MEEC

Gestão de Projetos de Engenharia

2º Semestre 2016/2017

Project of a Mobile Communications' Base Stations and Wi-Fi Access Points inside a Cruise Ship

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Group T2

João Tagaio nº 78310

Luís Rei nº 78486

João Girão nº 78761

Jorge Alves nº 78962

Ana Alves nº 79602

Introduction

- Installing communication systems within land is a relatively simple task as most cases only deal with a single provider. However, on a seaworthy cruise ship, we must take care to make sure there are protocols in place for communication within each visited's country borders and in international waters.
- In this project, we detail the various proceedings to be undertaken when dealing with installing wireless internet access points inside a cruise ship.

Objectives

- Install a wifi network on the cruiseship and make sure it reaches the entirety of the ship (including each and every single indoor space, as well as covering the ship's deck).

- Ensure a reliable connection to the World Wide Web, be it through satellite connections when the ship's sailing international waters or through local operators while the ship is docked or awaiting departure.

Stakeholders

Internal

Very important

- Engineers
- Sales Department
- Manager

Important

- Legal Department
- Regulation Department
- Marketing Department

External

Very important

- Ship Owner
- Satellite Operator
- Ship builder
- Local Operators
- Equipment Suppliers
- Constructor
- Ship Clients

Quality Control

- In parallel with other activities
- Define Milestones
- Choose competent entities
- Check material
- Supervise and record results

Risk Management (1 of 2)

Riscos	Consequências	Mitigação
Alteração dos requisitos e exigências por parte do proprietário do navio	Atrasos no projeto; Compra de novo material e alterações ao projeto;	Definir bastante bem os recursos a serem utilizados e certificação de que não existem dúvidas por parte do proprietário do navio
Contratos com problemas legais ou mal redigidos	Possibilidade de ser processado; Ambiguidades jurídicas	Redação clara e bem definida dos contratos
Compra de equipamentos com defeito de fabrico	Aumento do custo do projeto; Necessidade de compra de novo equipamento	Verificar a qualidade do material previamente e fazer contrato com fornecedores de renome
Má configuração do sistema de telecomunicações	Aumento do custo do projeto; Reclamações por parte dos clientes do cruzeiro;	Definição clara do modo de funcionamento do sistema de modo a ser fácil descobrir eventuais erros
Atrasos ou esgotamento de stocks	Atrasos no projeto	Definir claramente as datas de entrega e as quantidades necessárias. Caso não seja possível a entrega no tempo estipulado procurar novos fornecedores

