

AI-Based Ballpark Quotation Tool

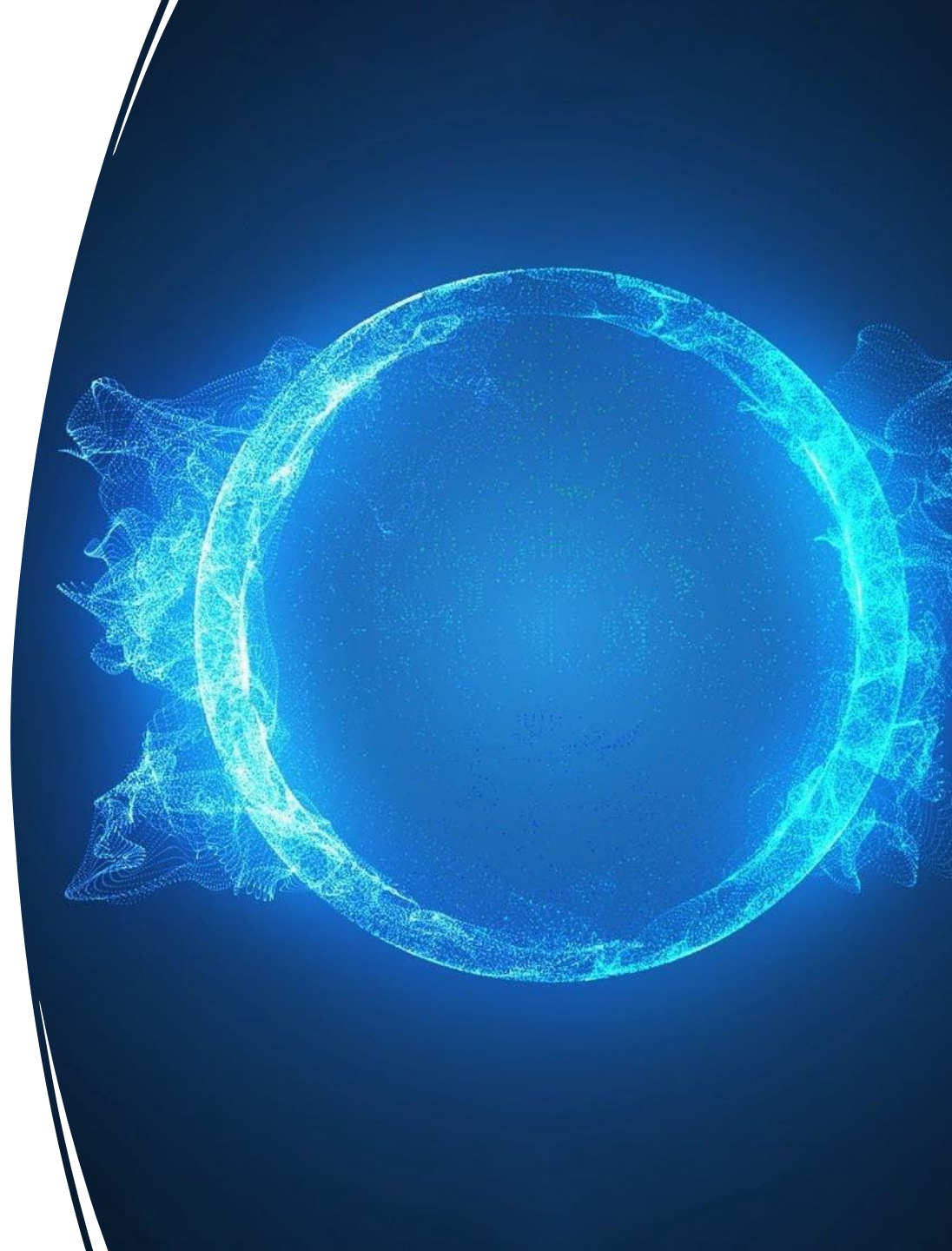
Checkpoint 1: Design &
Management Plan

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Table of Contents

Checkpoint 1

- **Project Context**
 - IVECO Group & FPT Industrial overview
- **Problem Statement**
 - Challenges in the current quotation process
- **The Solution: Ballpark Quotation Tool**
 - Value Proposition & Objectives
 - AI-driven approach
- **Stakeholder Analysis**
 - Users & Needs (User Persona)
- **Project Management**
 - WBS, Gantt & Roadmap

IVECO Group



IVECO Group is a global leader in commercial vehicles and industrial equipment.



Among its business units is **FPT Industrial** – Powertrain Technologies, responsible for developing engines and powertrain systems for on-road and off-road applications.



