

# Functional Requirements Document- Project Accounting

Prepared for  
**Technica International**

**Version: 2.0**

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# 1. Introduction

## 1.1 Purpose

The Functional Requirements Document (FRD) describes in common terms:

- An overview of the processes comprising each Work stream
- An overview of each sub-process comprising the Work stream
- Major gaps between the business requirements and the functionality supported by the standard Microsoft Dynamics 365 solution.
- The problem summary including current business/environment issues.

The FRD is the starting point of the solution and system development and is a collaborative effort between all business and technology stakeholders. The purpose of the Functional Requirements Document (FRD) is to document requirements for the requested system solution.

The objective of the Functional Requirements Document is to provide enhanced documentation for requirements that are a gap or will require a workaround or process change to fit the system solution of the client. The need for any modifications is clarified through the FRD. The FRD forms the basis of the subsequent task concerning the system design.

This document focus on Project Management Requirements.

## 1.2 Acronyms

Abbreviation	Explanation
TI	Technica International
FRD	Functional Requirement Document
System	Dynamics 365
HOD	Head of Department
GM	General Manager
PO	Purchase Order
WBS	Work Breakdown Structure

## 1.3 Project Setup

### Project Group

Project Group defines the posting accounts for cost transactions. Technica will have 1 Project Group "Fixed Price" which will be created, and Costing Accounts will be defined under it **(Accounts details will be taken during migration phase)**.

Groups will be used also to Categorize fixed price Projects type

The screenshot shows the 'Project groups' form in Dynamics 365. The 'General' section is expanded, showing the 'Project type' field set to 'Fixed-price'. Other fields include 'Ledger posting search priority' (Category), 'Line property search priority' (Category), 'Default line property' (Billable), and 'Verify cost against remaining forecast' (No). The 'Ledger' section contains fields for 'Post costs - hour' (Balance), 'Post costs - item' (Balance), 'Accrue revenue - hour' (No), 'Accrue revenue - item' (No), 'Post costs - expense' (Balance), 'On-account invoicing' (Balance), 'Accrue revenue - expense' (No), and 'Accrue revenue - fee' (No). The 'Estimate' section is collapsed. The 'Cost accounts' and 'Revenue accounts' sections are also present.

Figure 0 – Project Group

- A. This is to elaborate why we are using project groups even if the project type is already defined as fixed price and for what purpose:
- For hour, expense, item, and on-account transactions, you can choose to post transactions to either Profit and loss or Balance accounts. In certain cases, you can also choose not to post hour transactions.
  - Every project must belong to a project group. Therefore, you must set up at least one project group when you do the setup.
  - After you set up a project group in the Project groups form and select its project type, you can specify several default settings for it. These settings include transaction line properties, on-account invoice posting, journalizing, and cost and revenue accounts.
  - The primary purpose for assigning projects to groups is to control how posting to general ledger accounts is set up. For Fixed-price projects, the project groups also specify a cost template, which controls estimate costs, and a period code, which determines how frequently estimates are calculated for projects that are associated with the project group.

**N.B: During migration phase, we will collect all the above data from Technica.**

## Project Category

In Microsoft Dynamics 365 for Finance, project categories define the types of costs that will come from projects within an organization. All project transactions must be defined by a specific project category. Setting up project categories is essential to using Microsoft Dynamics 365's project management functionality.

A category group is a mandatory field in the project category setup. Category groups, as the name implies, separate project categories into groups based on what kind of transaction the category will define. You can create category groups for hour, expense, fee, or item transactions. Category groups can also define what accounts costs will post to – or this can be set up on individual project categories.

Technica will use 4 category groups:

- Labour
- Item
- Expenses
- Fee

Info-sys will be waiting from Technica list of the project category (Need to be collected during migration phase). Every activity or sub-activity can have all the expected categories.

The screenshot shows the 'Project categories' setup screen in Microsoft Dynamics 365. The 'Category ID' is 'Electrical' and the 'Category name' is 'Electrical'. Under 'Usage', 'Use in Expense' is 'No' and 'Use in Production' is 'Yes'. In the 'Project' section, 'Category group' is 'Cables' and 'Transaction type' is 'Item'. Under 'Cost accounts', there are fields for Cost, Payroll allocation, WIP - cost value, Cost - item, WIP - cost value - item, Accrued loss, and WIP - accrued loss. The 'Electrical' category is highlighted with a blue background in the sidebar.

Figure 1 - Project Category

## Project Stages

Every stage in this project, allows certain action to be taken. For example, in creation phase, Journals are not allowed to be created. For stage "On-Hold", accounting team will be responsible of this stage as requested by finance manager.

Below are the Project Stages that will be used for Project and are subjected to change anytime:

- Created
  - On-Hold
  - In Process
  - Finished

Below are the stages setup from where you can add or modify existing stage.

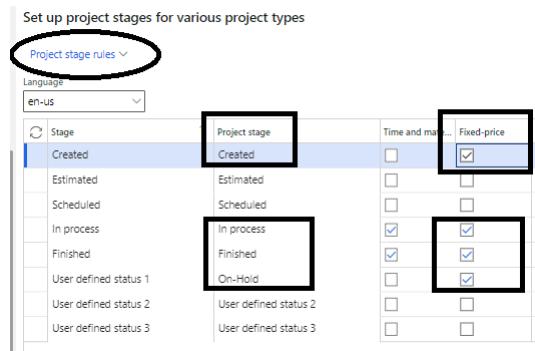


Figure 2 – Project Stage Setup

Once you click on project stage rules you will be able to assign for every selected stage, an action to be taken. See below:

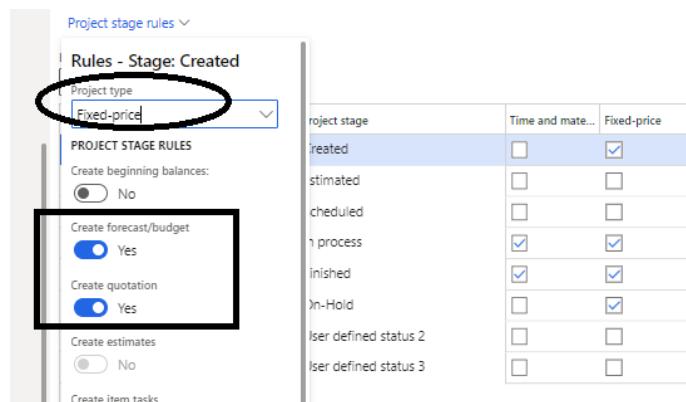


Figure 3 – Project Stage Rules setup

- As illustrated, user can update the action by project type by stage. Example: Stage created, only allow to create forecast/budget, and create quotation.
  - For on-hold, all actions will be blocked. Nothing can be passed or created.

## 2. Business Processes List

### 2.1. Processes List

To elaborate and define the functionality, the following processes have been presented in the subsequent sections:

Process ID	Name	Description
PJ001	Project Planning	Project Preparation (Initial phase)
PJ002	Project Execution	Process for Project Execution
PJ003	Project Milestone Invoice Proposal	Issuance of completed Milestones Invoices
PJ004	Project Estimates / Accrued Revenue Calculation	Project Estimates calculating project percentage of completion and the Accrued Revenue per period

### 3. Business Processes

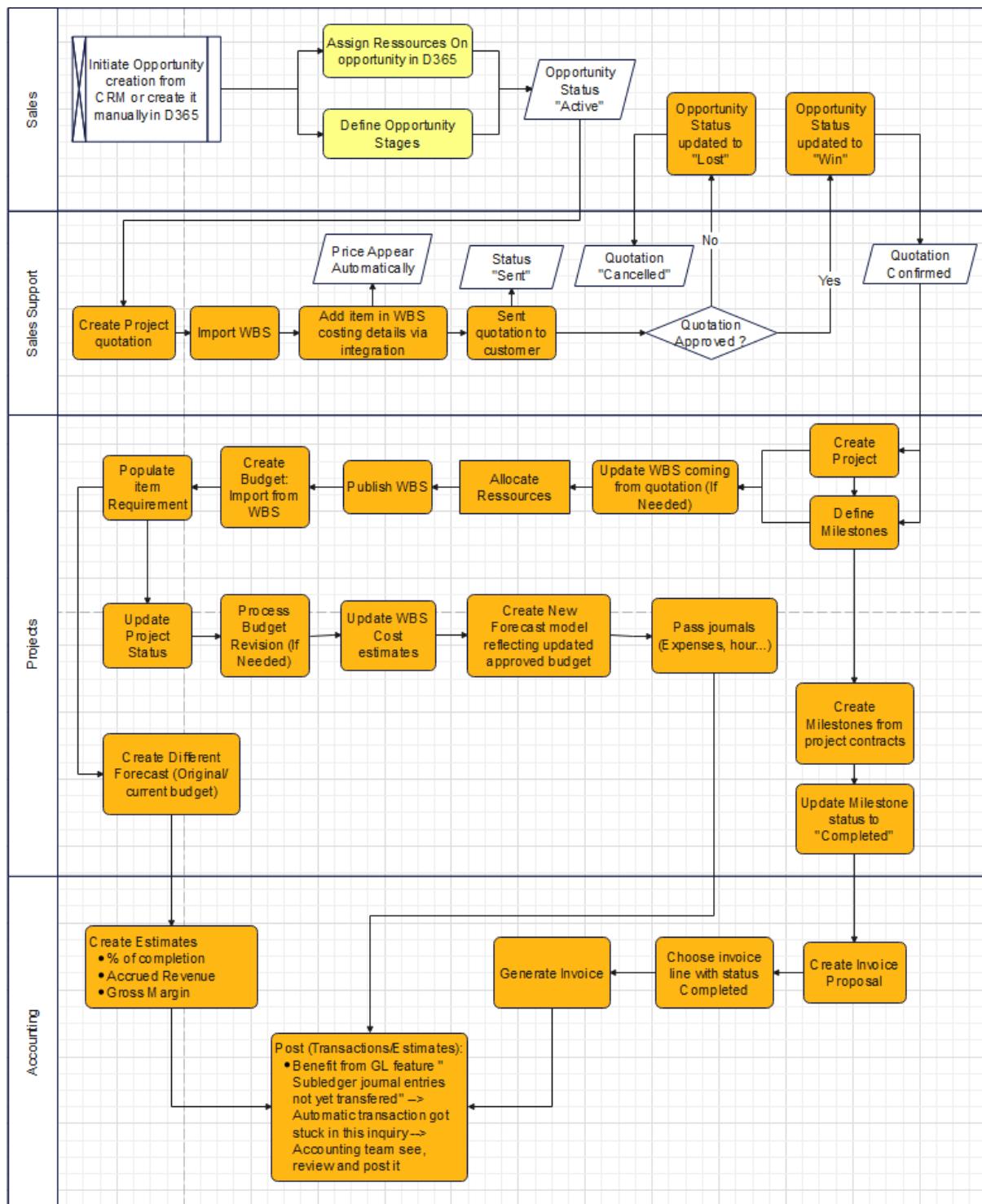


Figure 4 – Business Processes Diagram

### 3.1. PJ001 Project Planning

#### Process Diagram

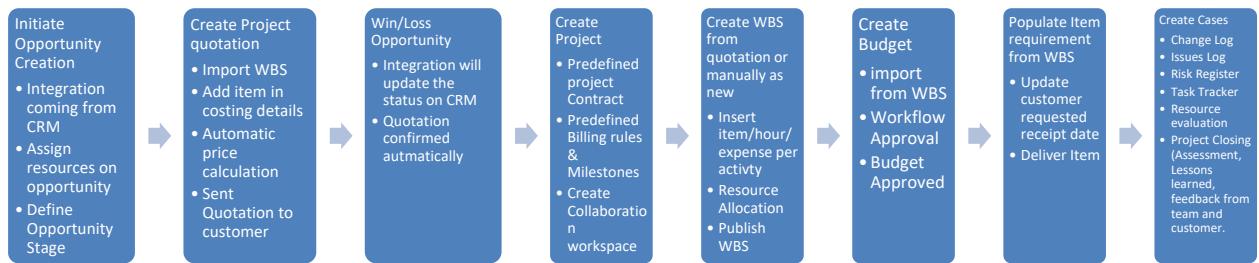


Figure 5 – Project Planning Process

#### Process Overview

#### Proposed Process Flow

##### 1. Automatic Opportunity Creation Via Integration

Opportunities are created automatically in D365 coming from CRM via 2 ways integration ("In" for creating opportunity and "out" via updating the status of opportunity in CRM from D365 once the opportunity is won or loss (Also it can be created manually).

- Opportunity ID number will be brought from CRM, and we will follow the same sequence on the D365 F&O.
- ~~Also, we will keep the automatic next number sequence in D365 active, just in case Technica wanted to create opportunities directly from D365.~~

All opportunities | Standard view ▾

CRM-006 : Empty Bottle Handling Machines

General		
<b>OPPORTUNITY</b>	<b>ESTIMATE</b>	<b>NOTES</b>
Opportunity ID CRM-006	Estimated revenue 0.00	Notes
Subject Empty Bottle Handling Machines	SOURCE	
Name Master Chips	Source type	
Status Active	Source ID	
Owner	Notes	

Figure 6 – All opportunities form

- Assign resources on opportunity:

- In the Process tab in the header: There is something called "sales process" & "Change stage". Both will be activated if we create the related stages. We will create 1 process for example, and we will name "Sales Support". Within this template there

will be different stages. As follows (Qualify, Feasibility, Capex, Comparison, Negotiation):

Figure 7 – Opportunities Stages template

- As you can see even in every stage there will be a responsible person, estimated revenue, notes, exit criteria, etc.
- Every stage will be created as an activity. So, if you go to screen "All activities" you can add more details:

Figure 8 – All Activities screen

- o So, after doing the setup of the stage, which is a onetime setup, we can add it to the related opportunity:

Figure 9 – Opportunity available stages

## **2. Project Quotation Creation**

- A.** Sales support meantime prepare a quotation and collaborate with engineers in parallel and drawings are being issued.
- B.** Meantime, communication with R&D are done as they need to check which technology to proceed with it or if its available.
- C.** At the end, quotation is issued to the customer from D365 F&O as shown in the below steps:
  - From the related opportunity in D365 F&O, create project quotation with the related references, currencies but without project ID as it will not be created in this stage since the quotation are not yet confirmed (Deal not signed yet since sales team are negotiating the offer with the customer so obviously the opportunity still not won).

