FPT
Order to Cash Improvement - Job Card Development Design Specification

Document Control

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1. Data Dictionary

The below table identifies the proposed various entities that should be referenced in the Job card system.

Table 1

Entity	Field Name	Date Type	Attribute	Field Description
Profile	ProfileName	Varchar (50)	PK	Define the function access and the level of access allowed by a security profile.
	Description	Varchar(100)		Short description of profile access.
Profile_Access	ProfileName	Varchar(50)	PK	Define the function access and the level of access allowed by a security profile.
	ScreenName	Varchar(50)	PK	The available screens/functions in the system.
	InquiryAllowed	Varchar(3)		Access to only enquire.
	ChangeAllowed	Varchar(3)		Access to make changes to the record.
	AddAllowed	Varchar(3)		Access to add a new record.
	DeleteAllowed	Varchar(3)		Access to delete a record.
Users	UserID	Varchar(20)	PK	Unique identification number for each user who access the system.
	Surname	Varchar(50)		Employee surname.
	FirstName	Varchar(50)		Employee first name.
	CompanyPlanner	Varchar(3)		Employee has a role of company planner.
	Status	Char(1)		Active or inactive employee.
Roles	UserID	Varchar(20)	PK	Unique identification number for each user who access the system.
	ProfileName	Varchar(50)	PK	Access profile record of user – specific data that define the user's working environment.

Entity	Field Name	Date Type	Attribute	Field Description
VesselMaster	VesselCode	Varchar(20)	PK	Unique code given to identify a vessel.
	VesselName	Varchar(100)	PK	Vessel name.
	VoyageNumber	Varchar(20)	PK	Unique identifier for the voyage linked to the vessel name.
	CreateUser	Varchar(20)		This is the logged in user who created the job.
	VesselCreatedate	Datetime		Date on which vessel job was created.
VesselJob	JobNumber	Varchar(20)	PK	Unique system generated number given to identify a job.
	VesselCode	Varchar(20)	PK	Unique code given to identify a vessel.
	Port	Varchar(20)		Unique number given to identify the terminal where the vessel will berth.
	JobType	Varchar(100)		Identifies the type of service provided to the customer.
	JobDescription	Varchar(500)		Long description of the type of service provided to the customer.
	Planner	Varchar(20)		Company Planner responsible for overseeing the customer order.
	Status	Char(1)		Current status of order.
	PlannedStartDate	Datetime		Planned start date on which job will start.
	ActualStartDate	Datetime		Actual start date on which job started.
	PlannedCompletionDate	Datetime		Planned date on which job will be completed.
	ActualCompletionDate	Datetime		Actual date on which job was completed.
	CreateUser	Varchar(20)		This is the logged in user who created the job.

Entity	Field Name	Date Type	Attribute	Field Description
	JobCreatedate	Datetime		Date on which vessel job was created.
	ServiceProvAcc_1	Varchar(20)		Unique code given to identify the service provider contracted for the required service.
	ServiceProvName_1	Varchar(20)		Service Provider name.
	ServiceProvAcc_2	Varchar(20)		Unique code given to identify the service provider contracted for the required service.
	ServiceProvName_2	Varchar(20)		Service Provider name.
	ServiceProvAcc_3	Varchar(20)		Unique code given to identify the service provider contracted for the required service.
	ServiceProvName_3	Varchar(20)		Service Provider name.
CustomerJob	JobNumber	Varchar(20)	PK	Unique system generated number given to identify a job.
	CustomerJobNumber	Varchar(20)	PK	Unique number given to identify the customer job (child) associated with a vessel job number (parent).
	CustomerCode	Varchar(20)		Unique code given to identify the customer.
	CustomerName	Varchar(200)		Customer name.
	BillingCustomerCode	Varchar(20)		Unique code given to identify the billing customer.
	BillingCustomerName	Varchar(200)		Billing customer name.
	ProductCode	Varchar(50)		Unique product code that identifies the commodity or service offered.
	ProductCodeDesc	Varchar(200)		Long description associated with the ProductCode offered.
	Notes	Varchar(500)		Additional Notes.
	UnitOfMeasure	Varchar(20)		This is the base unit of measure in which the ProductCode is sold or stocked.
	UnitPrice	Decimal(16,5)		Unit price of ProductCode.
	PlannedQuantity	Int		Planned quantity processed.
	ActualQuantity	Int		Actual quantity processed.

