
8.1.3	€ -	€ 1.440,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
8.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
6.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00

6.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
6.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
6.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
5.4	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
5.4.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
5.4.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
5.4.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.600,00	€ 6.240,00	€ 9.120,00	€ -	€ 4.140,00	€ 5.780,00	€ 4.320,00	€ 6.840,00	€ 38.040,00
PHASE 9	€ 400,00								€ 400,00
9.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
9.1.1	€ -	€ 3.360,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 3.840,00
9.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
9.1.3	€ -	€ 1.440,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
9.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
8.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
8.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
8.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
8.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
6.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
6.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
6.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
6.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.600,00	€ 6.240,00	€ 9.120,00	€ -	€ 4.140,00	€ 5.780,00	€ 4.320,00	€ 6.840,00	€ 38.040,00
PHASE 10	€ 400,00								€ 400,00
10.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
10.1.1	€ -	€ 3.360,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 3.840,00

10.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
10.1.3	€ -	€ 1.440,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
9.2	€ 400,00	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.800,00
9.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
9.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
9.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
7.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
7.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
7.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
7.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.200,00	€ 6.240,00	€ 9.120,00	€ -	€ 4.140,00	€ 5.780,00	€ 4.320,00	€ 6.840,00	€ 37.640,00
PHASE 11	€ 400,00								€ 400,00
11.1	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
11.1.1	€ -	€ 1.920,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
11.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
11.1.3	€ -	€ 960,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
11.1.4	€ -	€ 1.440,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.880,00
11.2	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
11.2.1	€ -	€ 1.920,00	€ -	€ 200,00	€ -	€ -	€ -	€ -	€ 2.120,00
11.2.2	€ -	€ 480,00	€ -	€ 2.600,00	€ -	€ -	€ -	€ -	€ 3.080,00
11.2.3	€ -	€ 960,00	€ -	€ 400,00	€ -	€ -	€ -	€ -	€ 1.360,00
11.2.4	€ -	€ 1.440,00	€ -	€ 600,00	€ -	€ -	€ -	€ -	€ 2.040,00
10.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
10.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
10.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
10.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
8.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00

8.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
8.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
8.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.600,00	€ 9.600,00	€ 9.120,00	€ 3.800,00	€ 4.140,00	€ 5.780,00	€ 4.320,00	€ 6.840,00	€ 45.200,00
PHASE 12	€ 400,00								€ 400,00
9.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
9.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
9.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
9.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 800,00	€ -	€ -	€ -	€ -	€ -	€ 4.320,00	€ 6.840,00	€ 11.960,00
PHASE 13	€ 400,00								€ 400,00
10.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
10.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
10.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
10.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 800,00	€ -	€ -	€ -	€ -	€ -	€ 4.320,00	€ 6.840,00	€ 11.960,00
PHASE 14	€ 400,00								€ 400,00
11.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
11.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
11.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
11.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 800,00	€ -	€ -	€ -	€ -	€ -	€ 4.320,00	€ 6.840,00	€ 11.960,00
TOTAL	€ 17.200,00	€ 72.960,00	€ 98.880,00	€ 11.400,00	€ 33.120,00	€ 46.240,00	€ 48.000,00	€ 73.440,00	€ 401.240,00

TABLE 3 - TRAVEL COST ESTIMATION

	Travel costs					
		DATA Team		IT Team		
Activity ID	Project Manager	Senior	Junior	Senior	Junior	Total Budget travel
PHASE 1	€ 440,00					€ 440,00
1.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
1.1.1	€ -	€ -	€ -	€ -	€ -	€ -
1.1.2	€ -	€ -	€ -	€ -	€ -	€ -
1.1.3	€ -	€ -	€ -	€ -	€ -	€ -
1.1.4	€ -	€ -	€ -	€ -	€ -	€ -
Total	€ 680,00	€ -	€ -	€ -	€ -	€ 680,00
PHASE 2	€ 440,00					€ 440,00
2.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
2.1.1	€ -	€ -	€ -	€ -	€ -	€ -
2.1.2	€ -	€ -	€ -	€ -	€ -	€ -
2.1.3	€ -	€ -	€ -	€ -	€ -	€ -
2.1.4	€ -	€ -	€ -	€ -	€ -	€ -
1.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
1.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
1.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
1.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
Total	€ 920,00	€ 1.800,00	€ 2.980,00	€ -	€ -	€ 5.700,00

PHASE 3	€ 440,00					€ 440,00
3.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
3.1.1	€ -	€ -	€ -	€ -	€ -	€ -
3.1.2	€ -	€ -	€ -	€ -	€ -	€ -
3.1.3	€ -	€ -	€ -	€ -	€ -	€ -
3.1.4	€ -	€ -	€ -	€ -	€ -	€ -
1.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
1.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
1.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
1.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 920,00	€ -	€ -	€ 1.950,00	€ 3.260,00	€ 6.130,00
PHASE 4	€ 440,00					€ 440,00
4.1	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
4.1.1	€ -	€ -	€ -	€ -	€ -	€ -
4.1.2	€ -	€ -	€ -	€ -	€ -	€ -
4.1.3	€ -	€ -	€ -	€ -	€ -	€ -
4.1.4	€ -	€ -	€ -	€ -	€ -	€ -
4.2	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
4.2.1	€ -	€ -	€ -	€ -	€ -	€ -
4.2.2	€ -	€ -	€ -	€ -	€ -	€ -
4.2.3	€ -	€ -	€ -	€ -	€ -	€ -
4.2.4	€ -	€ -	€ -	€ -	€ -	€ -
3.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
3.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
3.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
3.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00

2.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
2.2.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
2.2.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
2.2.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 1.160,00	€ 1.800,00	€ 2.980,00	€ 1.950,00	€ 3.260,00	€ 11.150,00
PHASE 5	€ 440,00					€ 440,00
5.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
5.1.1	€ -	€ -	€ -	€ -	€ -	€ -
5.1.2	€ -	€ -	€ -	€ -	€ -	€ -
5.1.3	€ -	€ -	€ -	€ -	€ -	€ -
5.1.4	€ -	€ -	€ -	€ -	€ -	€ -
3.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
3.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
3.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
3.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 920,00	€ -	€ -	€ 1.950,00	€ 3.260,00	€ 6.130,00
PHASE 6	€ 440,00					€ 440,00
6.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
6.1.1	€ -	€ -	€ -	€ -	€ -	€ -
6.1.2	€ -	€ -	€ -	€ -	€ -	€ -
6.1.3	€ -	€ -	€ -	€ -	€ -	€ -
5.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
5.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
5.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
5.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
4.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00

4.3.1	€ -	€ -	€ -	€ 950,00	€ 1.180,00	€ 2.130,00
4.3.2	€ -	€ -	€ -	€ 950,00	€ 1.180,00	€ 2.130,00
Total	€ 1.160,00	€ 1.800,00	€ 2.980,00	€ 1.900,00	€ 2.360,00	€ 10.200,00
PHASE 7	€ 440,00					€ 440,00
7.1	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
7.1.1	€ -	€ -	€ -	€ -	€ -	€ -
7.1.2	€ -	€ -	€ -	€ -	€ -	€ -
7.1.3	€ -	€ -	€ -	€ -	€ -	€ -
7.1.4	€ -	€ -	€ -	€ -	€ -	€ -
7.2	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
7.2.1	€ -	€ -	€ -	€ -	€ -	€ -
7.2.2	€ -	€ -	€ -	€ -	€ -	€ -
7.2.3	€ -	€ -	€ -	€ -	€ -	€ -
7.2.4	€ -	€ -	€ -	€ -	€ -	€ -
5.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
5.3.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
5.3.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
5.3.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
Total	€ 920,00	€ 1.800,00	€ 2.980,00	€ -	€ -	€ 5.700,00
PHASE 8	€ 440,00					€ 440,00
8.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
8.1.1	€ -	€ -	€ -	€ -	€ -	€ -
8.1.2	€ -	€ -	€ -	€ -	€ -	€ -
8.1.3	€ -	€ -	€ -	€ -	€ -	€ -
8.1.4	€ -	€ -	€ -	€ -	€ -	€ -
6.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00