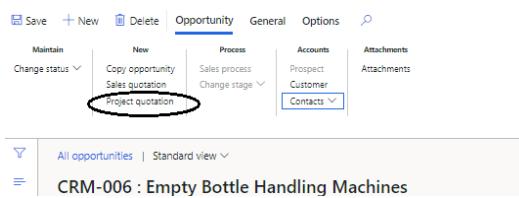


Figure 10 – All opportunities create quotation

- Quotation is created with a status "Created".

The screenshot shows the Microsoft Dynamics 365 Sales Quotation creation screen. The top right corner shows 'TECH-000021 | USD'. The left side has a 'General' tab selected, with sections for 'SALES QUOTATION' and 'EXPIRATION DATE'. In the 'SALES QUOTATION' section, 'Quotation' is set to 'TECH-000021', 'Quotation type' is 'Project quotation', 'Source code' is dropdown, 'Invoice account' is '1000', and 'Expiration date' is '31/12/2023'. The right side has sections for 'REFERENCES', 'CURRENCY', and 'PROJECT ID'. In 'REFERENCES', there are fields for 'Customer requisition' and 'Customer reference'. In 'CURRENCY', 'Currency' is set to 'USD'. In 'PROJECT ID', the field is empty.

Figure 11 – Create Quotation

- D.** Within the quotation screen, WBS will be imported from a readymade template (WBS will be created automatically to register different Project Activities (with due dates to follow up later regarding Project Progress). Technica will have many templates that will be migrated later during migration phase:

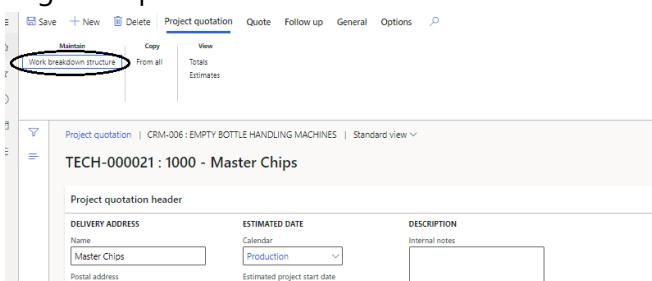


Figure 12 – Project Quotation screen

- i. Below screen shows how the process of importing an existing template will be:

The screenshot shows the 'WBS ID' column in the main table and a separate 'Copy from WBS template' dialog box on the right. The dialog box has a 'Name' dropdown set to 'WBS\_Tech'.

Figure 13 – WBS scheduling view importing WBS Template

- ii. Below is a sample of an existing imported template of Technica's.

WBS ID	Scheduling error	Note	Task name	Predecessors	Category	Effort in hours	Task start date	Task end date	Duration	Resource
TECH-000021			Initiation			1,390.00	19/06/2023	17/07/2023	21.	
1			Execution	1		56.00	19/06/2023	27/06/2023	7.	
2			Layout Engineering			1,055.00	19/06/2023	17/07/2023	21.	
2.1			Design			104.00	28/06/2023	14/07/2023	13.	
2.2			Manufacturing			304.00	19/06/2023	07/07/2023	15.	
2.3			Material Delivery			96.00	30/06/2023	17/07/2023	12.	
2.4			Assembly			64.00	19/06/2023	28/06/2023	8.	
2.5			EPMC			128.00	19/06/2023	22/06/2023	4.	
2.5.1			EPMA			24.00	19/06/2023	21/06/2023	3.	
2.5.2						32.00	19/06/2023	22/06/2023	4.	
2.5.3			EPMB			32.00	19/06/2023	22/06/2023	4.	
2.5.3.1			Mechanical		Efforts	8.00	19/06/2023	19/06/2023	1.	
2.5.3.2			Cable Wiring	2.5.3.1	Efforts	8.00	20/06/2023	20/06/2023	1.	
2.5.3.3			Electrical Panel	2.5.3.2	Efforts	8.00	21/06/2023	21/06/2023	1.	

Figure 14 – WBS with scheduling view

- E. In every activity created, the team can assign items, expenses, hour.

- o In WBS Scheduling view, select the activity/task line and click on “**Details**”.

WBS ID	Scheduling error	Note	Task name	Predecessors	Category	Effort in hours	Task start date	Task end date	Duration	Number of res...	Role ID
2.5.2.3			Electrical Panel	2.5.2.2	Efforts	8.00	21/06/2023	21/06/2023	1.00	1.00	
2.5.2.4			Packing	2.5.2.3	Efforts	8.00	22/06/2023	22/06/2023	1.00	1.00	
2.5.3			EPMB			32.00	19/06/2023	22/06/2023	4.00	1.00	
2.5.3.1			Mechanical		Efforts	8.00	19/06/2023	19/06/2023	1.00	1.00	
2.5.3.2			Cable Wiring	2.5.3.1	Efforts	8.00	20/06/2023	20/06/2023	1.00	1.00	
2.5.3.3			Electrical Panel	2.5.3.2	Efforts	8.00	21/06/2023	21/06/2023	1.00	1.00	
2.5.3.4			Packing	2.5.3.3	Efforts	8.00	22/06/2023	22/06/2023	1.00	1.00	

Figure 15 – WBS Scheduling Views (Insert Cost Details)

- o Technica team will add the below data (Via integration from CAD system → WBS will be sent to CAD with the related activity number then the CAD will fill the related item... and send it back to D365):
  - Transaction Type: Item, Hour, Expense.
  - Project category: Will show related category of item, hour or expenses depends on what you chose in the transaction type.

- Every type created or category created will have a resource assigned to it, Role ID.
- Same transaction type, same project category might be created twice (This is doable), but every line will have different resource assign to it with its unique prices (Price details by resource will be elaborated in detail in the Resource allocation section).
- As for the item cost/price please refer to sales support FRD for price calculation (under section Assembly cost & selling price calculation):
  - Technica get the price of sales support based on a BOM that doesn't exist. They assume that it exists based on history and calculation of a study (best practice). Sales support do the configuration.
  - i. We will not use the product configurator.

The screenshot shows the 'Line details for Electrical Panel' screen. It includes sections for Activity number (TECH-000082), Notes, Task Scheduling (Effort in hours: 8.00, Staffed hours: 8.00, Unstaffed hours: 0.00), Resource Scheduling (Staffing status: Not staffed), Summary Price Estimates (Summary sales estimate: 20,252.00, Summary cost estimate: 5,036.00), and Task Category (Category: Efforts, Restrict activity category: No). Below this is an 'Estimated costs and revenue' table:

Description	Project category	Role ID	Quantity	Unit cost price	Unit sales price	Total cost price	Total sales price	Item number	Sales category	Line property
Hour	Efforts	Efforts	8.00	100.00	1,800.00	800.00	14,400.00		Billable	
Expense	Fights	Fight	1.00	150.00	250.00	150.00	250.00		Billable	
<b>Item</b>	<b>Conveyor</b>	<b>Item</b>	<b>1.00</b>	<b>4,086.00</b>	<b>5,602.00</b>	<b>4,086.00</b>	<b>5,602.00</b>	<b>SAL1245...</b>	<b>Billable</b>	

Figure 16 – WBS Cost Details

- F. Once WBS is completed, go back to quotation page in the “Lines” section and click on generate “Create quotation lines from WBS”.

The screenshot shows the 'Project quotation' screen for 'CRM-006 : EMPTY BOTTLE HANDLING MACHINES'. It displays project details like Name (Master Chips), Calendar (Production), and Internal notes. A context menu is open over the notes area, with the 'Create quotation lines from WBS' option circled. At the bottom, there's a 'Generate' button highlighted with a circle.

Figure 17 – Project quotation Line

- Lines will be updated by all the items coming from WBS then submit workflow for approval (**Workflow details will be sent by Technica during migration phase**)

Lines										Quotation status	Created
+ Add line	Remove	Inventory	Product and supply	Update line	Generate						
○	□	Transaction type	Project category	Sales category	Item number	Resource	Quantity	Activity number	Task name	Unit price	Net amount
		Hour	Efforts				8.00	TECH-003080	Mechanical	0.00	0.00
		Hour	Efforts				8.00	TECH-003081	Cable Wiring	0.00	0.00
		Hour	Efforts				8.00	TECH-003082	Electrical Panel	1,800.00	14,400.00
		Expense	Fright				1.00	TECH-003082	Electrical Panel	250.00	250.00
	■	Item	Item	v	SAL1245-21CCR13-1		1.00	TECH-003082	Electrical Panel	5,602.00	5,602.00
		Hour	Efforts				8.00	TECH-003083	Parking	0.00	0.00

Figure 18 – Project Quotation lines (2)

- Workflow is for internal approval before sending the quotation to the customer. Once approved, the status will be changed to Approved → Then sent the quotation to customer.

Save	+ New	Delete	Workflow	Project quotation	Quote	Follow up	General	Options	Search
Tax	Process	Accounts	Sales prices	Journals					
Sales tax	Send quotation	Customer	Hours	Quotation journal					

Figure 19 – Send quotation path.

- Once Rejected/Approved by the customer. The sales team will need to update the opportunity status. Or if it was rejected for the purpose of updating the quotation, then the sales team will have access also to update the quotation and send it back.

## G. Opportunity Loss/Won

- If an opportunity is lost, the project quotation will be cancelled.
- If the opportunity is won, the project quotation will be confirmed and will be ready to create the related project. See below steps that was adopted by Technica:
  - i. Go to opportunity created and update status to "Win".
  - ii. Once updated to "Win", Project quotation will be automatically updated to status "Confirmed".
  - iii. But once the opportunity is "Lost" the project quotation will be "Cancelled".

## H. Sales support team will create projects via the below wizard:

- In the "Follow up" tab in quotation **Technica** team will use the feature of "transfer to project" for creating the project automatically.



Figure 20 – Create Project Wizard.

- Technica team chose this option to create new project and to transfer quotation WBS to the created project as is. Later, the project team can update it if they want and the process will finish.

Figure 21 – Create Project Wizard (2)

- Project file location will be stored as well either by using the out of the box functionality or by using the functionality of "URL collaboration workspace" that is linked to a share point. So, you create an external share point and add it here:

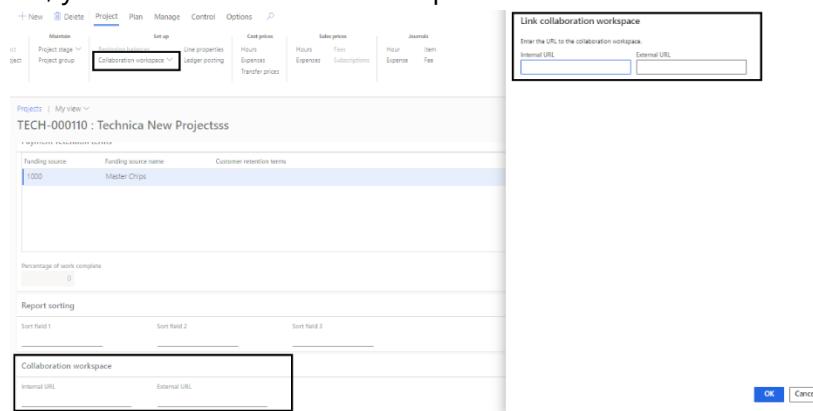


Figure 22 – URL Collaboration Workspace

- Pre-Requisite: Project contract to be predefined by Sales support team. And later, once the project is created, project team will add the billing rules and milestones in it.
  - Milestone is per activity (**You can add them after budget approval**).
  - Retention (%) also can be one same percentage for all milestones. Or if Technica wants, we can create for every billing rule one milestone for one retention % (**You can add them after budget approval**).
  - Example shown below are only for activity out of all activity. So that for every activity it may be linked with a milestone.

Figure 23 - Project Contract

Project date	Description	Project ID	Sales currency	Sales price	Activity	Invoice status
30/06/2023	MAT Due date 30/06/2023	TECH-000110	USD	20,252.00	Electrical Panel	Chargeable
31/07/2023	MA2 Due date 31/07/2023	TECH-000110	USD	2,560.00	Cable Wiring	Chargeable
Total						22,812.00
2 rows						

Figure 24 – Project Contract / Billing Rules (Milestones) Details

- Now, the project is created successfully, and the project team will be their responsibility to deliver the project starting the kick-off process till reaching the delivery.
  
- I. In this phase, what we have mentioned above on adding item to the cost details in the project WBS, it can be updated in the project WBS by the project team which was moved automatically from project quotation (Refer to section e.ii.)
  - Project team will make sure that all the WBS are now updated with the correct values, tasks, activity, and to publish it after assigning the needed resources (See next section).
  - Technica team confirmed that during the project life cycle, they might add within the same project another WBS as a 2<sup>nd</sup> section for freight charges for example and a specific category for them to be created as well.
    - There are additional charges like freight charges that will be brought in later stage to the project, but the project manager doesn't want this cost to be tracked on the original WBS template. So, we suggested to import another WBS template having only 1 line of activity including a tasks name "Freight charges". By this way, we will be able to track the additional cost on this project separately.

## J. Resources Allocations & Cost/Prices

One challenge for project managers and resource managers during the project planning stage is resource allocation, where they must determine and reserve the correct resource to work on a project. In D365, resourcing capabilities for projects let you define roles that are treated as temporary resources that can be reserved for a specific engagement or part of an engagement:

### 1. Create Resources

- Go to the resource list in the project accounting module.
- Every worker in the company can be a resource but you must add it to the project management module otherwise it will not be considered as resource.

The screenshot shows the 'Resources list page' in 'Standard view'. It displays a list of resources, with 'Sean Bentley' highlighted. Resource details for Sean Bentley are shown in a grid:

Resource name	Sales price	Calendar	Effective
Sean Bentley	0.00	Production	01/01/2021
Worker name	Cost price	Period types	To date
Sean Bentley	150.00		31/12/2154
Resource ID	Worker type	Title	Is schedulable
000363	Employee	Consultant	<input checked="" type="checkbox"/> Yes
Role ID	Source legal entity		
Electrical Eng	tech		

Figure 25 – Resources List page

- Technica will have same shared calendar across all function with working days except Saturday and Sunday. Unless resources are needed to work on weekends, this can be updated manually by resources (see below).