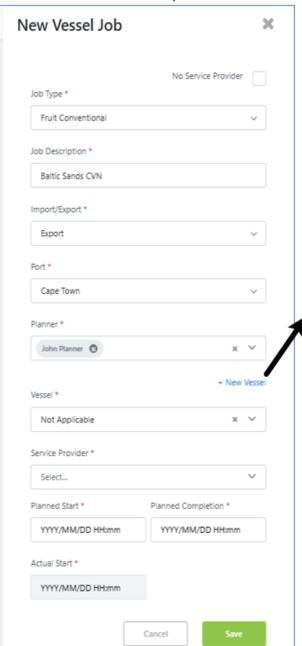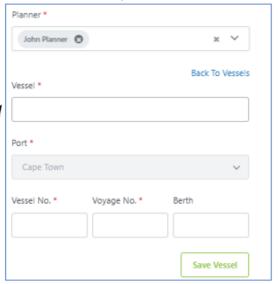| Entity	Field Name	Date Type	Attribute	Field Description
	OrderValue	Decimal(16,5)		Total order value excluding VAT.
	SalesInvoiceNo.	Varchar(30)		Sage X3 Sales invoice number

2. Interface Specifications

The following mock-up screens have been designed for the Main functions in the new application. Use cases will be created and cross-referenced to the interface designs to test the functionality and understand the process- and input requirements.

Screen 1 – The information captured on this screen will be stored in the VesselJob table. .

The user has the option to select a vessel from the vessel drop down list or create a new vessel by clicking on the "+New Vessel" option.
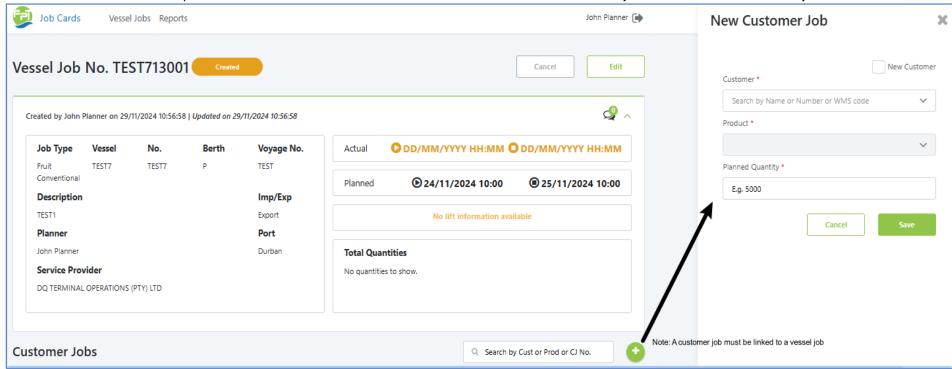
Screen 2 – The information captured on this screen will be stored in the CustomerJob table. A customer job must be linked to a vessel job.
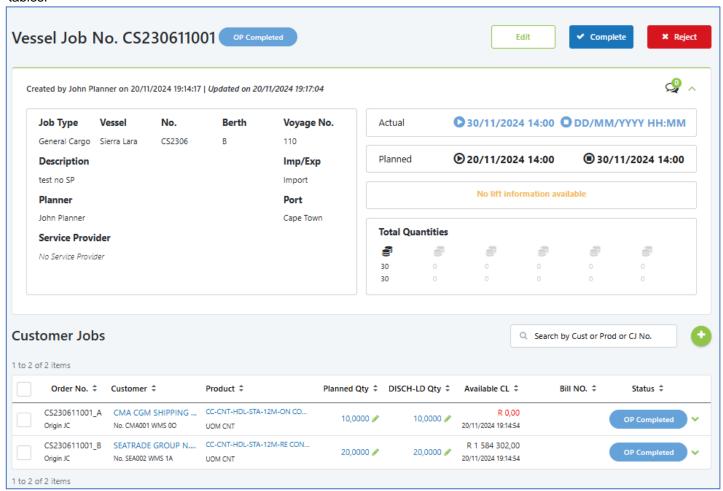
Screen 3 – The information displayed on this screen is retrieved from the VesselJob and CustomerJob tables. Changes made must be updated in the respective tables.
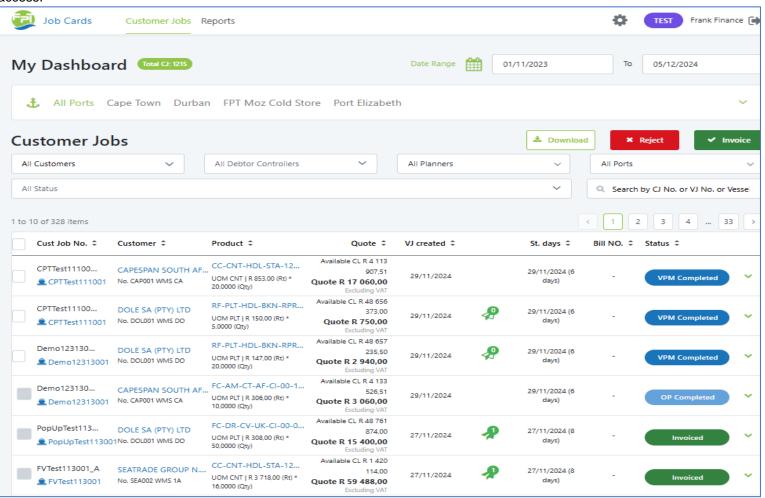
Screen 4 – Dashboards – This is an example of a dashboard, which can also serve as a landing page, visible to users upon logging into the system. Users should be able to apply various filtering options. Financial details, such as unit prices and quote amounts, must remain hidden and accessible only to users with specific access.

