Functional Requirements Document-Procurement

Prepared for
Technica

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1.1 Introduction

1.2 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
- Proposed technology to support the new or altered business processes
- How implementation of the proposed solution will benefit the users/stakeholders

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 in order 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 Procurement Requirements.

1.3 Acronyms

Abbreviation	Explanation
FRD	Functional Requirement Document
System	Dynamics 365
HOD	Head of Department
GM	General Manager
PO	Purchase Order
RFQ	Request for Quotation
PR	Requisition

1.4 Procurement Setup

Purchasing Policy

Purchasing Policy for PO re-approval should be defined to set fields list for which if you make any change re-approval is required. For Example, change in delivery date and shipping documents shouldn't be subject for re-approval.

All the other below fields will require change request:

- Supplier
- Price
- Discount
- Packing
- Freight and freight mode
- Extra charges
- Currency
- Delivery terms
- Ship to Address
- Payment terms

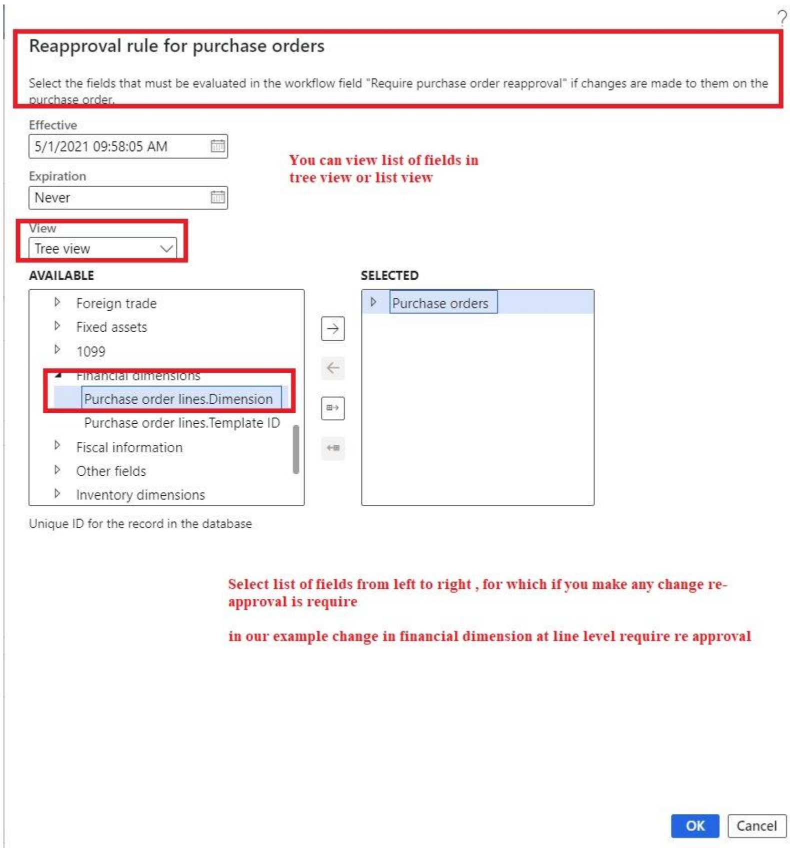

Figure 1 - Purchasing Policy

Specific Items can be restricted to Requestors/Engineers based on Procurement catalogue restrictions.

1.5 Business Processes List

1.6 Processes List

In order to elaborate and define the functionality, the following processes have been presented in the subsequent sections:

Process ID	Name	Description
PR001	Internal Requisition	Process flow for Internal Requisition
PR002	Raw & Spare Parts Materials Purchasing	Process for Materials Purchasing
PR003	PO Processing	Process for PO
PR004	Inbound Charges	Process for Charges Allocation
PR005	Return Purchase Order	Process for Purchase Return
PR006	Vendor Registration Process	Process for Vendor Registration

1.7 Business Processes

1.8 PR001 Internal Requisition (Local/Foreign)

Process Diagram for Material requests for projects

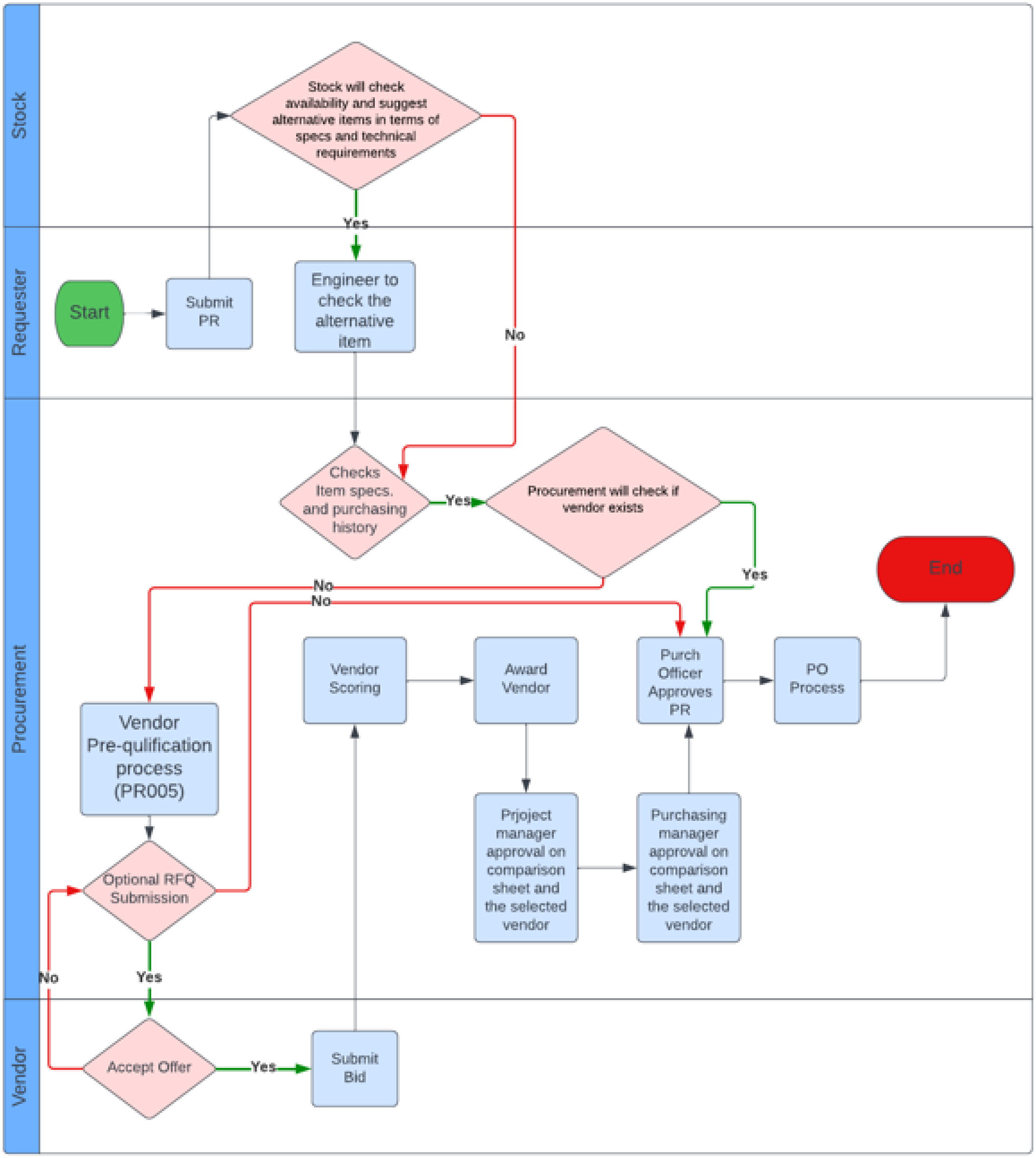

Figure 2 - PR workflow for materials

Process Diagram for Support and non-Project requests

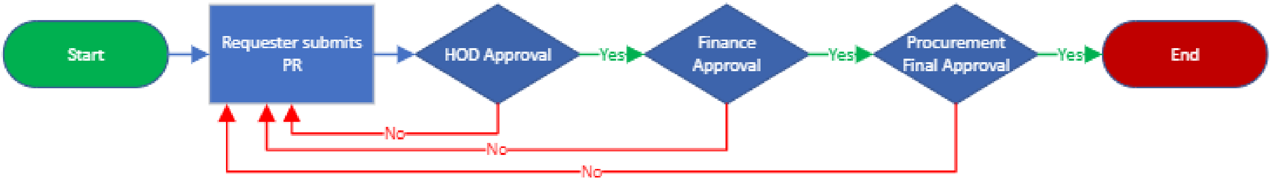

Figure 3 - PR workflow for non-project requests

Purchase requisitions for Spare Parts

The Sp&S department creates a purchase requisition for the requested items. The PR can be linked to a project, but some PRs may not be project specific.

