**Instituto Superior Técnico**

**DM4iRetail – 3ª Entrega – 20 de Novembro de 2015**

**Turno: 5ª 17h30 – Prof. Alberto Silva**

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**D1**

**Introduction**

GPIGrupo2 is a spinoff from Instituto Superior Técnico specialized in deploying Document Management Systems.

This document proposes a solution to the published statement, approaching the various sides of the management and progress of the project.

We will first present our understanding of what the project is and what it will bring to our companies, why it is needed, and at what cost it will come.

Then, we will propose a breakdown of the activities performed for an efficient development of the project, as well as planning and scheduling those activities.

For that development, we will present the team we will work with, that is the available resources, and how they will be organized and interact with each other, and be assigned the work.

We will establish measurements to keep the quality standards high and create an acceptable product and provide useful services.

The risks we expect to be able to deal with will also be listed, along with their likelihood and impact, and how we will approach them to favor our companies and the product development.

Finally, we will end our proposal with the associated costs and the price the client company should pay, if they choose to work with us.

**Description of the project**

**What?**

From the developer’s side, our corporation, this project is to develop a new information system for the company iRetail, made of the following modules:

* Document management and workflow;
* Invoices approval;
* Purchasing management

The project will also include the management, design and conception of the product, and the phases of deployment and operationalization.

**Why?**

For the client company, iRetail, the purpose is to keep up with its fast growth, which caused problems related to the limitations of paper documents: saturation of the information flows, difficulty of storing documents and lack of control over information including loss.

**Success Factors**

* Requirements shall be clearly defined to avoid wrong or unneeded operations;
* There should be clear and concise means of communication between the two companies;
* The documentation and manuals must be accurate and complete to be useful;
* The training should be effective so it allows K-users and technicians to adapt to the new system and work more efficiently;
* Roles and responsibilities must be clearly defined;
* There should be a common technical language between the team established beforehand by the team leaders;
* The testing (pilot and acceptance) should verify the efficacy of the product and that it complies with the established required functionality;
* The design and architecture of the system should be done with all the required functionality in mind.

**Success Criteria**

* Time
  + The Pilot must not last more than one month;
  + The system should be operational five months after the approval of the project plan, with less than two weeks tolerance;
  + The external supplier shall offer a minimum warranty period of three months;
* Cost
  + Do not exceed the € 400 000 budget for the whole project (excluding network structures and hardware) with a variance of 6%;
* Quality
  + The number of non-conformities during acceptance tests should not be greater than 10%;
  + The time for correction of conformities should be less than 48 hours;
  + The evaluation of the training sessions shouldn't score lower than 3.75, from 0 to 5.

**Expected Benefits**

After one year:

* Reduction by 50% of employees’ complaints, considering the expected overall employees satisfaction, ensuring the reimbursement of expenses no later than 5 working days after submission;
* Ensure supplier’s invoices get approved less than 10 working days after reception;
* Based on the previous benefit, allow iRetail to negotiate better discounts from suppliers;
* Allow classification and search of documents, based on content attributes;
* Reduce paper costs and physical space for archiving paper by 50%;
* Reduce administrative and post costs by 20%.

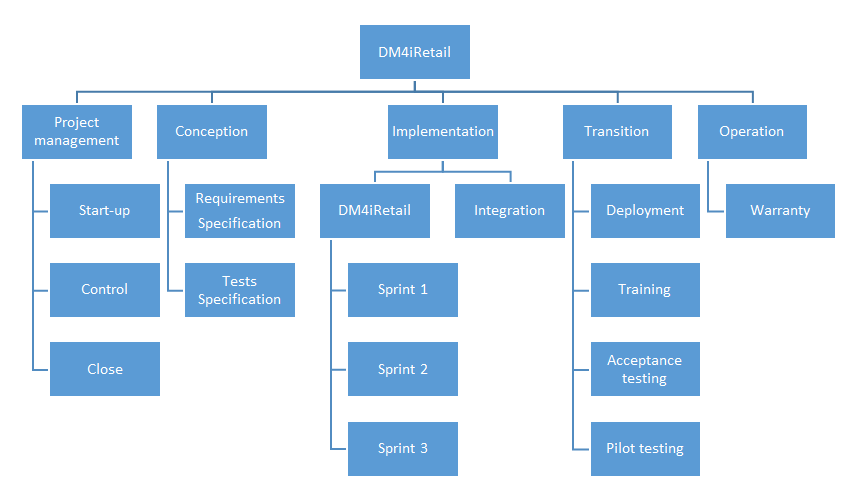
**Total Price**

The total price of the project will be €263.117,60 plus VAT at the current rate.