3.   User Roles and Permissions

User Account Configuration

- User accounts will be integrated with the organization's Active Directory (AD) system.
- Authentication and password management for these accounts will be governed by AD policies.
- Passwords will be synchronized with Active Directory, and any password changes will need to be made through AD.
- User access will be authenticated against the AD.
- In the application, a user account must be linked to a port. Users can be linked to 1 or multiple ports.
- Users will only have access to vessel and customer jobs associated with the port they are authorized to access.

The application will support the following user roles, each with specific permission.

- **Planner**
  - Can create, update and cancel assigned vessel jobs.
  - Can create, update and cancel assigned customer jobs.
  - Can mark an assigned customer job as completed during the approval process, thus making it available for invoicing.

- **ServiceProvider**

  This role will only have access to vessel- and customer jobs where a Service Provider is selected on the vessel job.

  - Can view vessel jobs.
  - Can view customer jobs.
  - Can edit ONLY the quantity completed (loaded/discharged) on the customer job.
  - Can mark a customer job as "SP Completed" during the approval process.

- **OperationsManager**
  - Can view vessel jobs.
  - Can view customer jobs.
  - Can mark a customer job as "OP Completed" or "OP Rejected" during the approval process.

- **Planning Administrator**
  - Can create, update and cancel vessel jobs.
  - Can create, update and cancel customer jobs.

- **TerminalManager**
  - Can view vessel jobs.
  - Can view customer jobs

- **BusinessSupport**
  - Can assign roles to users and manage permissions
  - Can configure system settings, such as notification preferences and security settings.
  - Can view backoffice tables
  - Can update backoffice tables.

- **SupportTechnical**
  - Can view data in staging tables.
  - Can update data in staging tables.

- **FinanceAdminstrator**
  - Can view vessel jobs and inked customer jobs.
  - Can view customers.
  - Can update linked WMS customers to Billing Customers.
  - Can view products and rates
  - Can invoice customer jobs.

4.   Functional Requirements

Name	**Create a Vessel Job**	
Identifier	FR 1.1	
Description	The system must allow the user to create a Vessel Job record.	
Precondition	User must be logged in the system and must the security access to add a vessel record.	
Actor(s)	**Primary Actor(s)**	**Secondary Actor(s)**
	Vessel Project Manager	Customer
	Actor	**System**
Basic Flow/ Main Flow/ Main success scenario	User logs into the Job Order system and: 1. Open the new Vessel Job function.	Presents Vessel Job screen.
	1. If no service provider is required for the job, check the "No Service Provider" option.	Validate that mandatory field are entered.
	2. Select a Job Type from a list.	Filter records dynamically to match the user input as they type in the dropdown.
	3. Enter a short description of the job in the Job Description memo field.	
	4. Select from a list whether the vessel job is related to imports, exports or other	Filter records dynamically to match the user input as they type in the dropdown.
	5. Choose a site from a list where the service will be provided.	Filter records dynamically to match the user input as they type in the dropdown. If the user is only linked to 1 site, the system must default to the linked site and the user must not have the option to change the site.