6.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
6.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
6.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
5.4	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
5.4.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
5.4.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
5.4.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 1.160,00	€ 1.800,00	€ 2.980,00	€ 1.950,00	€ 3.260,00	€ 11.150,00
PHASE 9	€ 440,00					€ 440,00
9.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
9.1.1	€ -	€ -	€ -	€ -	€ -	€ -
9.1.2	€ -	€ -	€ -	€ -	€ -	€ -
9.1.3	€ -	€ -	€ -	€ -	€ -	€ -
9.1.4	€ -	€ -	€ -	€ -	€ -	€ -
8.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
8.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
8.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
8.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
6.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
6.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
6.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
6.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 1.160,00	€ 1.800,00	€ 2.980,00	€ 1.950,00	€ 3.260,00	€ 11.150,00
PHASE 10	€ 440,00					€ 440,00
10.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
10.1.1	€ -	€ -	€ -	€ -	€ -	€ -

10.1.2	€ -	€ -	€ -	€ -	€ -	€ -
10.1.3	€ -	€ -	€ -	€ -	€ -	€ -
9.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
9.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
9.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
9.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
7.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
7.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
7.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
7.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 720,00	€ 1.800,00	€ 2.980,00	€ 1.950,00	€ 3.260,00	€ 10.710,00
PHASE 11	€ 440,00					€ 440,00
11.1	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
11.1.1	€ -	€ -	€ -	€ -	€ -	€ -
11.1.2	€ -	€ -	€ -	€ -	€ -	€ -
11.1.3	€ -	€ -	€ -	€ -	€ -	€ -
11.1.4	€ -	€ -	€ -	€ -	€ -	€ -
11.2	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
11.2.1	€ -	€ -	€ -	€ -	€ -	€ -
11.2.2	€ -	€ -	€ -	€ -	€ -	€ -
11.2.3	€ -	€ -	€ -	€ -	€ -	€ -
11.2.4	€ -	€ -	€ -	€ -	€ -	€ -
10.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
10.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
10.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
10.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
8.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00

8.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
8.3.1	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
8.3.1	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 720,00	€ 1.800,00	€ 2.980,00	€ 1.950,00	€ 3.260,00	€ 10.710,00
PHASE 12	€ 440,00					€ 440,00
9.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
9.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
9.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
9.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 680,00	€ -	€ -	€ 1.950,00	€ 3.260,00	€ 5.890,00
PHASE 13	€ 440,00					€ 440,00
10.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
10.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
10.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
10.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 680,00	€ -	€ -	€ 1.950,00	€ 3.260,00	€ 5.890,00
PHASE 14	€ 440,00					€ 440,00
11.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
11.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
11.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
11.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 680,00	€ -	€ -	€ 1.950,00	€ 3.260,00	€ 5.890,00
TOTAL	€ 12.480,00	€ 14.400,00	€ 23.840,00	€ 21.400,00	€ 34.960,00	€ 107.080,00

TABLE 4 – SOFTWARE COST ESTIMATION

	Software costs					
	DEV Team		DATA team		IT team	
Activity ID	Development Software	Cloud Services	Software Data	Cloud Servicies	Cloud Servicies	Total cost Team
PHASE 1						€ -
1.1	€ -	€ -	€ -	€ -	€ -	€ -
1.1.1	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
1.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
1.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
1.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
Total	€ 6.480,00	€ 25.920,00	€ -	€ -	€ -	€ 32.400,00
PHASE 2	€ -					€ -
2.1	€ -	€ -	€ -	€ -	€ -	€ -
2.1.1	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
2.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
2.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
2.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
1.2	€ -	€ -	€ -	€ -	€ -	€ -
1.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
1.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
1.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
Total	€ 6.480,00	€ 25.920,00	€ 4.160,00	€ 7.200,00	€ -	€ 43.760,00

PHASE 3	€ -					€ -
3.1	€ -	€ -	€ -	€ -	€ -	€ -
3.1.1	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
3.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
3.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
3.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
1.3	€ -	€ -	€ -	€ -	€ -	€ -
1.3.1	€ -	€ -	€ -	€ -	€ -	€ -
1.3.2	€ -	€ -	€ -	€ -	€ -	€ -
1.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 6.480,00	€ 25.920,00	€ -	€ -	€ 5.760,00	€ 38.160,00
PHASE 4	€ -					€ -
4.1	€ -	€ -	€ -	€ -	€ -	€ -
4.1.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
4.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
4.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
4.1.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
4.2	€ -	€ -	€ -	€ -	€ -	€ -
4.2.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
4.2.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
4.2.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
4.2.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
3.2	€ -	€ -	€ -	€ -	€ -	€ -
3.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
3.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
3.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
2.2	€ -	€ -	€ -	€ -	€ -	€ -

2.2.1	€ -	€ -	€ -	€ -	€ -	€ -
2.2.2	€ -	€ -	€ -	€ -	€ -	€ -
2.2.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 13.920,00	€ 55.680,00	€ 4.160,00	€ 7.200,00	€ 5.760,00	€ 86.720,00
PHASE 5	€ -					€ -
5.1	€ -	€ -	€ -	€ -	€ -	€ -
5.1.1	€ 1.920,00	€ 7.680,00	€ -	€ -	€ -	€ 9.600,00
5.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
5.1.3	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
5.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
3.3	€ -	€ -	€ -	€ -	€ -	€ -
3.3.1	€ -	€ -	€ -	€ -	€ -	€ -
3.3.2	€ -	€ -	€ -	€ -	€ -	€ -
3.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 7.680,00	€ 30.720,00	€ -	€ -	€ 5.760,00	€ 44.160,00
PHASE 6	€ -					€ -
6.1	€ -	€ -	€ -	€ -	€ -	€ -
6.1.1	€ 1.920,00	€ 7.680,00	€ -	€ -	€ -	€ 9.600,00
6.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
6.1.3	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
5.2	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
5.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
5.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
5.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
4.3	€ -	€ -	€ -	€ -	€ -	€ -
4.3.1	€ -	€ -	€ -	€ -	€ -	€ -

4.3.2	€ -	€ -	€ -	€ -	€ -	€ -
Total	€ 7.680,00	€ 30.720,00	€ 4.160,00	€ 7.200,00	€ -	€ 49.760,00
PHASE 7	€ -					€ -
7.1	€ -	€ -	€ -	€ -	€ -	€ -
7.1.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
7.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
7.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
7.1.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
7.2	€ -	€ -	€ -	€ -	€ -	€ -
7.2.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
7.2.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
7.2.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
7.2.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
5.3	€ -	€ -	€ -	€ -	€ -	€ -
5.3.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
5.3.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
5.3.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
Total	€ 13.920,00	€ 55.680,00	€ 4.160,00	€ 7.200,00	€ -	€ 80.960,00
PHASE 8	€ -					€ -
8.1	€ -	€ -	€ -	€ -	€ -	€ -
8.1.1	€ 1.920,00	€ 7.680,00	€ -	€ -	€ -	€ 9.600,00
8.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
8.1.3	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
8.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
6.2	€ -	€ -	€ -	€ -	€ -	€ -
6.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00

