SEVENTH FRAMEWORK PROGRAMME

SEVENTH FRAMEWORK PROGRAMME
THEME 7
Transport including Aeronautics

SMART-CM
smart container chain management

Quality Plan

Project acronym: **SMART-CM**
Project full title: **SMART Container Chain Management**

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Reviewers' list

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List of abbreviations

PMI:	Project Management Institute
PMP:	Project Management Process
QA:	Quality Assurance
RFC:	Request for Change
UC:	Use Case
UML:	Unified Modelling Language

Table of Contents

List of Figures

List of Tables

1 Executive Summary

Quality assurance and planning for the implementation of the neutral security layer of the SMART-CM project is provided via a formalized set of procedures and documents:

1) The current document describes the standards that are used during the complete software development lifecycle. It consists of
    a. The formal description of each step that is followed during the development lifecycle.
    b. The required validation steps that are needed to allow the customer to validate the previous steps.
    c. The relevant standards that are used in the course of the development (for each of these steps) also see 2).
2) For the following steps the additional quality standards that are followed have been provided as additional documents:
    a. Quality standards for all testing performed during the entire development track
    Annex 2: Quality guidelines for testing
    b. For the functional analysis and requirements engineering phase:
    Annex 3: Quality guidelines for functional analysis and requirements engineering
    c. Quality standards for Use-case-modelling
    Annex 4: Use-Case-Modelling guidelines
3) A project plan (Annex 1: Project Plan MPP) that outlines the timings of the deliverables for each step (the previous documents in (1) and (2) mention what standards are followed; this step indicates that they are followed).

    Overall quality assurance on these steps and the contents will be provided by:
    a. The Porthus QA manager (QA on all steps)
    b. VIL for additional quality assessments to ensure high quality deliverables

2 Introduction

Professional Infrastructure and Application Management Services start with a professional Project Execution.
In order to guarantee that Customers' IT projects meet the highest Quality standards, Porthus has decided to apply the internationally recognized project management standard **Project Management Body of Knowledge** (PMBOK) of the Project Management Institute (PMI).
Whether it concerns an IT Architecture Study, or the Implementation of a complex e-business infrastructure, all Porthus projects follow the same framework. It consists of 7 well-defined project phases, each with its tangible deliverables.

This handbook provides a detailed overview of the processes, deliverables and actors of each of the 7 phases in the Project Management Process (PMP).