The screenshot shows the 'Project Calendar working time' page in 'STANDARD' view. A weekly grid is displayed, with the last column ('Control') highlighted with a black box. The grid shows the following data:

Date	Day	Week	Month	Control	Closed for pickup
18/06/2023	Sunday	24	June	Open	<input type="checkbox"/>
19/06/2023	Monday	25	June	Open	<input type="checkbox"/>
20/06/2023	Tuesday	25	June	Open	<input type="checkbox"/>
21/06/2023	Wednesday	25	June	Open	<input type="checkbox"/>
22/06/2023	Thursday	25	June	Open	<input type="checkbox"/>
23/06/2023	Friday	25	June	Open	<input type="checkbox"/>
24/06/2023	Saturday	25	June	Open	<input type="checkbox"/>

Figure 26 – Project Calendar working time.

- Every resource needs to be assigned to a role (as illustrated example: Electrical Eng). 1 resource can have different roles with different expiry date (see below):

The screenshot shows the 'Project Resource default role by expiry date' page in 'Standard view'. It displays a list of roles:

Effective	Expiration	Role ID
30/04/2023	30/04/2023	Engineer
01/05/2023	Never	Electrical Eng

Figure 27 – Project Resource default role by expiry date

- e. Every resource as mentioned above can have a different role and every role assigned to him can have unique price and cost. Within the same screen there is setup for cost & price:

- i. If there is no condition, resources will take the cost and price mentioned in the resource list.
- ii. If there is condition, please find below path for it:

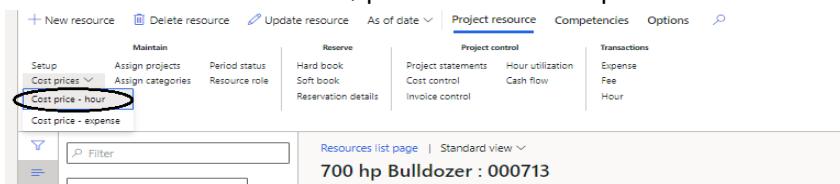


Figure 28 – Direction for Cost price-Hour setup

- iii. Choose different combinations that lead to a specific cost for this resource. See below examples:

Cost price - hour   ALICE CICCU : HUMAN RESOURCES									
Standard view									
	Effective date	Role ID	Effective labor ...	Customer account	Project contract ID	Category	Project ID	Price group	Cost price
18/06/2023		Project manager							300.00
17/06/2023									260.00
01/06/2023		Team member							150.00
01/01/2016						PM			200.00

Figure 29 – Cost price – Hour for resource

Sales price - hour   ALICE CICCU : HUMAN RESOURCES									
Standard view									
	Date	Role ID	Category	Resource	Valid for	Project ID	Project contract ID	Customer account	Sales currency
323		Project manager	Alice C...	000349 usd	All				USD
314		PM	Alice C...	000349 usd	All				USD

Figure 30 – Sales price – Hour for resource

- The above means that we can identify different Labor cost in different activity even if they are the same resource. On resource level, you can do the setup of different combination (by effective date, by project number, by project contract, by project category by customer, by role). You can choose the related combination and apply the cost.

## 2. Assign Resources:

- a. Resources now is ready to start assigning them on different project with different cost/price depends on the different combination that was added into the resource setup (**All these data will be taken from Technica team during migration phase**).
  - i. Technica Team was asking to notify the worker once an activity is assigned to him. This is doable. In D365, we have a screen called "All activities" that contains all the companies created activities included project based.

- ii. So once the activity is created, we will trigger notification via the "Custom alerts" where if a resource was assigned to a task inform him via email or system notification. See below:

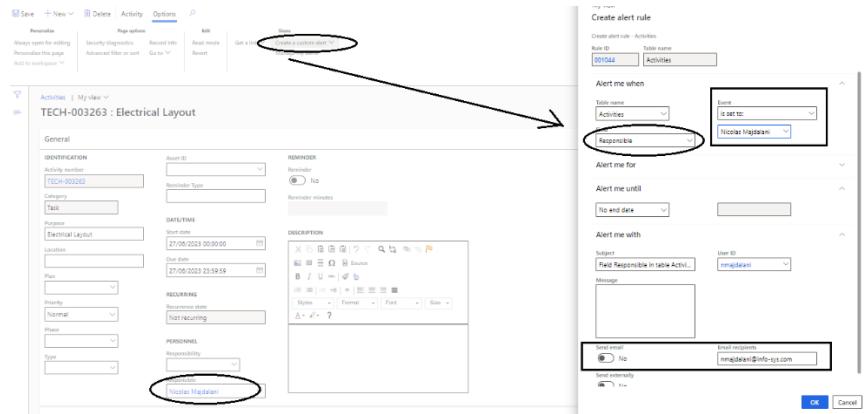


Figure 31 – All activities custom alert notification

- b. 1 resource can be assigned into the same project with different activity.
- c. Multiple resources can be assigned into same Task/activity.

View								
	Task name	Predecessors	Category	Effort in hours	Task start date	Task end date	Duration	Number of res.
	EPMB			32.00	19/06/2023	22/06/2023	4.00	1.00
	Mechanical		Efforts	8.00	19/06/2023	19/06/2023	1.00	1.00
	Cable Wiring	2.5.3.1	Efforts	8.00	20/06/2023	20/06/2023	1.00	1.00
	Electrical Panel	2.5.3.2	Efforts	8.00	21/06/2023	21/06/2023	1.00	1.00
	Packing	2.5.3.3	Efforts	8.00	22/06/2023	22/06/2023	1.00	1.00

Figure 32 – WBS Scheduling view assigning resources.

- d. To reach the level of point c., a resource 1<sup>st</sup> must be assigned to a project. Go to project details in "the project and team scheduling" section and add them as follow:
  - i. So, you choose the resource manually.
  - ii. Or to click on book from calendar, the system will show the resource having roles "Team member" based on their availability from & To date.

Project and team scheduling																																	
Standard view ▾ Add roles to project																																	
<input type="button" value="Add resource"/>																																	
Role: Electrical Eng																																	
Number of resources: 1																																	
Start date: 19/06/2023 End date: 26/07/2023																																	
Resource: <input type="button" value="Book from calendar"/>																																	
Duration: 1 week																																	
Last updated: 19/06/2023																																	
<table border="1"> <thead> <tr> <th>Name</th> <th>Start date</th> <th>End date</th> <th>Booked hours</th> <th>Assigned hours</th> </tr> </thead> <tbody> <tr> <td>Drawer</td> <td>19/06/2023</td> <td>19/06/2023</td> <td>5.00</td> <td>0.00</td> </tr> <tr> <td>Nicolas Majdalani - tech</td> <td>19/06/2023</td> <td>19/06/2023</td> <td>5.00</td> <td>0.00</td> </tr> <tr> <td><b>Electrical Eng</b></td> <td><b>19/06/2023</b></td> <td><b>23/06/2023</b></td> <td><b>2.50</b></td> <td><b>0.00</b></td> </tr> <tr> <td>Sean Bentley - tech</td> <td>19/06/2023</td> <td>23/06/2023</td> <td>2.50</td> <td>0.00</td> </tr> </tbody> </table>									Name	Start date	End date	Booked hours	Assigned hours	Drawer	19/06/2023	19/06/2023	5.00	0.00	Nicolas Majdalani - tech	19/06/2023	19/06/2023	5.00	0.00	<b>Electrical Eng</b>	<b>19/06/2023</b>	<b>23/06/2023</b>	<b>2.50</b>	<b>0.00</b>	Sean Bentley - tech	19/06/2023	23/06/2023	2.50	0.00
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<b>Electrical Eng</b>	<b>19/06/2023</b>	<b>23/06/2023</b>	<b>2.50</b>	<b>0.00</b>																													
Sean Bentley - tech	19/06/2023	23/06/2023	2.50	0.00																													

Figure 33 – Add resources in project & team scheduling section.

- e. Below screen will appear based on the criteria that I have chosen from and to date with project manager role:

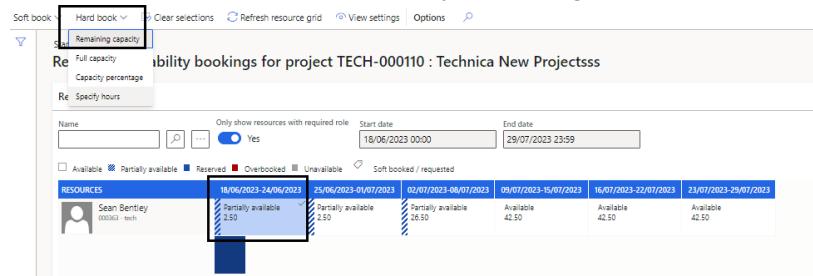


Figure 34 – Resource availability booking.

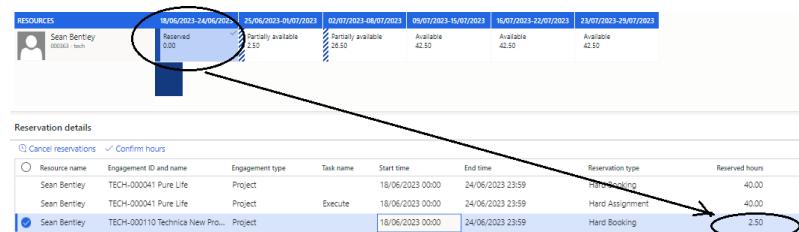


Figure 35 – Resource Hard booking of remaining capacity

- f. You may book the resource from within this project and place several hours needed. Then go to the WBS and choose it for the related task as shown in section c.  
g. Or you can simply directly go to the resource list and assign this resource on a project directly. Both options are available (Resource availability screen):

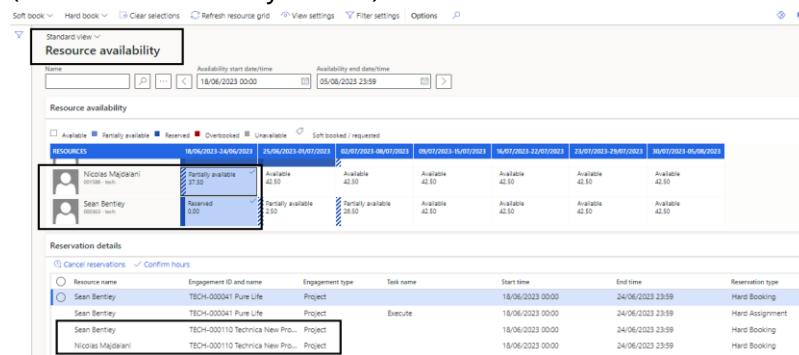


Figure 36 – Resource Availability Inquiry

## K. Publish WBS

### **N.B:**

In case of a change request in future, WBS will be subject to be updated.

## L. Create Project Budget

- Project Team will register a Forecast Model "**Initial Forecast**" which refers to the Estimated Budget for this New Project. This Budget will be reflected in the Whole Technica Budget as **Original Budget**
- Project Budget can be created based on Project Category/Activity.

- Original budget will be brought from the published WBS templates having the Current estimate with all the listed activities and project categories and the related items, hour, expenses per task.

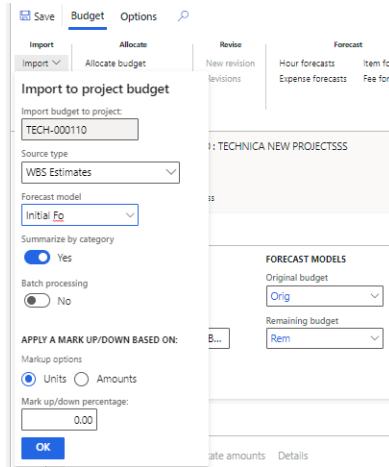


Figure 37 - Project Budget Import from WBS

- The system will bring all the created activities in the WBS cost estimates view.

Work breakdown structure   TECH-000110 : TECHNICA NEW PROJECTSSS											Project ID																																																																																																
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TECH-000110: Technica New Projectss																																																																																																											
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<span>+ New</span> <span>&gt;Delete</span> <span>&lt;#&gt; Outdent</span> <span>&lt;#&gt; Indent</span> <span>↑ Move up</span> <span>↓ Move down</span> <span>Expand to ▾</span> <span>Details</span> <span>Import</span> <span>Export</span> <span>Attachments</span> <span>Auto scheduling</span> <span>Resource</span> <span>Product dimension</span>																																																																																																											
<table border="1"> <thead> <tr> <th>View</th> <th>Cost estimates</th> <th>Auto scheduling</th> <th>Show schedule errors</th> </tr> </thead> <tbody> <tr> <td>WBS ID</td> <td>Task name</td> <td>Transaction type</td> <td>Description</td> <td>Project category</td> <td>Role ID</td> <td>Quantity</td> <td>Unit cost price</td> <td>Unit sales price</td> <td>Total cost price</td> <td>Total sales price</td> <td>Item number</td> </tr> </tbody> </table>												View	Cost estimates	Auto scheduling	Show schedule errors	WBS ID	Task name	Transaction type	Description	Project category	Role ID	Quantity	Unit cost price	Unit sales price	Total cost price	Total sales price	Item number																																																																																
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Figure 38 – WBS having for 1 activity different tasks controlled in budget module.

Project budget   TECH-000110 : TECHNICA NEW PROJECTSSS											Related information																																
Standard view																																											
TECH-000110: Technica New Projectss - Budget created from Forecast: Initial Fo																																											
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<table border="1"> <thead> <tr> <th colspan="2">BUDGET INFORMATION</th> <th colspan="2">FORECAST MODELS</th> </tr> </thead> <tbody> <tr> <td>Project budget ID</td> <td>TECH-00011</td> <td>Original budget</td> <td>Orig</td> </tr> <tr> <td>Description</td> <td>Cost estimates (Original Budget)</td> <td>Remaining budget</td> <td>Rem</td> </tr> <tr> <td>Workflow status</td> <td>Created</td> <td></td> <td></td> </tr> </tbody> </table>												BUDGET INFORMATION		FORECAST MODELS		Project budget ID	TECH-00011	Original budget	Orig	Description	Cost estimates (Original Budget)	Remaining budget	Rem	Workflow status	Created																		
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TECH-000110	TECH-003291	Item	Item	4,086.00	0.00	0.00	0.00																																				

Figure 39 - Project Budget After import from WBS

- Now, all journals that will be passed on this level activity/category will be controlled not to over budget the

mentioned amounts → Will see the transactions part and validation in the execution phase.

