

XERPUM

Plm

Enterprise Resource Planning

Complete integrated ERP solution for
plm industry

2000+

MODULES

AI

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PREMISE

English Edition — brosur.xerpium.com

Product Lifecycle Management Enterprise-Grade

XERPIUM PLM is a product lifecycle management module ecosystem built on XERPIUM 18 — covering Engineering Change Orders (ECO), BOM Revision Control, Approval Workflow, Document Management, and KPI Dashboard.

ECO — Core of Product Lifecycle Management

xerpium.plm.eco is the main model that manages the entire engineering change lifecycle — from draft, review, approval, to apply.

ECO Core Features

Auto-Sequence — ECO/##### reference auto-generated via ir.sequence

Description & Priority — Normal / High priority with tracking

Change Type — Apply on Bill of Materials or Product Only

Effectivity — As soon as possible or At Date (effective date)

Tags & Color — ECO categorization with colored tags

Kanban State — Normal / Approved / Blocked for visual tracking

ECO Type & Mail Alias

ECO Types — Change category (e.g. "BOM Change", "Product Update")

Stage Mapping — Each type can have its own set of stages

Mail Alias — Email to alias automatically creates an ECO with that type

Smart Counters — nb_ecos, nb_approvals, nb_approvals_my, nb_validation

Company-Scoped — Multi-company support per ECO type

BOM Revision & Apply

Start Revision — Copy BOM ke working copy, version +1, active=False

Previous BOM Link — Chain previous_bom_id for audit trail

Apply Changes — Activate new BOM, deactivate old, sync operation documents

Version Toggle — will_update_version flag — apply without bumping the version

Product Versioning — Auto-increment product.template.version on apply

Change Impact Analysis

Component Changes — Auto-diff add/remove/update with quantity & UoM delta

By-Product Changes — By-product change tracking on BOM

Operation Changes — Routing/workcenter changes with time cycle delta

Color-Coded — Green=add, Red=remove, Blue=update in form view

Rebase Tracking — previous_change_ids & bom_rebase_ids for conflicts

Manufacturing Integration

Create ECO from MO — One-click from Manufacturing Order, auto-fill BOM & product

MO ↔ ECO Link — production_id on ECO, eco_ids on MO

BOM ↔ ECO Link — eco_ids & eco_count on mrp.bom

Product ↔ ECO Link — eco_ids & action_view_ecos() on product.template

Operation Documents — Sync documents to new BOM operations on apply

Rebase & Conflict Handling

Rebase State — state='rebase' when the upstream BOM changes while an ECO is in progress

Conflict State — state='conflict' for manual resolution

Intermediate BOM — current_bom_id for tracking mid-ECO changes

Rebase Diff — bom_rebase_ids & previous_change_ids auto-compute

Audit Trail — Full changelog via mail.thread chatter

Role-Based Approval Engine

Every ECO stage can have approval templates of mandatory, optional, or comment-only type. Stage advancement is blocked until all mandatory approvals are met.

Approval Mechanism

Auto-Generate — _create_approvals() creates approval records + mail activities

Stage Gating — Stage advance is blocked if mandatory approvals are not complete

User Restriction — approve/reject only for users in template.user_ids

Stage Transition — Moving stage menutop processed approvals, menghapus pending

Mail Activities — Auto-create todo activities for approvers

Approval Types

Mandatory — Must approve before stage can advance. is_approved = (status == 'approved')

Optional — Can approve but non-blocking. is_approved is always True

Comment — Comment only, does not affect approval status

Constraint — A user may not be assigned more than once per stage

Dynamic Stage Workflow

Configurable stage framework for ECO — with Python hooks, server actions, RBAC groups, and approval template integration.