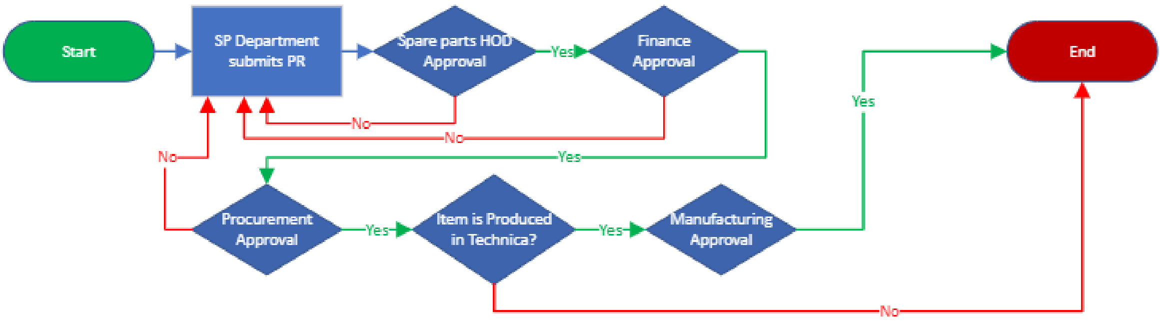

Figure 4 - PR for Spare parts

Process Overview

Proposed Process Flow

1. **Employee** can access the purchase requisition, select the requested Category and then submit the requisition for **Procurement Officer**'s Approval. ~~(the request can be done on behalf of someone else)~~
   Requesters can assign preparers, so the preparer can initiate the PR on behalf of the requester and it follow the normal approval workflow cycle.
   i. On pane A, staff will select the needed category as defined in Section *Category Hierarchies*
   ii. On pane B, staff will see the products inside the previously selected category. Service Items linked to different Main Accounts might be used for non-stock requests.

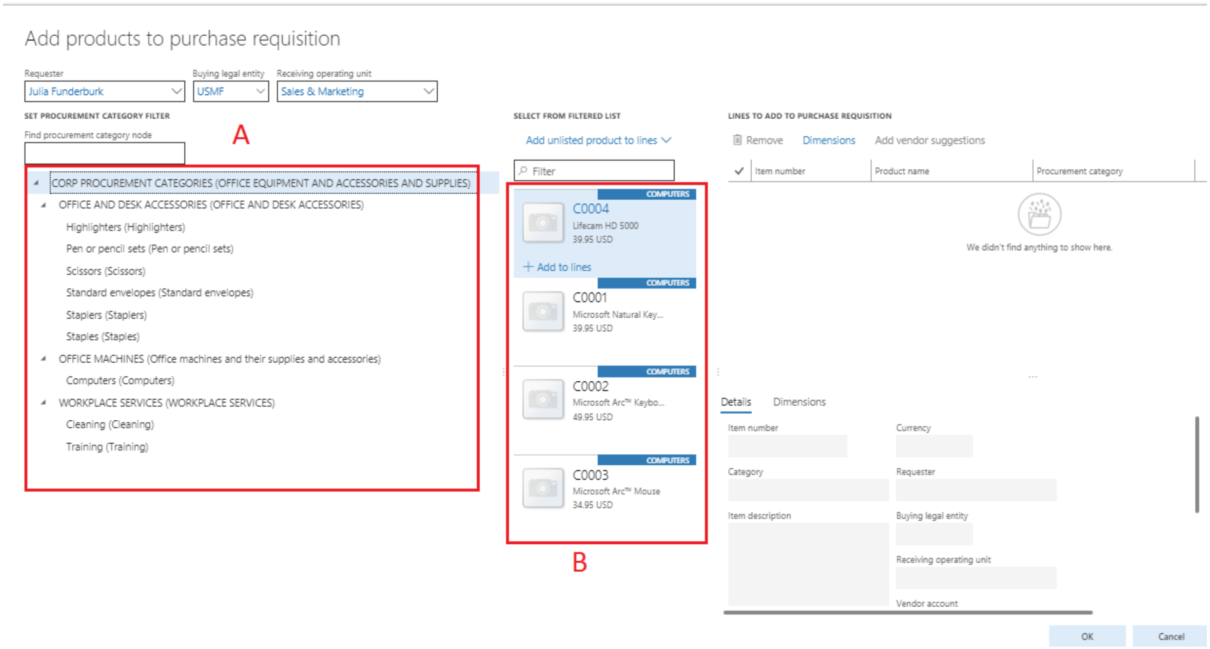

Figure 5 - Order Products

2. Once the PR is created the system will do an automatic budget check. Budget Checking Process will allow to Submit REQ for Approval with a warning Message.
3. Below fields must be available to be filled by the requestors:
    a. Project ID (Header)
    b. Needed on date (Line)
    c. Needed on date (Header) to be last needed on date of line
    d. Site warehouse (Line)
    e. Shipping mode (Header) → to be filled on PO not on PR
    f. Incoterms → to be filled on PO not on PR
    g. Clear description and specifications
    h. UoM (smallest one)
    i. Quantity
    j. Technica Code if available or supplier code
    k. Brand if mandatory by the customer'
    l. Incoterms is needed on PR for machines and partners.
4. Last purchase price to be shown for engineers of PR for better estimation
5. ~~**Procurement officer**~~ **Stock person** will check for item availability and suggest for alternative items if needed, then will check for item specifications and purchasing history.
6. **Procurement officer** will decide to approve or to reject. If the Request is Rejected then the Process will end
7. The Process continues and may be subject to **optional** RFQ issuance.