- Data budgeted will be taken from Technica during the migration phase.

### M. Populate Item requirement from WBS:



Figure 40 – Transfer Item requirement from WBS estimates

- System will not allow you to do any action if the project stage is not updated to a stage that allows such action (like in progress but not created or on-hold). See below error:

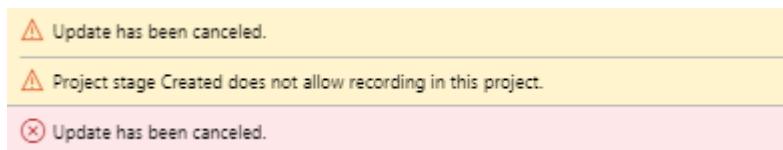


Figure 41 – Error checking item requirement Vs project stages

- Update the stage to “In Process” so that we pass the item requirement.
- Within the project, in the “Item requirement” in the header click on “Item requirements”, below screen will show the selected items coming from the approved/published WBS:

Product name: Conveyor   TECH-000110 : TECHNICA NEW PROJECTSS										
Standard view ▾										
Show	Active									
Lines	General	Setup	Address	Quantity	Other	Project	Financial dimensions	Product dimensions		
Project ID	Sales category	Product name	Item number	Quantity	Line property	Line status	Requested receipt date	Activity number	Category	Item
TECH-000110	Conveyor	SAL1245-21CCR13-1	1.00	Billable	Open order	31/07/2023	TECH-003291			

Figure 42 – Item requirement form

- Requested receipt date is the field that will trigger an automatic creation of a **planned** purchase orders, **planned** production orders and **planned** transfer orders.
- Technica team requested to have a customization on this screen: Add column name “Confirmed received day” based on a PO or Voyage.
- Now, within the same screen, the stock is available. Manage → Inventory → On Hand

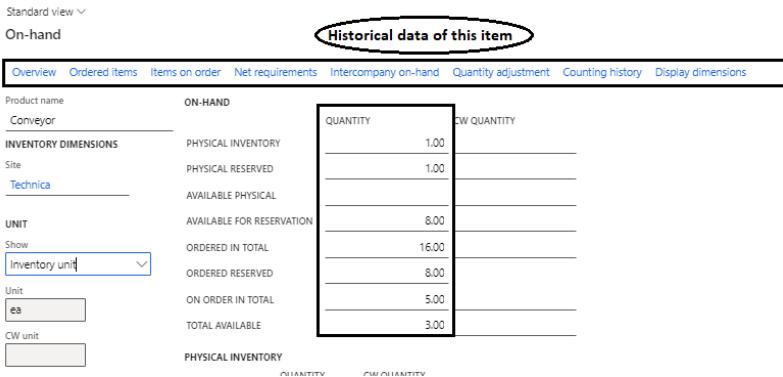


Figure 43 – Item requirement Inventory on hand availability

- Pass packing slip so that the item gets consumed. See below steps:

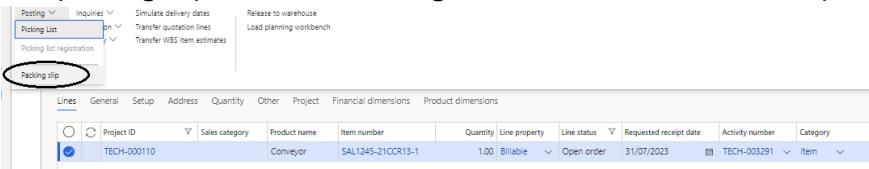


Figure 44 – Packing slip steps.

- Select the quantity, dates, posting criteria and click ok. Item requirement will update its status to "Delivered".
  - Packing slip means this item is ready for shipping/delivery.
  - This step is done after picking the materials related to this item from inventory.

## N. In the section of WBS in the "Tracking Views", see below:

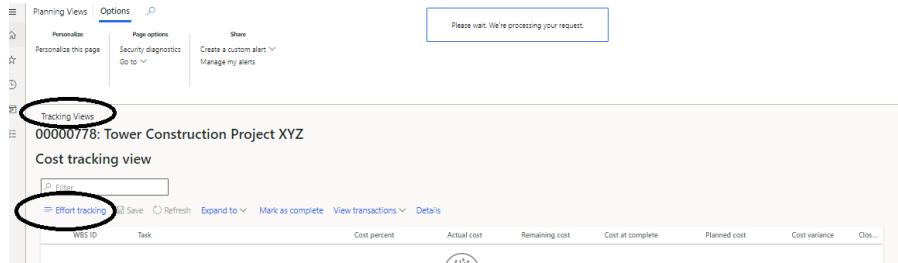


Figure 45 – WBS Tracking view (Effort tracking view)

- Once you click on effort tracking, system will show you fields in **bold** that are allowed to be updated (see below 2 screens, 1<sup>st</sup> before the updates and the 2<sup>nd</sup> after the updates):
  - As "Effort" it is an hour spent per activity. So, the above screen it's a view to show the time (Hours) spent on the project, expected original time, and the remaining not yet spent.
  - Update to be done on the lowest level (by activity) form this screen.
  - As for automatically updating the effort from the activity cost detail, will be illustrated in next point as requested by Technica.

Effort tracking view							
WBS ID	Task	Progress percent	Actual effort	Remaining effort	Effort at complete	Planned effort	Effort variance
> 00000778		10.77	7.00	58.00	65.00	65.00	0.00
> 1 Indirect		12.73	7.00	48.00	55.00	55.00	0.00
> 1.1 General Requirements		28.00	7.00	18.00	25.00	25.00	0.00
> 1.1.1 Insurance		0.00	0.00	8.00	8.00	8.00	0.00
> 1.1.2 Car		43.75	7.00	9.00	16.00	16.00	0.00
> 1.1.3 Fuel		0.00	0.00	1.00	1.00	1.00	0.00
> 1.1.4 Concrete Pump		0.00	0.00	0.00	0.00	0.00	0.00
> 1.1.5 Labor		0.00	0.00	0.00	0.00	0.00	0.00
> 1.1.6 Running costs		0.00	0.00	0.00	0.00	0.00	0.00
> 1.1.7 Consumables		0.00	0.00	0.00	0.00	0.00	0.00

Figure 46 – WBS Effort tracking before the Manual updates

Effort tracking view							
WBS ID	Task	Progress percent	Actual effort	Remaining effort	Effort at complete	Planned effort	Effort variance
> 00000778		11.54	7.00	53.67	60.67	65.00	4.33
> 1 Indirect		13.81	7.00	43.67	50.67	55.00	4.33
> 1.1 General Requirements		33.87	7.00	13.67	20.67	25.00	4.33
> 1.1.1 Insurance		0.00	0.00	8.00	8.00	8.00	0.00
> 1.1.2 Car		60.00	7.00	4.67	11.67	16.00	4.33
> 1.1.3 Fuel		0.00	0.00	1.00	1.00	1.00	0.00
> 1.1.4 Concrete Pump		0.00	0.00	0.00	0.00	0.00	0.00
> 1.1.5 Labor		0.00	0.00	0.00	0.00	0.00	0.00
> 1.1.6 Running costs		0.00	0.00	0.00	0.00	0.00	0.00
> 1.1.7 Consumables		0.00	0.00	0.00	0.00	0.00	0.00

Figure 47 – WBS Effort tracking After the Manual updates

- As illustrated, once the progress percent is updated, the remaining effort is updated automatically as well. **Remaining effort** = (Actual effort/POC)-Actual effort)
  - Effort to complete will be updated.
  - Effort variances will be captured.
  - The “Progress percent” that system is showing by default are calculated based on actual cost out of budgeted cost.

## O. WBS forms (Scheduling form and cost estimates form)

Work breakdown structure   00000778: TOWER CONSTRUCTION PROJECT XYZ																																																																																																																																																																																																																																															
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Figure 48 - WBS Scheduling Form

- i. At the Same Time, we can follow on the Cost Estimates from the same screen.

WBS ID	Task name	Percent	Activity number	Transaction type	Description	Project category	Role ID	Quantity	Unit cost price	Unit sales price	Total cost price	Total sales price	Item n
00000778	Indirect	0.00									35,000.00	45,500.00	
1	General Requirements	0.00									31,550.00	40,000.00	
1.1	Insurance	0.00									27,550.00	34,000.00	
1.1.1		0.00	W000005657	Expense	Insurance accident M...	Add-on		1.00	25,400.00	30,000.00	25,450.00	30,000.00	
1.1.2	Car	0.00	W000005658	Expense	Car Rental	Car Rental		2.00	250.00	500.00	2,500.00	4,000.00	
1.1.3	Fuel	0.00	W000005658	Hour	Car Client Training	Training		10.00	200.00	300.00	2,000.00	3,000.00	
1.1.4	Concrete Pump	0.00											
1.1.5	Labor	0.00											
1.1.6	Running costs	0.00											
1.1.7	Consumables	0.00											
1.2	Training	0.00									4,000.00	6,000.00	
1.2.1	Training	0.00									4,000.00	6,000.00	
1.3	Warranty Services	0.00	W000005684	Hour	Provide comprehensiv...	Running Cost2		20.00	200.00	300.00	4,000.00	6,000.00	
1.3.1	Warranty	0.00											

Figure 49 - WBS Cost Estimates

- The actual cost values and the variances are showing in the "Tracking view" screen. While this screen is the "planning view"
- P. Create Cases: Represents all the below requests → Case are created on project level as illustrated in figure# 50:
- Change Log
  - Issue Log
  - Risk Register
  - Task Tracker
  - Resource Evaluation
  - Project closing:
    - Assessment
    - Lessons Learned (This information accessible for all departments)
    - Feedbacks from team and customer

Figure 50 – All Cases screen

- From within the project screen, create a case. Every case created has a case category that will be unique for change log, issue log, risk register and all the rest.

- In addition to the above, every case category will be linked to workflow approval in case someone or worker manager needs to approve it before submitting the request as final.
- Once you log in to the cases, the screen below will appear to add further details (Priority, Notes, date and time, time registered on off, description, knowledge, Questionnaire with predefined template). And will be stored on the project itself and accessible by all the users depending on the security roles given.

The screenshot shows the 'Cases' application interface for a specific case. At the top, it says 'Cases | My view' and '00075 : Risk register'. The main area is divided into several sections:

- General:** Contains fields for Case ID (00075), Parent case, Case category (Risk Register), Department (Marketing), Status (Open), Follow-up (Case ID, Contact ID, Date time sent), and Notes.
- Service level agreement:** Shows a status of 'Drafted'.
- Case log:** A table with columns for Created date/time, Description, Source type, and Created by. It contains one entry: '20/09/2023 10:54:27'.
- NOTES:** A large text area with a placeholder message: 'We didn't find anything to show here'.

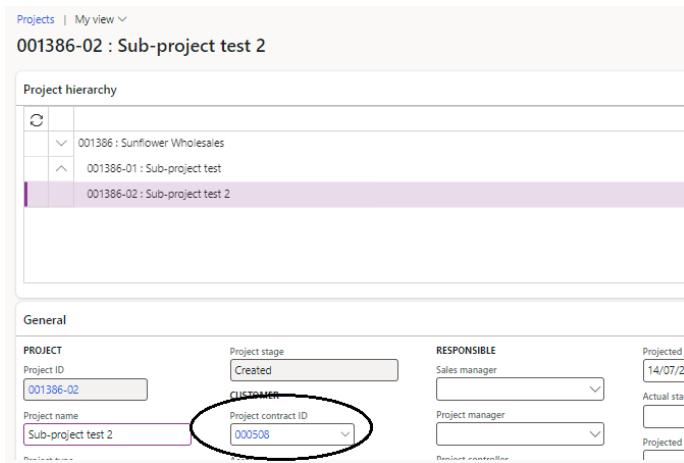
Figure 51 – All Cases screen header & details

## Q. Sub-projects

You may create many sub-projects for 1 project and create sub-projects for a sub-project as much as you want depending on the business needs. Then, the user can add and repeat the same scenarios mentioned above in the project creation section.

- In addition to the above, Technica will create a subproject for a quotation that is not yet confirmed by the customer and for an opportunity that has not yet won (exceptional case).
- They will be able to pass timesheet (refer to timesheet section and how to pass it) even if the opportunity is not yet won.
- Once the opportunity is won, the project quotation will be confirmed and attached to it the subproject and proceed with the same cycle mentioned above and in the process diagram of figure#4.
- If the opportunity is lost, the quotation will be cancelled, and the cost of the timesheet will be borne by Technica.

For all the subprojects created all of them are tied to the same project contract. See below project hierarchy:



**Figure 51 – Project Screen (Project Hierarchy)**

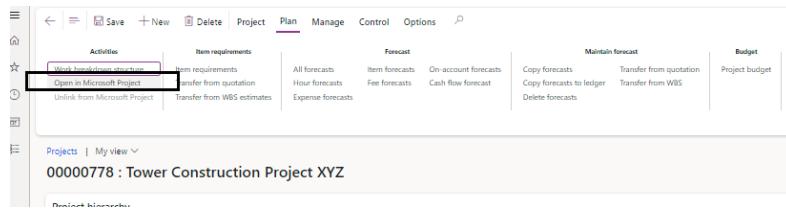
- So, having sub-project for the purpose of breaking down project into different ways or different groups. For example: we can create a subproject having type "Time & material" that will not be billed to the customer or some other types like "Investment" project for the purpose of tracking an asset capitalization.
- Every sub-project can have a separate activity/task and at the end of every project closure, the initial project will be accomplished.
- For every sub-project it can have a separate breakdown structure to see exactly what is happening in that sub-project.