**Total Project Duration**

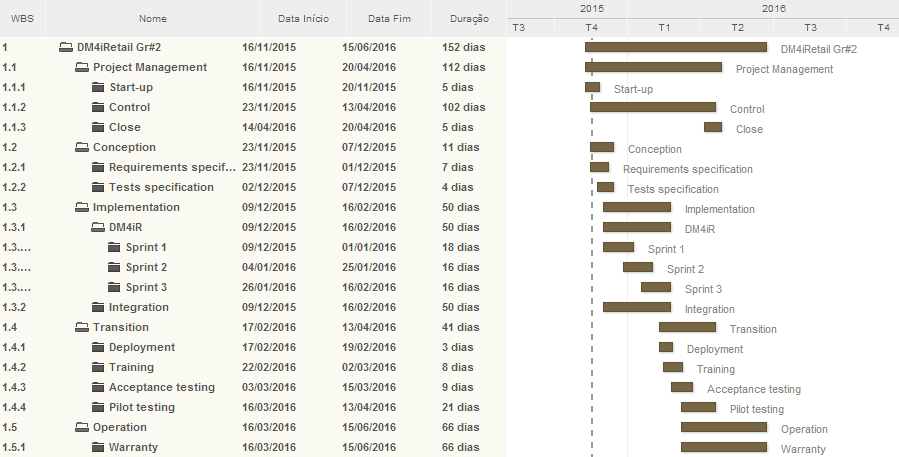
The whole project will span 152 days, from the charter definition in 18/11/2015, until the warranty is concluded in 15/06/2015. The pilot test will be completed by 13/04/2015, with approximately two weeks until the system goes live in May.