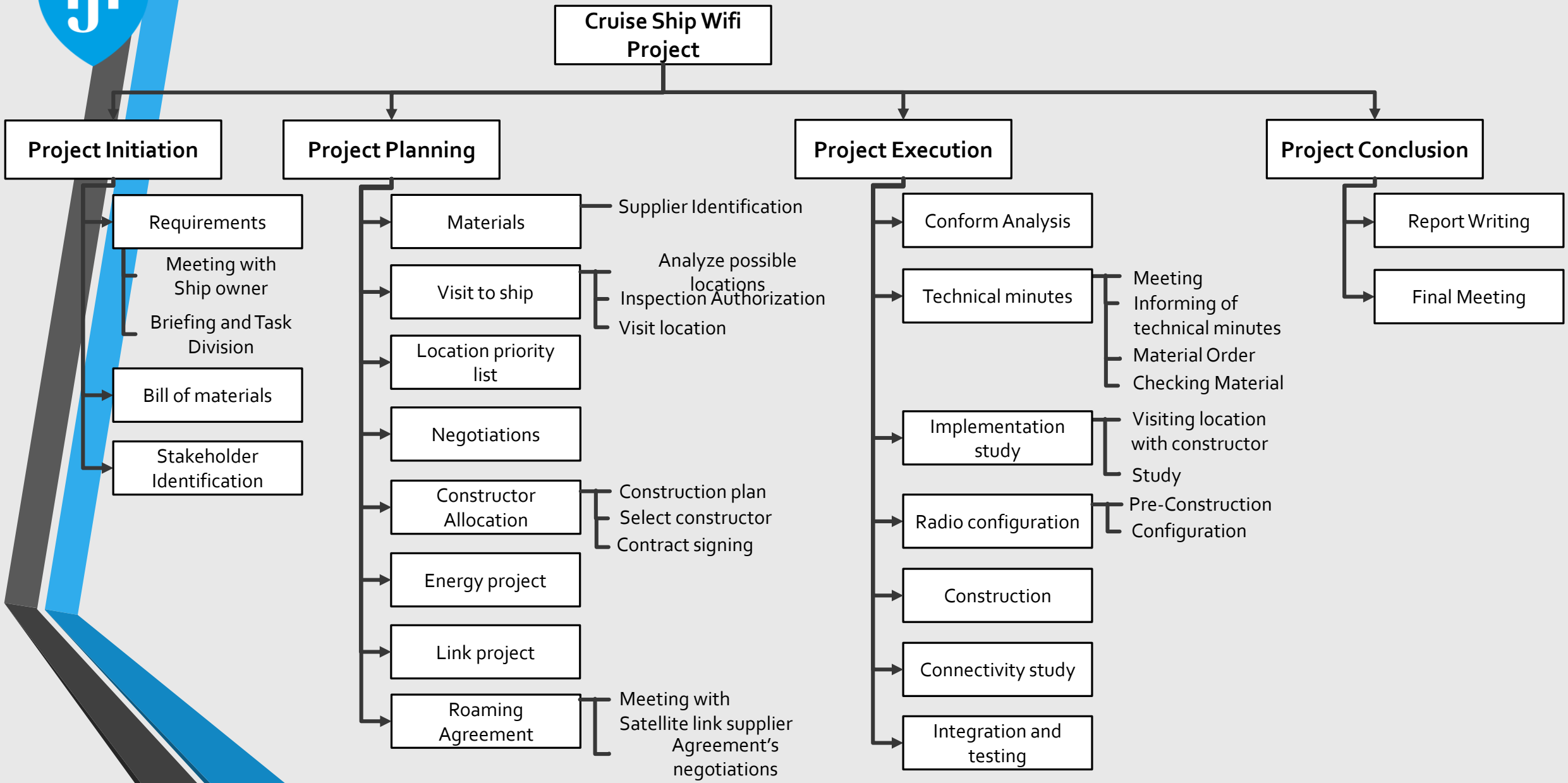
Risk Management (2 of 2)

Riscos	Consequências	Mitigação
Problemas com a ligação de satélite	Mau funcionamento do sistema de comunicações; Reclamações por parte do proprietário do navio e dos clientes	Certificar que o contrato possui salvaguardas para esta situação e soluções. Verificação do correto funcionamento do sistema
Acidentes de trabalho	Atrasos no projeto; Aumento do custo do projeto	Respeitar e fazer cumprir as normas de segurança no trabalho
Problemas de construção	Atrasos no projeto; Aumento do custo do projeto	Fiscalização costante, ou seja, definição de períodos nos quais o fiscal se deve dirigir à obra e verificar o trabalho realizado
Tempestades no mar	Atrasos no projeto	Correta colocação da antena e base station de modo a prevenir e minimizar o stress provocado ao material