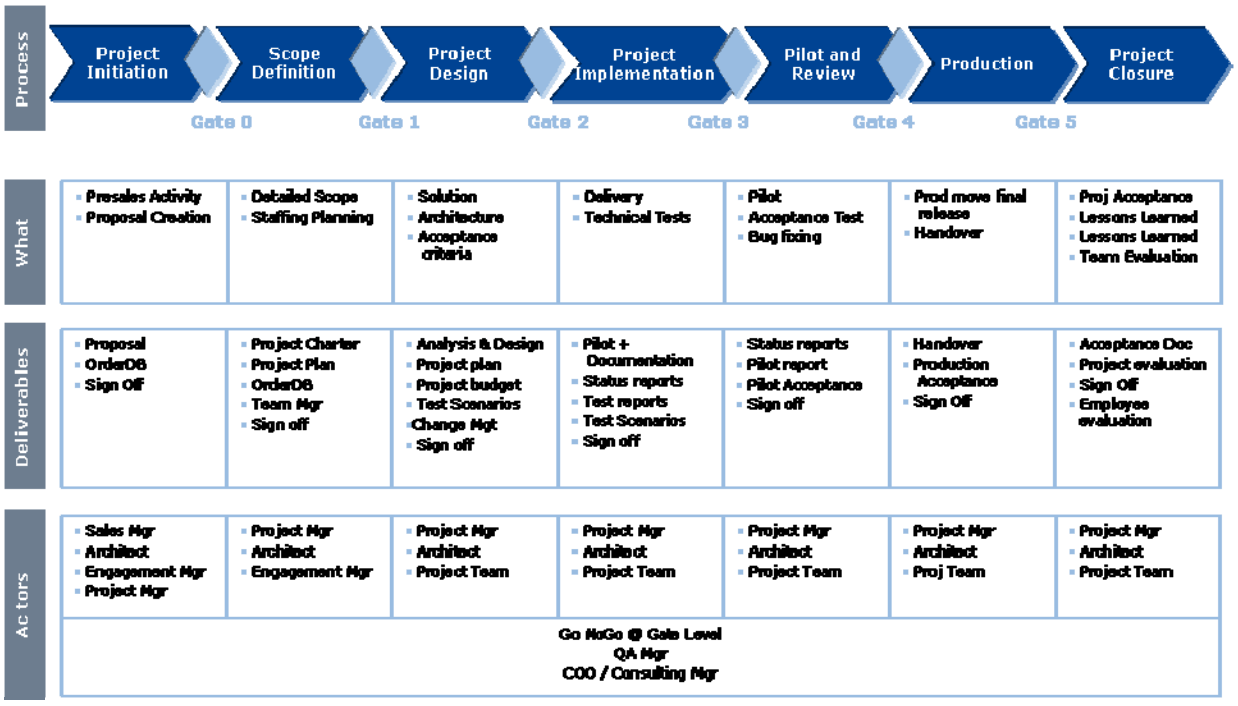

Figure 1: Project Management Process

3 Project Initiation

The Project Initiation Phase of the PMP methodology is part of the Porthus Proposal Process. For the PMP process, only the outputs of the proposal process are of importance. The process itself is discussed in detail in the Porthus Proposal Handbook.

Inputs	Processes	Outputs
Customer Pains	Presales Activity	Proposal Document
Compelling Event	Lead Qualification	Services Cost Calculation
Sales Activities	Proposal Creation	Manpower Cost Calculation
TAM activities		OPS update

Table 1: Project initiation

4 Project Scope

The Project Scope is a formal, approved document used to manage to project execution. It should be distributed to all project members (both at Porthus and at the stakeholders' side) and to all project stakeholders from all parties involved.
The project scope document should cover items such as:

- In scope and out-of-scope items
- Project deliverables
- Project planning and budget
- Risks
- Project organization

All projects, regardless of size, have a scope document. The PMP methodology provides templates suited for all kinds of projects.

Inputs	Processes	Outputs
Proposal document	Manpower cost calculation	Service cost calculation
Business case definition	Preliminary functional design	Deliverables determination
Acceptance criteria definition	Risk Management	Team Selection
Project planning	Project Scope document creation	Project Management preparation
Risk Sheet	Budget Follow up Sheet	Project Plan
Project Scope Document	Various Project Management Documents	

Table 2: Project scope

4.1 Inputs to the Project Scope Phase

All deliverables from the previous PMP phase, Project Initiation, are used as input for the Project Scope Phase.

4.2 Processes for the Project Scope Phase

4.2.1 Business Case Definition

The business case definition documents the relationship between the service being offered and the business needs or other stimuli that gave rise to the project.
The business case should recapitulate the customer pains or compelling events and the actors from the customer side who will use or are impacted by the new service.

4.2.2 Preliminary Functional Design

The functional design documents the characteristics and features of the product or service being offered. The functional design in this phase will generally have less detail and will be elaborated in more detail during the next project phases.
The preliminary functional design of the scope phase should allow to:

- Detail project planning and milestones
- Perform risk management
- Define deliverables and acceptance criteria
- List project assumptions and limitations
- List the out-of-scope functionalities

4.2.3 Deliverables Determination

Based on the preliminary design, all deliverables of the project or service need to be listed.
Deliverables need to be tangible and measurable.

4.2.4 Acceptance Criteria Definition

The project scope document should contain the platform acceptance criteria with which the customer will accept the deliverables of the project or service.
The acceptance criteria are linked to the functional scope of the project. They need to be tangible and the acceptance tests should be repeatable.
In this stage it is neither necessary nor possible to define unit test scenarios or component test scenarios neither for the Porthus project team nor for the customer.

4.2.5 Risk Management

Project Risk Management includes the processes concerned with identifying, analyzing and responding to project risk. It includes maximizing the results of positive events and minimizing the consequences of adverse events. The different steps in risk management are:

- Risk Identification
- Risk Quantification
- Risk Response Development
- Risk Response Control

During the Scope phase, the Risk Sheet of the Project Initiation phase, if present, needs to be confirmed by the Project Manager. It needs to be in line with the project scope and limitations as known in this stage of the project.
The Risk Sheet is a tool which needs to be updated frequently by the Project Manager. At least for each Project Steering Meeting, the Risk Spreadsheet needs to be updated and presented to the customer.
An important side remark is that Risks are categorized in:

- Customer Disclosed
- Porthus Internal Risks

The Risk Sheet will calculate a Risk Factored Amount based on the open Risk items. This amount is presented to the Customer as a project reserve, used only in case a Risk actually occurs.

4.2.6 Project Planning

Project Plan development details the different project steps in a coherent detailed way. It will be used to guide both project execution and project control.
During the project Scope phase, all main project tasks will be detailed, respecting the 7 step PMP approach. The planning will be visualized to the customers as a milestone Gantt chart.
The project plan will also deliver input for the process of project management preparations.

4.2.7 Team Selection

The project team needs to be assigned to the project. They are informed about the project business case, deliverables and planning.
The team selection needs to be entered in the Porthus ERP tool for capacity planning reasons. Each team member will need to receive 'tasks' on which he/she can report all efforts performed.