**Work Breakdown Structure**

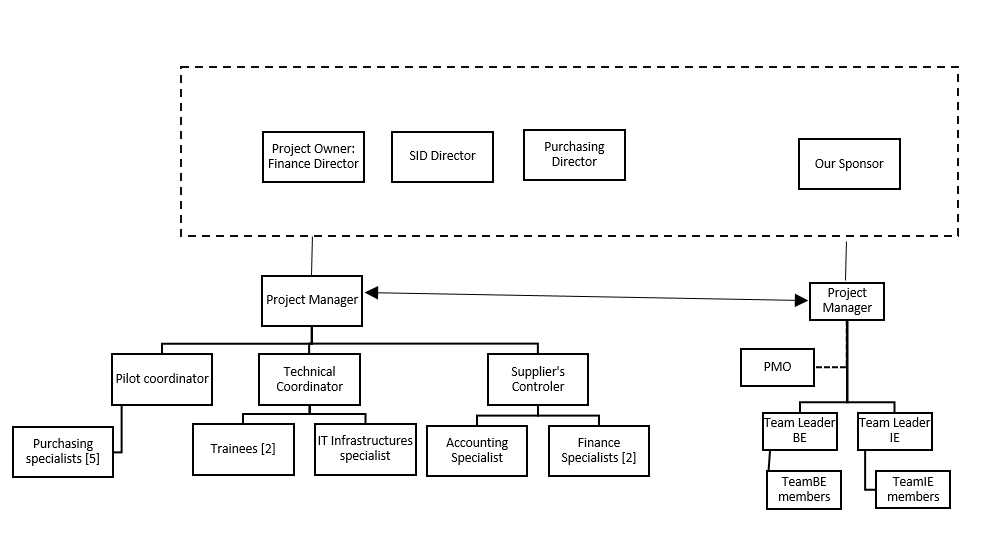


|  |  |  |  |
| --- | --- | --- | --- |
| **Work Package** | **Description** | **Milestones** | **Deliverables** |
| 1.1.1 – Start-up | Definition of the charter, management and team members, and project planning activities | Project plan approved | Project plan |
| 1.1.2 – Control | Project control and replanning to verify compliance with requirements and quality assurance | None | None |
| 1.1.3 – Close | Feedback and closure meetings, and production and delivery of the report | Project finished | Project report |
| 1.2.1 – Requirements Specification | Analysis and specification of requirements | Requirements approved | Requirements specification document |
| 1.2.2 – Tests Specification | Specification of tests | Tests approved | Tests specification document |
| 1.3.1.1 – Sprint 1 | Scrum meetings and implementation of Purchase Module | Sprint 1 complete | Purchase Module and its manuals, documentation, specification document and training materials |
| 1.3.1.2 – Sprint 2 | Scrum meetings and implementation of Invoices Approval module | Sprint 2 complete | Invoices Approval and its manuals, documentation, specification document and training materials |
| 1.3.1.3 – Sprint 3 | Scrum meetings and implementation of Documents Management module | Sprint 3 complete | Documents Management and its manuals, documentation, specification document and training materials |
| 1.3.2 – Integration | Integration of the developed modules with the ERP | Integration finished | None |
| 1.4.1 – Deployment | Deployment of the system including its installation and configuration | Deployment complete | Working information system |
| 1.4.2 – Training | Training of technicians and K-users, and its evaluation. | Training complete | None |
| 1.4.3 – Acceptance Testing | Validation of the information system and correction of non-conformities | Acceptance tests passed | None |
| 1.4.4 – Pilot Testing | Pilot test done before the go-live of the system | Pilot test passed | None |
| 1.5.1 – Warranty | Warranty work provided by the supplier (our company) during the three months | Warranty concluded | None |

**Project Scheduling**



**Organization Breakdown Structure**

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**Responsibility Assignment Matrix**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | PO:  Finance  Director | SID Director | Purchasing Director | Pilot coord. | Technical Coord. | Supplier Control | PM | Sponsor | PM | Team Leader BE | Team Leader IE |
| Start-up | D | C | C |  |  | A | I | d | XP | C | C |
| Control |  |  |  |  |  | A | I |  | XP |  |  |
| Close | D |  |  |  |  | A | I | d | XP |  |  |
| Requirement Spec. | D |  |  |  |  |  | I | C | P | X |  |
| Test Spec. |  | C | C | A |  |  | I |  | P | X |  |
| Sprint 1 |  |  |  |  |  |  | I |  | P | X |  |
| Sprint 2 |  |  |  |  |  |  | I |  | P | X |  |
| Integration |  | A |  | C | A | T |  |  | P |  | X |
| Deployment |  |  |  |  | A |  | I |  | P | X | C |
| Training |  |  |  |  | X |  |  |  | P | T |  |
| Acceptance | D |  |  |  | X |  | I |  | P | d | d |
| Pilot |  |  |  | X |  | C | P |  | I | A | A |
| Warranty |  |  |  |  |  |  |  |  | I | X |  |

**Communication Plan**

**Communication Flow**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From** | **To** | **What** | **When** | **How** |
| Project Manager | Finance Director (PO)  Sponsor (Supplier) | Status Report | Every Month  Weekly (test phase) | Email |
| Team Leaders (BE and IE) | Project Manager  (Supplier) | Progress Report | Weekly | Collaborative Tool |
| Team Leaders (BE and IE) | Project Manager(Supplier) | Estimative Report | Weekly | Collaborative Tool |
| Project Manager  (Supplier) | Team Leader BE  Scrum Master | Tasks Specification | Every 2 Weeks | In person |
| Project Manager  (Supplier) | Team Leaders | Planning Documents | Beginning of project | Collaborative Tool |
| Project Manager  (Supplier) | Finance Director  (PO) | Functional Specification document | After requisites revision | Collaborative Tool |
| Project Manager  (Supplier) | Finance Director  (PO) | Technical documentation for each module | After system specification | Collaborative Tool |
| Team Leader BE | Project Manager (Supplier) | Test Specification Document | After approval of tests specification | Collaborative Tool |
| Team Leader BE | Team BE members | Tasks Distribution | Weekly | In Person |
| Team Leader IE  Two Finance Specialists | Project Manager (Supplier) | Integration Report | After System Integration | Email |
| Team Leader BE | Project Manager (Supplier) | Acceptance tests report | After acceptance tests | Collaborative Tool |
| Pilot Coordinator | Project Manager (Supplier) | Pilot Report | After doing Pilot | Email |
| Team Leader BE | Project Manager (supplier)  Finance Director (PO) | User Manual | After acceptance tests | Collaborative Tool |
| Team Leader BE | Project Manager (supplier)  Finance Director (PO) | Installation Manual | After acceptance tests | Collaborative Tool |
| Team Leader BE | Project Manager (supplier)  Finance Director (PO) | Configuration  Manual | After acceptance tests | Collaborative Tool |
| Team Leader BE | Project Manager (supplier)  Finance Director (PO) | Training Materials | After acceptance tests | Collaborative Tool |
| Project Manager  (Supplier) | Finance Director (PO) | DM4iRetail | After acceptance tests | Collaborative Tool |
| Sponsor | Finance Director (PO) | Warranty | After acceptance tests | Email |