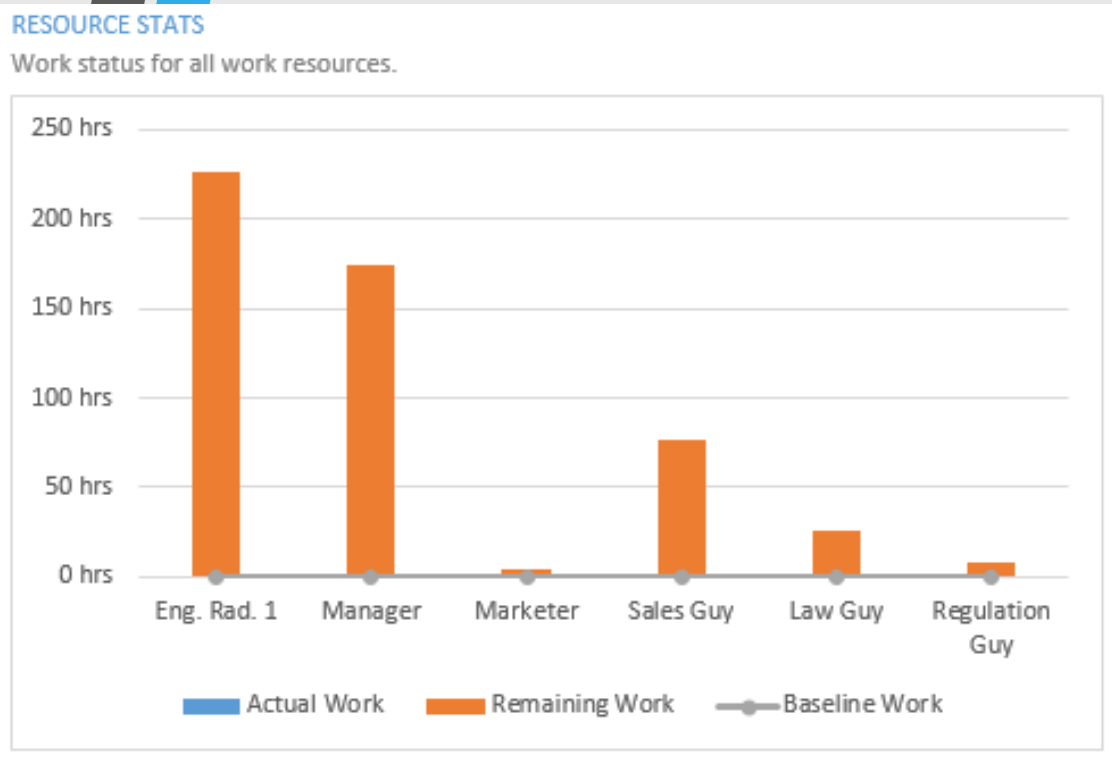
Communication Plan

- Meeting with ship owner
- Briefing and task division
- Requesting new meeting with ship owner
- Meeting with ship owner to choose the antenna location
- Meeting with the constructer
- Meeting with the satellite link supplier
- Roaming meeting
- Technical minutes meeting
- Suppliers meeting
- Planning meeting
- Final meeting