### **3. Open in MS Project Feature:**

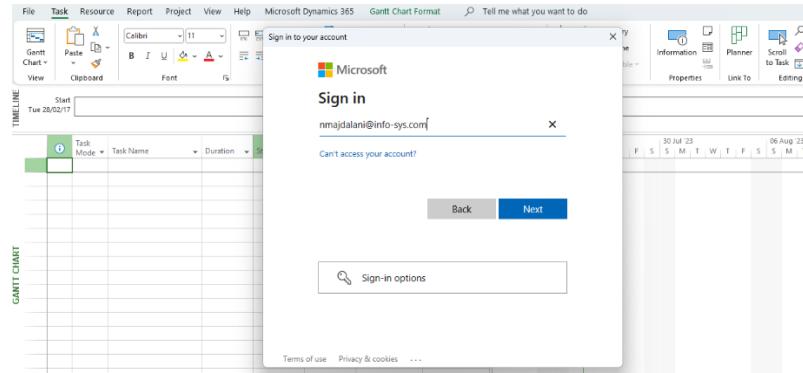
This is a new feature introduced by Microsoft and adopted by Technica.

Planning and maintaining a project schedule can be complex, so project managers will need to use this tool to help them manage a certain task. So, Integration with Microsoft Project Client provides support to open and manage a project work breakdown structure. The project manager can publish any changes back to the Dynamics 365 Finance project work breakdown structure.

- We just need to configure project Add-in from project management workspace and run it.
- Later, the MS project will be integrated automatically through project module automatically as per the below:
  - Project WBS must be in edit mode so that this button can show and to open in Ms project.



- The second you click on it; the user must put his credentials (system user and password):



- So, once it's logged in, the system will show a copy of the project WBS listed and having the below data brought up as is:
- Task name
  - Start date.
  - Finish date
  - Predecessors
  - Resource names
  - Category
  - Resource category
  - Work hours
  - Notes
  - Priority

Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Category	Resource category	Work
0	00000778	4 days?	Mon 01/05/23	Thu 04/05/23					168 hrs
1	Indirect	4 days?	Mon 01/05/23	Thu 04/05/23					78 hrs
2	General Requirements	2 days?	Mon 01/05/23	Wed 03/05/23					40 hrs
3	Insurance	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs
4	Car	0 days?	Wed 03/05/23	Wed 03/05/23	Mon 01/05/23	Michael Patten -	Running Cost2	Project manager	0 hrs
5	Fuel	0 days?	Mon 01/05/23	Mon 01/05/23	Mon 01/05/23	Michael Patten -	Running Cost2		0 hrs
6	Concrete Pump	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs
7	Labor	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs
8	Running costs	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs
9	Consumables	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs
10	Training	4 days?	Mon 01/05/23	Thu 04/05/23					30 hrs
11	Training	4 days?	Mon 01/05/23	Thu 04/05/23					30 hrs
12	Warranty Services	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs
13	Warranty	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs
14	Direct	2 days?	Mon 01/05/23	Tue 02/05/23					90 hrs
15	Civil Works and Metal Mounting Structures	1 day?	Mon 01/05/23	Mon 01/05/23					72 hrs
16	Trenches	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs
17	Excavation	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs
18	Backfill	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs
19	Road works	1 day?	Mon 01/05/23	Mon 01/05/23					8 hrs

- Anything you adjust here will be reflected in the system and vice versa by clicking on Check out to sent update. And check in to get updates from D365.

#### **4. Installation Management**

During the planning phase, there is a section in the WBS template created for installation management, where it included all the different cost and categories and materials. As for the process it has the same process mentioned in elaborated above in project planning section and in the process diagram.

## Requirements

ID	Desc	Fit/GAP
PJ001-001	Project stages creation including On-Hold stage for accounting department control	Fit
PJ001-002	Opportunity integration from CRM with the related reference number	GAP
PJ001-003	Assign resources on opportunity via sales process template linked to different stages (from qualify to Negotiation)	Fit
PJ001-004	Project quotation creation	Fit
PJ001-005	Import WBS template and add item, Hour, expense into costing detail's view	Fit
PJ001-006	Import WBS line into quotation line and sent to customer for internal approval	Fit
PJ001-007	Quotation set to customer	Fit
PJ001-008	Opportunity status updated to "win" manually. Then project quotation status will be updated to "confirmed" automatically. Then integration will update the opportunity in CRM to "Win".	Fit
PJ001-009	Create project automatically attached to project quotation from a wizard	Fit
PJ001-010	"URL collaboration workspace" will be used which is linked to a share point that will be defined external by Technica	Fit
PJ001-011	Create Forecast model representing the approved WBS approved cost estimates.	Fit
PJ001-012	Create Billing Rules in project contract linked to WBS activities (Milestone created)	Fit
PJ001-013	Create another WBS during the project life cycle and add to it manually the freight charges and create related freight category	Fit
PJ001-014	Create Resources, adding cost/price, calendar and Role for each resource and assign to project	Fit
PJ001-015	Send email notification to the resources assigned to an activity within a project Life cycle	Fit
PJ001-016	Projects Head to register actual Project Budget by importing budget from the published WBS	Fit
PJ001-017	Actual Budget Workflow to be Submitted to collect required approvals.	Fit – Workflow to be shared by Technica
PJ001-018	Add financial dimensions to every project created so that you can issue financials by project by cost center by department...	Fit
PJ001-019	Populate item requirement from WBS & Deliver item	Fit

PJ001-020	In Item requirement form: Add column name "Confirmed received day" based on a PO or Voyage	GAP
PJ001-021	Create cases (Change log, Issues log, Risk register, task tracker, resource evaluation, Projects Closing: assessment, lessons learned, feedbacks from team and customer)	Fit
PJ001-022	Sub-projects	Fit
PJ001-023	Open in MS Project integration with D365 FO	Fit
PJ001-024	Installation management	Fit

## 3.2. PJ002 Project Execution

### Process Diagram

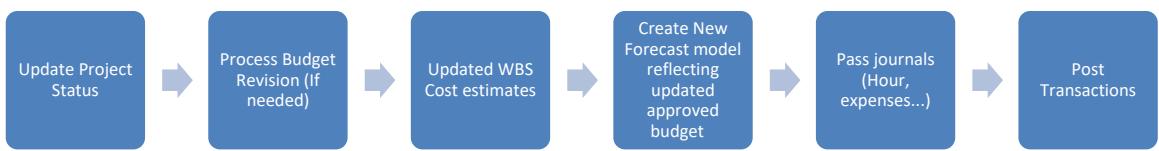


Figure 52 – Project Execution Process



Figure 53 – Project Estimate/Budget Life cycle

### Process Overview

#### Proposed Process Flow

- Upon Execution, **Head of Projects Department** will change Project Status from Initiation to "In Process" and process a Budget Revision Workflow Approval to reflect the actual Budget of the Project which Technica call it "**Current Budget**" (This is not mandatory. Only in case there is a revision). If it is Rejected, then it will be returned to be adjusted and resubmitted again.  
It will be registered under different Forecast Model "**Actual**" which will be reflected later the Whole Budget of Technica.

The screenshot shows the 'Project budget revision' screen. At the top, there's a toolbar with 'Save', 'Workflow', 'Budget revision', 'Options', and a search bar. Below the toolbar, the title 'Project budget revision' and the project ID '00000778 : Tower Con...' are displayed. The main area is divided into sections: 'General', 'Identification', 'Information', and 'Requester'. In the 'Identification' section, there's a button labeled 'Actual' which is circled. In the 'Information' section, there's a table with columns 'Description' (Current Budget (1)), 'Requested date' (28/05/2023 08:42:25), and 'Revision workflow status' (Created). The 'Requester' section shows 'Type: Customer'. Below these sections is a 'Costs' table with several rows of transaction details. A circled row highlights a 'New budget' row with values 25,450.00. At the bottom of the table, there are summary boxes: 'Total previous approved budget' (34,550.00), 'Total budget revision' (450.00, also circled), and 'New total budget' (35,000.00).

Figure 54 - Project Budget Revision

The screenshot shows the 'Project budget balances' screen. At the top, there's a toolbar with 'Group by', 'Cost template', and a 'Filter' dropdown set to 'None'. Below the toolbar, the title 'Project budget balances' and the project ID '00000778 : TOWER CONSTRUCTION PROJECT XYZ' are displayed. The main area is a table with columns: Type, Original budget, Approved budget, Consumed budget, Remaining budget, Commitment, Approved revisions, Unapproved revisions, and Carry-forward. The 'Approved budget' column is circled. The table shows various cost categories like Total cost, Hour, IntTrain, Running Cost2, Training, Expense, Add-on, Car Rental, Labor, Item, and Electrical, with their respective budget breakdowns.

Figure 55 - Project Budget Balance

2. Once Project Budget is Approved, then Head of Projects Department will follow up on Actual vs Budget of the Project:
  - a. After revised budget being approved, the project manager will update the WBS current estimate to be equal to the approved budget (Current budget)
  - b. New Forecast name will be created under "**NT\_Forecast**" to show updated cost estimates which is equal to current estimates.

The screenshot shows the 'All project forecasts' screen for project '00000778 : TOWER CONSTRUCTION PROJECT XYZ'. At the top, there's a toolbar with 'Group by', 'WBS ID', 'Task name', 'Forecast model', 'Transaction type', 'Project date', 'Project ID', 'Activity number', 'Category', 'Re...', 'Description', 'Quantity', 'Cost price', 'Total cost amo...', and 'Sales price'. Below the toolbar, the title 'Standard view \* ~' is displayed. The main area is a table with columns: WBS ID, Task name, Forecast model, Transaction type, Project date, Project ID, Activity number, Category, Re..., Description, Quantity, Cost price, Total cost amo..., and Sales price. The table shows various forecast entries grouped by task names like Car (4), DC Cable (6), Insurance (2), and Training (2). A circled entry for 'NT\_Forecast' is shown in the 'Forecast model' column.

Figure 56 - Project Forecast comparison Balances

00000778 : TOWER CONSTRUCTION PROJECT XYZ   Standard view ▾			
Project statements			
	General	Profit and loss	WIP
GENERAL			
ACTUAL	BUDGET	DEVIATION	
Invoice revenue	Invoice revenue	Invoice revenue	
INVOICED REVENUE	0.00	0.00	0.00
INVOICED REVENUE - ON-ACCOUNT	0.00	0.00	0.00
TOTAL INVOICED REVENUE	0.00	0.00	0.00
ACCRUED REVENUE	Accrued revenue	Accrued revenue	Accrued revenue
SALES VALUE	0.00	0.00	0.00
PRODUCTION	0.00	0.00	0.00
PROFIT	0.00	0.00	0.00
SUBSCRIPTION	0.00	0.00	0.00
ACCRUED REVENUE - ON-ACCOUNT	0.00	0.00	0.00
TOTAL ACCRUED REVENUE	0.00	0.00	0.00
COST	Cost	Cost	Cost
HOUR	0.00	7,800.00	7,800.00
EXPENSE	0.00	26,950.00	26,950.00
ITEM	0.00	250.00	250.00
ACCRUED LOSS	0.00	0.00	0.00
TOTAL COST	0.00	35,000.00	35,000.00

Figure 57 - Project Statement comparison by new forecasted budget

3. Now, the team can process Journals (Like hour, expenses.)

a. After Posting the journals, the accounting entry will be as follows:

Voucher transactions   00000778 : 28/05/2023										
My view ▾										
Overview		General								
<input type="radio"/>	Journal number	Voucher	Date	Year	Ledger account	Account name	Description	Currency	Amount in transaction currency	Amount Posting type
002973	RJHV_00000743	28/05/2023	602100-003-028--		Salaries - Wages Expense	Client Training 7 hours	USD	-1,260.00	1,260.00	Project - payroll allocation
002973	RJHV_00000743	28/05/2023	160100-003-028-		WIP - Labor	Client Training 7 hours	USD	1,260.00	1,260.00	Project - WIP cost

Figure 58 – Hour Journal Voucher transaction

b. Also, you pass an expense journal from the same menu as follows:

Journal voucher   00000778 : PRJRN												
Standard view ▾												
Overview		General										
<input type="radio"/>	Voucher date	Voucher	Project date	Project	Activity number	Category	Resource	Description	Quantity	Currency	Cost price	Sales price
28/05/2023	PRO/0000090-	28/05/2023	00000778	W00005857	Add-on			Travel Expense Accident May...	1.00	USD	25,450.00	30,000.00

Figure 59 – Expense Journal

c. After posting the journals, the accounting will be as follows:

Voucher transactions   00000778 : 28/05/2023												
My view ▾												
Overview		General										
<input type="radio"/>	Journal number	Voucher	Date	Year	Ledger account	Account name	Description	Currency	Amount in transaction currency	Amount	Posting type	
002975	PRO/00000960	28/05/2023	160300---		WIP - Expense	Travel Expense Accident May 23	USD	25,450.00	25,450.00		Project - WIP cost	
002975	PRO/00000960	28/05/2023	601500----		Travel Expense	Travel Expense Accident May 23	USD	-25,450.00	25,450.00		Ledger journal	

Figure 60 – Expense Journal Voucher transaction

4. The team can also pass a **Timesheet** and post the transaction after submitting a workflow for approval. The transaction will write the same accounting entry as point# 3.a see below:

a. Also, the team can pass a timesheet before winning an opportunity. And if the opportunity was lost, the company will bear the cost.

- b. Time sheet can also be filled from CRM and pushed and reflected into the project cost.

The screenshot shows a software interface for managing timesheets. At the top, there are tabs for 'Maintain', 'Related Information', 'Accounting', 'Print', and 'Timesheet' (which is currently selected). Below the tabs, there are buttons for 'Save', 'New', 'Delete', 'Workflow', 'Print', and 'Print timesheet'. The main area displays a table for 'Unposted timesheets' under 'My view'. The table has columns for 'Customer', 'Name', 'Project ID', 'Project name', 'Activity number', 'Activity', 'Category', and dates from 'Mon 17/07' to 'Sun 23/07'. A row is selected for 'US-019 Sunflower Wholesales' with 'Project ID 001389', 'Activity number 07610', 'Activity Perform QC', and 'Category Test'. The total hours for this row are circled in red as 3.00.