6.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
6.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
5.4	€ -	€ -	€ -	€ -	€ -	€ -
5.4.1	€ -	€ -	€ -	€ -	€ -	€ -
5.4.2	€ -	€ -	€ -	€ -	€ -	€ -
5.4.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 7.680,00	€ 30.720,00	€ 4.160,00	€ 7.200,00	€ 5.760,00	€ 55.520,00
PHASE 9	€ -					€ -
9.1	€ -	€ -	€ -	€ -	€ -	€ -
9.1.1	€ 1.920,00	€ 7.680,00	€ -	€ -	€ -	€ 9.600,00
9.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
9.1.3	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
9.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
8.2	€ -	€ -	€ -	€ -	€ -	€ -
8.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
8.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
8.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
6.3	€ -	€ -	€ -	€ -	€ -	€ -
6.3.1	€ -	€ -	€ -	€ -	€ -	€ -
6.3.2	€ -	€ -	€ -	€ -	€ -	€ -
6.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 7.680,00	€ 30.720,00	€ 4.160,00	€ 7.200,00	€ 5.760,00	€ 55.520,00
PHASE 10	€ -					€ -
10.1	€ -	€ -	€ -	€ -	€ -	€ -
10.1.1	€ 1.920,00	€ 7.680,00	€ -	€ -	€ -	€ 9.600,00
10.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00

10.1.3	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
9.2	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
9.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
9.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
9.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
7.3	€ -	€ -	€ -	€ -	€ -	€ -
7.3.1	€ -	€ -	€ -	€ -	€ -	€ -
7.3.2	€ -	€ -	€ -	€ -	€ -	€ -
7.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 7.680,00	€ 30.720,00	€ 4.160,00	€ 7.200,00	€ 5.760,00	€ 55.520,00
PHASE 11	€ -					€ -
11.1	€ -	€ -	€ -	€ -	€ -	€ -
11.1.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
11.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
11.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
11.1.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
11.2	€ -	€ -	€ -	€ -	€ -	€ -
11.2.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
11.2.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
11.2.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
11.2.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
10.2	€ -	€ -	€ -	€ -	€ -	€ -
10.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
10.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
10.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
8.3	€ -	€ -	€ -	€ -	€ -	€ -
8.3.1	€ -	€ -	€ -	€ -	€ -	€ -

8.3.1	€ -	€ -	€ -	€ -	€ -	€ -
8.3.1	€ -	€ -	€ -	€ -	€ -	€ -
Total	€ 13.920,00	€ 55.680,00	€ 4.160,00	€ 7.200,00	€ -	€ 80.960,00
PHASE 12	€ -					€ -
9.3	€ -	€ -	€ -	€ -	€ -	€ -
9.3.1	€ -	€ -	€ -	€ -	€ -	€ -
9.3.2	€ -	€ -	€ -	€ -	€ -	€ -
9.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
PHASE 13	€ -					€ -
10.3	€ -	€ -	€ -	€ -	€ -	€ -
10.3.1	€ -	€ -	€ -	€ -	€ -	€ -
10.3.2	€ -	€ -	€ -	€ -	€ -	€ -
10.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
PHASE 14	€ -					€ -
11.3	€ -	€ -	€ -	€ -	€ -	€ -
11.3.1	€ -	€ -	€ -	€ -	€ -	€ -
11.3.2	€ -	€ -	€ -	€ -	€ -	€ -
11.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
TOTAL	€ 99.600,00	€ 398.400,00	€ 33.280,00	€ 57.600,00	€ 51.840,00	€ 640.720,00

TABLE 5 - ACTUAL EFFORT

		DEV Team			DATA team		IT team		
Activity ID	Project Manager	Senior	Backend	Frontend	Senior	Junior	Senior	Junior	Effort
PHASE 1	16								16
1.1	16						0	0	16
1.1.1		24	8	0	0	0	0	0	32
1.1.2		8	104	0	0	0	0	0	112
1.1.3		24	8	0	0	0	0	0	32
1.1.4		16	24	0	0	0	0	0	40
Total	32	72	144	0	0	0	0	0	248
PHASE 2	16								16
2.1	16								16
2.1.1		24	8	0	0	0	0	0	32
2.1.2		8	104	0	0	0	0	0	112
2.1.3		24	8	0	0	0	0	0	32
2.1.4		16	24	0	0	0	0	0	40
1.2	16								16
1.2.1		0	0	0	24	8	0	0	32
1.2.2		0	0	0	24	8	0	0	32
1.2.3		0	0	0	24	120	0	0	144
Total	48	72	144	0	72	136	0	0	472
PHASE 3	16								16
3.1	16								16
3.1.1		24	8	0	0	0	0	0	32

3.1.2		8	104	0	0	0	0	0	112
3.1.3		24	8	0	0	0	0	0	32
3.1.4		16	24	0	0	0	0	0	40
1.3	16								16
1.3.1		0	0	0	0	0	24	56	80
1.3.2		0	0	0	0	0	24	48	72
1.3.3		0	0	0	0	0	24	48	72
Total	48	72	144	0	0	0	72	152	488
PHASE 4	16								16
4.1	8				0		0		8
4.1.1		32	8						40
4.1.2		8	104						112
4.1.3		16	16						32
4.1.4		24	24						48
4.2	8				0		0		8
4.2.1		32		8					40
4.2.2		8		104					112
4.2.3		16		16					32
4.2.4		24		24					48
3.2	16	0					0		16
3.2.1					24	8			32
3.2.2					24	8			32
3.2.3					24	120			144
2.2	16	0			0				16
2.2.1							24	56	80
2.2.2							24	48	72
2.2.3							24	48	72

Total	64	160	152	152	72	136	72	152	960
PHASE 5	16								16
5.1	16				0		0		16
5.1.1		56	8						64
5.1.2		8	104						112
5.1.3		24	16						40
5.1.4		16	24						40
3.3	16	0			0				16
3.3.1							24	56	80
3.3.2							24	48	72
3.3.3							24	48	72
Total	48	104	152	0	0	0	72	152	528
PHASE 6	16								16
6.1	16				0		0		16
6.1.1		56	8						64
6.1.2		8	104						112
6.1.3		24	16						40
5.2	16	16	24				0		56
5.2.1					24	8			32
5.2.2					24	8			32
5.2.3					24	120			144
4.3	16	0			0				16
4.3.1							80	112	192
4.3.2							0	0	0
Total	64	104	152	0	72	136	80	112	720

PHASE 7	16								16
7.1	8				0		0		8
7.1.1		32	8						40
7.1.2		8	104						112
7.1.3		16	16						32
7.1.4		24	24						48
7.2	8				0		0		8
7.2.1		32		8					40
7.2.2		8		104					112
7.2.3		16		16					32
7.2.4		24		24					48
4.3	16	0			0				16
4.3.1							16	8	24
4.3.2							40	56	96
5.3	16	0					0		16
5.3.1					24	8			32
5.3.2					24	8			32
5.3.3					24	120			144
Total	64	160	152	152	72	136	56	64	856
	Milestone 1								
PHASE 8	16								16
8.1	16				0		0		16
8.1.1		56	8						64
8.1.2		8	104						112
8.1.3		24	16						40
8.1.4		16	24						40
6.2	16	0					0		16
6.2.1					24	8			32