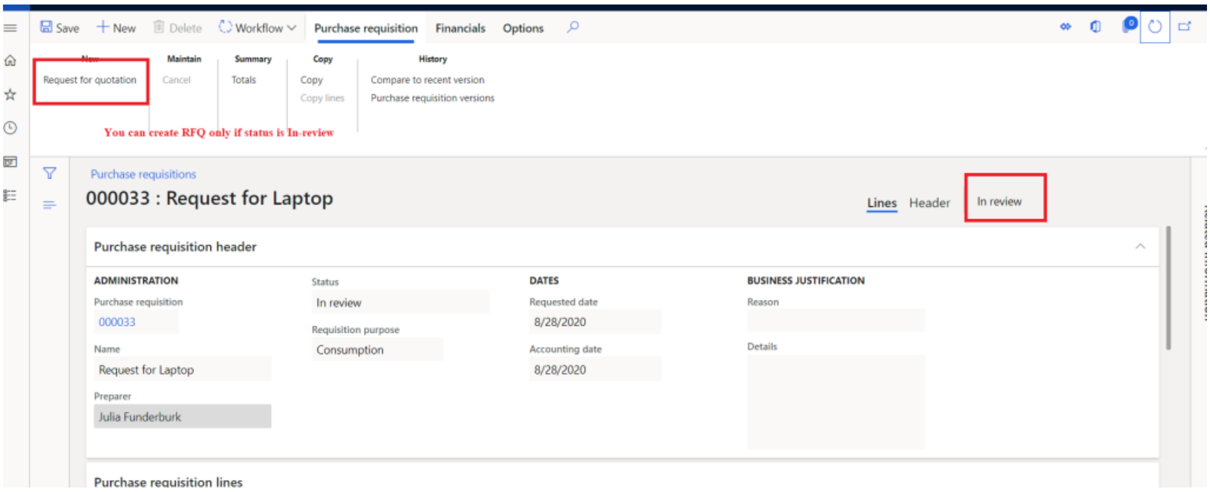

Figure 6 - RFQ Form

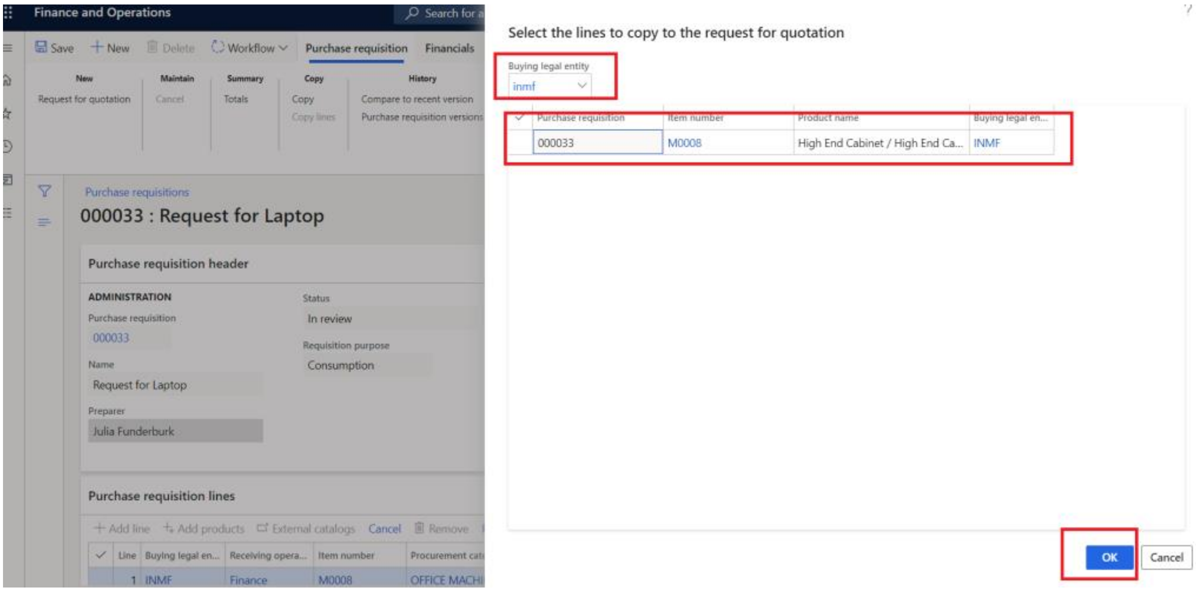

Figure 7 - Adding RFQ Lines

8. **Procurement Officer** will complete all RFQ Details, attach related Documents and Post the Request to Vendor Portal.
9. **Vendors** will access Vendor Portal and check the RFQ Details and submit their Offers accordingly. I case Vendors do not have access to the Portal, then Procurement Officer will fill the Bid replies details in the system.
10. **Procurement Officer** will Compare Vendor Replies, register Bid Scoring and award the Tender for Selected Vendor.
11. In the comparison sheet, the following fields will be available: payment terms, price, delivery. This sheet should be accessible by Engineers also.
12. In case of comparison sheet, the PM must also approve the PR before generation of the PO.
13. In case of technical specs: Engineers might request one of two items that both works for their project as of technical specs. Therefore, one item will be added in

the PR and in the RFQ, but for each vendor we will have different external item ID which is different than the internal Item ID.

14. **Procurement Officer** will then release REQ and Create accordingly the related PO. Then, PO Process will be executed according to Process described below *PR003 PO Processing*.

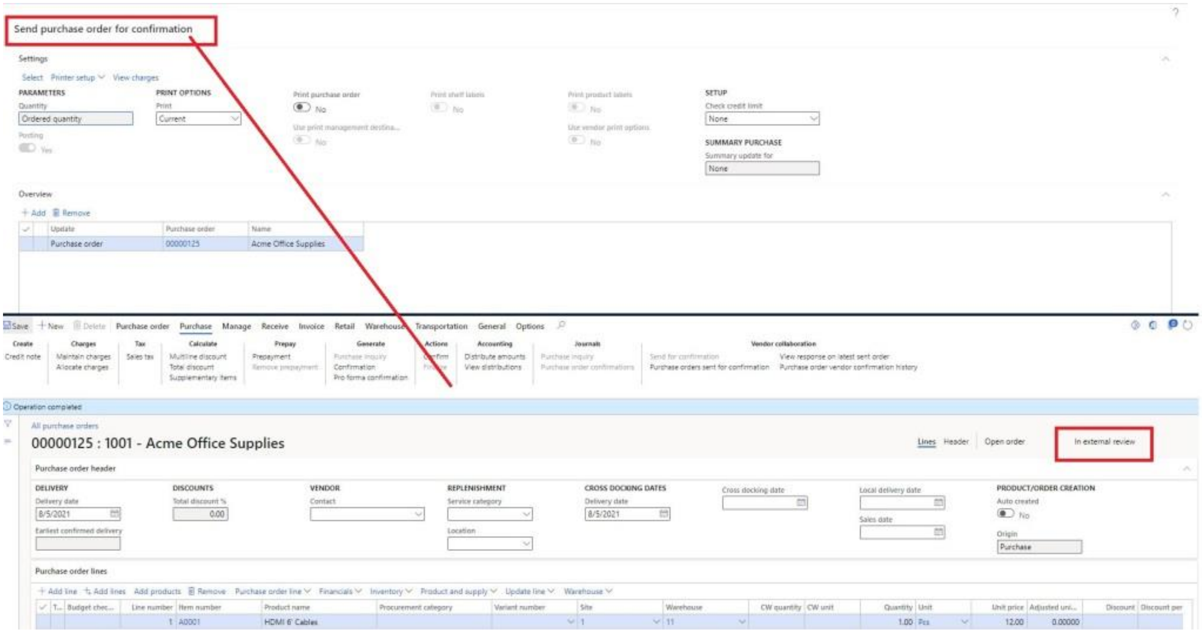

Figure 8 – Send PO for External Vendor

Requirements

ID	Desc	Fit/GAP
PR001-001	Adopting Purchase Requisition for Internal Procurement	Fit
PR001-002	Maintaining Procurement Catalogue	Fit
PR001-003	Service Items will be maintained in Internal Procurement under Categories to hit specific Main accounts and for Reporting Purposes	Fit
PR001-004	Enable Budget Checking	Fit
PR001-005	Design PR Workflow (to be finally confirmed by TECHNICA)	Fit
PR001-006	Configure Budget Revision Cycle (to be shared by TECHNICA)	Fit
PR001-007	Managing RFQ and Attachments of Documents	Fit

PR001-008	RFQ to be shared on Vendor Portal with Attachments	Fit
PR001-009	External vendors to submit their Replies over Vendor Portal	Fit
PR001-010	Comparing Vendor Replies and Award one Vendor	Fit
PR001-011	PO Receiving by Requesting Department/Accounting Department (to be concluded)	Fit
PR001-013	Items should be defined with the Preferred Vendor.	Fit
PR001-014	Technical Specs will be shared by Procurement to Requestor through emails and outside the system for approval. Technical Specs can be attached on RFQ Reply	Fit
PR001-015	Not all Vendors will have access to Portal	Fit
PR001-016	RFQ Report to be shared with Technica and will be sent automatically to vendor by email.	Fit
PR001-017	Ability to System to filter on Vendors based on RFQ Products Category, So Procurement Department will invite Concerned Vendors only.	Fit – Approved Vendors should be defined on Procurement Categories, if not defined then vendors should be added manually
PR001-018	Payment Terms defined on RFQ to be transferred to Generated PO	Fit
PR001-019	3 Way Matching Policy should be applied	Fit
PR001-020	Default Department or Other Financial Dimension should be defined at Employee Level (Requester/on Behalf of) in order to be allocated by default on REQ	Fit
PR001-021	Procurement Categories to be allocated to Departments in order to restrict access of Department on related Categories	Fit
PR001-022	Activate Vendor Portal for specific Vendor and not all vendors	Fit
PR001-023	Approved Vendors to be selected for specific Categories	Fit
PR001-024	Registering Bid Scoring before awarding	Fit
PR001-025	Import RFQ Reply for Vendors who don’t have access to Portal	Fit – New grid capability supports pasting from Excel