Figure 58.1 – Timesheet process & Post

This screenshot shows the 'Voucher transactions' section under 'My view'. It lists two entries: one for 'Payroll Allocation' (Journal number 675193, Voucher PJI-00875) and another for 'COGS - Services' (Journal number 675193, Voucher PJI-00875). Both entries are for the same date (21/07/2023) and ledger account (500300-001). The 'Description' column shows 'Timesheet' for both, and the 'Amount' is 750.00. The 'Posting type' is 'Project - payroll allocation' for the first and 'Project - cost' for the second.

Figure 58.2 – Timesheet journal voucher transactions

This screenshot shows a 'Cost tracking view' for task 001389: 'Building 1 investment'. It displays a table with columns for WBS ID, Task, Cost percent, Actual cost, Remaining cost, Cost at complete, Planned cost, Cost variance, and Clos... The table includes rows for 'Cabinet Installation', 'Perform Installation', and 'Perform QC'. The 'Perform QC' row has its WBS ID circled in red as 001389, and the 'Actual cost' and 'Remaining cost' cells for this row are also circled in red as 750.00.

Figure 58.3 – Tracking view (cost view) / Actual timesheet cost

5. POs will be Processed against the Projects (Item will be committed) then Items will be consumed directly into Projects upon PO Receiving:
- User will pass Item requirement.
  - Due to non-stock availability, he will ask to create PO from the same item requirement screen.:
    - Usually, once the user passes the item requirement, the system will trigger the master planning process (Planned Purchase order, planned production..) that will automatically create, the PO, production order.....
    - In the case mentioned here, it is just for exceptional cases where if this item requirement is not ready in your stock and you don't want to run master planning, you can buy it ready from a vendor directly without passing via production orders. So, project team initiate the PO, but the procurement team will process it. Until it reaches packing slip (See Figure# 44).
    - In addition to the above, Technica will also have the option to create the purchase requisition from the purchase requisition screen (Not only from the project module) and attached the related project to it. By that, when we open the project module we will be able to see also related PR and PO's attached to the project.

- c. PO is created automatically having all the below data coming automatically (See figure 61):

The screenshot shows the SAP Purchase Order Lines screen. At the top, it displays 'All purchase orders | My view' and the order number '00001004 : US\_SI\_000008 - Distant Inn'. Below this is a toolbar with various buttons like '+ Add line', 'Line number', 'Product name', 'Arabic Name', 'Procurement category', and 'Qty In Carton'. A circled line item 'CAB-00002 DC Cables (2)' is highlighted. Below the table, the 'Line details' section is expanded, showing tabs for General, Status, Address, Product, Delivery, Picking, Price and discount, Project, Product packages, Variants, Foreign trade, Fixed assets, 1099, Financial dimensions, and Loads. The 'Project' tab is selected. A circled 'Project ID' field contains '00000778'. Other fields in this section include 'Item number' (CAB-00002), 'Sales price' (100.00), 'Sales currency' (USD), 'Sales unit' (ea), 'Sales price' (100.00), 'Project sales tax group' (WA), 'Project item sales tax group' (250.00), and 'Unit price' (50.00). An arrow points from the circled line item in the table to the circled Project ID in the details section.

Figure 61 - PO Linked to Project

- d. Once the PO is received, the system will Pop-up a message shown below (Figure 62) → Click Yes and the value will be transferred from commitment to Consumed (See also figure#64):

Consume items for the project immediately?



Figure 62 – Item requirement auto consumption

- e. And in case you click on "No" Then the user will have to go back to the item requirement and pass "packing slip" manually so that the item gets consumed.  
f. Below accounting entry related to the item requirement consumed:

The screenshot shows the SAP Voucher transactions screen. At the top, it displays 'Voucher transactions | 00000778 : 03/05/2023' and 'My view'. Below this is a table with columns: Journal number, Voucher, Date, Yea..., Ledger account, Account name, Description, Currency, Amount in transaction currency, Amount, and Posting type. The table contains several rows of accounting entries, with the last row highlighted. The last row shows a debit to WIP - Products (1000016) and a credit to Cost of Goods Inventory (002976).

Figure 63 – Item consumed Voucher transaction

## Gap (Re-Allocation of common activity cost to assemblies):

The common expenses of some activities on a project, like paint works, cleaning, others... are put it at the project level and not at assembly (or part) level from the beginning and during the execution phase.

At the end of the project, they will reallocate this cost to multiple assemblies that were involved in this activity. And the formula is based on the percentage of the Assembly cost value within the project.

### **Example:**

Project cost is 120000 \$

Assembly 1: 50000 (42% of Project)

Assembly 2: 40000 (33% of project)

Assembly 3: 30000 (25% of Project)

Activity cost is 24000.

### Reallocation of cost will be:

Assembly 1: 10.080\$ (42% of 24000)

Assembly 2: 7,920\$ (33% of 24000)

Assembly 3: 6,000\$ (25% of 24000)

## Reports shows output of the voucher transactions in WBS/Budget

### **1. Project Budget Balance Updates:**

Project budget balances								
Group by	Cost template	Filter						
Transaction type		None						
Costs	Revenues							
			Type	Original budget	Approved budget	Consumed budget	Remaining budget	Commitment
			Total cost	34,550.00	35,000.00	26,960.00	8,040.00	0.00
			Hour	7,800.00	7,800.00	1,260.00	6,540.00	0.00
			IntTrain	1,800.00	1,800.00	0.00	1,800.00	0.00
			Running Cost2	4,000.00	4,000.00	0.00	4,000.00	0.00
			Training	2,000.00	2,000.00	1,260.00	740.00	0.00
			Expense	26,500.00	26,950.00	25,450.00	1,500.00	0.00
			Add-on	25,000.00	25,450.00	25,450.00	0.00	450.00
			Car Rental	500.00	500.00	0.00	500.00	0.00
			Labor	1,000.00	1,000.00	0.00	1,000.00	0.00
			Item	250.00	250.00	250.00	0.00	0.00
			Electrical	250.00	250.00	250.00	0.00	0.00

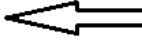
Figure 64 – Project budget balance

### **2. Tracking View screen in WBS (Cost Tracking View):**

Tracking Views								
00000778: Tower Construction Project XYZ								
Cost tracking view								
<input type="text"/> Filter								
WBS ID	Task	Cost percent	Actual cost	Remaining cost	Cost at complete	Planned cost	Cost variance	Clos...
> 00000778		77.03	26,960.00	<b>8,040.00</b>	35,000.00	35,000.00	0.00	
> 1 Indirect		83.60	26,710.00	<b>5,240.00</b>	31,950.00	31,950.00	0.00	
> 1.1 General Requirements		95.56	26,710.00	<b>1,240.00</b>	27,950.00	27,950.00	0.00	
> 1.1.1 Insurance		100.00	25,450.00	<b>0.00</b>	25,450.00	25,450.00	0.00	
1.1.2 Car		50.40	1,260.00	<b>1,240.00</b>	2,500.00	2,500.00	0.00	
1.1.3 Fuel		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
1.1.4 Concrete Pump		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
1.1.5 Labor		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
1.1.6 Running costs		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
1.1.7 Consumables		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
1.2 Training		0.00	0.00	<b>4,000.00</b>	4,000.00	4,000.00	0.00	
1.3 Warranty Services		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
> 2 Direct		8.20	250.00	<b>2,800.00</b>	3,050.00	3,050.00	0.00	
> 2.1 Civil Works and Metal Mounting Structures		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
2.1.1 Trenches		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
2.1.2 Excavation		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
2.1.3 Backfill		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
2.1.4 Road works		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
2.1.5 Disposal		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
2.1.6 Side walks		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
2.1.7 Concrete Works		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
2.1.8 Metal Structures		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
2.1.9 Site Works		0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	
> 2.2 Cable Ducts, Cable Trays and Cables		8.20	250.00	<b>2,800.00</b>	3,050.00	3,050.00	0.00	
2.2.1 DC Cable		8.20	250.00	<b>2,800.00</b>	3,050.00	3,050.00	0.00	

Figure 65 – Project WBS / Cost tracking view updated.

- a. In this view, Technica requested to have 2 additional fields to track budget:
  - i. Original budget
  - ii. Current Budget
- b. Technica team can always track their transactions by clicking on the line shown in the above screen then “View transactions”, system will redirect you the related voucher that was shared in previous figures above.
- c. Also, for item consumption, the system can also redirect you to different information like packing slip, sales order number, references, accounting entries:
  - i. Select the line and click on “Item transactions.”

Ledger updates	Voucher	Actions	Options
Functions	Inquiries	Inventory	
<b>Post costs</b>	Select for credit note	<b>Transactions</b>	
Accrue revenue	Adjust transaction	Display dimensions	
Invoice proposals	Split transaction		

Overview	General	Financial dimensions	Product dimensions	Cost	Sales
<input type="radio"/> Project date	Project ID	Category	Item number	Configuratio	
<input checked="" type="radio"/> 10/07/2023	001389	ProjItem	D0002		

Figure 65.1 – Item transactions from cost tracking view.

- ii. Once we log in to the inventory transactions, another screen will show (Below). All the available requested data by Technica are within the “Transactions details” button.

Inventory transactions							
My view		Transaction filter					
		Filter					
Item number	Search Name	Brand	Physical date	Financial date	Reference	Number	
D0002	Sunflower Wholesales		10/07/2023	10/07/2023	Sales order	003113	

Figure 65.2 – Inventory transactions view from item transactions.

- iii. Transactions details will show the below data requested in addition to the ledger posting that contains all different accounting entry:

Transaction details							
General							
IDENTIFICATION	REFERENCE	INVENTORY	POSTING	Quantity	Expected date		
Items number D0002	Inventory reference 2973923	Lot ID 2973923	Receipt status	-1.00	24/07/2023		
	Inventory number	Reference lot	Issue status	52	Inventory unit		
			Value open	Yes	CW quantity		
		Dimension number 000072	CW unit				
ORIGIN REFERENCE							
Type Sales order	Project ID 001389				TRANSFER		
Number 003113					Non-financial transfer	No	
Party Sunflower Wholesales					Transfer lot ID		
Updates							
PHYSICAL		Financially posted	ADJUSTMENT		GAINED CW QUANTITY		
Physical date 10/07/2023	Physical cost amount -148.42	Physical turnover posted	Financial date 10/07/2023	Profit and loss, posted amount 148.42	Settled quantity		
Physicaloucher SPK-01002094	Physical revenue -180.00	Physical turnover posted	Financial voucher SPK-01002094	Unposted invoice	Amount settled		
Route	Load ID	Physical charge posted	Invoice SPK-00002095	Cost amount -148.42			
Packing slip SPK-00002095	Ledger postings	Financially posted					
		Yes					

Figure 65.3 – Item consumption transaction details.

### 3. Reports:

- a. Technica's Report and dashboard:  
 i. Report name: Project Planning

Resource Name	Unscheduled Tasks	April 2023																		
		19 Mar '23	26 Mar '23	02 Apr '23	09 Apr '23	16 Apr '23	W	T	F	S	S	M	T	W	F	S	S	M	T	W
<b>TEAM PLANNER</b>																				
Group: Functional Departments																				
Mechanical R&D																				
Electrical R&D																				
Factory																				
Unassigned Tasks: 280																				

Figure 66 – Technica Project Planning report

- ii. Report name: Project list – ongoing.

ProjectID	Customer	Project name	Country	Status	Remarks	Payment terms and Incoterms	Project Amount	PO Date
23	20P171	Christakis	cyprus	Partially Commissioned	Technica: Soft Backup ACI: Drier Mod Gernep: Payment Issue	10% Desnaging	€ 660,000	
46	195623/205080	Arla	Bahrain	Partially Commissioned			€ 4,907,718	
52	205222	Arla	Bahrain	N/A			€ 8,500	
53	197390	P&G	Russia	On Hold			€ 1,311,813	
54	SAL266-21	Mars	Egypt	Fully Shipped			€ 242,397	
57	SAL203-21	M.C.G.I	Syria	Fully Shipped			€ 220,000	
58	SAL191-21	Henkel Liquid	Cobot for cartons	Egypt	Partially Commissioned		€ 89,722	
59	SAL077-21	Yabon		France	Partially Commissioned		€ 113,813	
60	SAL258-21	Amazon	Egypt	Cancelled			€ 2,679,000	
61	SAL053-21	Mars	Egypt	Fully Shipped			€ 173,000	
63	SAL062-21	Henkel Liquid	Pouch Packer	Egypt	Fully Shipped	40% Advance 35% FAT 5% Shipping Docs 20% Commission	€ 116,278	

Incoterms	Contractual Exworks	Phases Amount	Planned Exworks	Project Manager	Lead Engineer	Installation Time (days)	Planned Commissioning	Installation Start Date	Site Leader	Software Engineers	Pre-Schedule Meeting	Pre-Installation Meeting	Produced In	SPP	SPP Amount
			Mid Nov.	Elieen Sehir		5	March 15, 2023	March 10, 2023					Yes		
				Michel Halabi									Yes	€ 15,873	
				Bassam Abdallah									Yes		
				Michel Halabi									Yes		
				Wael Baaklini									Yes	€ 7,631	
				Weel Baaklini									Yes		
				Joseph Helou									Yes	€ 2,848	
				Ela Salloum									Yes	€ 4,129	
				Wael Baaklini									Yes	€ 111	
				Michel Halabi									Yes		
				Theodore Maalouf									Yes	€ 13,690	
				Michel Halabi									Yes	€ 8,968	
				Joseph Helou									Yes	€ 2,503	
				Elieen Sehir									No		

Figure 67 – Technica Project List ongoing report

- iii. GAP: Master planning projects is needed for Technica (Requesting to have the same on D365): project department check master plan vs project plan of all existing project in Technica.

- So, they start to integrate this plan within the current master plan which contains on in progress projects.
- Within the master plan they can see all the project details or milestone. If they want to know details on every milestone, they see it from the source of the project itself.
- The master plan must contain all major milestone without the details.
- Notification is needed as well once the project manager updates it.