4.2.8 Project Scope Document Creation

The output of all the above processes is consolidated in the Project Scope Document.
The project scope document formally recognizes the existence of a project. The document needs to be reviewed and signed by all parties involved in the project, at least by Porthus and the Customer.

4.2.9 Project Management Preparation

The project scope and planning will provide the Project Manager all necessary information for managing his project and reporting the status and budget towards the Customer and the Porthus internal organization. Various templates are foreseen to help him managing the project.

- The Project Manager will make a schedule for the various project meetings:
- Internal Team meeting (all Porthus team members – (bi-)weekly)
- External Team meeting (Porthus and customer team members – monthly)
- Customer status meeting (Project manager and architects – (bi-)weekly)
- Architecture/QA meeting (Architects and Project Manager – depending from the project phase)
- Steering committee (Project managers; sponsors; QA – 6-weekly)

4.3 Outputs of the Project Scope Phase

The scope phase will deliver final documents on the one hand, and project management baseline and support documents on the other hand:

Doc. Description	Relevancy	Responsible	Format
Project Scope Document	Represents the formal agreement between Porthus and the customer about project scope, deliverables, acceptance and planning.	Project Manager	.doc
Project Plan	Milestone plan for communication with the customer	Project Manager	.mpp
Risk Sheet	Project Risk awareness and follow up	Project Manager	.xls
Budget Follow up Sheet	Porthus internal Manpower and investment reporting	Project Manager	.xls
Status Report Document	Progress reporting and customer communication	Project Manager	.doc
Project Budget Request sheet	Porthus internal cost accounting	Project Manager	.doc
Project Manager Summary sheet	Billing overview	Project Manager	.xls
Customer invoice detail	Billing annex	Project Manager	.xls
Project Master RFC document	Porthus change management planning to shared infrastructure	Architect	.xls
Project Organigram	Organization and lines of communication	Project Manager	.ppt .xls

Table 3: Project scope output

4.3.1 Project Scope Document

The project scope document represents the formal existence of a project. It needs to detail the business functionalities and infrastructure components in scope, and out of scope of the project.
The scope document centralizes all planning data, risk management data, functional scope and acceptance criteria.
The document will define roles & responsibilities, both of the customer and of Porthus. The project organization is detailed for people and meeting schedule.
All Project Change Requests will be evaluated against this scope document.
Depending of the size of a project, an extensive scope document or a summarized scope document is to be used. As a rule of thumb, projects with less than 15 man days effort are documented in a summarized scope document, others in the extensive scope document.
All projects are required to have a scope document!

4.3.2 Project Plan

The project plan in the Porthus PMP methodology is the visualization of the project milestone planning. The project plan will allow the Project Manager and the customer to plan and follow the progress of the project.
The PMP methodology provides a Microsoft Project template document with all the major PMP project steps and all the relevant Porthus consulting profiles. The Project Manager will plan the complete project, and generate a Gantt chart representation of the plan. This Gantt chart represents the baseline project planning and is copied into the Project Scope document (extensive version only).
Depending on the size of the project, the MS Project file will be used and updated during the project execution.

4.3.3 Risk Sheet

The risk management process will result in the Risk Sheet. This Risk Sheet will list all potential Risk events, together with their:

- Risk Value
- Probability of occurrence
- Mitigation actions
- Validity date
- Risk symptoms

For complex projects, a Risk Sheet will already be produced during the proposal phase. The ‘Risk factored amount’ (i.e. Risk value * probability) will be proposed to the Customer as a budget buffer he should request in his internal organization.
During the scope phase, the Risk Sheet will be validated / created. It is used as input for the Scope Document.
The Risk sheet will be updated and reviewed during each Project Steering Committee. Its main purpose is to create Risk awareness and to inform the customer about potential risks long before they actually occur.

4.3.4 Budget Follow-Up Sheet

It is the Project Manager’s responsibility to keep track of the project budget. He will keep an update of baseline budget, actual budget and forecast to-go budget.
The Project Manager needs to keep track of both manpower budget and investments.

4.3.5 Status Report Document

Project progress, issues and planning is discussed weekly or bi-weekly between Project Managers of Porthus and the Customer.
Porthus strives to give a total project approach to its customers and will therefore take initiative for preparing and reporting about the project status. The Porthus Project Manager will take responsibility for this.

Based on the information of the scope document, the Project Manager can already prepare his status reports with the information specific to the project.

4.3.6 Project Budget Request sheet

Whenever the Project Manager needs to make investments for the realization of the project, he needs to request sufficient budget.
Both investments for dedicated infrastructure or software and for shared infrastructure components need to be requested.
Each budget request needs to be covered by a customer order (initial or change request). The request will be approved by the Porthus COO and CFO.
The budget request will help Porthus performing proper cash management, to negotiate price levels with the suppliers and to plan the purchases.