PR001-026	Create Multiple PO from REQ	Fit
PR001-027	Create One RFQ from multiple REQ	Fit
PR001-027	Add the Needed date on PR Lines	Gap - Customization

1.9 PR002 Raw & Spare Parts Materials Master Planning

Process Diagram

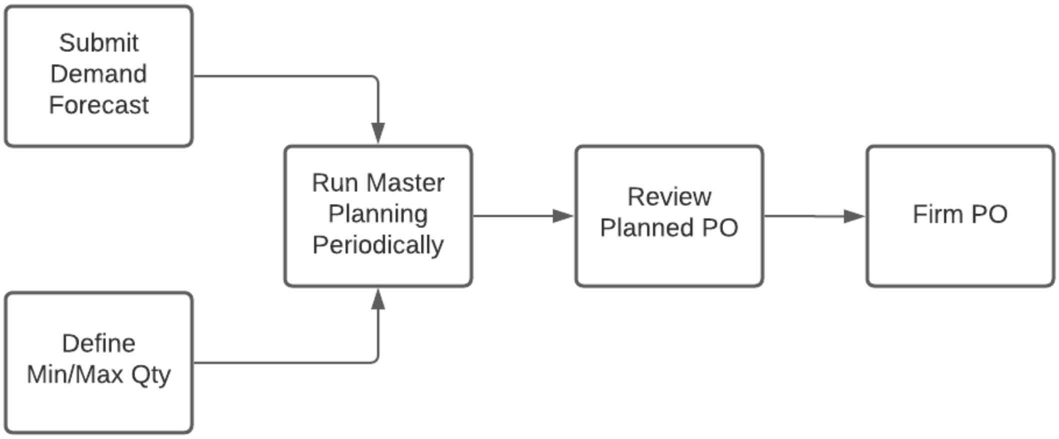

Figure 9 - Materials Master Planning Process

Master Planning Definition

At its core, Master planning allows companies to determine and balance the future need for raw materials and capacity to meet company goals. Master planning assesses the following:

- What raw materials and capacities are currently available?
- What raw materials and capacities are required to complete production? For example, what must be manufactured, purchased, transferred, or set aside as safety stock before you can complete production.

Master planning uses the information to calculate the requirements and generate planned orders.

The two main planning processes are:

- **Master planning** - The Master plan calculates net requirements. It is based on actual current orders and enables companies to control inventory replenishment on a short-term, day-to-day basis.
- **Forecast planning** - The Forecast schedule calculates gross requirements. It is based on future projections (or forecasts), and enables companies to conduct long-term planning of materials and capacity

TECHNICA has to define Lead Time for each Vendor and his Supplied Products in order for Master Planning Process to calculate when to Order the Products.

Process Overview

Proposed Process Flow

1. **Inventory Department** will prepare the Demand Forecast for a year or a Specific Period for Finished Products.

Figure 10 - Demand Forecast

2. **Maintenance Department** Defines Min/Max of Spare Parts, So Master Planning Routine will calculate Required Quantities to be Purchased.
3. **Master Planning Engine** will be scheduled periodically to generate Planned PO.

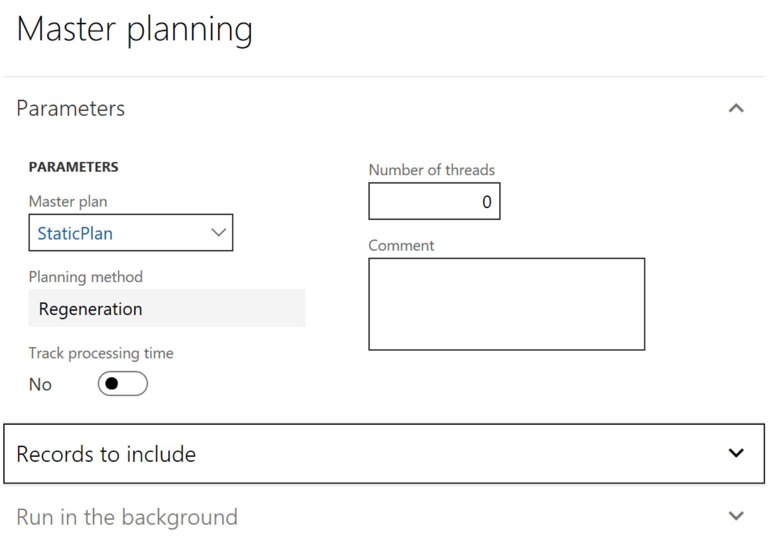

Figure 11 - Master Planning Routine

4. **Requesting Department** will Review Planned PO and firm needed POs.

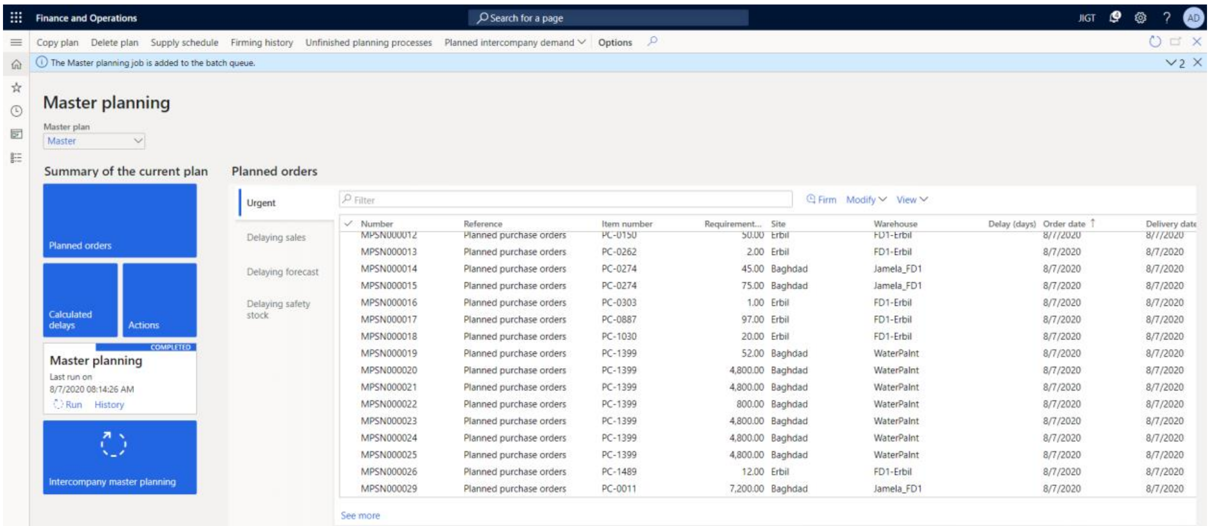

Figure 12 - Planned PO View

5. **Procurement Department** Reviews Confirmed POs and Processes it according to PO Process described below.

Requirements

ID	Desc	Fit/GAP
PR002-001	Master Planning Configuration	Fit
PR002-002	Vendor/Product Lead Time Definition	Fit
PR002-003	Demand Forecast Planning Registration	Fit
PR002-004	Master Planning Scheduling	Fit
PR002-005	Generation of Planned PO	Fit
PR002-006	Firming PO	Fit
PR002-007	Process PO	Fit
PR002-008	Define Min/Max Qty on Items	Fit

1.10 PR003 PO Processing

Workflow engine in D365

Microsoft Dynamics 365 for Finance and Operations offers a robust and flexible purchase order workflow that empowers organizations to streamline their procurement processes while adapting to their specific business needs. What sets the workflow engine apart is its adaptability and configurability, allowing businesses to tailor the workflow to match their unique procurement policies and operational requirements.