Basic Flow/ Main Flow/ Main success scenario (continues)	6. Choose a Planner or multiple Planners from the list who will be responsible for providing the service. The field should default to the currently logged-in Planner. The list of Planners will include all users assigned to the Planner role but will be restricted to the sites they have access to.	Filter records dynamically to match the user input as they type in the dropdown.
	7. Select a Vessel from the list of vessels. **Refer to FR 1.1 – this function allows the user to create a new Vessel if the Vessel is not available in the list.**	Filter records dynamically to match the user input as they type in the dropdown.
	8. If a Service Provider is involved, choose a Service Provider or multiple Service Providers from a list.	Filter records dynamically to match the user input as they type in the dropdown.
	9. Select a planned start date and time from a calendar picker.	
	10. Select a planned completion date and time from a calendar picker.	
	11. Save the new Vessel Job.	The system should automatically generate the vessel job number by combining the vessel number, the site, and a unique, sequentially generated number.
Data Retrieved/ Stored	Data must be stored in the relevant tables.	
Postcondition	Vessel job successfully processed.	

Name	Create a new Vessel Master list entry
Identifier	FR 1.1.2
Description	The system must allow the user to create a Vessel master record while processing FR 1.
Precondition	User must be logged in the system and must the security access to add a vessel record.

Actor(s)	**Primary Actor(s)**	**Secondary Actor(s)**
	Vessel Project Manager	Customer

	Actor	**System**
Basic Flow/ Main Flow/ Main success scenario	User creating a new Vessel job and: 1. Click on an option to create new vessel record.	Presents a new screen or expand existing screen to add the vessel information.
	2. Enter the Vessel name	Validate that mandatory field are entered.
	3. Enter the Vessel number.	Validate that mandatory field are entered.
	4. Enter a Voyage number.	Validate that mandatory field are entered.
	5. Enter a Berth code	Validate that mandatory field are entered.
	6. Save the new Vessel record.	The system should automatically generate the vessel master record in the Vessel table.
Data Retrieved/ Stored	Data must be stored in the relevant tables.	
Postcondition	Vessel master record successfully created.	

Name	Update Vessel Job	
Identifier	FR 1.2	
Description	The system must allow the user to update the Vessel Job.	
Precondition	User must be logged in the system and must the security access to make changes to a vessel job. Main job status must not be "Cancelled" or "Invoiced".	
Actor(s)	**Primary Actor(s)**	**Secondary Actor(s)**
	Vessel Project Manager	Customer
	Actor	**System**
Basic Flow/ Main Flow/ Main success scenario	User logs into the Job Order system and: 1. Open the Vessel Job.	Presents Vessel Job screen.
	2. Update the Job Description.	Only allowed while Vessel Job status is not in (Cancelled, VPM Completed, Invoiced)
	3. Update the planned start date and time.	Only allowed while Vessel Job status is not in (Cancelled, VPM Completed, Invoiced)
	4. Update the planned completion date and time.	Only allowed while Vessel Job status is not in (Cancelled, VPM Completed, Invoiced)
	5. Update actual start date and time.	Only allowed while Vessel Job status is not in (Cancelled, VPM Completed, Invoiced)
	6. Update Planner	Only allowed while Vessel Job status is not in (Cancelled, Invoiced)
Data Retrieved/ Stored	Data must be retrieved from the relevant tables. Data must be stored from the relevant tables.	
Postcondition	Customer job successfully processed.	

Name	Automatic customer job creation
Identifier	FR 2.1
Description	The system must automatically create a customer job, or multiple customer jobs, when certain conditions are met between records in the staging table and the vessel job. The customer job will hold all details relating to the service provided, quantities and relevant contracted service rates. This is to keep record of planning and sales/service history and can also be used to analyse and forecast sales. The system must verify that the following conditions are satisfied before proceeding with job creation.
Precondition	User must be logged in the system and must the security access to process a job order record.
Matching Conditions	**Port:** The port in the WMS Actuals staging table record must match the port of the vessel job. **Customer Code**: The customer code in WMS Actuals staging table record must match the customer code of the vessel job. **Product Code**: The product code in WMS Actuals staging table record must match the product code of the vessel job.
Valid Price List Entry	• A valid price list entry must exist for the time period specified in the ERP Product staging table. • The system must verify that the price list entry is valid and corresponds to the relevant customer, port and product combination.