4.3.7 Project Manager Invoice Summary

At the end of each month, the Project Manager has to provide the Porthus CFO with all data required to bill the customers. The Invoice summary sheet will list all billable activities for which the Project Manager is responsible. The list will have a reference to detailed project

4.3.8 Customer Project Invoice Detail

At the end of each month, the Project Manager is expected to prepare and document the billing amount. Depending on the project contract, time & material or fixed price, he has to prepare more or less detailed data.
The document allows to report the man day efforts and other purchases.

4.3.9 Project Master RFC Document

In order to perform proper change management at the Porthus data center, all projects have to take the Change Management planning of the Porthus Operations Department into account. In order to allow the Operations Department to plan the changes efficiently, each project needs to inform them of all changes to the shared infrastructure that are required.
In the Scope phase, this document is prepared. It needs to be completed during Project Design Phase.
The Project Master RFC document is sent to the Change Advisory Board. All additional change requests that occur during project execution will need to reference the Master RFC.
A quality check of the project will compare the line items on this document after completion of Design Phase with the line items at project closure.

4.3.10 Project Organigram

In order to make all roles & responsibilities and communication lines clear, all people involved in the project need to be identified. For this purpose, PMP provides 2 templates:
Both the Porthus and Customer project organizations are detailed. It is important that in case of mixed teams the lines of reporting crossing the organization borders are detailed as well.

5 Project Design

The Project Design Phase is the cornerstone of a successful project and of successful services afterwards.
The design will make the bridge between the end-users or companies business requirements and the technical solution.
The overall design approach is universal, but the specific deliverables and their level of detail will depend from the type of service the project is about. The Porthus PMP will distinguish design deliverables for SBC Web application projects (Complex hosting), Server Based Computing projects or Business-to-Business integration projects.

Inputs	Processes	Outputs
Project Charter	Functional Analysis	Functional analysis document
Customer interviews	Technical Architecture	Technical analysis document
	Technical Analysis	Technical architecture document
	Project Management	Specification Review Record
		Service level objectives
		Detailed acceptance criteria
		Technical test scenarios
		Preliminary reference case
		Project Master RFC
		Project Change Request
-	QA	QA reports

Table 4: Project design

5.1 Inputs to the Project Design Phase

The project charter, delivered during the Scope phase is the major input for the design phase. Additional resources like customer end-user interviews can provide valuable information.

5.2 Processes for the Project Design Phase

5.2.1 Functional Analysis

The purpose of the functional analysis is to detail the solution at a logical level.
The method used for the Functional Analysis design phase is UML modelling. The level of detail, however, will vary according to the type of service the project is about:
A more detailed description of possible deliverables and steps are provided in the documents:

- Annex 3: Quality guidelines for functional analysis and requirements engineering and
- Annex 4: Use-Case-Modelling guidelines.

Although not all deliverables need to be produced for all parts of the application, additional models and schema could be requested by inno.com in order to better assess the quality of the proposed architecture.

5.2.1.1 B2B Integration

For B2B integration projects, the functional analysis should detail at least:

- The type and number of business partners
- Details about each system to integrate with
- Details and volumes of the different message types exchanged
- Details about the required message processing steps in the hub
- Business processes and possible variants

- Users of the system
- Reporting needs

5.2.1.2 Custom Development Tracks

For Custom development tracks, the functional analysis should detail at least:

- Business Process in scope
- End user types
- Systems and devices to interact with
- Screen layouts of online transactions
- Interface layout of integration processes

5.2.1.3 All Services

During this phase the Service Level Objectives (SLO) should be discussed with the customer, and if relevant, be checked with the SLO of the proposal.
The SLO is also an important input for the Technical analysis & Architecture as it will be a prerequisite in system sizing.
Items to be discussed are:

- Availability requirements
- Service Windows
- Application support requirements
- Support response times (e.g. for restore)
- Backup requirements
- Security requirements

Based on the functional design, the project team should also detail the acceptance criteria for the end-users of the project deliverables

5.2.2 The purpose of the technical analysis is to detail the solution at a physical level.

This design phase will need to detail all the building blocks of the solution, taking into account the service level objectives.
The tasks to be performed will vary according to the type or part of the project.

5.2.3 Infrastructure Design

The architect will make a design of all the technical components required:

- Web environment
    - Web servers
    - Citrix / WTS servers
- Application environment
- Database environment
- File / storage
- Security
- Access architecture
- Integration architecture
    - With other sites
    - With partners
    - With devices
    - With applications

In case the final solution is hosted in the Porthus data center, the architect will try to use as much shared components as possible, respecting all the existing Service Level Agreements for other Porthus customers.
The use of UML deployment diagrams is highly recommended.
In case inno.com has additional questions on the non-functional requirements and the impact of these on the architecture, additional questions could be raised during this phase. This can be handled via interviews with the involved Porthus architects.