**Meetings Plan**

|  |  |  |
| --- | --- | --- |
| Meeting type | Who | When |
| Steering | Finance Director (PO)  Our Sponsor | Monthly |
| Progress | Project Manager (Supplier)  Team Leaders BI and IE | Weekly |
| Kick-off | Finance Director (PO)  Our Sponsor | Beginning of the project |
| Requisites specification approval | Finance Director (PO)  Our Sponsor  Both PM | After requirements gathering |
| Tests specification approval | Project Manager (Supplier)  Finance Specialists  Team Leaders BI and IE | After tests specification |
| Plan specification and tasks attribution | Project Manager (Supplier)  Team Leaders BI and IE | In the start of the dev phase |
| Planning | Team BI  Team BI members | Daily (in every sprint) |
| Revision | Project Manager (Supplier)  Team BI  Team BI members | Weekly (in every sprint) |
| Retrospective | Team BI  Team BI members | By the end of every sprint |
| Dev progress | Project Manager (Supplier)  Team Leaders BI and IE | During dev phase  (every 15days) |
| Acceptance tests approval | Finance Director (PO)  Project Manager (Supplier)  Finance Specialists  Team Leaders IE | After doing acceptance tests |
| Pilot meeting | Finance Director (PO)  Both PM  Finance Specialists | Before the go live of the system |
| Project closing | Finance Director (PO)  Project Manager (Supplier) | After pilot test |

**Project Resources**

The resources of the client company (iRetail) are not represented on our resource table since they are not our company’s employees.

|  |  |  |
| --- | --- | --- |
| **Triskell resource** | **Rate type** | **Description** |
| Project manager | Project Manager  60€/hour | Manager of the project, as stated in the case study |
| BE Team Leader | Middle Consultant  25€/hour | Leader of the BE Team, as stated in the case study |
| IE Team Leader | Middle Consultant  25€/hour | Leader of the IE Team, as stated in the case study |
| Artur José Lourenço Fonseca | Junior Consultant  20€/hour | BE Team member assigned to the Sprints, and Installation of the system during the Deployment. |
| Tiago Miguel Pedro do Nascimento | Junior Consultant  20€/hour | BE Team member assigned to the Sprints, and Configuration of the system during the Deployment. |
| Miguel de Oliveira Martins Melícia Cruz | Junior Consultant  20€/hour | IE Team member assigned to the Integration work.  BE Team member assigned to the Warranty period and Tests Specification. |

**Project Quality**

**Quality Assurance Activities**

Carefully make a **plan for the project**, along with **control**/monitoring and **replanning** activities to ensure the requirements are met even if changed.

Make a clear **specification of requirements** to avoid ambiguities and conflict, after a thorough **analysis**.

Make a clear **specification of the tests** for the system.

Use the **sprint planning meetings** to approach better solutions to the due work.

Adapt **the training materials, documentation and manuals** to improve the K-user and technician experience, with their input.

Use the SCRUM methodology for the module implementation, to involve the client in the development of the product.

Centralize the main decisions in planning and design in the more skilled and experienced resources, such as Team Leaders.

**Quality Control Activities**

Have **review meetings** with the client to inspect the work done in each sprint and verify its quality.

Have **retrospective meetings** with the team members, leaders and project manager to analyze the performance in the implementation of the modules.

Perform tests during the development of the modules to check for code quality.

Perform the final **acceptance tests** and correct non-conformities.

**Evaluate the training sessions** to improve them, targeting a high score.

Do a **pilot test** to validate the operability of the system.

**Acceptance Criteria**

Have a clear and detailed project plan of the activities and their scheduling at the end of the planning meeting.

The projected is accepted as finished after the report is delivered and the closure meeting ends.

The established requirements document is accepted and confirmed by both companies, with no ambiguities.