Work Breakdown Structure

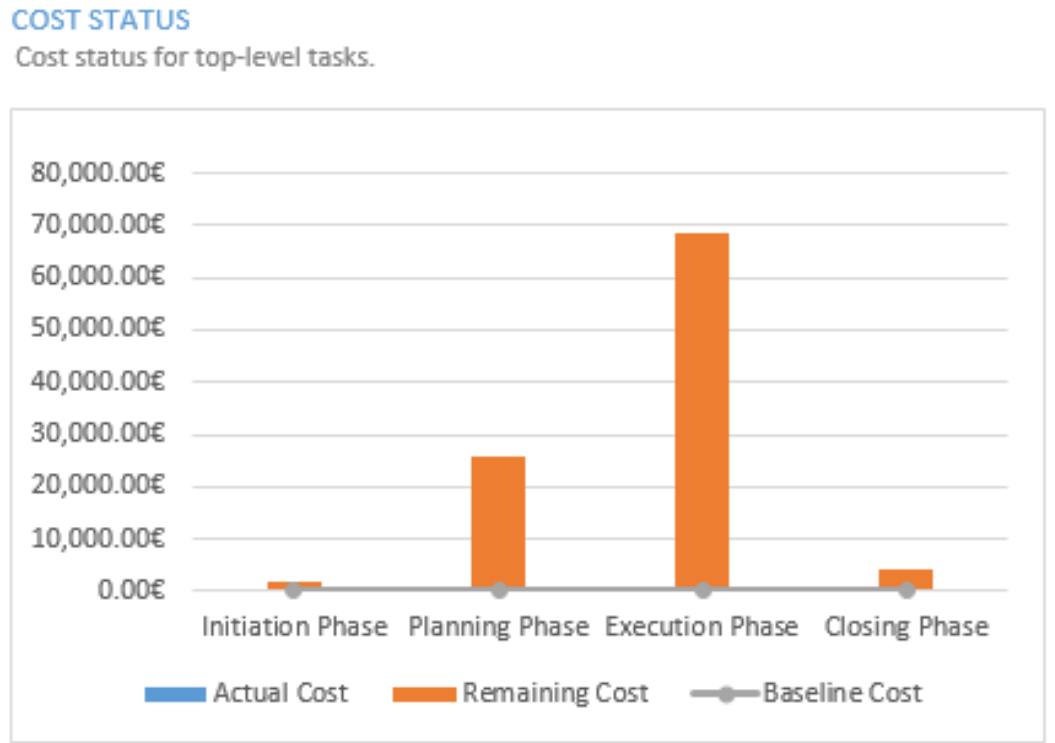


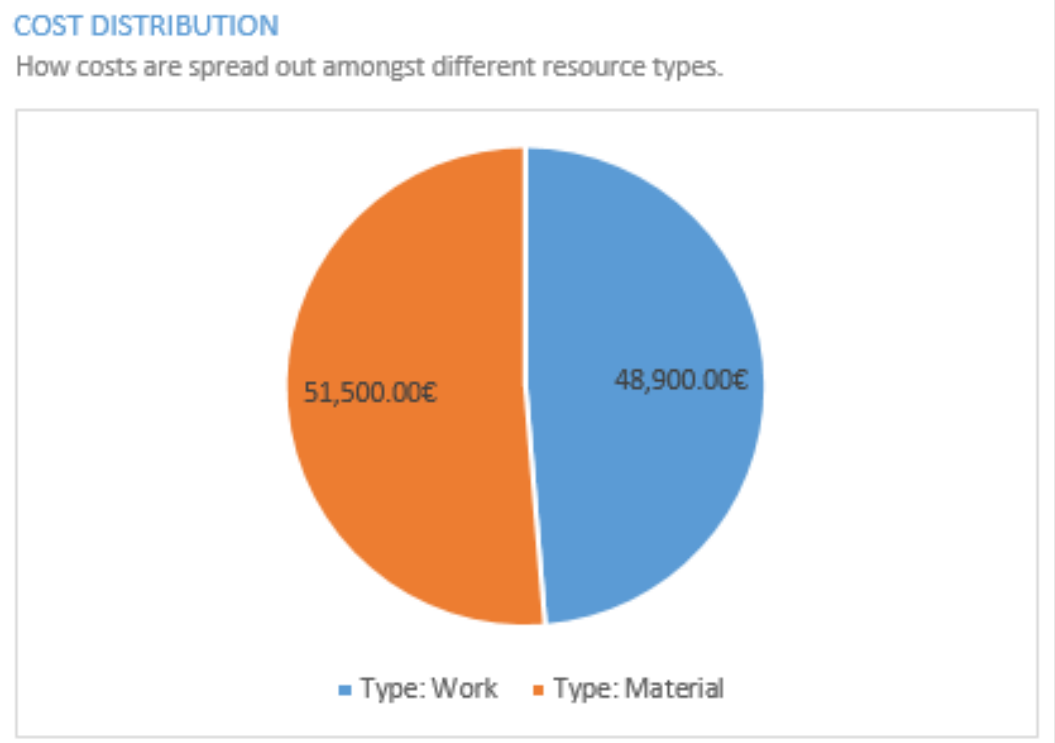
Resource allocation



Name	Start	Finish	Remaining Work
Eng. Rad. 1	Tue 14-02-17	Mon 15-05-17	226,25 hrs
Manager	Tue 14-02-17	Fri 19-05-17	174,5 hrs
Marketer	Tue 14-02-17	Wed 15-02-17	4 hrs
Sales Guy	Wed 15-02-17	Tue 02-05-17	76,75 hrs
Law Guy	Wed 15-03-17	Mon 20-03-17	25,25 hrs
Regulation Guy	Mon 10-04-17	Tue 11-04-17	8 hrs