5.2.3.1 Development Design

Development can occur in many Porthus projects. There is ‘small’ development work when implementation mappings for B2B message integration. There is ‘larger’ development work for full application development work.
For the time being, development design is not supported by a methodology provided by PMP.
Unit testing scenarios should be detailed together with the development design specifications.

5.2.4 Technical Architecture

The technical architecture installation details of all the physical components
For the Porthus shared components, all changes that can be foreseen at this stage should be documented in the Master RFC list. This document will allow the Porthus operations team to plan and combine all required changes in an efficient way, with minimal impact on system availability.
The technical architecture is completed with the detailed list of technical tests which should be carried out during project implementation.

5.2.5 Project Management

The Project Management tasks encompass:

- Coordination Of Team And Customer Tasks And Interactions

- Continuous Project Plan Updating
- Resource Planning
- Budget And Progress Reporting
    - To the Porthus internal organization
    - To the Project team
    - To the customer
- Project Risk Management
- Project Quality Management
- Project Scope Management
- Project Change Management

5.3 Outputs of the Project Design Phase

Document Description	Relevancy	Responsible	Format
Functional Analysis Doc.	Detail of logical solution level	Architect	.doc / uml
UML Deployment Diagram	High level physical architecture	Architect	visio / uml
Technical Architecture Doc	Detail of technical installation	Architect	.doc
Specification Review Record	Documenting and tracking review remarks	All	.doc
Service Level Objectives	Service capabilities of the design		
Detailed Acceptance Criteria	Line up design and acceptance criteria		
Technical Test Scenarios	Line up test and design specifications		
Migration Strategy			
Preliminary Reference Case	S&M input		
Project Master Rfc	Assess & Plan impact on Shared components		
Project Change Request	PM document		
Acceptance Certificate	Formal acceptance of all deliverables by the customer		

Table 5: Project design outputs

5.3.1 Functional Analysis Document

The functional analysis will deliver a document describing all business requirements, user and system interactions. In case of a development project, the functional analysis will also contain ‘mockups’ of online screens.
The functional analysis contains additionally a functional architecture drawing.

5.3.2 Architecture assessment report

The architecture assessment report will be provided as part of the quality assurance for the proposed architecture.

5.3.3 Technical Analysis Document

The technical architecture is detailed on two levels. A first level gives an overview of all components and interactions between each other. A Visio template provides all detail to build this architecture respecting the standards of the UML deployment diagram methodology.

5.3.4 Technical Architecture Document

The deployment diagram provides input to the system engineers to detail the technical architecture in such level of detail that server installations, database configurations, security settings etc. are 'instructions' for the project implementation team.
When it is not possible to detail the technical architecture during the design phase, the project implementation will make use of 'best practice' procedures, describing previous, successful implementations. In these cases, the technical architecture document will be completed during the implementation phase.

5.3.5 Migration Strategy

The migration strategy document of the design phase will need to detail:

- Which applications in scope are eligible for data migration
- How the migration will take place per application

5.3.6 Specification Review Record

All analysis and design documents are to be reviewed by

- The Porthus project members
- The Customer project members
- Architects / QA from Porthus and customer.

In order to keep track of all remarks on the design documents, best practice prescribes that all reviews and remarks are formalized in a Review Record document. Each reviewer has to document his remarks in this template.

5.3.7 Service Level Objectives

Items to be documented are:

- Availability requirements
- Service Windows
- Application support requirements
- Support response times (e.g. for a restore)
- Backup requirements
- Security requirements

5.3.8 Detailed Platform Acceptance Criteria

Annexed to the functional design, this project phase has to deliver detailed acceptance criteria for acceptance of the project result by the Porthus customer.
This document has to be signed by both the customer and Porthus. The acceptance criteria need to be reviewed under the project change management procedures.

5.3.9 Technical Test Scenarios

The architect will detail the test scenarios that should allow the project team to test and evaluate the compliance of the implementation with the design specifications.
The test scenarios need to be tangible and reproducible.

5.3.10 Preliminary Reference Case

After completion of project design, a high level description of the project goal and deliverables can already be made. In order to allow the Porthus Marketing & Sales department to use the ongoing projects already for Reference Based Selling, the PMP methodology requires, for longer projects (>2 calendar months), that a Preliminary Reference case is made.
The final redaction of this preliminary reference case is the responsibility of the Marketing Manager. Initiation and input provisioning, however, is the responsibility of the Project Manager.

5.3.11 Project Master RFC

In order to perform proper change management at the Porthus data center, all projects have to take the change management planning of the Porthus Operations Department into account. In order to allow the Operations Department to plan the changes efficiently, each project needs to inform them of all changes to the shared infrastructure that are required.
During the Scope Phase, this document is prepared. It needs to be completed during Project Design Phase.
The Project Master RFC document is sent to the Change Advisory Board. All additional change requests that occur during project execution will need to reference the Master RFC.
A quality check of the project will compare the line items on this document after completion of Design Phase with the line items at project closure.