Job Creation	• If all the matching conditions are met and a valid price list entry exists, the system must automatically create a customer job (or multiple jobs) for the matched records.
	• Each customer job must be created with relevant details such as customer information, product, port, and pricing based on the staging table records and the matched vessel job.
	• Upon the successful creation of a customer job, the system must automatically generate a unique customer job number. The format of the customer job number will consist of the following components:
	   o **Vessel Number**: The system will include the vessel number from the corresponding vessel job.
	   o **Port**: The system will include the port code from the corresponding vessel job.
	   o **Underscore ("_")**: An underscore will separate the vessel number and port from the sequential alphabetical part.
	   o **Sequential Alphabetical Number**: The system will append a sequential alphabetical identifier (e.g., A, B, C, etc.) for each new job created for the same combination of vessel and port.
	
	Format Example: 2200281300_A, 2200281300_B:
	Where 220028 represents the vessel number, 1300 represents the port code, A and B are sequential letter that will be increment for each new job created for the same vessel and port combination.

Actor(s)	**Primary Actor(s)**
	System

Basic Flow/ Main Flow/ Main success scenario	1. The system checks for records in the **WMS Actuals staging tables** that contain port, customer code, product code. 2. The system compares these records with the **vessel job** to see if the port, customer code, and product code match. 3. If a match is found, the system then checks whether a **valid price list entry** exists for the time period in the **ERP Product staging table**. 4. If all conditions are met, the system automatically creates a **customer job** with the appropriate details from the staging tables and vessel job. 5. If no match is found or the price list entry is invalid, no job is created.
Data Retrieved/ Stored	Data must be retrieved from the relevant tables. Data must be stored from the relevant tables.
Postcondition	Customer job successfully created.

Name	Manual customer job creation
Identifier	FR 2.2
Description	The system must allow the user to create a customer job, or multiple customer jobs, for the vessel job if a valid price list entry exist for the customer and product for the specified time period. The customer job will hold all details relating to the service provided, quantities and relevant contracted service rates. This is to keep record of planning and sales/service history and can also be used to analyse and forecast sales.
Precondition	User must be logged in the system and must the security access to process a job order record. Vessel job must exist.
Valid Price List Entry	• A valid price list entry must exist for the time period specified in the ERP Product staging table. • The system must verify that the price list entry is valid and corresponds to the relevant customer, port and product combination entered by the user.

Job Creation	• If a valid price list entry exists, the system must allow the user to create a customer job (or multiple jobs).
	 • Each customer job must be created with relevant details such as customer information, product, port, and pricing based on the staging table records and the matched vessel job.
	 • Upon the successful creation of a customer job, the system must automatically generate a unique customer job number. The format of the customer job number will consist of the following components:
	     o **Vessel Number**: The system will include the vessel number from the corresponding vessel job.
	     o **Port**: The system will include the port code from the corresponding vessel job.
	     o **Underscore ("_")**: An underscore will separate the vessel number and port from the sequential alphabetical part.
	     o **Sequential Alphabetical Number**: The system will append a sequential alphabetical identifier (e.g., A, B, C, etc.) for each new job created for the same combination of vessel and port.
	
	 Format Example: 2200281300_A, 2200281300_B:
	 Where 220028 represents the vessel number, 1300 represents the port code, A and B are sequential letter that will be increment for each new job created for the same vessel and port combination.

	Primary Actor(s)	**Secondary Actor(s)**
Actor(s)	Vessel Project Manager	System

Basic Flow/ Main Flow/ Main success scenario	User logs into the Job Order system and:	
	1. Open the Vessel Job.	Presents Vessel Job screen.
	2. Click on a button that will open a new screen, allowing the user to enter the necessary information to create a Customer Job associated with the vessel.	
	3. Select a customer from the list.	Filter records dynamically to match the user input as they type in the dropdown.
	4. Choose a product from the list.	Filter records dynamically to match the user input as they type in the dropdown.