Here's a closer look at the flexibility of the D365FO purchase order workflow:

1. **Customizable Approval Hierarchies**: D365FO allows organizations to define multiple levels of approval hierarchies based on factors such as purchase amount, vendor, or department. This flexibility accommodates complex organizational structures and ensures that purchase orders are routed to the appropriate approvers for review and authorization.
2. **Dynamic Approval Routing**: The workflow can be configured to dynamically route purchase orders based on certain conditions. For instance, if a purchase order exceeds a specific threshold, it can automatically be routed to higher-level managers for approval. This dynamic routing minimizes delays and ensures timely decision-making.
3. **Conditional Rules**: D365FO enables the creation of conditional approval rules based on various criteria, such as vendor type, item category, or requested delivery date. This level of customization ensures that purchase orders are subject to appropriate scrutiny based on the nature of the purchase.
4. **Parallel and Serial Approvals**: The workflow can be configured to allow both parallel and serial approval processes. Parallel approvals enable different stakeholders to review and approve different aspects of the purchase order simultaneously, while serial approvals mandate a sequential approval process.
5. **Escalation and Delegation**: In scenarios where an approver is unavailable, the workflow can be designed to automatically escalate the approval to the next level or delegate the approval authority to another person. This feature prevents bottlenecks and ensures continuity in the approval process.
6. **Integration with Communication Tools**: D365FO's purchase order workflow can be integrated with communication tools such as email notifications and alerts. Approvers receive notifications when a purchase order requires their attention, enabling them to take prompt action.
7. **Visibility and Tracking**: The workflow provides real-time visibility into the status of purchase orders. Approvers, requestors, and other stakeholders can track the progress of approvals, helping them stay informed about the procurement process.
8. **Configurable Notifications**: Organizations can configure notifications to keep relevant parties informed at different stages of the approval process. Notifications can be sent when a purchase order is submitted, approved, rejected, or modified.

9. **Audit Trail**: D365FO maintains a comprehensive audit trail of all actions taken within the purchase order workflow. This audit trail supports accountability, compliance, and historical reference.

Process Diagram for project based PO

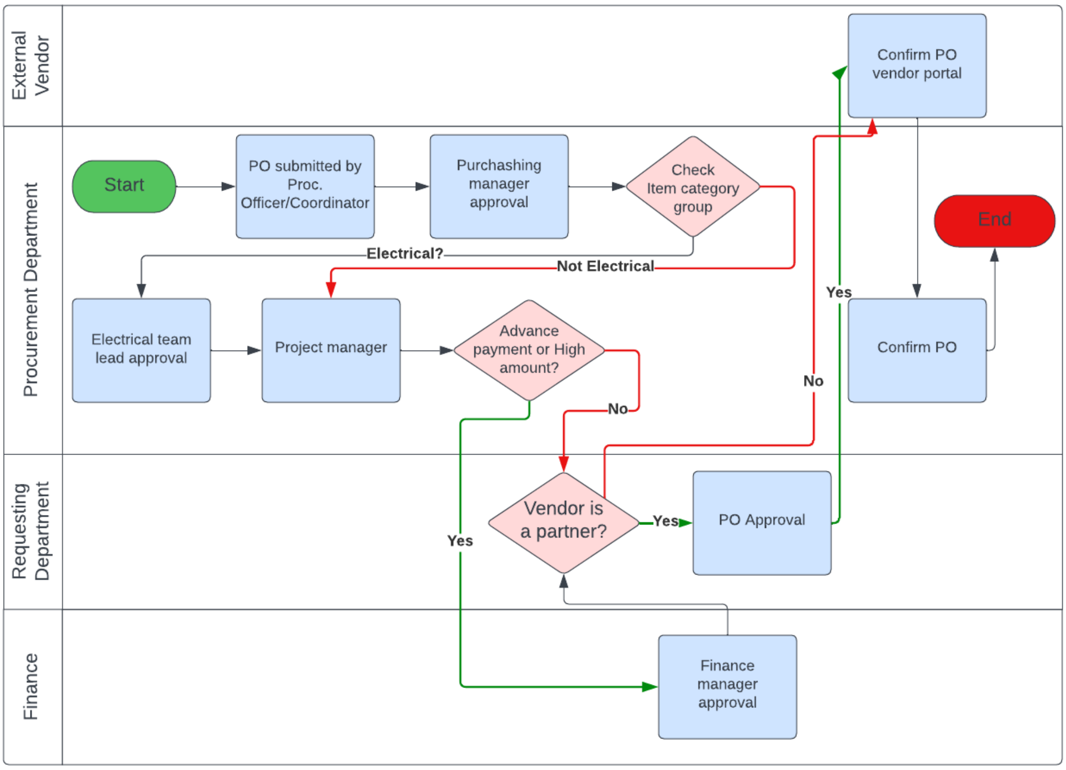

Figure 13 – PO Process

Process for non-project based Pos

Non-Project based POs will not require a workflow approval cycle since its PR already ran the workflow approval cycle mentioned in *figure 2*.

Process Overview

Proposed Process Flow

1. **Procurement Department** will Create PO and Submit to Vendor Portal for Acceptance.
2. Fields that need to be filled on PO are the following:
    a. Supplier
    b. Payment terms
    c. Mode of delivery
    d. Penalty terms
    e. Incoterms
    f. Delivery date
    g. Ex-works delivery date
    h. Expected Delivery date (compared with "Needed on date" in PR) and shown on PR
    i. Requester to be notified when Delivery date is greater than needed date
    j. Supplier offer nb if available.
    k. Purchasing officer can increase the quantity in some cases with remarks.
    l. Discount
    m. Packing
    n. Freight
    o. Extra charges
    p. Ship to address
    q. Remarks
3. Shipping documents with Quantity (Ex: Invoice, packing list, certificate of origin, euro one, Bill of lading or AWB along with their quantities must be shown on PO confirmation
4. **Vendor** will review PO on Portal then he can accept or reject it. In case PO was Rejected by Supplier then PO will be returned to **Procurement Department** for handling.