During the product development cycle, customers submit **Product Requests (PRs)** to propose new features or modifications. Each PR requires a quick, preliminary R&D effort estimation to assess feasibility and business value.



The **Ballpark Quotation Tool** aims to accelerate this process by delivering fast, standardized, and AI-driven R&D effort estimations based on historical PR–Offer data.



Problem Statement

Manual Intensity: Analyzing PR Excel files is slow and requires deep expert knowledge.

Fragmented Data: There is no centralized database linking historical PRs with their final R&D Offers.

HIGH DEPENDENCY: The process relies heavily on individual expert knowledge, creating a risk of knowledge loss

Inconsistency: Different Customer Managers provide different quotes for similar requests

The Solution: AI-Based Ballpark Quotation Tool

Development of an automated, data-driven system to provide fast and reliable R&D effort estimations, reducing manual workload for Customer Managers.

- Automatically extracts technical specifications from PR Excel files
- Utilizes a structured database of past PR-Offer pairs to inform estimations
- Predicts R&D effort broken down by function for high accuracy
- Interface for managers to review, refine, and validate AI output before final submission.

Value Proposition

- **For the Customer Manager:**
 - **Speed:** Instant preliminary estimations replace days of manual analysis.
 - **Accuracy:** Data-driven predictions improve consistency across all quotations.
 - **Efficiency:** Drastic reduction in manual workload, allowing focus on high-value tasks
- **For the Business:**
 - **Agility:** Faster "Go/No-Go" decisions accelerate the sales cycle.
 - **Standardization:** A unified process across all functions and departments

Sustainable Development Goal

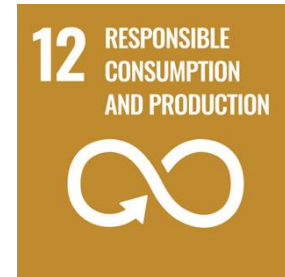
- SDG 9: Industry, Innovation and Infrastructure

- Enhancing industrial capability through digitalization and AI-driven automation.*



- SDG 12: Responsible Consumption and Production

- Reducing "Engineering Waste" by minimizing duplicated efforts and optimizing resource planning*



Project Objectives & Roadmap

Data Foundation

Consolidating historical PRs & Offers.

Extracting data from raw Excel files

Modeling Strategy

Effort forecasting per function

Data-driven estimation model

Decision Support

Suggesting historical projects as benchmarks.

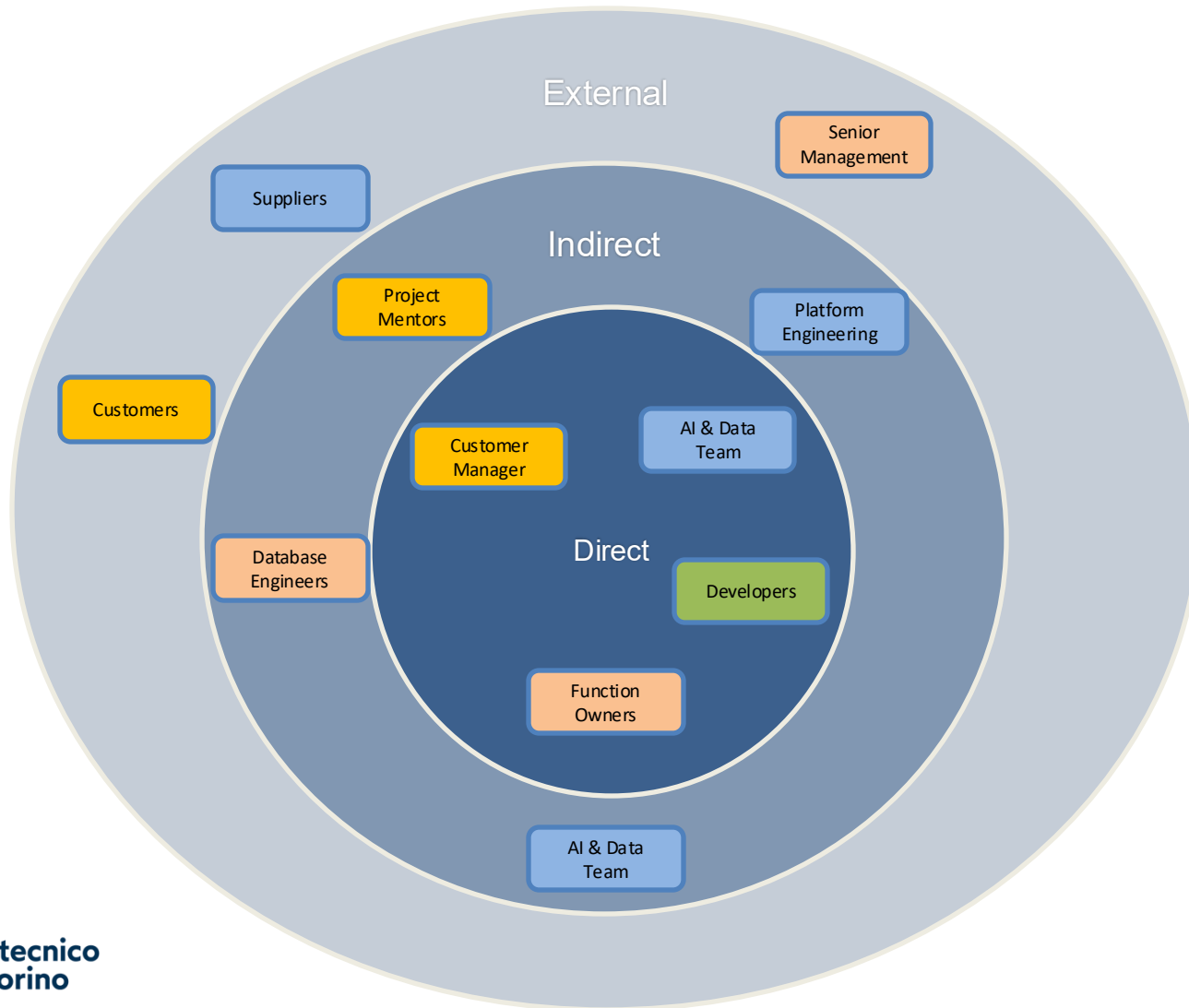
Interface for manager validation & model refinement