6.2.2					24	8			32
6.2.3					24	120			144
5.4	16	0			0				16
5.4.1							24	56	80
5.4.2							24	48	72
5.4.3							24	48	72
Total	64	104	152	0	72	136	72	152	752
PHASE 9	16								16
9.1	16				0		0		16
9.1.1		56	8						64
9.1.2		8	104						112
9.1.3		24	16						40
9.1.4		16	24						40
8.2	16	0					0		16
8.2.1					24	8			32
8.2.2					24	8			32
8.2.3					24	120			144
6.3	16	0			0				16
6.3.1							24	56	80
6.3.2							24	48	72
6.3.3							24	48	72
Total	64	104	152	0	72	136	72	152	752
PHASE 10	16								16
10.1	16				0		0		16
10.1.1		56	8						64
10.1.2		8	104						112

10.1.3		24	16						40
9.2	16	16	24				0		56
9.2.1					24	8			32
9.2.2					24	8			32
9.2.3					24	120			144
7.3	16	0			0				16
7.3.1							24	56	80
7.3.2							24	48	72
7.3.3							24	48	72
Total	48	104	152	0	72	136	72	152	752
	Milestone 2								
PHASE 11	16								16
11.1	8				0		0		8
11.1.1		32	8						40
11.1.2		8	104						112
11.1.3		16	16						32
11.1.4		24	24						48
11.2	8				0		0		8
11.2.1		32		40					72
11.2.2		8		112					120
11.2.3		16		0					16
11.2.4		24		0					24
10.2	16			0			0		16
10.2.1					24	8			32
10.2.2					24	8			32
10.2.3					24	120			144
8.3	16	0			0				16
8.3.1							24	56	80

8.3.1							24	48	72
8.3.1							24	48	72
Total	48	160	152	152	72	136	72	152	944
PHASE 12	16								16
11.2	8								8
11.2.1				0					0
11.2.2				8					8
11.2.3				48					48
11.2.4				56					56
9.3	16	0			0				16
9.3.1							24	56	80
9.3.2							24	48	72
9.3.3							24	48	72
Total	40	0	0	112	0	0	72	152	376
PHASE 13	16								16
10.3	16	0			0				16
10.3.1							24	56	80
10.3.2							24	48	72
10.3.3							24	48	72
Total	32	0	0	0	0	0	72	152	256
PHASE 14	16								16
11.3	16	0			0				16
11.3.1							24	56	80
11.3.2							24	48	72
11.3.3							24	48	72

Total	32	0	0	0	0	0	72	152	256
Milestone 3									
Total (hours)	696	1216	1648	568	576	1088	856	1696	8344
Total (days)	87	152	206	71	72	136	107	212	1043

TABLE 6 - ACTUAL TEAM COST

	Team Cost								
		DEV Team			DATA team		IT team		
Activity ID	Project Manager	Senior	Backend	Frontend	Senior	Junior	Senior	Junior	Total cost Team
PHASE 1	€ 400,00								€ 400,00
1.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
1.1.1	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
1.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
1.1.3	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
1.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
Total	€ 800,00	€ 4.320,00	€ 8.640,00	€ -	€ -	€ -	€ -	€ -	€ 13.760,00
PHASE 2	€ 400,00								€ 400,00
2.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
2.1.1	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
2.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
2.1.3	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
2.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
1.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
1.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
1.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
1.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
Total	€ 1.200,00	€ 4.320,00	€ 8.640,00	€ -	€ 4.140,00	€ 5.780,00	€ -	€ -	€ 24.080,00
PHASE 3	€ 400,00								€ 400,00
3.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
3.1.1	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00

3.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
3.1.3	€ -	€ 1.440,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
3.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
1.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
1.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
1.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
1.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.200,00	€ 4.320,00	€ 8.640,00	€ -	€ -	€ -	€ 4.320,00	€ 6.840,00	€ 25.320,00
PHASE 4	€ 400,00								€ 400,00
4.1	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
4.1.1	€ -	€ 1.920,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
4.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
4.1.3	€ -	€ 960,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
4.1.4	€ -	€ 1.440,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.880,00
4.2	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
4.2.1	€ -	€ 1.920,00	€ -	€ 200,00	€ -	€ -	€ -	€ -	€ 2.120,00
4.2.2	€ -	€ 480,00	€ -	€ 2.600,00	€ -	€ -	€ -	€ -	€ 3.080,00
4.2.3	€ -	€ 960,00	€ -	€ 400,00	€ -	€ -	€ -	€ -	€ 1.360,00
4.2.4	€ -	€ 1.440,00	€ -	€ 600,00	€ -	€ -	€ -	€ -	€ 2.040,00
3.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
3.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
3.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
3.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
2.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
2.2.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
2.2.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
2.2.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00

Total	€ 1.600,00	€ 9.600,00	€ 9.120,00	€ 3.800,00	€ 4.140,00	€ 5.780,00	€ 4.320,00	€ 6.840,00	€ 45.200,00
PHASE 5	€ 400,00								€ 400,00
5.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
5.1.1	€ -	€ 3.360,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 3.840,00
5.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
5.1.3	€ -	€ 1.440,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
5.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
3.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
3.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
3.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
3.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.200,00	€ 6.240,00	€ 9.120,00	€ -	€ -	€ -	€ 4.320,00	€ 6.840,00	€ 27.720,00
PHASE 6	€ 400,00								€ 400,00
6.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
6.1.1	€ -	€ 3.360,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 3.840,00
6.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
6.1.3	€ -	€ 1.440,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
5.2	€ 400,00	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.800,00
5.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
5.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
5.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
4.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
4.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 2.400,00	€ 2.520,00	€ 4.920,00
4.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 2.400,00	€ 2.520,00	€ 4.920,00
Total	€ 1.600,00	€ 6.240,00	€ 9.120,00	€ -	€ 4.140,00	€ 5.780,00	€ 4.800,00	€ 5.040,00	€ 36.720,00

PHASE 7	€ 400,00								€ 400,00
7.1	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
7.1.1	€ -	€ 1.920,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
7.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
7.1.3	€ -	€ 960,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
7.1.4	€ -	€ 1.440,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.880,00
7.2	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
7.2.1	€ -	€ 1.920,00	€ -	€ 200,00	€ -	€ -	€ -	€ -	€ 2.120,00
7.2.2	€ -	€ 480,00	€ -	€ 2.600,00	€ -	€ -	€ -	€ -	€ 3.080,00
7.2.3	€ -	€ 960,00	€ -	€ 400,00	€ -	€ -	€ -	€ -	€ 1.360,00
7.2.4	€ -	€ 1.440,00	€ -	€ 600,00	€ -	€ -	€ -	€ -	€ 2.040,00
4.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
4.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 960,00	€ 360,00	€ 1.320,00
4.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 2.400,00	€ 2.520,00	€ 4.920,00
5.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
5.3.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
5.3.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
5.3.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
Total	€ 1.600,00	€ 9.600,00	€ 9.120,00	€ 3.800,00	€ 4.140,00	€ 5.780,00	€ 3.360,00	€ 2.880,00	€ 40.280,00
PHASE 8	€ 400,00								€ 400,00
8.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
8.1.1	€ -	€ 3.360,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 3.840,00
8.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
8.1.3	€ -	€ 1.440,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
8.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
6.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
6.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00

6.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
6.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
5.4	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
5.4.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
5.4.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
5.4.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.600,00	€ 6.240,00	€ 9.120,00	€ -	€ 4.140,00	€ 5.780,00	€ 4.320,00	€ 6.840,00	€ 38.040,00
PHASE 9	€ 400,00								€ 400,00
9.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
9.1.1	€ -	€ 3.360,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 3.840,00
9.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
9.1.3	€ -	€ 1.440,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
9.1.4	€ -	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
8.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
8.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
8.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
8.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
6.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
6.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
6.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
6.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.600,00	€ 6.240,00	€ 9.120,00	€ -	€ 4.140,00	€ 5.780,00	€ 4.320,00	€ 6.840,00	€ 38.040,00
PHASE 10	€ 400,00								€ 400,00
10.1	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
10.1.1	€ -	€ 3.360,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 3.840,00
10.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00