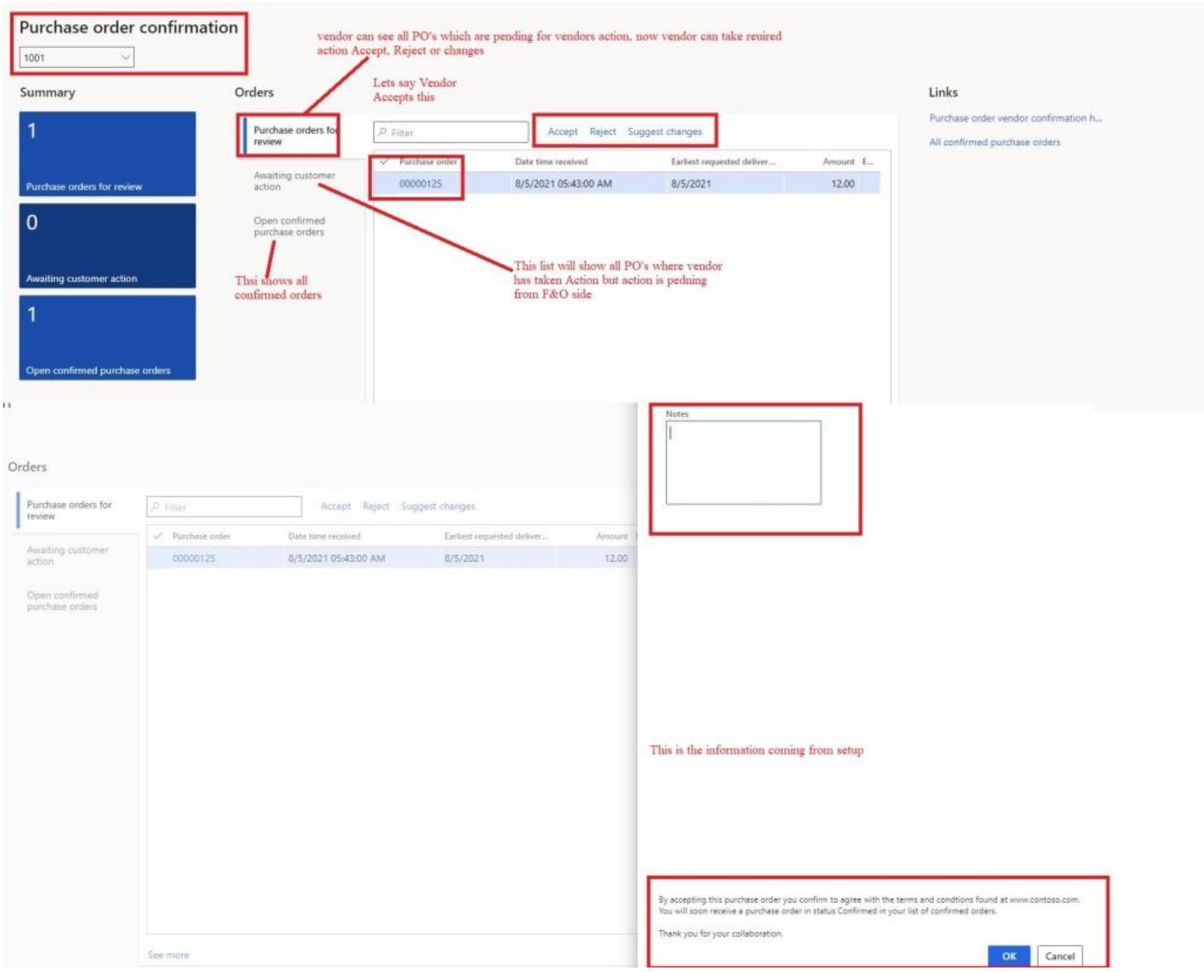

Figure 14 - PO Acceptance

5. ~~**Requesting Department**~~ **Procurement Department** then approves PO after Supplier's Acceptance and PO will be auto confirmed or can be confirmed manually by **Procurement Department**. In case PO was Rejected by Requesting Department then PO will be returned to Procurement Department for handling.
6. Proforma Confirmation generation will be used to send confirmation email to supplier.
   NB: In all cases, the procurement officer needs to confirm the PO on the system. The pro-forma confirmation is used to send the PO confirmation printout to the vendor.
7. In case of partner vendor, the requester must confirm the PO.
8. PO confirmation Printout to be sent by Technica.
9. Payment terms to use payment schedule, and purchasing or PM to change payment schedule on PO in case of any change in case PO is open.

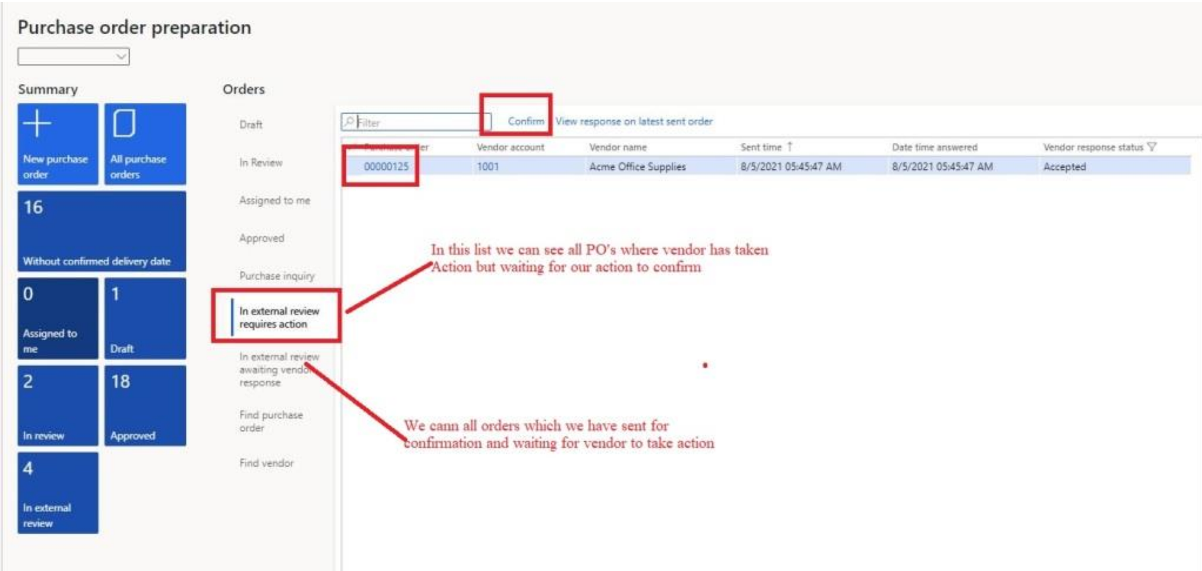

Figure 15 - PO Confirmation

10. In case of advance payment, the Purchasing officer request a PI from supplier including bank details to send it to finance for advance payment preparation.
11. Payment amount must be shown on PO list.
12. Receiving PO will be initiated by Warehouse Department for Stock Items whereas Service Items (Expenses/Support) can be received directly by Procurement or Requesting Department (to be confirmed by TECHNICA). Details of this Process will be described in Warehouse FRD.
13. Procurement team will follow up with supplier on delivery due date.
14. Update the delivery date in case of lateness. If the needed date on the PR is less than the delivery date on the PO, a notification must be sent to the requester.
15. Some local goods will be registered by the 2 purchasing clerks, then when the goods are moved to the warehouse the stock person will receive them. (some cases do not require purchasing clerks so registration will be skipped).
16. Site leader to receive cross-shipping POs
17. Damaged items might happen before receiving and after receiving (if item is still under warrantee).
18. Purchasing officer request shipping documents from the foreign suppliers to check them and send them to logistics.
19. Procurement team will click on a Button in the PO to send an automated email to the accounting team to process the payment of the PO.
20. In case PO needs to be revised, the procurement officer will require to re-open the PO for revision (request change). The PO status will then change to “Draft” and the workflow will be required to be submitted again for approval.
    NB: Revising the PO will not affect the PR status, unless some major changes are required (like vendor change etc…)

Requirements

ID	Desc	Fit/GAP
PR003-001	PO Processing	Fit
PR003-002	Submitting PO to Vendor Portal	Fit
PR003-003	Vendor Acceptance of PO over Portal	Fit
PR003-004	PO Workflow	Fit
PR003-005	Send Email Notification upon PO Proforma confirmation. • To Supplier Email Address • CC: Purchasing Email, Requester Email	Gap – Needs customization
PR003-006	Add missing fields on PO and reflect some of them in PR	Gap - Customization
PR003-007	Procurement team to click on Button to send email to accounting team to process PO payment	Gap
PR003-008	Change Order can be applied on specific fields and can follow a specific workflow	Fit
PR003-009	Rejected PO will be received by Procurement Department. A notification email can be sent using alert email	Fit – Using alerts
PR003-010	Requester to be notified when Delivery date is greater than needed date	Gap
PR003-011	PO Payment amount to be shown on PO list	Gap

PR004 Return Purchase Order

Process Diagram

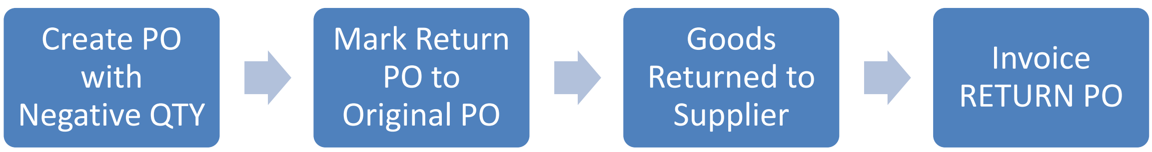

Figure 16 - Purchase Return Process

Process Overview

Proposed Process Flow

The return purchase order process is as follows:

1. Create Purchase order for the Vendor with items and negative Quantity.
2. Mark the Return Purchase order to the Original Purchase order to ensure that the items deducted from the system with accurate cost.
3. Items are registered on the back office
4. Once the goods are returned to the supplier, the Return PO can be invoiced.
5. The returned PO will be linked to the original PO, so the system would revert back the exact item cost.
6. If cost is higher on PO return, the extra cost would be reflected on the Project.
7. Additional or different charges may be added to the returned PO.
8. Charges may be set on the PO level before receiving the items, and they may be set on the PO invoice. In both ways item cost will be affected by the charges.
9. Total charges will be specified on PO, and the system will split them automatically on the item lines on a Prorated basis.