	5. Enter the planned quantity.	
	6. Click on the "Add" button to add a customer job.	
	7. Release the customer job.	
	8. Close the function.	
Data Retrieved/ Stored	Data must be retrieved from the relevant tables. Data must be stored in the relevant tables.	
Postcondition	Customer job successfully created.	

Name	Manual customer job update	
Identifier	FR 3.1	
Description	The system must allow the user to manually update the customer order.	
Precondition	User must be logged in the system and must the security access to make changes to the customer job record.	
	Vessel job status must not be equal to:	
	o Cancelled	
	o Invoiced.	
	Customer job status must not be equal to:	
	o Cancelled	
	o Invoiced.	
	Only the following fields may be updated if it meets the vessel and/or customer job status and the user is assigned to the specified roles:	

Field	Role
Planned quantity	Planner
	PlanningAdministrator
Disch-Ld quantity	Planner
	PlanningAdministrator
	ServiceProvider

	Primary Actor(s)	Secondary Actor(s)
Actor(s)	Vessel Project Manager Service Provider	System
Basic Flow/ Main Flow/ Main success scenario	User logs into the Job Order system and:	
	1. Open the Customer job.	Presents Customer Job screen.
	2. Update the planned quantity.	
	3. Update the Disch-Ld quantity.	
	4. Save the changes.	
	5. Close the function.	
Data Retrieved/ Stored	Data must be retrieved from the relevant tables. Data must be stored in the relevant tables.	
Postcondition	Customer job successfully updated.	

Name	Automatic customer job update
Identifier	FR 3.2
Description	The system must automatically update a customer job, or multiple customer jobs, when certain conditions are met between records in the staging table and the customer job. The system must verify that the following conditions are satisfied before proceeding with the update.
Precondition	User must be logged in the system and must the security access to make changes to the customer job record. Vessel job status must not be equal to: ○ Cancelled ○ VPM Completed ○ Invoiced Customer job status must not be equal to: ○ Cancelled ○ VPM Completed ○ Invoiced
Matching Conditions	**Port:** The port in the WMS Actuals staging table record must match the port of the vessel job. **Customer Code**: The customer code in WMS Actuals staging table record must match the customer code of the vessel job. **Product Code**: The product code in WMS Actuals staging table record must match the product code of the vessel job.
Valid Price List Entry	• A valid price list entry must exist for the time period specified in the ERP Product staging table. • The system must verify that the price list entry is valid and corresponds to the relevant customer, port and product combination.
Job update	• If all the matching conditions are met and a valid price list entry exists, the system must automatically update a customer job (or multiple jobs) for the matched records. • Only the below fields must be automatically updated: ○ Planned quantity ○ Disch-Ld quantity
Actor(s)	**Primary Actor(s)**
	System
Basic Flow/ Main Flow/ Main success scenario	1. The system checks for records in the **WMS Actuals staging tables** that contain port, customer code, product code. 2. The system compares these records with the **vessel job** to see if the port, customer code, and product code match. 3. If a match is found, the system then checks whether a **valid price list entry** exists for the time period in the **ERP Product staging table**. 4. If all conditions are met, the system automatically updates a **customer job** with the relevant details from the staging tables and vessel job. 5. If no match is found or the price list entry is invalid, no updates are made to records.

Data Retrieved/ Stored	Data must be retrieved from the relevant tables. Data must be stored from the relevant tables.
Postcondition	Customer job successfully updated.

Name	Cancel customer job
Identifier	FR 4
Description	The system must allow the user to delete a customer job.
Precondition	User must be logged in the system and must the security access to delete a customer job record. Main job status must not be "Completed" or "Closed". Customer cancelled an order. Incorrect processing.

Actor(s)	Primary Actor(s)	Secondary Actor(s)
	Vessel Project Manager	Customer

	Actor	System
Basic Flow/ Main Flow/ Main success scenario	User logs into the Job Order system and: 1. Open the Main Job Function. 2. Select the customer record in the Customer Detail grid. 3. Click on the button "Delete Customer Jobs".	1. Presents Customer Jobs screen. 2. Filter records to match values entered in all drop-down list boxes as user start typing. 3. Validate that mandatory field are entered. 4. Restricts capturing invalid datatype for fields. 5. Delete customer job details in the system.
Data Retrieved/ Stored	Data will be retrieved from the following systems and tables: • OrderLine	
Postcondition	Customer job successfully processed.	