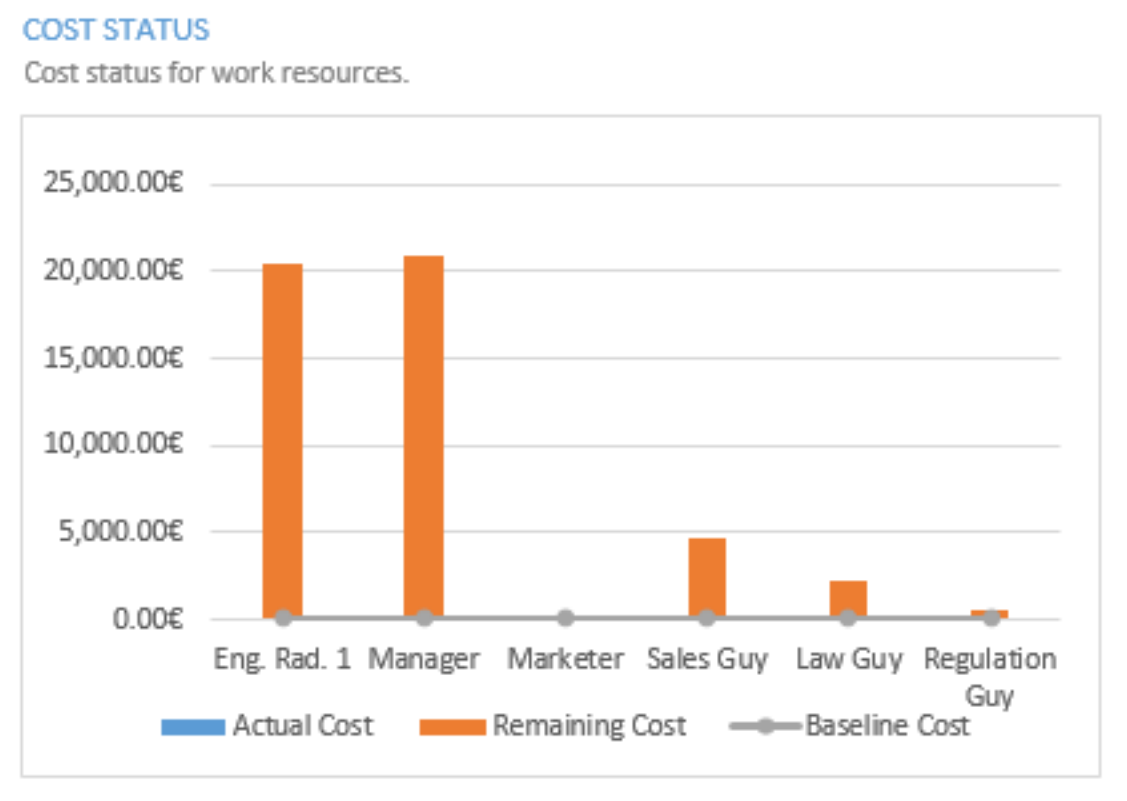
Cost analysis (1 of 2)