The test specification document is accepted and confirmed by both companies, spanning all the testable functionality of the system.

The tests made throughout the development of the modules will pass at the end of each sprint.

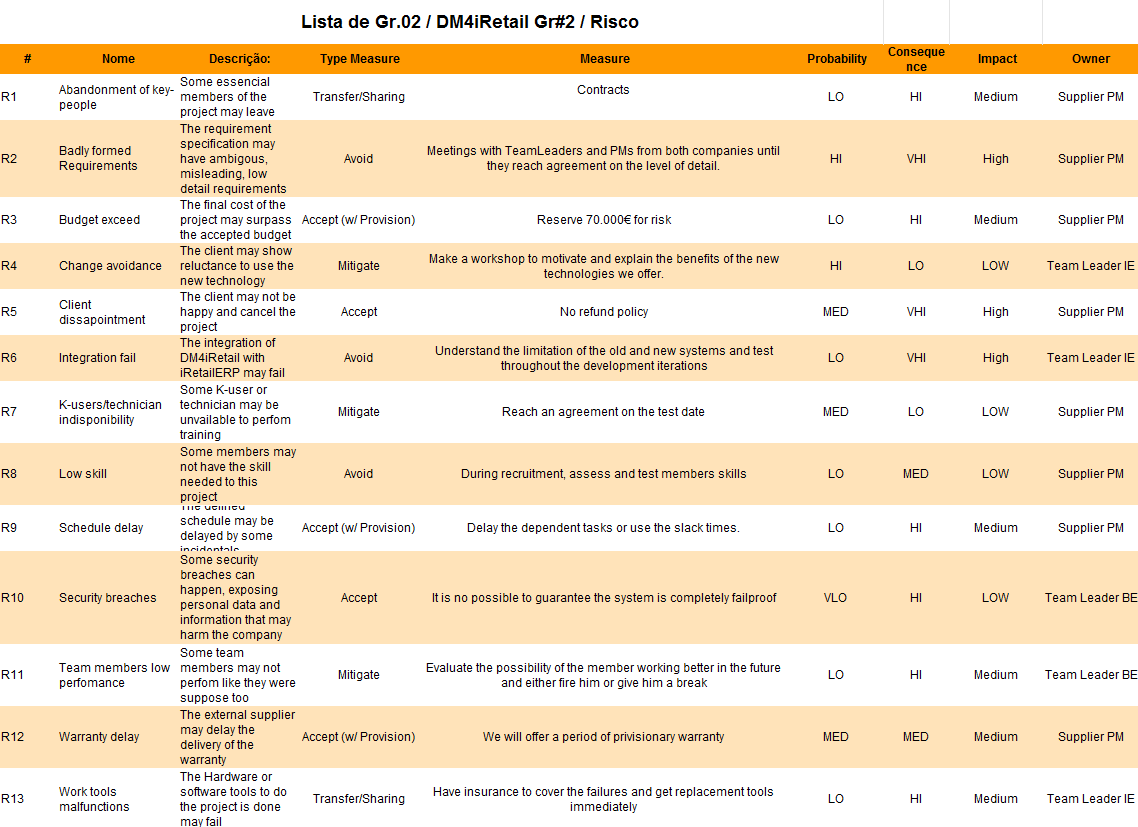
Score 3,75 in the training sessions evaluation in a scale of 0 to 5.

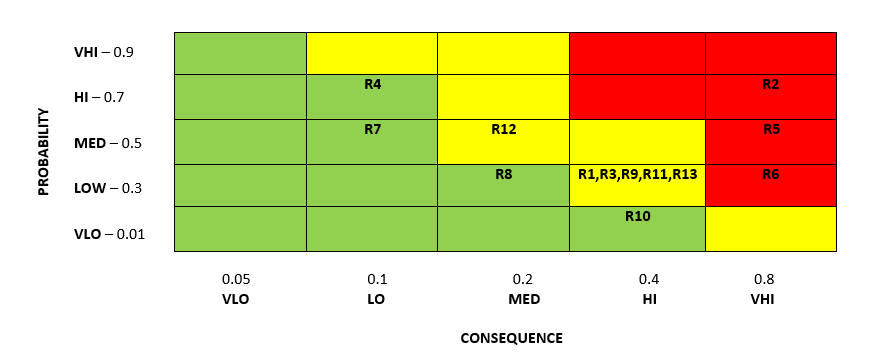
Have no more than 10% non-conformities during the acceptance tests.