10.1.3	€ -	€ 1.440,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
9.2	€ 400,00	€ 960,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.800,00
9.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
9.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
9.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
7.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
7.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
7.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
7.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.200,00	€ 6.240,00	€ 9.120,00	€ -	€ 4.140,00	€ 5.780,00	€ 4.320,00	€ 6.840,00	€ 37.640,00
PHASE 11	€ 400,00								€ 400,00
11.1	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
11.1.1	€ -	€ 1.920,00	€ 480,00	€ -	€ -	€ -	€ -	€ -	€ 2.400,00
11.1.2	€ -	€ 480,00	€ 6.240,00	€ -	€ -	€ -	€ -	€ -	€ 6.720,00
11.1.3	€ -	€ 960,00	€ 960,00	€ -	€ -	€ -	€ -	€ -	€ 1.920,00
11.1.4	€ -	€ 1.440,00	€ 1.440,00	€ -	€ -	€ -	€ -	€ -	€ 2.880,00
11.2	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
11.2.1	€ -	€ 1.920,00	€ -	€ 200,00	€ -	€ -	€ -	€ -	€ 2.120,00
11.2.2	€ -	€ 480,00	€ -	€ 2.600,00	€ -	€ -	€ -	€ -	€ 3.080,00
11.2.3	€ -	€ 960,00	€ -	€ 400,00	€ -	€ -	€ -	€ -	€ 1.360,00
11.2.4	€ -	€ 1.440,00	€ -	€ 600,00	€ -	€ -	€ -	€ -	€ 2.040,00
10.2	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
10.2.1	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
10.2.2	€ -	€ -	€ -	€ -	€ 1.380,00	€ 340,00	€ -	€ -	€ 1.720,00
10.2.3	€ -	€ -	€ -	€ -	€ 1.380,00	€ 5.100,00	€ -	€ -	€ 6.480,00
8.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
8.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00

8.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
8.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.600,00	€ 9.600,00	€ 9.120,00	€ 3.800,00	€ 4.140,00	€ 5.780,00	€ 4.320,00	€ 6.840,00	€ 45.200,00
PHASE 12	€ 400,00								€ 400,00
11.2	€ 200,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 200,00
11.2.1	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -
11.2.2	€ -	€ -	€ -	€ 200,00	€ -	€ -	€ -	€ -	€ 200,00
11.2.3	€ -	€ -	€ -	€ 1.200,00	€ -	€ -	€ -	€ -	€ 1.200,00
11.2.4	€ -	€ -	€ -	€ 1.400,00	€ -	€ -	€ -	€ -	€ 1.400,00
9.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
9.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
9.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
9.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 1.000,00	€ -	€ -	€ 2.800,00	€ -	€ -	€ 4.320,00	€ 6.840,00	€ 14.960,00
PHASE 13	€ 400,00								€ 400,00
10.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
10.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
10.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
10.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
Total	€ 800,00	€ -	€ -	€ -	€ -	€ -	€ 4.320,00	€ 6.840,00	€ 11.960,00
PHASE 14	€ 400,00								€ 400,00
11.3	€ 400,00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 400,00
11.3.1	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.520,00	€ 3.960,00
11.3.2	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00
11.3.3	€ -	€ -	€ -	€ -	€ -	€ -	€ 1.440,00	€ 2.160,00	€ 3.600,00

Total	€ 800,00	€ -	€ -	€ -	€ -	€ -	€ 4.320,00	€ 6.840,00	€ 11.960,00
TOTAL	€ 17.800,00	€ 72.960,00	€ 98.880,00	€ 14.200,00	€ 33.120,00	€ 46.240,00	€ 51.360,00	€ 76.320,00	€ 410.880,00

TABLE 7 - ACTUAL TRAVEL COST

	Travel costs					
		DATA Team		IT Team		
Activity ID	Project Manager	Senior	Junior	Senior	Junior	Total Budget travel
PHASE 1	€ 440,00					€ 440,00
1.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
1.1.1	€ -	€ -	€ -	€ -	€ -	€ -
1.1.2	€ -	€ -	€ -	€ -	€ -	€ -
1.1.3	€ -	€ -	€ -	€ -	€ -	€ -
1.1.4	€ -	€ -	€ -	€ -	€ -	€ -
Total	€ 680,00	€ -	€ -	€ -	€ -	€ 680,00
PHASE 2	€ 440,00					€ 440,00
2.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
2.1.1	€ -	€ -	€ -	€ -	€ -	€ -
2.1.2	€ -	€ -	€ -	€ -	€ -	€ -
2.1.3	€ -	€ -	€ -	€ -	€ -	€ -
2.1.4	€ -	€ -	€ -	€ -	€ -	€ -
1.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
1.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
1.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
1.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00

Total	€ 920,00	€ 1.800,00	€ 2.980,00	€ -	€ -	€ 5.700,00
PHASE 3	€ 440,00					€ 440,00
3.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
3.1.1	€ -	€ -	€ -	€ -	€ -	€ -
3.1.2	€ -	€ -	€ -	€ -	€ -	€ -
3.1.3	€ -	€ -	€ -	€ -	€ -	€ -
3.1.4	€ -	€ -	€ -	€ -	€ -	€ -
1.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
1.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
1.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
1.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 920,00	€ -	€ -	€ 1.950,00	€ 3.260,00	€ 6.130,00
PHASE 4	€ 440,00					€ 440,00
4.1	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
4.1.1	€ -	€ -	€ -	€ -	€ -	€ -
4.1.2	€ -	€ -	€ -	€ -	€ -	€ -
4.1.3	€ -	€ -	€ -	€ -	€ -	€ -
4.1.4	€ -	€ -	€ -	€ -	€ -	€ -
4.2	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
4.2.1	€ -	€ -	€ -	€ -	€ -	€ -
4.2.2	€ -	€ -	€ -	€ -	€ -	€ -
4.2.3	€ -	€ -	€ -	€ -	€ -	€ -
4.2.4	€ -	€ -	€ -	€ -	€ -	€ -
3.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
3.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
3.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00

3.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
2.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
2.2.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
2.2.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
2.2.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 1.160,00	€ 1.800,00	€ 2.980,00	€ 1.950,00	€ 3.260,00	€ 11.150,00
PHASE 5	€ 440,00					€ 440,00
5.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
5.1.1	€ -	€ -	€ -	€ -	€ -	€ -
5.1.2	€ -	€ -	€ -	€ -	€ -	€ -
5.1.3	€ -	€ -	€ -	€ -	€ -	€ -
5.1.4	€ -	€ -	€ -	€ -	€ -	€ -
3.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
3.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
3.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
3.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 920,00	€ -	€ -	€ 1.950,00	€ 3.260,00	€ 6.130,00
PHASE 6	€ 440,00					€ 440,00
6.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
6.1.1	€ -	€ -	€ -	€ -	€ -	€ -
6.1.2	€ -	€ -	€ -	€ -	€ -	€ -
6.1.3	€ -	€ -	€ -	€ -	€ -	€ -
5.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
5.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
5.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
5.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00