## Requirements

ID	Desc	Fit/GAP
PJ002-001	Update project status depends on the need of the phase (Example update status from created to in process)	Fit
PJ002-002	Budget Revision Workflow after Execution to be processed	Fit – Workflow to be shared by Technica
PJ002-003	Update WBS Cost estimate and publish it again	Fit
PJ002-004	Create New forecast model reflecting update approved budget	Fit
PJ002-005	Process PO against Projects and Consume Received Projects into Projects Directly	Fit
PJ002-006	Labour Costs are registered Via hour journal by Project by activity	Fit
PJ002-007	Different Transactions Journals can be created under a Project such as Hours, Items, Expenses	Fit
PJ002-008	Post Transactions	Fit

PJ002-009	Cost Tracking view available on WBS Level	Fit
PJ002-010	Effort Tracking View available on WBS Level	Fit
PJ002-011	Project Planning Report	GAP
PJ002-012	Project list – ongoing	GAP
PJ002-013	Master Planning Report & Notification to concerned people once project manager update data	GAP

### 3.3. PJ003 Project Milestone Invoice Proposal

#### Process Diagram



Figure 68 – Project Milestone/Invoicing Lifecycle

#### Process Overview

##### Proposed Process Flow

- Now, Milestones are already created from project contracts (as illustrated in PJ001 Section)
- Once the actual cost is generated and the related activity is fully consumed, project team will go to project contract → Manage contract status → Updated Milestone status → select the line completed and click on Mark as complete (see below screen):
  - Project HOD will mark it as complete.
  - This will notify Technica Finance Manager to issue the project invoice (Real).

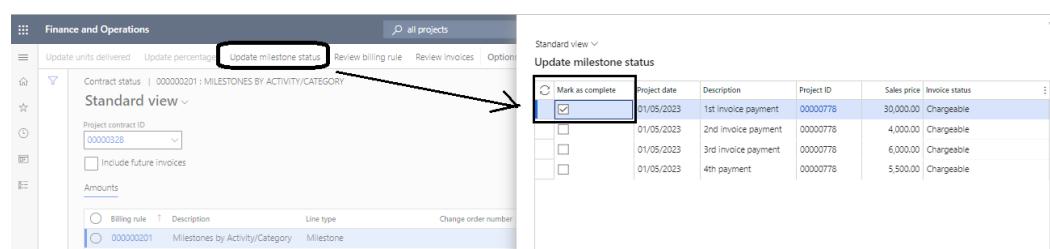


Figure 69 – Update Milestone Status

3. Create invoice proposal and select the line available (this line is available because we already update its status to complete):
  - i. If the term of issuing the invoice values have changes or the % split have changed, as agreed with Technica team previously, they should review the milestone update the split according to the actual values.

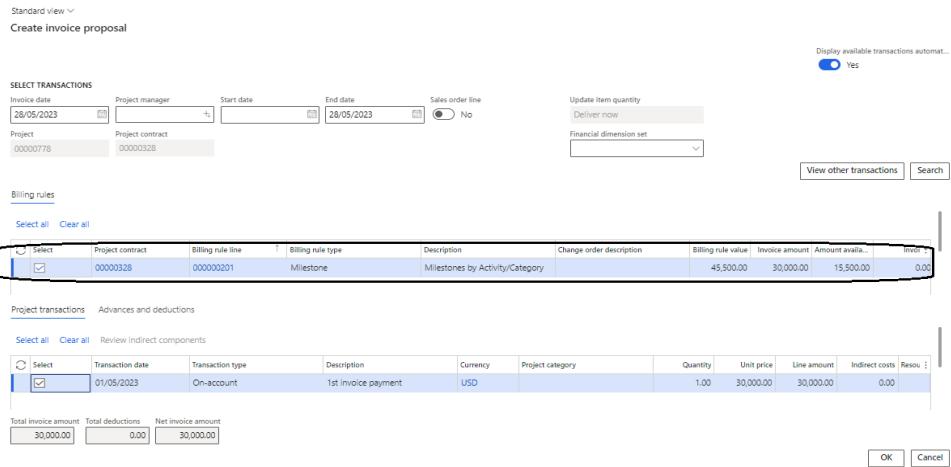


Figure 70 – Create Milestone invoice.

4. Click ok and the invoice will be generated, and finance team will posted it.

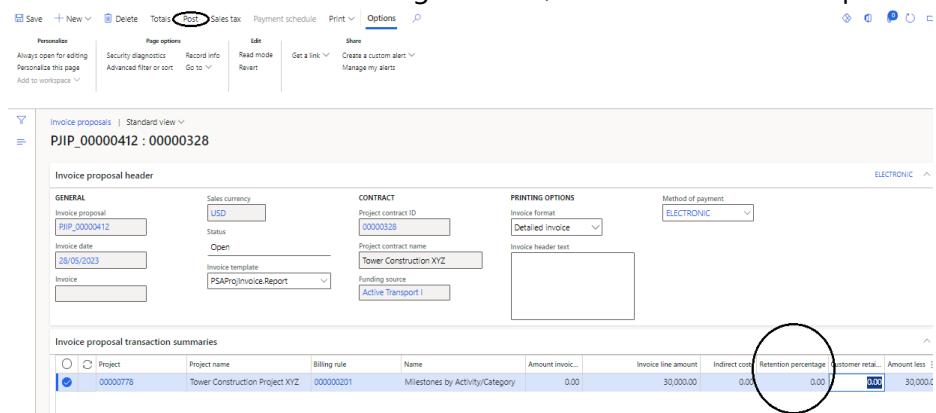


Figure 71 – Milestone Invoice generated.

- a) Later, the commercial invoice (for shipment that doesn't affect customer statement) will be issued having different milestones invoices from the same project (Please refer for further details about the commercial invoices from logistics FRD).
- b) Here as illustrated there is a retention percentage. This percentage brought initially from the project contract milestone as 10% and you may change it manually if you want as we did now.
- c) Post the invoice.
- d) Once posted, go back to "On account transactions" from the "Bill" Tab, you will notice that the invoice is now under status "Fully invoiced". See below:

On-account   00000778 : TOWER CONSTRUCTION PROJECT XYZ							
Standard view ▾							
Column display		Invoice status		Show deductions			
<input type="button" value="Filter"/>	Price	All					
Overview	General	Financial dimensions	Sales				
Project date	Project ID	Transaction origin	Description	Sales currency	Sales price	Activity	Invoice status
01/05/2023	00000778	Milestone	1st invoice payment	USD	30,000.00	Insurance	Fully invoiced
01/05/2023	00000778	Milestone	2nd invoice payment	USD	4,000.00	Car	Chargeable
01/05/2023	00000778	Milestone	3rd invoice payment	USD	6,000.00	Training	Chargeable
01/05/2023	00000778	Milestone	4th payment	USD	5,500.00	DC Cable	Chargeable

Figure 72 – Invoice status updated.

Voucher transactions   00000386 : 00000328									
My view ▾									
Overview	General								
Journal number	Voucher	Date	Year	Ledger account	Account name	Description	Currency	Amount in transaction currency	Amount
002978	PJIV_00000386	28/05/2023	130100---	Accounts Receivable - Domestic	1st invoice payment	USD	30,000.00	30,000.00	Customer balance
002978	PJIV_00000386	28/05/2023	160600---	WIP - Invoiced On Account	1st invoice payment	USD	-30,000.00	30,000.00	Project - WIP Invoiced - on account

Figure 73 – Generated Invoice Voucher.

## ❖ Reports requested by Technica:

### 1. Projects lists with key milestones, Overview on statuses of all projects:

- a. Report name "On-account invoice schedule":

On-account invoice plan					
Technica International					
<hr/>					
Project	00000778				
Name	Tower Construction Project XYZ				
Project manager					
Project date	Description	Invoice proposal	Invoice	Sales currency	Amount
01/05/2023	1st invoice payment	PJIP_00000412	00000386	USD	30,000.00
01/05/2023	2nd invoice payment			USD	4,000.00
01/05/2023	3rd invoice payment			USD	6,000.00
01/05/2023	4th payment			USD	5,500.00
Total					45,500.00
Invoice date	01/05/2023				45,500.00

Figure 74 – On account invoice schedule Report

- b. We will modify this report to reflect the below figures:

- i. Status per invoice per milestone: based on the value paid, the report will recognize the status if it is paid fully, partially, or not paid yet.
- ii. Commercial report will not show in this report. Instead, it will be customized (see logistics FRD). However, we will add a commercial invoice number. How we will be able to capture it in this report? knowing that the real invoice is already linked to a packing slip and the related packing slip is linked to item requirement then we can get the related info and place in this report as commercial invoice number.

### 2. Technica team requested to have Cashflow forecast for all projects:

- a. Report name "Project cash flow": This report shows by project the cash inflow (invoiced milestone/WBS current estimate) and outflow (actual cost) and the net cash flow (difference)

Project - Cash flow		Page 2 of 2 19/06/2023 18:42		
Project	Name	Cash inflows	Cash outflows	Net cash flows
00000456		0.00	0.00	0.00
00000457	active transport march project	0.00	0.00	0.00
00000578	JBC	0.00	0.00	0.00
00000604	Testing Estimate on FP	6,000.00	5,000.00	1,000.00
00000628	Zahle Governmental Hospital	0.00	3,200.00	(3,200.00)
00000678	Hospital Room 2021	0.00	0.00	0.00
00000704	Geatawi Hospital 2021	0.00	2,700.00	(2,700.00)
00000728	Testing projects dates entries	13,800.00	10,850.00	2,950.00
00000753	Project Butec (2)	28,750.00	(56,350.00)	85,100.00
00000778	Tower Construction Project XYZ	30,000.00	(8,290.00)	38,290.00
<b>Grand total</b>		<b>78,550.00</b>	<b>(42,890.00)</b>	<b>121,440.00</b>

Figure 75 – Project Cash flow Report

- b. Report name "Cash flow statement": Based on the filter criteria mentioned below you can extract exactly by transaction type, date ranges, payment date, project data what are the related cash flow values:

The screenshot shows the 'Cash flow' section of a software application. At the top, there's a header with tabs for 'Calculate', 'Forecast', 'Transaction' (which is selected), and 'Options'. Below the header, it says 'TECH 000001: master chips project 2 | Standard view ~'. The main area is titled 'Cash flow' and contains two sections: 'Parameters' and 'Cash flow'.

**Parameters:** This section includes filters for 'INCLUDED PROJECT TYPES' (Time and material, Investment, Internal cost, Fixed price, Time), 'PROJECT DATE' (From date, To date), 'DATA' (Actual vs. Budget, Actual, Include paid payment, Yes, Include expected payment, Yes), 'INCLUDED TRANSACTION TYPES' (Hour, Item, Fee, Expenses, On account, Yes), 'PAYMENT DATE' (From date, To date), and 'EXPECTED PAYMENT DATES' (Add days to due payment, Minimum payment date).

**Cash flow:** This section displays transaction details under three categories: 'ACTUAL', 'CASH PROVIDED FROM OPERATING ACTIVITIES', and 'CASH DISBURSED FOR OPERATING ACTIVITIES'.

- ACTUAL:** Shows CASH INFLows (1,652,750.00), CASH OUTFLOWS (0.00), and NET CASH FLOWS (1,652,750.00).
- CASH PROVIDED FROM OPERATING ACTIVITIES:** Shows INVOICED REVENUE (0.00) and INVOICED - ON ACCOUNT (1,652,750.00).
- CASH DISBURSED FOR OPERATING ACTIVITIES:** Shows CASH PAID FOR - HOUR (0.00), CASH PAID FOR - EXPENSE (0.00), and CASH PAID FOR - ITEM (0.00).

Figure 76 – Cash flow Statement.

- Within this report, there is a tab in the header for "Transactions", if you click on it you can see the transactions details for milestones, hours, expenses, item, fee).
- c. Report name: "Project forecast transaction": This report is by forecast model by date, project group (Fixed price):

#### Project forecast transactions - Profit and loss

Contoso Consulting USA

Budget NT_Forecas						Project date from 01/05/2023 to 31/07/2023	
Project	Name	Hour - quantity	Currency	Total cost	Revenue	Gross margin	
00000753	Project B	150.00	USD	67,150.00	0.00	-67,150.0	
00000778	Tower Construction Project XYZ	40.00	USD	35,250.00	0.00	-35,250.0	
<b>Grand total</b>		<b>190.00</b>		<b>102,400.00</b>	<b>0.00</b>	<b>-102,400.0</b>	

Figure 77 – Project Forecast transactions – profit and loss

**3. Technica team requested also to have a cash flow forecast for all the expenses, item, hour including milestones:**

- a. There is an inquiry within project form in the forecast section "Cash flow forecast":

The screenshot shows the Microsoft Project ribbon with the 'Plan' tab selected. Below the ribbon, there are three main sections: Activities, Item requirements, and Forecast. Under Forecast, there are several options: All forecasts, Item forecasts, On-account forecasts, and Cash flow forecast. The 'Cash flow forecast' option is circled in red.

Figure 78 – Cash flow forecast

- b. To enable this feature, we should go to "Cash flow forecast setup" and do the below setup:

The screenshot shows the 'Cash flow forecast setup' page. On the left, there's a sidebar with 'General ledger', 'Accounts payable', 'Accounts receivable', 'Budgeting', 'Inventory management', 'Reporting', and 'Project management and accounting'. The 'Project management and accounting' option is selected. On the right, it says 'Set up Project management and accounting for cash flow forecasting'. Under 'Project forecast defaults', there are sections for 'INCLUDED PROJECT TYPES' (Time and material, Fixed-price, Investment, Internal and cost) and 'INCLUDED TRANSACTION TYPES' (Hour, Expenses, Item, Fee, On-account). Each type has a 'Yes' or 'No' checkbox. A 'Project forecast model' dropdown is set to 'Initial Fo'.

Figure 79 – Cash flow forecast setup/Parameter.