5.3.12 Acceptance Certificate

Each project deliverable has to be formally accepted by the Customer. Project Analysis and design documents are very important to the project result.
The customer shall be asked to accept formally these deliverables before the next phase, project implementation, will start.
The acceptance certificate document allows a signoff of project deliverables of different kinds. It can be used for acceptance of:

- Analysis documents
- Test criteria documents
- Drawings and presentations

The same document will be used for acceptance of project deliverables of later phases:

- An installed infrastructure platform
- IT functionalities
- End-user platform acceptance

5.3.13 Project Change Request

All changes asked for by the customer are to be formalized in a project change request.
The change request document needs to detail the reasons for the change:

- Functional change requested by the customer
- Technical change initiated by the project team
- Other reasons

The change request document needs to detail impact on budget and timing.
All scope changes need to be documented in a change request document, even if there is no budget or timing impact. Change requests can only be approved by the Project Steering Committee, and need to be signed by both parties (Porthus and the Customer).

6 Project Implementation

Project implementation is focused on delivering the systems and applications detailed during the design phase. The implementation phase will end with the delivery of the platform, factory testing and service set-up, allowing the group of pilot users to perform in-depth user tests during the next project phase.

Inputs	Processes	Outputs
Functional Analysis	System Installation	Pilot Environment
Technical Analysis	Software Installation & Configuration	Technical Test Reports
Technical Architecture	Application Development	End User Test Scenarios
Service Level Objectives	Service Setup	End User Training Material
	Factory Testing	Service Level Agreement
	Project Management	Call Intake Checklist
		Migration Procedure

Table 6: Project implemenatation

6.1 Inputs to the Project Implementation Phase

All design documents delivered during the previous phase, are to be used as input for the Implementation phase.

6.2 Processes for the Project Implementation Phase

6.2.1 System Installation

The project team members need to install the required infrastructure according to the architects' design document or 'best practices' reference material.

6.2.2 Software Installation & Configuration

The project team members need to install the required applications according to the architects' design document or 'best practices' reference material.

6.2.3 Application Development

The project development team will develop the required according to the functional design specifications or 'best practices' reference material.

6.2.4 Service Setup

At the end of the implementation phase, the project delivers a pilot environment which will be used by selected end-users. All preparations need to be made to prepare the 'move-to-production'. This implies that already during project implementation all specifications for monitoring and backup are detailed.

6.2.5 Factory Testing

The project team will run the technical test scenarios detailed during technical design. All tests are performed and documented.
All testing will be performed according to the testing quality guidelines as specified in *Annex 2: Quality guidelines for testing* of this document.

6.2.6 Project Management

The project management tasks consist of:

- Coordination Of Team And Customer Tasks And Interactions
- Continuous Project Plan Updating
- Resource Planning
- Budget And Progress Reporting
    - To the Porthus Internal Organization
    - To the Project Team
    - To the Customer
- Project Risk Management
- Project Quality Management
- Project Scope Management
- Project Change Management

6.3 Outputs of the Project Implementation Phase

The project implementation phase delivers a working product according to design specification which is already pre-tested by the project team.

Document Description	Relevancy	Responsible	Format
Pilot Environment	Environment for acceptance testing by the customer		
Technical Test Reports	Proof and history of testing		
End User Test Scenarios	Formal acceptance by the customer according to predefined rules		
Release notes	Formal document for the customer to follow up the releases		
Migration Procedures			
Project Documentation			
End User Training Material			
Service Level Agreement			
Call Intake Checklist			

Table 7: Project implementation output

6.3.1 Pilot Environment

No further comments.

6.3.2 Technical Test Reports

The Test scenarios document created during the design phase will be completed with the test results for the specified scenarios.

6.3.3 End User Test Scenarios

The project team will detail the test scenarios which should allow the customer end user to test and evaluate the compliance of the implementation with the design specifications.
The test scenarios need to be tangible and reproducible.

6.3.4 Release notes

The release note is a document that needs to be distributed and delivered to the customer for implementation release. It has to contain the implemented functional requirements and the fixed bugs and enhancements that are made on the product since the last implementation release.

The release notes shall include the following sections:

1. **Header** – Document name (i.e. Release Notes), product name, release number, release date, notes' date, notes version, etc.
2. **Overview** - A brief overview of the product and changes
3. **Purpose** - A brief overview of the purpose of the release note with a listing of what is new in this release, including bug fixes and new features.
4. **Issue Summary** - A short description of the bug or the enhancement in the release.
5. **Steps to Reproduce** - The steps that were followed when the bug was encountered.
6. **Resolution** - A short description of the modification/enhancement that was made to fix the bug.
7. **End-User Impact** - What different actions are needed by the end-users of the application? This should include what other functionality is impacted by these changes.
8. **Support Impacts** - Changes required in the daily processes of administering the software.
9. **Notes** - Notes about software or hardware installation, upgrades and product documentation (including documentation updates)
10. **Contact** - Support contact information.