4.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
4.3.1	€ -	€ -	€ -	€ 950,00	€ 1.180,00	€ 2.130,00
4.3.2	€ -	€ -	€ -	€ 950,00	€ 1.180,00	€ 2.130,00
Total	€ 1.160,00	€ 1.800,00	€ 2.980,00	€ 1.900,00	€ 2.360,00	€ 10.200,00
PHASE 7	€ 440,00					€ 440,00
7.1	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
7.1.1	€ -	€ -	€ -	€ -	€ -	€ -
7.1.2	€ -	€ -	€ -	€ -	€ -	€ -
7.1.3	€ -	€ -	€ -	€ -	€ -	€ -
7.1.4	€ -	€ -	€ -	€ -	€ -	€ -
7.2	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
7.2.1	€ -	€ -	€ -	€ -	€ -	€ -
7.2.2	€ -	€ -	€ -	€ -	€ -	€ -
7.2.3	€ -	€ -	€ -	€ -	€ -	€ -
7.2.4	€ -	€ -	€ -	€ -	€ -	€ -
4.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
4.3.1	€ -	€ -	€ -	€ 500,00	€ 340,00	€ 840,00
4.3.2	€ -	€ -	€ -	€ 950,00	€ 1.180,00	€ 2.130,00
5.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
5.3.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
5.3.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
5.3.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
Total	€ 1.160,00	€ 1.800,00	€ 2.980,00	€ 1.450,00	€ 1.520,00	€ 8.910,00
PHASE 8	€ 440,00					€ 440,00
8.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
8.1.1	€ -	€ -	€ -	€ -	€ -	€ -

8.1.2	€ -	€ -	€ -	€ -	€ -	€ -
8.1.3	€ -	€ -	€ -	€ -	€ -	€ -
8.1.4	€ -	€ -	€ -	€ -	€ -	€ -
6.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
6.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
6.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
6.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
5.4	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
5.4.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
5.4.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
5.4.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 1.160,00	€ 1.800,00	€ 2.980,00	€ 1.950,00	€ 3.260,00	€ 11.150,00
PHASE 9	€ 440,00					€ 440,00
9.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
9.1.1	€ -	€ -	€ -	€ -	€ -	€ -
9.1.2	€ -	€ -	€ -	€ -	€ -	€ -
9.1.3	€ -	€ -	€ -	€ -	€ -	€ -
9.1.4	€ -	€ -	€ -	€ -	€ -	€ -
8.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
8.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
8.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
8.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
6.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
6.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
6.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
6.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 1.160,00	€ 1.800,00	€ 2.980,00	€ 1.950,00	€ 3.260,00	€ 11.150,00

PHASE 10	€ 440,00					€ 440,00
10.1	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
10.1.1	€ -	€ -	€ -	€ -	€ -	€ -
10.1.2	€ -	€ -	€ -	€ -	€ -	€ -
10.1.3	€ -	€ -	€ -	€ -	€ -	€ -
9.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
9.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
9.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
9.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
7.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
7.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
7.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
7.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 720,00	€ 1.800,00	€ 2.980,00	€ 1.950,00	€ 3.260,00	€ 10.710,00
PHASE 11	€ 440,00					€ 440,00
11.1	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
11.1.1	€ -	€ -	€ -	€ -	€ -	€ -
11.1.2	€ -	€ -	€ -	€ -	€ -	€ -
11.1.3	€ -	€ -	€ -	€ -	€ -	€ -
11.1.4	€ -	€ -	€ -	€ -	€ -	€ -
11.2	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
11.2.1	€ -	€ -	€ -	€ -	€ -	€ -
11.2.2	€ -	€ -	€ -	€ -	€ -	€ -
11.2.3	€ -	€ -	€ -	€ -	€ -	€ -
11.2.4	€ -	€ -	€ -	€ -	€ -	€ -
10.2	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00

10.2.1	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
10.2.2	€ -	€ 600,00	€ 290,00	€ -	€ -	€ 890,00
10.2.3	€ -	€ 600,00	€ 2.400,00	€ -	€ -	€ 3.000,00
8.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
8.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
8.3.1	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
8.3.1	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 720,00	€ 1.800,00	€ 2.980,00	€ 1.950,00	€ 3.260,00	€ 10.710,00
PHASE 12	€ 440,00					€ 440,00
11.2	€ 120,00	€ -	€ -	€ -	€ -	€ 120,00
11.2.1	€ -	€ -	€ -	€ -	€ -	€ -
11.2.2	€ -	€ -	€ -	€ 150,00	€ -	€ 150,00
11.2.3	€ -	€ -	€ -	€ 900,00	€ -	€ 900,00
11.2.4	€ -	€ -	€ -	€ 1.050,00	€ -	€ 1.050,00
9.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
9.3.1	€ -	€ -	€ -	€ -	€ -	€ -
9.3.2	€ -	€ -	€ -	€ -	€ -	€ -
9.3.3	€ -	€ -	€ -	€ -	€ -	€ -
Total	€ 800,00	€ -	€ -	€ 2.100,00	€ -	€ 2.900,00
PHASE 13	€ 440,00					€ 440,00
10.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
10.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
10.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
10.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 680,00	€ -	€ -	€ 1.950,00	€ 3.260,00	€ 5.890,00

PHASE 14	€ 440,00					€ 440,00
11.3	€ 240,00	€ -	€ -	€ -	€ -	€ 240,00
11.3.1	€ -	€ -	€ -	€ 650,00	€ 1.180,00	€ 1.830,00
11.3.2	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
11.3.3	€ -	€ -	€ -	€ 650,00	€ 1.040,00	€ 1.690,00
Total	€ 680,00	€ -	€ -	€ 1.950,00	€ 3.260,00	€ 5.890,00
TOTAL	€ 12.840,00	€ 14.400,00	€ 23.840,00	€ 23.000,00	€ 33.220,00	€ 107.300,00

TABLE 8 - ACTUAL SOFTWARE COST

	Software costs					
	DEV Team		DATA team		IT team	
Activity ID	Development Software	Cloud Services	Software Data	Cloud Servicies	Cloud Servicies	Total cost Team
PHASE 1						€ -
1.1	€ -	€ -	€ -	€ -	€ -	€ -
1.1.1	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
1.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
1.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
1.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
Total	€ 6.480,00	€ 25.920,00	€ -	€ -	€ -	€ 32.400,00
PHASE 2	€ -					€ -
2.1	€ -	€ -	€ -	€ -	€ -	€ -

2.1.1	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
2.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
2.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
2.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
1.2	€ -	€ -	€ -	€ -	€ -	€ -
1.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
1.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
1.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
Total	€ 6.480,00	€ 25.920,00	€ 4.160,00	€ 7.200,00	€ -	€ 43.760,00
PHASE 3	€ -					€ -
3.1	€ -	€ -	€ -	€ -	€ -	€ -
3.1.1	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
3.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
3.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
3.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
1.3	€ -	€ -	€ -	€ -	€ -	€ -
1.3.1	€ -	€ -	€ -	€ -	€ -	€ -
1.3.2	€ -	€ -	€ -	€ -	€ -	€ -
1.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 6.480,00	€ 25.920,00	€ -	€ -	€ 5.760,00	€ 38.160,00
PHASE 4	€ -					€ -
4.1	€ -	€ -	€ -	€ -	€ -	€ -
4.1.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
4.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
4.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
4.1.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00

4.2	€ -	€ -	€ -	€ -	€ -	€ -
4.2.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
4.2.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
4.2.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
4.2.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
3.2	€ -	€ -	€ -	€ -	€ -	€ -
3.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
3.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
3.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
2.2	€ -	€ -	€ -	€ -	€ -	€ -
2.2.1	€ -	€ -	€ -	€ -	€ -	€ -
2.2.2	€ -	€ -	€ -	€ -	€ -	€ -
2.2.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 13.920,00	€ 55.680,00	€ 4.160,00	€ 7.200,00	€ 5.760,00	€ 86.720,00
PHASE 5	€ -					€ -
5.1	€ -	€ -	€ -	€ -	€ -	€ -
5.1.1	€ 1.920,00	€ 7.680,00	€ -	€ -	€ -	€ 9.600,00
5.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
5.1.3	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
5.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
3.3	€ -	€ -	€ -	€ -	€ -	€ -
3.3.1	€ -	€ -	€ -	€ -	€ -	€ -
3.3.2	€ -	€ -	€ -	€ -	€ -	€ -
3.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 7.680,00	€ 30.720,00	€ -	€ -	€ 5.760,00	€ 44.160,00
PHASE 6	€ -					€ -