- Choosing project group fixed price is a must to bring related project.
- On-account = Milestones
- See below projection from the related mentioned view:

Cash flow forecasts   TECH-000110 : TECHNICA NEW PROJECT555						
Standard view ▾						
Main account	Date	Posting	Currency	Amount in transaction currency	Amount	Crediting
	19/06/2023	Project - WIP invoiced - on account	LBP	2,025,200,000.00	2,025,200,000.00	
	25/06/2023	Customer balance	LBP	-2,025,200,000.00	-2,025,200,000.00	✓
112120	21/06/2023	Project - cost	LBP	-8,172.00	-8,172.00	✓
112120	21/06/2023	Customer balance	LBP	8,172.00	8,172.00	
160600	19/06/2023	Project - WIP invoiced - on account	LBP	256,000,000.00	256,000,000.00	
160600	25/06/2023	Customer balance	LBP	-256,000,000.00	-256,000,000.00	✓
600150	21/06/2023	Project - cost	LBP	-150.00	-150.00	✓
600150	21/06/2023	Customer balance	LBP	150.00	150.00	
600250	20/06/2023	Project - cost	LBP	-2,000.00	-2,000.00	✓
600250	20/06/2023	Customer balance	LBP	2,000.00	2,000.00	
600250	21/06/2023	Project - cost	LBP	-800.00	-800.00	✓
600250	21/06/2023	Customer balance	LBP	800.00	800.00	
110711	20/06/2023	Customer balance	LBP	-2,000.00	-2,000.00	✓
110711	21/06/2023	Customer balance	LBP	-9,122.00	-9,122.00	✓
110711	25/06/2023	Customer balance	LBP	2,281,200,000.00	2,281,200,000.00	

Figure 80 – Cash flow forecast display values

4. Cash flow aging report: Sent by Technica team and they need like it.

Customer:	Pepsi																			
Project ID:	PR0001																			
Project Desc.:	Conveyor Production																			
Project In Values:	\$100,000																			
Project Manager:	S1																			
		Phases	% Due	% Partial	At Days	Date Event	Payment Due	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24
		Inflow																		
		Advance	30%	100%	30	14-Jan-2023	\$30,000		\$30,000											
		FAT	10%	100%	60	31-Mar-2023	\$10,000					\$10,000								
		Shipment 1	40%	40%	90	1-May-2023	\$16,000						\$16,000							
		Shipment 2	60%	60%	120	2-Jun-2023	\$24,000							\$24,000						
		Commissioning	20%	100%	180	4-Jul-2023	\$20,000									\$20,000				
		Total					\$100,000		\$30,000			\$10,000		\$16,000		\$24,000		\$20,000		
		PO Value																		
		Outflow Partner 1																		
		Advance	\$15,000	40%	100%	60	1-Feb-2023	-\$6,000				-\$6,000								
		Shipment 1	\$15,000	20%	100%	90	1-Apr-2023	\$3,000					-\$3,000							
		Shipment 2	\$15,000	30%	100%	120	2-May-2023	-\$4,500						-\$4,500						
		Commissioning	\$15,000	10%	100%	180	4-Aug-2023	\$1,500											-\$1,500	
		Total						-\$15,000												
		Outflow Partner 2																		
		Advance	\$20,000	40%	100%	60	1-Feb-2023	-\$8,000				-\$8,000								
		Shipment 1	\$20,000	20%	100%	90	5-May-2023	-\$4,000					-\$4,000							
		Shipment 2	\$20,000	30%	100%	120	2-Jun-2023	-\$6,000						-\$6,000						
		Commissioning	\$20,000	10%	100%	180	4-Nov-2023	-\$2,000												
		Total						-\$15,000												
Project:																				
PR0001	Netflow																			
PR0001	Cumulative Flow																			
									\$30,000	\$30,000	\$16,000	\$26,000	\$23,000	\$39,000	\$30,500	\$54,500	\$48,500	\$48,500	\$68,500	\$67,000

Figure 81 – Cash flow agent report by Technica

## Requirements

ID	Desc	Fit/GAP
PJ003-001	Project HOD Create Milestone and update status to complete	Fit
PJ003-002	Finance Manager will be notified via a custom alert to Create Invoice proposal (Real invoice)	Fit
PJ003-003	Generate Invoice of completed milestone	Fit
PJ003-004	Post invoice	Fit
PJ003-005	On-account invoice schedule Report will be modified to read commercial invoice number and status (paid, not paid, partial paid).	Fit/GAP
PJ003-006	Project Cash flow	Fit
PJ003-007	Project forecast transaction	Fit
PJ003-008	Cash flow Forecast	Fit
PJ003-009	Cash Flow aging Report (Technica Excel file)	GAP

### 3.4. PJ004 Project Estimates / Accrued Revenue Calculation

#### Process Diagram

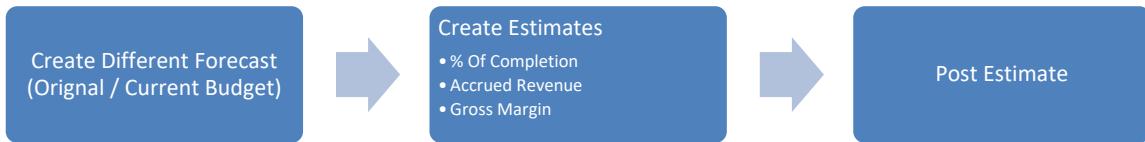


Figure 82 – Project Estimates Lifecycle

#### Process Overview

#### Proposed Process Flow

1. Once the WBS is published → Forecast name "**T\_Forecast**" was issued automatically from WBS Having "**Original Budget**" (Previously mentioned in project planning point#4).
2. We updated the WBS costs of some activity/category, and it reflected **current estimate** values. Then once we got approved on the revised budget, we created "**NT\_Forecast**" from this current estimate and publish it which is now falling under "**Current Budget**". You can convert some of the elements to current budget and not necessarily to move it all (Optional). See below:
  - a. Go to "All forecasts"
  - b. Click "Transfer from WBS"

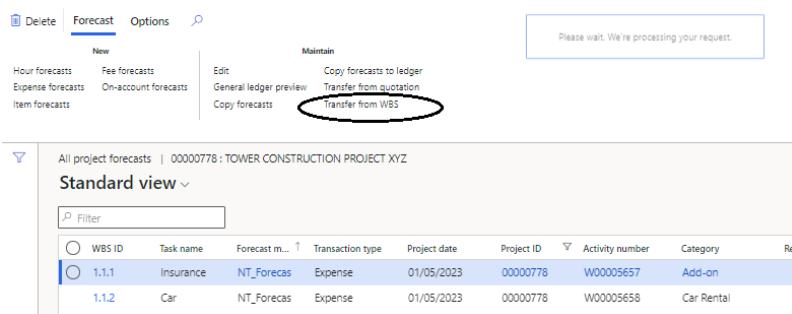


Figure 83 – Project Estimates Lifecycle

- c. Simply, you can select manually the line that you want or via some filter within the same screen and choose either the same forecast or create new model then click ok and it will be published.

My view ▾

Transfer WBS estimates to project forecasts

The list below displays WBS estimates from WBS setup linked to this project that have not been transferred to project forecasts. Select the transfer and a target forecast model.

Transaction type

All

Activity number	Project ID	Transaction type	Resource
W00005657	00000778	Expense	
W00005657	00000778	Hour	
W00005658	00000778	Expense	
W00005658	00000778	Hour	
W00005658	00000778	Item	
W00005658	00000778	Hour	
W00005658	00000778	Hour	
W00005659	00000778	Hour	
W00005659	00000778	Expense	
W00005664	00000778	Hour	
W00005675	00000778	Item	
W00005675	00000778	Expense	
W00005675	00000778	Hour	
W00005658	00000778	Hour	

Forecast model

Match processing

NT\_Forecast  No

Figure 84 – Transfer WBS estimate to project forecast by selected lines.

3. From the Estimates screen, enter the physical POC% for the system to calculate the accrued revenue (Financial part) based on the proposed percentage.
4. Estimate will be created by period. So, every month, you create a new estimate based on the new actual figures.

The screenshot shows the 'Create estimate' screen. On the right, under 'FORECAST', the 'Forecast model' dropdown is circled and set to 'T\_Forecast'. An arrow points from the text above to this circled area. The 'Estimate' screen on the left shows a standard view with various filters and a search bar.

Figure 85 – Project Estimates Creation.

5. Below are the calculated Variables:
  - a. Percentage Of Completion = **Manual Input given to accounting team or Automatic based on actual cost over total forecasted values.**
  - b. Accrued revenue = Contract value (Milestone values) x POC%
  - c. Gross margin = Accrued Revenue – Total Cost (Actual)
  - d. Knowing that the contract values are getting data from Milestones and knowing that contract values does not update its values automatically, project team should be aware to update its contract values manually (if needed) so he can get the correct expected earned values and gross margin.
  - e. Results will be as follows:

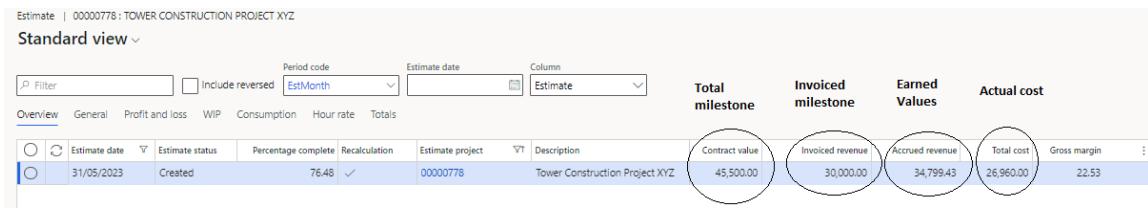


Figure 86 – Project Estimates based manual POC% input.

- In the above screen, Technica team requested to add a new column showing as display method the 30,000\$ (which is equal to Real invoices) split by commercial invoice → Means, if out of these 30,000\$ there was 20,000\$ issued in a commercial invoice, we need to show these 20,000\$ in a separate column name “Commercial invoices” and the other 10,000\$ under “Real invoices”.
- Post the estimates.
  - Estimates status will change to “Posted” and the accounting results will be as follows:

Voucher transactions   00000778 : 31/05/2023										
My view ▾										
Overview General										
ID	Voucher	Date	Year	Ledger account	Account name	Description	Currency	Amount in transaction currency	Amount	Posting type
002979	PIPV_00000330	31/05/2023		540210----	Cost of Project - Expenses	Travel Expense Accident May 23	USD	25,450.00	25,450.00	Project - cost
002979	PIPV_00000330	31/05/2023		540100-003-028-	Cost of Project - Labor	Client Training 7 hours	USD	1,260.00	1,260.00	Project - cost
002979	PIPV_00000330	31/05/2023		540110-003-024-0...	Cost of Project - Products	DC Cables (2)	USD	250.00	250.00	Project - cost - item
002979	PIPV_00000330	31/05/2023		160100-003-028-	WIP - Labor	Client Training 7 hours	USD	-1,260.00	1,260.00	Project - WIP cost
002979	PIPV_00000330	31/05/2023		420200----	Accrued Revenue		USD	-34,799.43	34,799.43	Project - accrued revenue - sales
002979	PIPV_00000330	31/05/2023		160200-003-024-5...	WIP - Products	DC Cables (2)	USD	-250.00	250.00	Project - WIP cost - item
002979	PIPV_00000330	31/05/2023		160300--	WIP - Expense	Travel Expense Accident May 23	USD	25,450.00	25,450.00	Project - WIP cost
002979	PIPV_00000330	31/05/2023		160600----	WIP - Invoiced On Account		USD	34,799.43	34,799.43	Project - WIP - sales value

Figure 87 – Project Estimates final voucher entry.

## Requirements

ID	Desc	Fit/GAP
PJ004-001	Create Forecast with Original budget / current budget	Fit
PJ004-002	Create estimates Journal	Fit
PJ004-003	Modify Estimate form to have a column for commercial invoices values and another for real invoice values.	GAP
PJ004-004	Input Manually the POC% and get earned value	Fit
PJ004-005	Post estimates transaction	Fit

## DOCUMENT APPROVALS

I have reviewed the information contained in this document and approved it through sign off below:

Name	Department	Date	Signature

### Comments:

Link between Project CRM and F&O not mentioned or if we should use it based on our last conversation and workshop session.

Info-sys: It is mentioned in section PJ001 Project planning, point 1. Sales team on opportunity time sheet. Sales support on project in FO timesheet (state it in the related section).

Shipping Process based on Project Milestones is missing

Info-sys: taken into consideration in 1 of the above section (invoicing and shipping).

Nothing was mentioned on how to solve resource planning at the level of project management.  
How to manage project task schedules? Start/End Date?

Info-sys: mention in the planning section the open in Ms Project and mention in details how the integration is working. check in check out. Elaborate in detail .

(We have added it to pj001 project planning section under open in Ms project feature section section#3)

Nothing mentioned in the document related to Sub-Projects.

Info-sys: We have added a section for Sub-project in PJ001 Project planning point Q. please check and add your remark in case anything missing.

How to manage project documents? How to manage Project versions?

Info-sys: Documentation is already mentioned in the section PJ001 Project planning (Point H in figure 22 URL collaboration workspace). As for project versions, as talked with Elissa, to forget about it.

Part related to Customer Service is not mentioned here (installation management)

Info-sys: Please refer back to Customer service FRD → mention here a section for installation management. Where it is part of the WBS created in a separate section (having different team than Project team). that have all the related cost and the

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same steps of the project planning (added in section 4 in PJ001 Project planning).

Also find below case:

**Gap (Re-Allocation of common activity cost to assemblies):**

The common expenses of some activities on a project, like paint works, cleaning, others... are put it at the project level and not at assembly (or part) level from the beginning and during the execution phase.

At the end of the project, they will reallocate this cost to multiple assemblies that were involved in this activity. And the formula is based on the percentage of the Assembly cost value within the project.

**Example:**

Project cost is 120000 \$

Assembly 1: 50000 (42% of Project)

Assembly 2: 40000 (33% of project)

Assembly 3: 30000 (25% of Project)

Activity cost is 24000

**Reallocation of cost will be**

Assembly 1: 10.080\$ (42% of 24000)

Assembly 2: 7,920\$ (33% of 24000)

Assembly 3: 6,000\$(25% of 24000)

**Info-sys comments: this case was added in  
the pj002 project execution section**

The specifications and conditions are hereby accepted. Info-Sys is authorized to execute the project as outlined in this document. This document is not valid until signed by the customer representative and returned to Info-Sys.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_