Requirements

ID	Desc	Fit/GAP
PR004-001	Process Purchase Return	Fit
PR004-002	Mark Purchase Return to Original Purchase Order	Fit
PR004-003	Process Return Invoice	Fit
PR004-004	Assign charges on PO/PI	Fit

PR005 Vendor Registration Process

Process Diagram

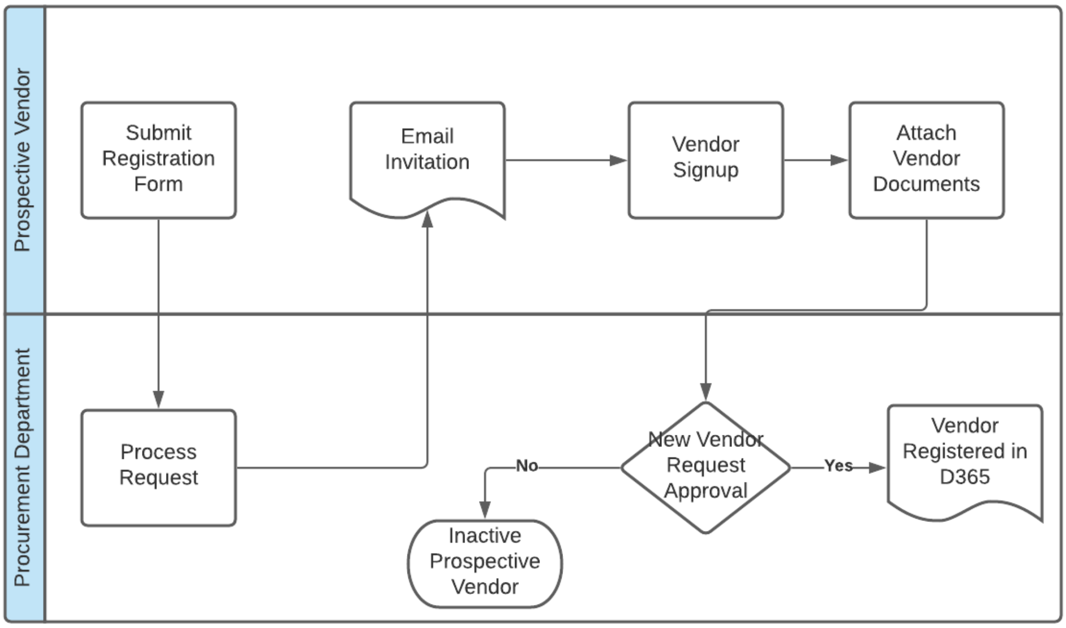

Figure 17 - Vendor Registration Process

Process Overview

Proposed Process Flow

1. **Prospective Vendor** A Record will be created under Prospective Vendor List, then the vendor will receive an email containing the link to vendor registration process.

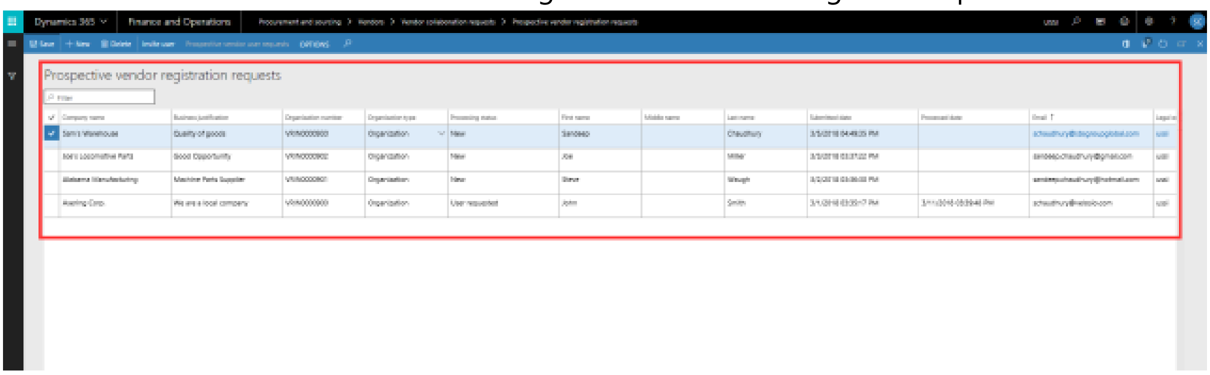

Figure 18 - Prospective Vendors

2. **Procurement Department** reviews the Request and Invite Vendor User. A Workflow will be setup for User Creation under Azure AD and D365.

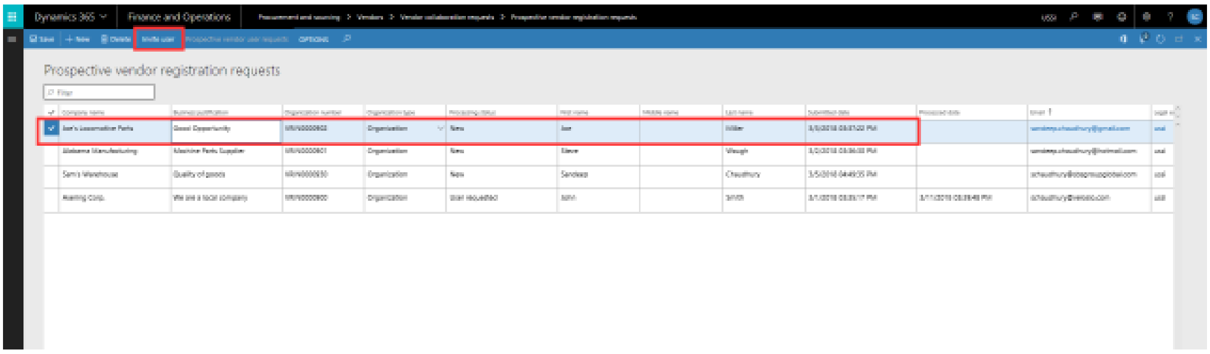

Figure 19 - Invite Vendor User

3. **Vendor** logs in to D365 by clicking the URL in the email invite, they are taken directly to a registration wizard, which appears as shown in screenshot below.