The system functionality and integration are confirmed during the pilot test.

The produced training materials and manuals are considered of good quality.

**Project Risks**





**Risk control procedures**

1. Risks should be identified and classified during the project start with the collaboration of all the team leaders and members, and the project manager of our company.
2. Each owner should monitor their risks throughout the development of the project.
3. If a risk occurs, its measure should be activated immediately, but the other risks should still be monitored for changes.

**Price and Supplier Conditions**

|  |  |
| --- | --- |
| Licenses | € 50.000 |
| Services (labour+risk+travelling+printing) | € 213.117,60 |
| **Total** | **€ 263.117,60** |

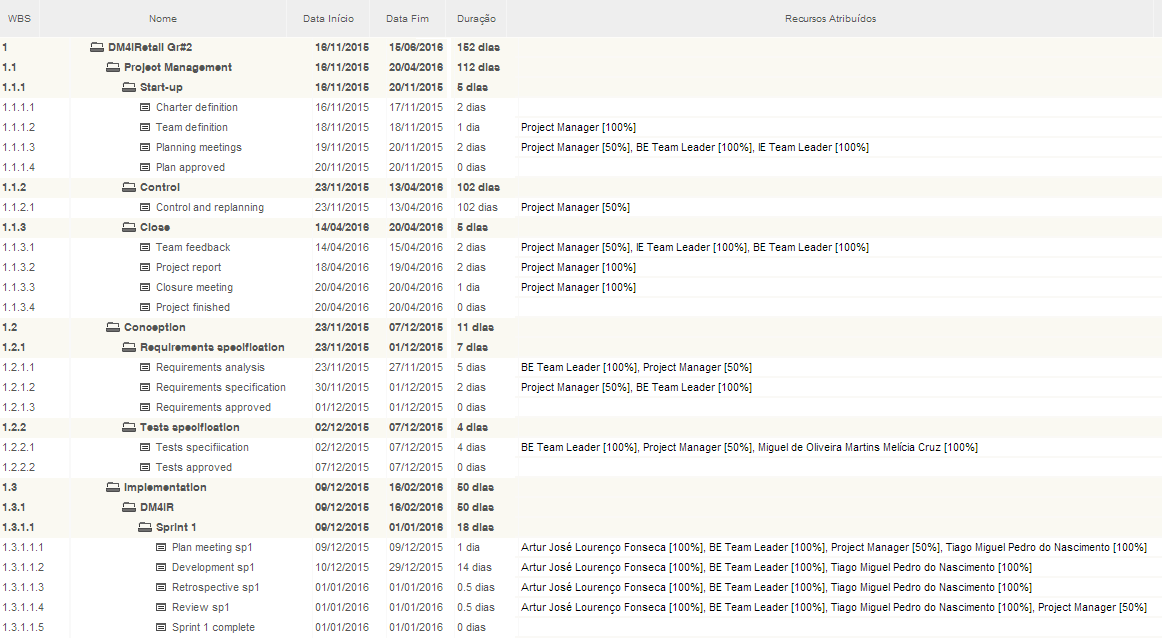
|  |  |  |
| --- | --- | --- |
| # - Invoice date | Milestone | Amount |
| 1 – November 2015 | Plan approved | 20 % - € 52.623,52 |
| 2 – December 2015 | Test specification approved | 20 % - € 52.623,52 |
| 3 – February 2016 | Implementation completed | 40 % - € 105.247,04 |
| 4 – June 2016 | Project complete | 20 % - € 52.623,52 |

Additionally, VAT should be added to all prices.