Name	Approval workflow
Identifier	FR 5
Description	The system must enforce an approval workflow upon the release of a customer job. The customer job will move through a series of steps, each requiring completion by a specific role before allowing the next step to proceed. Only after all required steps have been completed, must the finance clerk be allowed to invoice the customer job(s). The system must verify that the following conditions are satisfied before proceeding with the update.
Precondition	User must be logged in the system and must the security access to make changes to the customer job record. Customer job status must not be equal to: o Created o Cancelled o Invoiced

Workflow steps and rules	The customer job approval workflow consists of the following steps, which must be completed in the given order:
	1. **SP Complete Step (Service Provider) –** This step is NOT required if the user selected the "No Service Provider" option when creating the vessel job (refer to FR 1.1)
	    o **Role**: Service Provider (SP)
	    o **Description**: After the customer job is released, the service provider must mark the job as complete in the system by completing the **SP Complete** step.
	    o **Conditions**: The service provider can only mark the job as complete after verifying that all required actions from their side are finished.
	    o **Trigger**: Once the service provider completes this step, the job moves to the next step in the workflow.
	2. **OP Complete Step (OPS Manager)**
	    o Role: OPS Manager
	    o Description: After the service provider completes the SP Complete step, the OPS Manager must mark the job as complete by completing the OP Complete step.
	    o Conditions: The OPS Manager can only mark the job as complete after reviewing the service provider's actions and verifying that all operational requirements have been met.
	    o Trigger: Once the OPS Manager completes this step, the job moves to the next step in the workflow.
	3. **VPM Complete Step (Planner)**
	    o Role: Planner
	    o Description: After the OPS Manager completes the OP Complete step, the Planner must mark the job as complete by completing the VPM Complete step.
	    o Conditions: The Planner can only complete this step after reviewing the operational and service provider data and ensuring that all planning activities are finished.
	    o Trigger: Once the Planner completes this step, the job moves to the next step in the workflow.
	4. **Invoicing Step (Finance Clerk)**
	    o Role: Finance Clerk
	    o Description: After the Planner completes the VPM Complete step, and all previous steps are marked as complete, the Finance Clerk may proceed with invoicing the customer job.

	o Conditions: The finance clerk can only invoice the job once all prior steps have been successfully completed, ensuring that the job is fully approved and ready for billing.
	
	The below options must be available for the user to select at steps 2, 3 and 4:
	• **Complete**: Each role must mark their respective step as "Complete" in the system for the workflow to progress.
	• **Reject**: When selecting this option, the system must automatically return to the previous step in the workflow sequence. The workflow sequence must maintain its sequential order after the rejection, ensuring no steps are skipped.
	   o When the user selects the "Reject" option, the system must prompt the user to provide a reason for the rejection.
	   o The reason input field must be a text box and should be mandatory before proceeding with the rejection.
	
	Audit Logging:
	• The system must log all the actions in the workflow, including the user who performed the step, the timestamp, and the provided reason for rejecting the step.
	• This log should be accessible for review by users with appropriate permissions.

Workflow constraints	• **Sequential Processing**: Each step in the workflow must be completed in the specified order. No role may bypass a step or complete a step before the prior role has completed their required task.
	• **Notifications**: The system must send notifications to each role when it is their turn in the workflow. These notifications must include all relevant job details and a prompt to complete their part of the process. The notification must be send to the emails of the users linked to the roles.
	
	• **The below 2 options must be available for the user to select**:
	   o **Complete**: Each role must mark their respective step as **"Complete"** in the system for the workflow to progress.
	   o **Reject**: When selecting this option, the system must automatically return to the previous step in the workflow sequence. The workflow sequence must maintain it's sequential order after the rejection, ensuring no steps are skipped.
	     ▪ When the user selects the "Reject" option, the system must prompt the user to provide a reason for the rejection.
	     ▪ The reason input field must be a text box and should be mandatory before proceeding with the rejection.
	• **Completion Status**: Each role must mark their respective step as **"Complete"** in the system for the workflow to progress.
	• **Error Handling**: The job should not proceed to the next step until the current step is marked as complete.