Dynamic Stage Features

Configurable per Model — Independent stages for xerpium.plm.eco

Python Hooks — enter_method runs when a record enters the stage

Server Actions — ir.actions.server automatically on stage enter

RBAC Groups — group_ids restricts who can move to the stage

Native State Sync — Auto-sync stage ↔ state field (confirmed/progress/done)

Back Navigation — allow_back for moving back a stage (configurable)

Approval Templates — approval_template_ids on stage (via xerpium_dynamic_stage_plm)

Default Stage — is_default auto-assigned on new record

PLM Document System

xerpium.plm.document — polymorphic document system that can attach to ECO, BOM, Product, or routing operation.

File (PDF, Images)

Upload via ir.attachment

Mimetype auto-detect

Copy on BOM revision

Cover image for ECO

External Link

Google Slides, external URL

widget="url" in forms

action_open_link()

No file upload needed

Text Note

Plain text content

Inline editing in forms

Quick notes / instructions

No attachment required

Document Features

Polymorphic — res_model + res_id, attach to any model

Kanban View — Card renders differently per doc_type (file/link/text)

Operation Documents — bom_operation_id for SOP per operation

Sync on Apply — _sync_operation_documents() copies documents to new BOM

Cover Image — displayed_image_id for ECO cover

Copy with Attachment — copy() duplicates ir.attachment for file-type

Multi-Company — company_id isolation

BOM & Product Versioning

Integrated versioning system for BOMs and Products — every ECO apply can automatically bump the version.

PLM KPI Dashboard

xerpium_dashboard_plm — KPI dashboard with 6 widgets, dual data source (ORM + SQL), auto-refresh every 5 minutes.

Dashboard Features

Auto-Refresh — 300-second (5-minute) refresh interval

Auto-Apply Filters — Automatic filter when dashboard opens

Dual Source — ORM source (ECOs, BOMs, Products) + SQL source (aggregates)

Green Theme — Green color theme consistent with PLM branding

Global Dashboard — visible to all PLM users

Built on Dashboard Studio — vit_dashboard_studio infrastructure

Cross-Module Integration

PLM fully integrated with the XERPIUM manufacturing ecosystem.

PLM ↔ Manufacturing (MRP)

Create ECO from MO — One-click from Manufacturing Order

MO ↔ ECO — production_id link, eco_ids on MO

BOM Version Control — ECO apply activate new BOM version

Operation Sync — SOP documents synced to new BOM operations

Work Center Documents — mrp.routing.workcenter.document_ids

PLM ↔ Product

Product Version — product.template.version auto-increment

ECO History — eco_ids & action_view_ecos() on product form

ECO Notebook — ECOs tab on product form

Document Attach — Spec sheet, datasheet per product

PLM ↔ Dashboard Studio

KPI Dashboard — vit_dashboard_studio hosting

ORM + SQL Sources — Dual data source

Auto-Refresh — 5 minute interval

Chart Types — Tile, Pie, Line, dll

PLM ↔ Dynamic Stage

Configurable Stages — Data-driven, not hard-coded

Approval Templates — approval_template_ids on stage

Python Hooks — enter_method per stage

RBAC Groups — group_ids per stage

State Sync — Auto-sync stage ↔ native state

PLM ↔ Mail Thread

Chatter — Full audit trail per ECO

Mail Activities — Auto-generate todos for approvers

Mail Alias — Email ke alias auto-create ECO

CC Tracking — mail.thread.cc inheritance

PLM ↔ Multi-Company

Company Isolation — Record rule per company_id

Company on ECO — company_id field with default

Company on Document — Multi-company document isolation

Company on ECO Type — Per-company type configuration

Security & Access Control

Two-tier access control with multi-company isolation and granular per-model permissions.

Record Rules

Multi-Company ECO — company_id in user's company_ids

Multi-Company Document — company_id isolation for documents

User ECO Rule — R W C, no delete for PLM Users

Manager ECO Rule — Full CRUD for PLM Managers

PLM Architecture Model

7 PLM models + 4 inherited models with full integration into the MRP ecosystem.

Xerpium ERP — xerpium.com

Contact us for a free demo

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