6.3.5 Migration Procedures

Migration procedures are detailed in a step-by-step manual per application and/or user.

6.3.6 Project Documentation

Project documentation is to be delivered in the form suiting the implementation subject. This documentation has to be made available to the Porthus QA manager. He will evaluate whether the document is suitable as reference material for future projects.

6.3.7 End User Training Material

End-user training material will in most cases be specific to the project and the customer.

6.3.8 Service Level Agreement

The service level agreement draft will be detailed by the service manager assigned to the customer.

6.3.9 Call Intake Checklist

During project implementation, the project team details all information which is needed for a first investigation of service requests from an end-user.
This information is listed on the call intake checklist, the Porthus Customer Service Representative will use to complete service request intake.

7 Quality Assessments

During the complete Design and Implementation stages of the project, 6 intermediate quality assessments will be executed. These quality assessments will be based on the releases (output) of the design and the implementation phases of the project as described in this document.

The timings of these assessments have been aligned with the projects iterative releases and are included in the overall project plan. (see *Annex 1: Project Plan MPP* of this document)

Every quality assessment will be formally documented and will consist of the following key steps:

1. Validation check to see whether all the agreed output deliverables for the release are indeed delivered.

2. An architectural review to validate if the proposed design and the quality attributes of the platform align with the actual customs and logistics requirements of the platform. For the review of the quality attributes, a “backward looking” ATAM assessment will be conducted. This is the industry-standard methodology for performing architecture validation.

3. Verification of the correctness of the test reports that are part of the project implementation releases.
   Validation of the quality of the release through the delivered reports for unit testing, integration testing, functional testing, system testing, system integration testing and performance testing.

8 Project Pilot & Review

During the Pilot & Review phase, the Porthus project team will assist the customer’s key users in testing and validating the IT environment.
This phase will require training and assistance of the pilot users, and a detailed follow up of all their remarks. The Project Manager will need to have extra attention for the assuring that any efforts for review and rework are in line with the agreed upon scope of the project.
Outcome of this phase is a productive environment with active monitoring and backup procedures.

Inputs	Processes	Outputs
Project Charter	End User Training	End User Test Reports
Project Change Requests	Pilot Assistance	Service Procedures
End User Training Material	Rework	End User Pilot Acceptance
End User Test Scenarios	Monitoring & Backup Implementation	
	Service Desk & Operations Procedures	
	Operations Handover	
	Project Management	

Table 8: Project Pilot & Review

8.1 Inputs to the Pilot & Review Phase

The new, working and tested IT environment together with the end-user training material is the most important input for this phase.
The pilot users will NOT work on productive data yet.

8.2 Processes for the Pilot & Review Phase

8.2.1 End User Training

It is very important for the overall success of the project that the pilot users test ALL the functionalities foreseen in the environment.
Therefore, ALL pilot end-users need to receive a training on the new application. Once the platform goes in production, the training during roll-out can be limited to specific key-users with the 'train-the-trainer' principle.

8.2.2 Pilot Assistance

As with each new environment, it can be expected that the pilot users need assistance during the first days.
The project team will need to be on site for this assistance for several reasons:

- On the job training of the pilot users
- Effective capturing of issues
- Scope management

8.2.3 Rework

The project team will keep track of all remarks of the pilot test users in an issue list. The Project Manager has to manage closely the 'real issues' and the scope changes.

8.2.4 Monitoring & Backup Implementation

All infrastructure related to the productive environment are prepared for monitoring and backup.
The monitoring and backup procedures need to be in line with the service level objectives detailed in the project design.

8.2.5 Service Desk & Operations Procedures

The Porthus service and operations department will prepare all material and documentation required for delivering an adequate service to the customer.
These activities will be coordinated by the service manager assigned to the project.

8.2.6 Project Management

The project management tasks consist of:

- Coordination Of Team And Customer Tasks And Interactions
- Continuous Project Plan Updating
- Resource Planning
- Budget And Progress Reporting
    - To the Porthus internal organization
    - To the Project team
    - To the customer
- Project Risk Management
- Project Quality Management
- Project Scope Management
- Project Change Management

8.3 Outputs of the Pilot & Review Phase

The Pilot & Review phase will deliver a tested and accepted platform.

Document Description	Relevancy	Responsible	Format
End User Test Reports			
Service Procedures			
End User Pilot Acceptance			

Table 9: Project Pilot & Review outputs

8.3.1 End User Test Reports

The test scenarios detailed during the implementation phase are completed with the test results. This information is to be provided in the same document.
The test report is part of the Acceptance procedure of the platform by the customer.