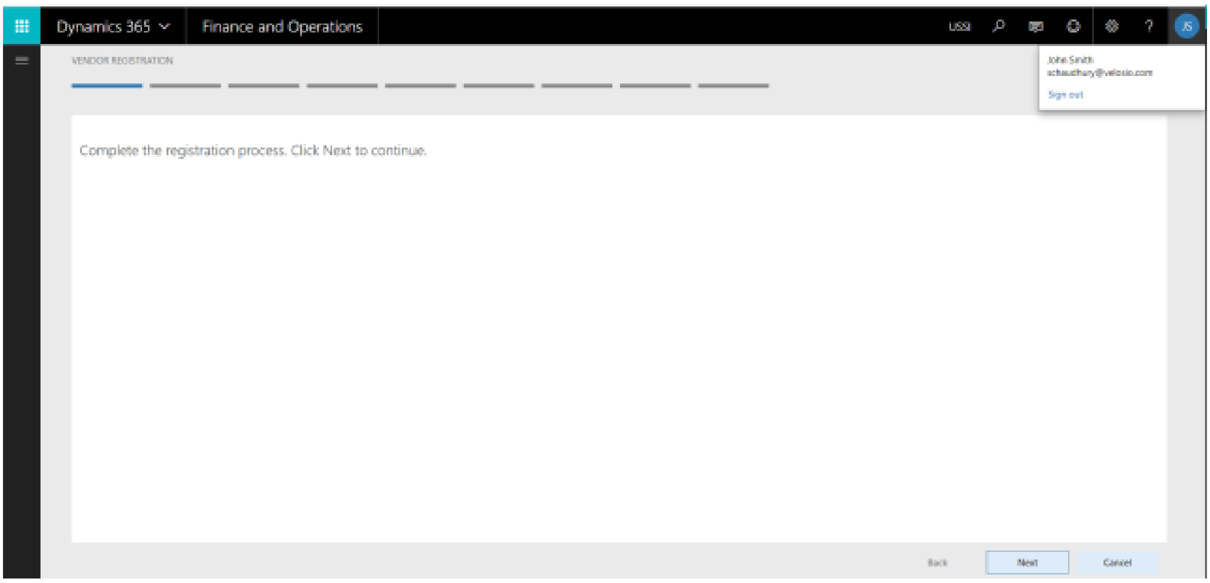

Figure 20 - Vendor Registration Wizard

Vendor enters the Business Information and all necessary details as shown below.

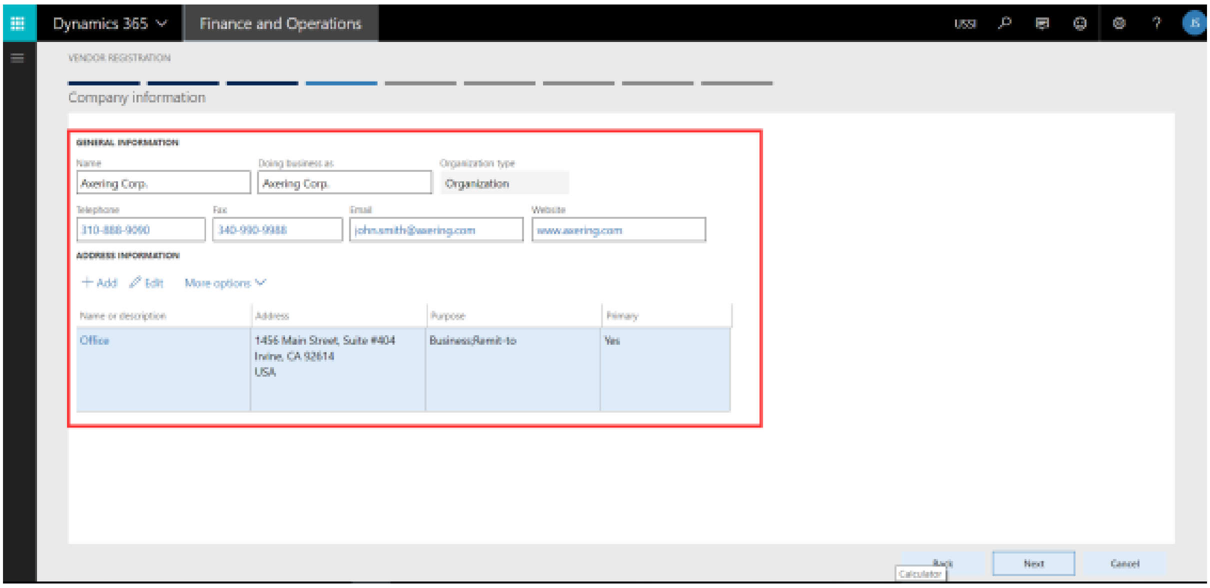

Figure 21 - Vendor General Information

4. Vendor attach all required documents/certifications.
5. **Procurement Department** then completes the review process of the new vendor request and upon confirmation, the new vendor record is automatically setup in the Vendor master. After that, the vendor can have full access to the vendor collaboration portal and they can communicate with your organization in real time on purchase orders, invoices, consignment inventory, RFQs and responses, bidding and more. If the Request is Rejected, then Prospective User will become Inactive.

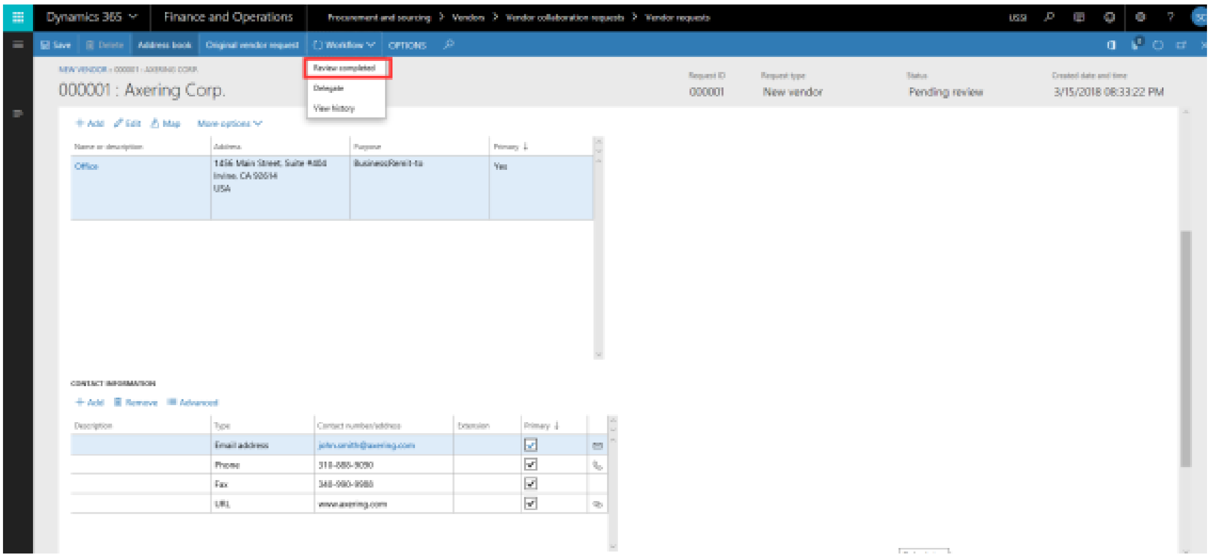

Figure 22 - Vendor Request Approval

Requirements

ID	Desc	Fit/GAP
PR005-001	Prospective Vendor Registration	Fit
PR005-002	Send Registration Invitation to Prospective Vendor	Fit
PR005-003	Prospective Vendor Signs up	Fit
PR005-004	Initiate Vendor Request Approval	Fit
PR005-005	Approve/Reject Vendor Registration	Fit
PR005-006	Vendor to attach legal documents and certifications	Fit
PR005-007	Apply Questionnaire form to be filled by vendor during onboarding process	Gap – Attachment customization

PR006 Vendor Evaluation Process

Vendor evaluation does not exist as out of the box in D365, so it has to be fully customized.

As per the excel documentation shared by Technica, below is the process for Vendor evaluation.

Grades are divided into 3 sections:

1- Quality over 50%
   a. Based on total number of SNC POs over total number of POs in 1 year
   b. Technica to define how to get the SNC POs from the system
2- Finance over 35%
   a. Based on Price (not included in the grading formula) → Set manually
   b. Based on Payment terms
3- Service over 15%
   a. Communication Support → Set manually

The Overall rating would result in a grade for the supplier. Suppliers with grade less than 50/100 would be blacklisted automatically.

Reports

Below are the requested reports:

1. Purchase Confirmation report
2. RFQ report
3. All Purchase orders → Detailed PO report show in process, confirmed, invoiced POs, due POs, passed due POs
4. Item PO History → Detailed price history
5. All Purchase requisitions → Assigned to me or prepared by me or requested by me
6. Top 100 vendors
7. Vendor/Item statistics
8. Open purchase order lines by delivery date report
9. Open purchase order lines by vendor report
10. Purchase receiving log report

DOCUMENT APPROVALS

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

Name	Department	Date	Signature

Comments:

____

____

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: ______________________________