Actor(s)	**Primary Actor(s)**
	Service Provider (SP), OPS Manager, Planner (VPM), Finance (Finance Clerk)
Basic Flow/ Main Flow/ Main success scenario	1. A customer job is released and enters the approval workflow. 2. The **Service Provider (SP)** completes their required actions and marks the **SP Complete** step as finished. 3. The **OPS Manager** then reviews and completes the **OP Complete** step. 4. The **Planner** reviews all prior steps and completes the **VPM Complete** step.

	5. Only after all three prior roles have completed their steps, the **Finance Clerk** can then proceed to invoice the customer job.
Data Retrieved/ Stored	Data must be retrieved from the relevant tables. Data must be stored from the relevant tables.
Postconditio n	Customer job status updated.

Name	Create Sales Invoice
Identifier	FR 6.
Description	The system must allow the user to create a sales invoice for each customer job(s). When a job status is changed to "Invoiced", the relevant information must be passed to Sage X3 to enable the user to process the sales order for each customer. The sales order(s) must automatically be created in Sage X3 with this action. A sales invoice must be created for each change in Customer Account Number – 1 sales invoice per Customer with 1 or more sales invoice lines.
Precondition	User must be logged in the system and must the security access to invoice a job record. Main job status must be "Completed". Receive confirmation from Service Provider and Vessel Project Manager that job was completed – supporting signed-off documents.

Actor(s)	**Primary Actor(s)**		**Secondary Actor(s)**
	Finance Administrator		Customer

	Actor	**System**
Basic Flow/ Main Flow/ Main success scenario	User logs into the Job Order system and: 1. Open the Customer Job Function. 2. Check and verify correctness of rates and product codes. 3. Open the Main Job Function. 4. Click on button "Invoice Job"	1. Presents Main Jobs screen. 2. Filter records to match values entered in all drop-down list boxes as user start typing. 3. Validate that mandatory field are entered. 4. Restricts capturing invalid datatype for fields. 5. Update main job status in the system.
Data Retrieved/ Stored	Data will be retrieved from the following systems and tables: • OrderMaster • OrderLine Data will be stored in the following tables: • OrderLine • ALL RELEVANT SAGE X3 TABLES – confirm table names with Raell and/or T3T	
Postcondition	Customer job successfully processed.	

5. Business Rules

The following business rules apply:

- A customer job can only be created for:

  o An existing customer. The customer information will be selected from a predefined list of customers which reside in Sage X3, OR

  o If a valid customer product price list exists for this customer.

- A vessel record may not be deleted.

- The vessel will be selected from a predefined list of vessel names which is stored in a separate table. This table must be a combination of:

  o Vessel records automatically retrieved and updated via the API (WMS – New Job Card Application.

  o Vessel records manually captured by the end-user.

- A vessel job order can consist of multiple customer jobs.

- A new customer job number must automatically be created for each change in customer account number. This must be a unique alphanumeric number determined using the job number (parent), with a suffix added for every customer job associated with the parent job number. This will allow for multiple customer jobs to be grouped together.

- More than one type of product can be sold to a customer on the same job order.

- A new customer job must be created on the vessel job for each product line.

- Only products linked to the customer in Sage X3 must populate in the product drop-down list box.

- The product description, unit of measure and unit price must automatically populate with the values associated with the product code. The user must not be able to change these values.

- The user must have the profile "Unit Price Override" to change the unit price on the order line.

- The unit price column must only be visible for users with the profile "Finance Admin".

- The user must have the profile "Order Line Override" to change the product code on the order line.

- The actual start date can never be earlier than the planned start date.

- The actual completion date can never be earlier than the planned completion date.

- The actual- and planned completion date can never be earlier than the actual start date.

- The service provider information will be selected from a predefined list of vendors which reside in Sage X3. This list will be limited to vendors linked to the vendor group "service providers".

- A Job may only be converted to a sales invoice if the job status is "Completed". Only a user with the profile "Finance Admin" may create a sales order for a completed job.

- A user may not change any field values on the order when the job order status is closed.

- The system should ensure that the integrity of the staging table and vessel job data is maintained throughout this process.

- The system must efficiently handle large volumes of records in the staging table and perform matching and job creation within an acceptable timeframe.

Note: Business rules may change during the development phase