8.3.2 Service Procedures

The service manager assigned to the project will coordinate the finalization of all service & operations procedures.

8.3.3 End User Pilot Acceptance

Prior to the go live, the responsible customer project sponsor has to sign the formal Pilot Acceptance.

9 Project Production

The main difference between pilot and production phase is the data migration. It is proposed that the pilot user group will be the first group to have all data migrated and to go into production. Some customer will require a 'production-pilot' before willing to sign the platform acceptance form.

Inputs	Processes	Outputs
End User Training Material	End User Assistance	Project Management
	Production acceptance	

Table 10: Project Production

9.1 Inputs to the Project Production Phase

The training material used to train the pilot users will now be used during roll out.

9.2 Processes for the Project Production Phase

9.2.1 End User Assistance

Depending on the requirements of the customer and scope of the project, end-user assistance will be limited to key-users or all end-users.

9.2.2 Operations Handover

All systems and applications are in detail discussed with the Porthus operations department. This information will allow them to provide services in line with the Service Level Objectives.

9.2.3 Project Management

The project management tasks consist of:

- Coordination Of Team And Customer Tasks And Interactions
- Continuous Project Plan Updating
- Resource Planning
- Budget And Progress Reporting
    - To the Porthus internal organization
    - To the Project team
    - To the customer
- Project Risk Management
- Project Quality Management
- Project Scope Management
- Project Change Management

9.3 Outputs of the Project Production Phase

The main output of the production phase will be the increasing number of end-users that are migrated to or make use of the new IT platform or applications

Document Description	Relevancy	Responsible	Format
Handover Document			
Production Acceptance			

Table 11: Project Production Output

9.3.1 Handover Document

This document describes the procedures for the handover to the Porthus operations department (internal document).

9.3.2 Production acceptance

The customer is expected to sign off for the go-live of the Platform/Application. This sign-of can still be conditionally, but all conditions have to be detailed in the acceptance form.

10 Project Closure

The project closure is the final step in the complete project life cycle. It is the mutual acceptance from both customer and Porthus that all scope elements are delivered in line with the expectations.
During closure all relevant experiences and lessons learned are shared to the Porthus organization and the customer (if appropriate).

Inputs	Processes	Outputs
Cost & Time Tracking	Project Closing Event	Reference Case
Project Status Reports	Team Evaluation	Lessons Learned
	Lessons Learned	Project Acceptance
		Project Closure Report

Table 12: Project Closure

10.1 Inputs to the Project Closure Phase

All project documents, deliverables and people experiences are input for the project closure.

10.2 Processes for the Project Closure Phase

10.2.1 Project Closing event

In case of a successful project, a closing event is recommend to award the team's efforts. If possible, the closing event should be open for both the Porthus and the customer team members.

10.2.2 Team Evaluation

The Porthus Project Manager should prepare input about the team members performance on the project for the Porthus line managers.
As the Porthus consultants work in a project structure, the annual performance evaluation will use this input as an evaluation element.

10.2.3 Lessons Learned

All lessons learned are to be shared with the other project members and with the full Porthus organization. If the lessons learned concern generic components of the Porthus product portfolio, this information will be included in the Project implementation best practices information.

10.2.4 Project Acceptance

The customer will have to sign a formal project acceptance form. By signing this form, he will confirm that the project scope is accepted unconditionally. If relevant, a guarantee period will start from this moment.

10.3 Outputs of the Project Closure Phase

Document Description	Relevancy	Responsible	Format
Reference Case			
Lessons Learned			
Team Evaluation			
Project Acceptance			
Production Acceptance			

Table 13: Project Closure Output

10.3.1 Reference Case

The Porthus Marketing manager will complete the preliminary reference case of the design phase.

10.3.2 Lessons Learned

Lessons learned are delivered in free form formats.

10.3.3 Team Evaluation

This template has to be filled out by the Project Manager for each project member. The document is to be mailed to the respective line managers of the team members.

10.3.4 Project Acceptance

The customer is expected to sign off for the go-live of the complete project.

10.3.5 Project closure report

The Project Manager will summarize the whole project in a final 'status report'. He will give a full status of the project: milestones, budget, remaining issues, etc.

11 References

- Porthus Project Management Handbook

12 Annex 1: Project Plan MPP

- See SMARTCM-D2.1.1-v1 Annex 1.mpp (MS Project)

13 Annex 2: Quality guidelines for testing

- See SMARTCM-D2.1.1-v1 Annex 2.doc

14 Annex 3: Quality guidelines for functional analysis and requirements engineering

- See SMARTCM-D2.1.1-v1 Annex 3.doc

15 Annex 4: Use-Case-Modelling guidelines

- See SMARTCM-D2.1.1-v1 Annex 4.doc