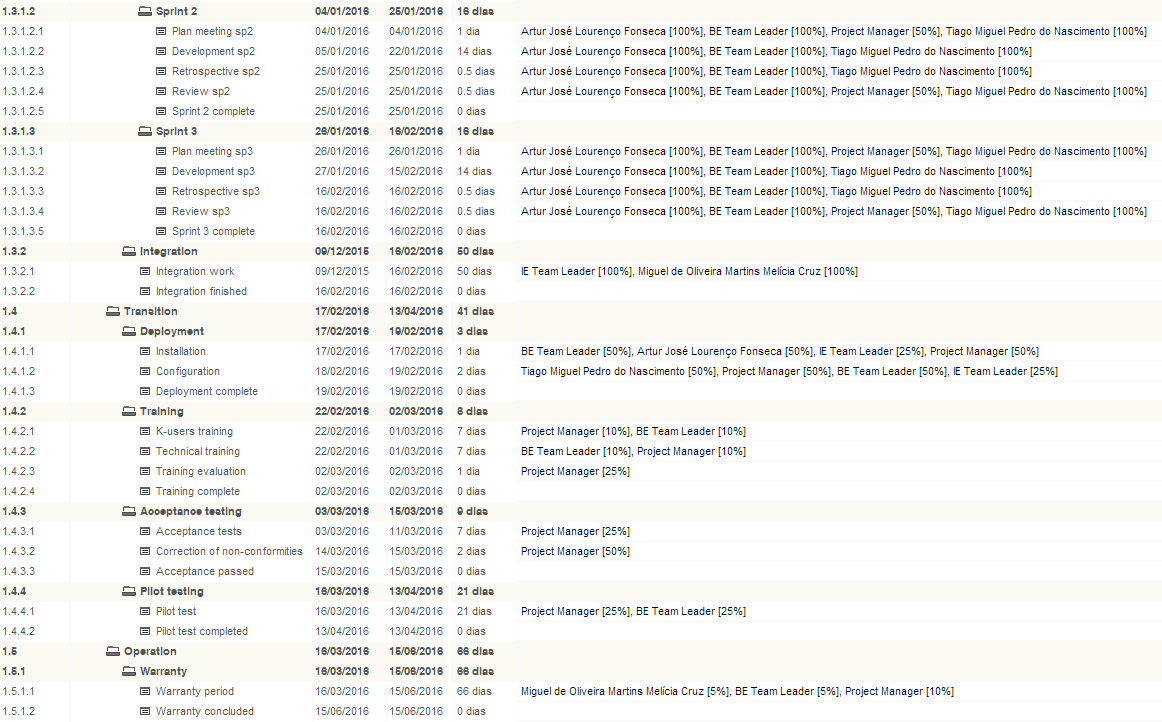
**Payment Conditions**

* Each amount must be bank transferred (Number 000123456789PT) until the last working day of the month;
* If the client fails to pay, an additional fee will be charged 0.5% of that payment per day;
* If our companies fails to achieve the milestones, cost will be reduced in 500€/day;
* Receipt will be sent by email to the client company, after the transfer received.

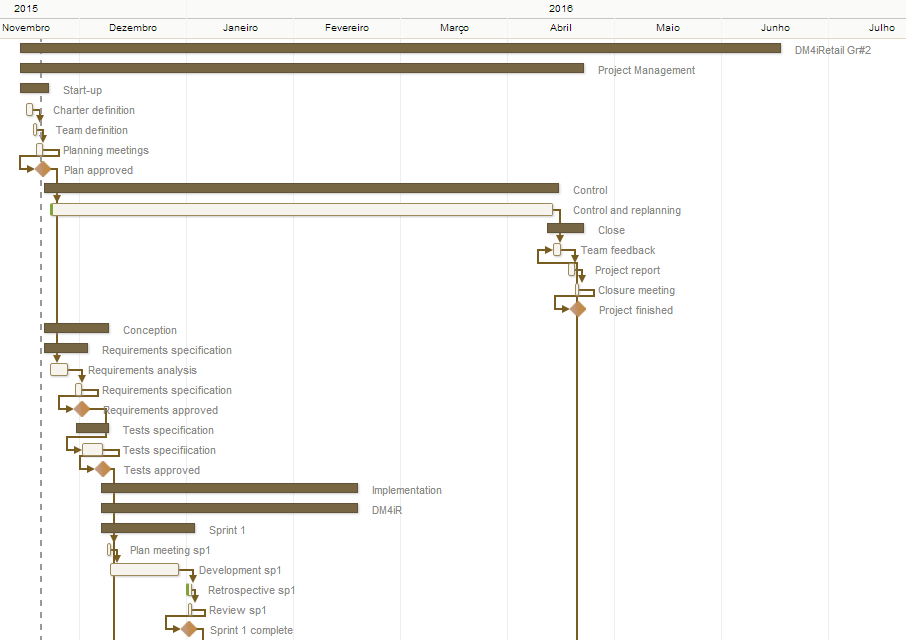
**ANNEXES – GANTT CHART – RESOURCES-TASKS 1**