6.1	€ -	€ -	€ -	€ -	€ -	€ -
6.1.1	€ 1.920,00	€ 7.680,00	€ -	€ -	€ -	€ 9.600,00
6.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
6.1.3	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
5.2	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
5.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
5.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
5.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
4.3	€ -	€ -	€ -	€ -	€ -	€ -
4.3.1	€ -	€ -	€ -	€ -	€ -	€ -
4.3.2	€ -	€ -	€ -	€ -	€ -	€ -
Total	€ 7.680,00	€ 30.720,00	€ 4.160,00	€ 7.200,00	€ -	€ 49.760,00
PHASE 7	€ -					€ -
7.1	€ -	€ -	€ -	€ -	€ -	€ -
7.1.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
7.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
7.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
7.1.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
7.2	€ -	€ -	€ -	€ -	€ -	€ -
7.2.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
7.2.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
7.2.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
7.2.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
4.3	€ -	€ -	€ -	€ -	€ -	€ -
4.3.1	€ -	€ -	€ -	€ -	€ -	€ -
4.3.2	€ -	€ -	€ -	€ -	€ -	€ -
5.3	€ -	€ -	€ -	€ -	€ -	€ -

5.3.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
5.3.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
5.3.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
Total	€ 13.920,00	€ 55.680,00	€ 4.160,00	€ 7.200,00	€ -	€ 80.960,00
PHASE 8	€ -					€ -
8.1	€ -	€ -	€ -	€ -	€ -	€ -
8.1.1	€ 1.920,00	€ 7.680,00	€ -	€ -	€ -	€ 9.600,00
8.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
8.1.3	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
8.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
6.2	€ -	€ -	€ -	€ -	€ -	€ -
6.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
6.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
6.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
5.4	€ -	€ -	€ -	€ -	€ -	€ -
5.4.1	€ -	€ -	€ -	€ -	€ -	€ -
5.4.2	€ -	€ -	€ -	€ -	€ -	€ -
5.4.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 7.680,00	€ 30.720,00	€ 4.160,00	€ 7.200,00	€ 5.760,00	€ 55.520,00
PHASE 9	€ -					€ -
9.1	€ -	€ -	€ -	€ -	€ -	€ -
9.1.1	€ 1.920,00	€ 7.680,00	€ -	€ -	€ -	€ 9.600,00
9.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
9.1.3	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
9.1.4	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
8.2	€ -	€ -	€ -	€ -	€ -	€ -

8.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
8.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
8.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
6.3	€ -	€ -	€ -	€ -	€ -	€ -
6.3.1	€ -	€ -	€ -	€ -	€ -	€ -
6.3.2	€ -	€ -	€ -	€ -	€ -	€ -
6.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 7.680,00	€ 30.720,00	€ 4.160,00	€ 7.200,00	€ 5.760,00	€ 55.520,00
PHASE 10	€ -					€ -
10.1	€ -	€ -	€ -	€ -	€ -	€ -
10.1.1	€ 1.920,00	€ 7.680,00	€ -	€ -	€ -	€ 9.600,00
10.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
10.1.3	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
9.2	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
9.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
9.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
9.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
7.3	€ -	€ -	€ -	€ -	€ -	€ -
7.3.1	€ -	€ -	€ -	€ -	€ -	€ -
7.3.2	€ -	€ -	€ -	€ -	€ -	€ -
7.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ 7.680,00	€ 30.720,00	€ 4.160,00	€ 7.200,00	€ 5.760,00	€ 55.520,00
PHASE 11	€ -					€ -
11.1	€ -	€ -	€ -	€ -	€ -	€ -
11.1.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
11.1.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00

11.1.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
11.1.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
11.2	€ -	€ -	€ -	€ -	€ -	€ -
11.2.1	€ 1.200,00	€ 4.800,00	€ -	€ -	€ -	€ 6.000,00
11.2.2	€ 3.360,00	€ 13.440,00	€ -	€ -	€ -	€ 16.800,00
11.2.3	€ 960,00	€ 3.840,00	€ -	€ -	€ -	€ 4.800,00
11.2.4	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
10.2	€ -	€ -	€ -	€ -	€ -	€ -
10.2.1	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
10.2.2	€ -	€ -	€ 640,00	€ -	€ -	€ 640,00
10.2.3	€ -	€ -	€ 2.880,00	€ 7.200,00	€ -	€ 10.080,00
8.3	€ -	€ -	€ -	€ -	€ -	€ -
8.3.1	€ -	€ -	€ -	€ -	€ -	€ -
8.3.1	€ -	€ -	€ -	€ -	€ -	€ -
8.3.1	€ -	€ -	€ -	€ -	€ -	€ -
Total	€ 13.920,00	€ 55.680,00	€ 4.160,00	€ 7.200,00	€ -	€ 80.960,00
PHASE 12	€ -					€ -
11.2	€ -	€ -	€ -	€ -	€ -	€ -
11.2.1	€ -	€ -	€ -	€ -	€ -	€ -
11.2.2	€ 240,00	€ 960,00	€ -	€ -	€ -	€ 1.200,00
11.2.3	€ 1.440,00	€ 5.760,00	€ -	€ -	€ -	€ 7.200,00
11.2.4	€ 1.680,00	€ 6.720,00	€ -	€ -	€ -	€ 8.400,00
9.3	€ -	€ -	€ -	€ -	€ -	€ -
9.3.1	€ -	€ -	€ -	€ -	€ -	€ -
9.3.2	€ -	€ -	€ -	€ -	€ -	€ -
9.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ -	€ 13.440,00	€ -	€ -	€ 5.760,00	€ 19.200,00

PHASE 13	€ -					€ -
10.3	€ -	€ -	€ -	€ -	€ -	€ -
10.3.1	€ -	€ -	€ -	€ -	€ -	€ -
10.3.2	€ -	€ -	€ -	€ -	€ -	€ -
10.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
PHASE 14	€ -					€ -
11.3	€ -	€ -	€ -	€ -	€ -	€ -
11.3.1	€ -	€ -	€ -	€ -	€ -	€ -
11.3.2	€ -	€ -	€ -	€ -	€ -	€ -
11.3.3	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
Total	€ -	€ -	€ -	€ -	€ 5.760,00	€ 5.760,00
TOTAL	€ 99.600,00	€ 411.840,00	€ 33.280,00	€ 57.600,00	€ 51.840,00	€ 654.160,00

APPENDIX 3 - RACI MATRIX

		ATR		InfoIGEA		Team DEV			Team DATA		Team IT	
ID	Activity	Team IT	Management	Project Manager	Management	Senior	Front-End	Back-End	Senior	Junior	Senior	Junior
1	Vehicle maintenance management system											
1.1	System Implementation											
1.1.1	System design		I	R	I	R, A	I	C	C	I	C	I
1.1.2	System Development			R		A	I	A	I		I	
1.1.3	System Build			R		A		C				
1.1.4	System Test			R	I	R, A		A			C	
1.2	Data Merging											
1.2.1	Analysis	C	I	R	I	I			R, A	C		
1.2.2	Design	C	I	R	I	C			R, A	A	C	
1.2.3	Development	C		R	I				A	A		
1.3	System Installation											
1.3.1	Hw configuration	C	C	R							R, A	A
1.3.2	Sw configuration	C	I	R		C					R, A	A
1.3.3	Data Merging Configuration	C	I	R					C		R, A	A
2	Vehicle tracking system											
2.1	System Implementation											
2.1.1	System design		I	R	I	R, A	I	C	C	I	C	I
2.1.2	System Development			R		A	I	A	I		I	