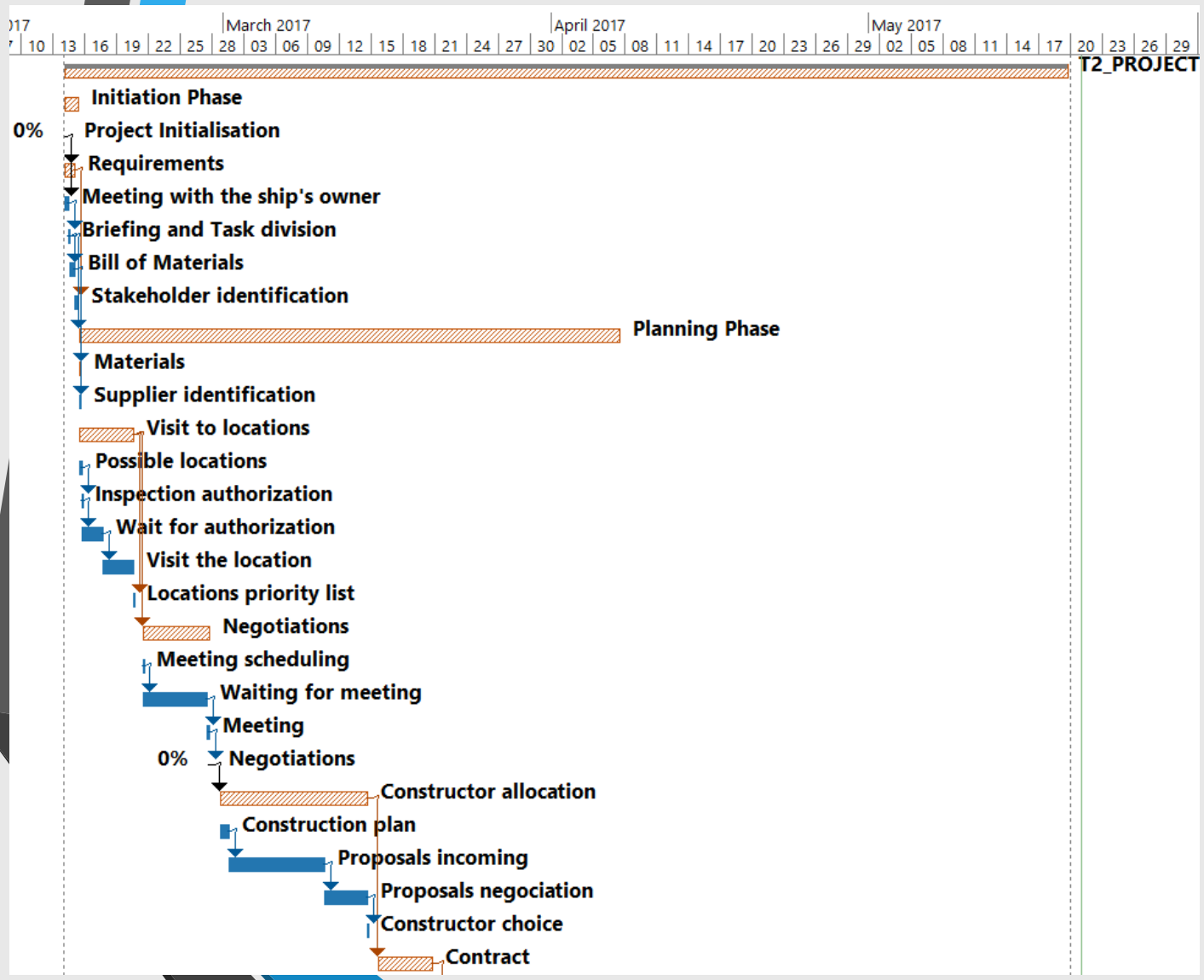
ID		Resource Name	Type	Material Label	Initials	Group	Max. Units	Std. Rate	Ovt. Rate	Cost/Use	Accrue At	Base Calendar	Code
12		Antennas	Material		Ant			17.500,00€		0,00€	Start		
13		Eletrical Cables	Material		Ecables			6.000,00€		0,00€	Start		
14		Network Cables	Material		NetCables			2.000,00€		0,00€	Start		
15		Indoor Antennas	Material		IA			6.000,00€		0,00€	Start		
16		Base stations	Material		BS			20.000,00€		0,00€	Start		
17		Mobile Signal Amplifier	Material		MSA			150,00€		0,00€	Start		