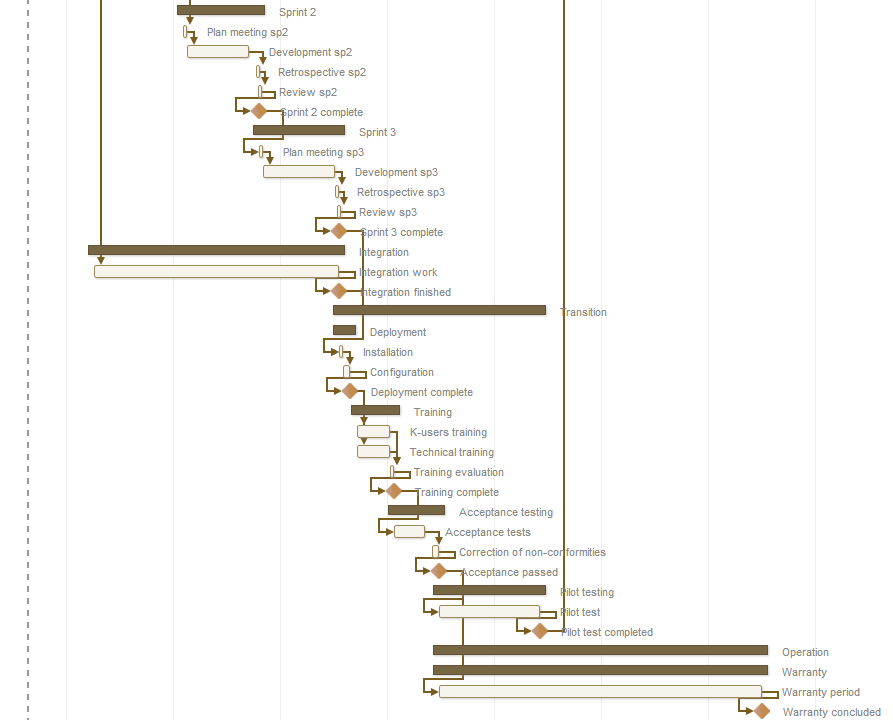
**ANNEXES – GANTT CHART – RESOURCES-TASKS 2**



**ANNEXES – GANTT CHART – SCHEDULE 1**



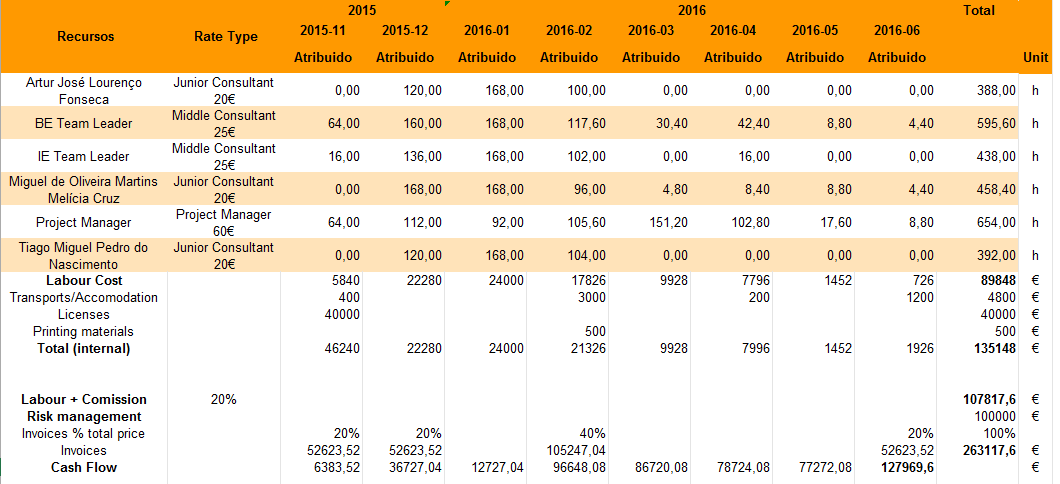
**ANNEXES – GANTT CHART – SCHEDULE 2**



**D2**

**Financial Evaluation**

In the Total column, the labour cost of €89848 will have a commission of 20% added, resulting in €107.817,60 for the client. The other costs will not be under a commission.



**Resources Table**

In the next page, we present the resources table, with each resource’s name, rate type, role and hours of work.