2.1.3	System Build			R		A		C				
2.1.4	System Test			R	I	R, A		A			C	
2.2	System Installation											
2.2.1	HW Configuration	C	C	R							R, A	A
2.2.2	SW Configuration	C	I	R		C					R, A	A
2.2.3	Data Merging Configuration	C	I	R					C		R, A	A
3	Workshop Management											
3.1	System Implementation											
3.1.1	System Design		I	R	I	R, A	I	C	C	I	C	I
3.1.2	System Development			R		A	I	A	I		I	
3.1.3	System Build			R		A		C				
3.1.4	System Test			R	I	R, A		A			C	
3.2	Data Merging											
3.2.1	Analysis	C	I	R	I	I			R, A	C		
3.2.2	Design	C	I	R	I	C			R, A	A	C	
3.2.3	Development	C		R	I				A	A		
3.3	System Installation											
3.3.1	HW Configuration	C	C	R							R, A	A
3.3.2	SW Configuration	C	I	R		C					R, A	A
3.3.3	Data Merging Configuration	C	I	R					C		R, A	A
4	Workshop frontend and API getaway System											
4.1	API Getaway Implementation											

4.1.1	System Design		I	R	I	R, A	I	C	C	I	C	I
4.1.2	System Development			R		A	I	A	I		I	
4.1.3	System Build			R		A		C				
4.1.4	System Test			R	I	R, A		A			C	
4.2	Frontend Implementation											
4.2.1	System Design		I	R	I	R, A	I	C	C	I	C	I
4.2.2	System Development			R		A	I	A	I		I	
4.2.3	System Build			R		A		C				
4.2.4	System Test			R	I	R, A		A			C	
4.3	System Installation											
4.3.1	HW Configuration	C	C	R							R, A	A
4.3.2	SW Configuration	C	I	R		C					R, A	A
5	Tickets and subscription management system											
5.1	System Implementation											
5.1.1	System Design		I	R	I	R, A	I	C	C	I	C	I
5.1.2	System Development			R		A	I	A	I		I	
5.1.3	System Build			R		A		C				
5.1.4	System Test			R	I	R, A		A			C	
5.2	Data Merging of existing Tickets System											
5.2.1	Analysis	C	I	R	I	I			R, A	C		
5.2.2	Design	C	I	R	I	C			R, A	A	C	
5.2.3	Development	C		R	I				A	A		

5.3	Data merging of existing subscription System											
5.3.1	Analysis	C	I	R	I	I			R, A	C		
5.3.2	Design	C	I	R	I	C			R, A	A	C	
5.3.3	Development	C		R	I				A	A		
5.4	System Installation											
5.4.1	HW Configuration	C	C	R							R, A	A
5.4.2	SW Configuration	C	I	R		C					R, A	A
5.4.3	Data Merging Configuration	C	I	R					C		R, A	A
6	Customer Management System											
6.1	System Implementation											
6.1.1	System Design		I	R	I	R, A	I	C	C	I	C	I
6.1.2	System Development			R		A	I	A	I		I	
6.1.3	System Build			R		A		C				
6.1.4	System Test			R	I	R, A		A			C	
6.2	Data Merging											
6.2.1	Analysis	C	I	R	I	I			R, A	C		
6.2.2	Design	C	I	R	I	C			R, A	A	C	
6.2.3	Development	C		R	I				A	A		
6.3	System Installation											
6.3.1	HW Configuration	C	C	R							R, A	A
6.3.2	SW Configuration	C	I	R		C					R, A	A
6.3.3	Data Merging Configuration	C	I	R					C		R, A	A

7	Customers Frontend and PI Getaway system											
7.1	API Getaway implementation											
7.1.1	System Design		I	R	I	R, A	I	C	C	I	C	I
7.1.2	System Development			R		A	I	A	I		I	
7.1.3	System Build			R		A		C				
7.1.4	System Test			R	I	R, A		A			C	
7.2	Frontend implementation											
7.2.1	System Design		I	R	I	R, A	I	C	C	I	C	I
7.2.2	System Development			R		A	I	A	I		I	
7.2.3	System Build			R		A		C				
7.2.4	System Test			R	I	R, A		A			C	
7.3	System Installation											
7.3.1	HW Configuration	C	C	R							R, A	A
7.3.2	SW Configuration	C	I	R		C					R, A	A
8	Employees Management System											
8.1	System Implementation											
8.1.1	System Design		I	R	I	R, A	I	C	C	I	C	I
8.1.2	System Development			R		A	I	A	I		I	
8.1.3	System Build			R		A		C				
8.1.4	System Test			R	I	R, A		A			C	
8.2	Data Merging											
8.2.1	Analysis	C	I	R	I	I			R, A	C		

8.2.2	Design	C	I	R	I	C			R, A	A	C	
8.2.3	Development	C		R	I				A	A		
8.3	System Installation											
8.3.1	HW Configuration	C	C	R							R, A	A
8.3.2	SW Configuration	C	I	R		C					R, A	A
8.3.3	Data Merging Configuration	C	I	R					C		R, A	A
9	Controllers Management System											
9.1	System Implementation											
9.1.1	System Design		I	R	I	R, A	I	C	C	I	C	I
9.1.2	System Development			R		A	I	A	I		I	
9.1.3	System Build			R		A		C				
9.1.4	System Test			R	I	R, A		A			C	
9.2	Data merging											
9.2.1	Analysis	C	I	R	I	I			R, A	C		
9.2.2	Design	C	I	R	I	C			R, A	A	C	
9.2.3	Development	C		R	I				A	A		
9.3	System Installation											
9.3.1	HW Configuration	C	C	R							R, A	A
9.3.2	SW Configuration	C	I	R		C					R, A	A
9.3.3	Data Merging Configuration	C	I	R					C		R, A	A
10	Drivers Management System											
10.1	System Implementation											

10.1.1	System Design		I	R	I	R, A	I	C	C	I	C	I
10.1.2	System Development			R		A	I	A	I		I	
10.1.3	System Build			R		A		C				
10.1.4	System Test			R	I	R, A		A			C	
10.2	Data Merging											
10.2.1	Analysis	C	I	R	I	I			R, A	C		
10.2.2	Design	C	I	R	I	C			R, A	A	C	
10.2.3	Development	C		R	I				A	A		
10.3	System Installation											
10.3.1	HW Configuration	C	C	R							R, A	A
10.3.2	SW Configuration	C	I	R		C					R, A	A
10.3.3	Data Merging Configuration	C	I	R					C		R, A	A
11	Employees Frontend and API Getaway System											
11.1	API Getaway Implementation											
11.1.1	System Design		I	R	I	R, A	I	C	C	I	C	I
11.1.2	System Development			R		A	I	A	I		I	
11.1.3	System Build			R		A		C				
11.1.4	System Test			R	I	R, A		A			C	
11.2	Frontend Implementation											
11.2.1	System Design		I	R	I	R, A	I	C	C	I	C	I
11.2.2	System Development			R		A	I	A	I		I	
11.2.3	System Build			R		A		C				
11.2.4	System Test			R	I	R, A		A			C	
11.3	System Installation											

10.3.1	HW Configuration	C	C	R							R, A	A
10.3.2	SW Configuration	C	I	R		C					R, A	A