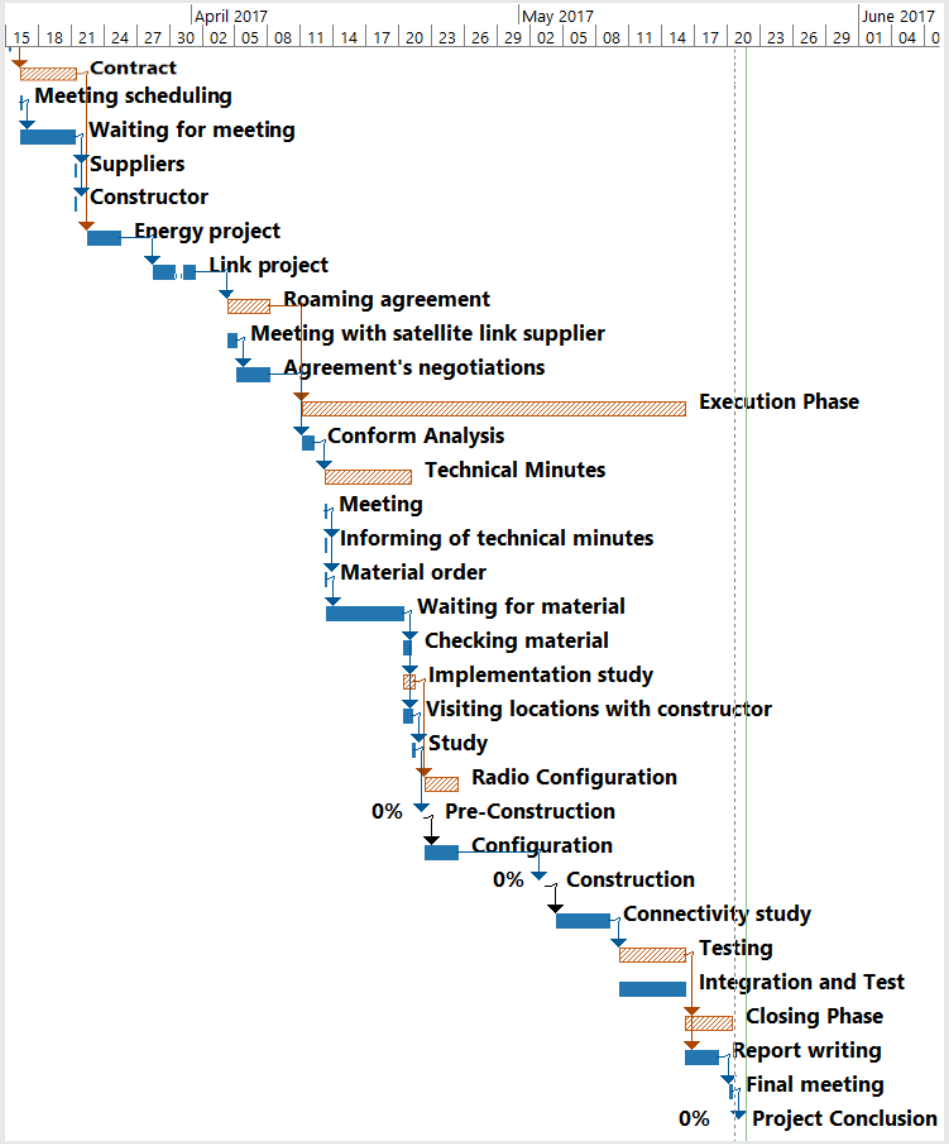
Cost analysis (2 of 2)



Name	Standard Rate
Eng. Rad. 1	90,00€/hr
Manager	120,00€/hr
Marketer	60,00€/hr
Sales Guy	60,00€/hr
Jude Law	90,00€/hr
Regulation Guy	60,00€/hr

Gantt Chart


March 2017
April 2017
May 2017
T2_PROJECT
Initiation Phase
0%
Project Initialisation
Requirements
Meeting with the ship's owner
Briefing and Task division
Bill of Materials
Stakeholder identification
Planning Phase
Materials
Supplier identification
Visit to locations
Possible locations
Inspection authorization
Wait for authorization
Visit the location
Locations priority list
Negotiations
Meeting scheduling
Waiting for meeting
Meeting
0%
Negotiations
Constructor allocation
Construction plan
Proposals incoming
Proposals negociation
Constructor choice
Contract


April 2017
May 2017
June 2017
Contract
Meeting scheduling
Waiting for meeting
Suppliers
Constructor
Energy project
Link project
Roaming agreement
Meeting with satellite link supplier
Agreement's negotiations
Execution Phase
Conform Analysis
Technical Minutes
Meeting
Informing of technical minutes
Material order
Waiting for material
Checking material
Implementation study
Visiting locations with constructor
Study
Radio Configuration
0%
Pre-Construction
Configuration
0%
Construction
Connectivity study
Testing
Integration and Test
Closing Phase
Report writing
Final meeting
0%
Project Conclusion

Conclusion

- Detailed analysis of stakeholders, internal departments and external entities;
- Risk analysis associated with a project of this size;
- Resource management;
- Importance of communication;
- Quality control.