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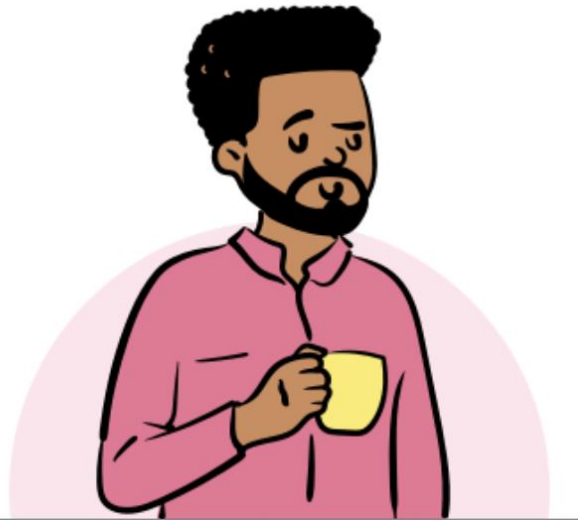
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Stakeholders Map



User Persona

John
Customer Manager



Demographics

41 years old, works at
FPT Industrial

Behavior & Habits

Constantly receives complex
Product Requests (PRs) in
Excel format containing
unstructured technical data

Pain Points & Frustrations

- 1) Struggling to find historical "PR-
Offer" pairs scattered across local files
- 2) The manual analysis of Excel files is
too slow for urgent commercial
opportunities

GOALS & Needs

Reduce quotation time from
days to minutes. Ensure
consistent pricing across
markets. Minimize manual
Excel data entry.

Data Can Produce/Use

Can use: Historical Offers,
Technical Product
Specifications

Can produce: Validated Ballpark
Estimations, Feasibility Reports

Expected Outputs

An AI-driven dashboard that parses PR files and
generates a **preliminary cost breakdown by
function** (Design, Testing, Calibration),
highlighting **similar historical cases** for
validation

User Journey

Receives PR and realizes that manual estimation is time-consuming.

Awareness

Uploads PR to the Ballpark Tool and receives an AI-generated estimate

Decision

Continues using the tool for consistent and efficient estimations

Loyalty & Advocacy

Consideration

Searches past cases, but struggles with inconsistent or missing data

Delivery & Use

Engages with Function Owners to validate/refine the estimate before sending it to the customer



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User Requirement

Functional Requirements:

- ❖ Data Ingestion & Preparation
 - ❖ Upload PR Excel files
 - ❖ Extract key PR data (NLP)
 - ❖ Structured PR–Offer database
- ❖ Core R&D Cost Prediction
 - ❖ Function-level R&D cost prediction
 - ❖ Retrieve similar historical PRs
 - ❖ Decision support indicators (past matches)
- ❖ Review & Output
 - ❖ Human review and refinement
 - ❖ Export final estimation (Excel/PDF)

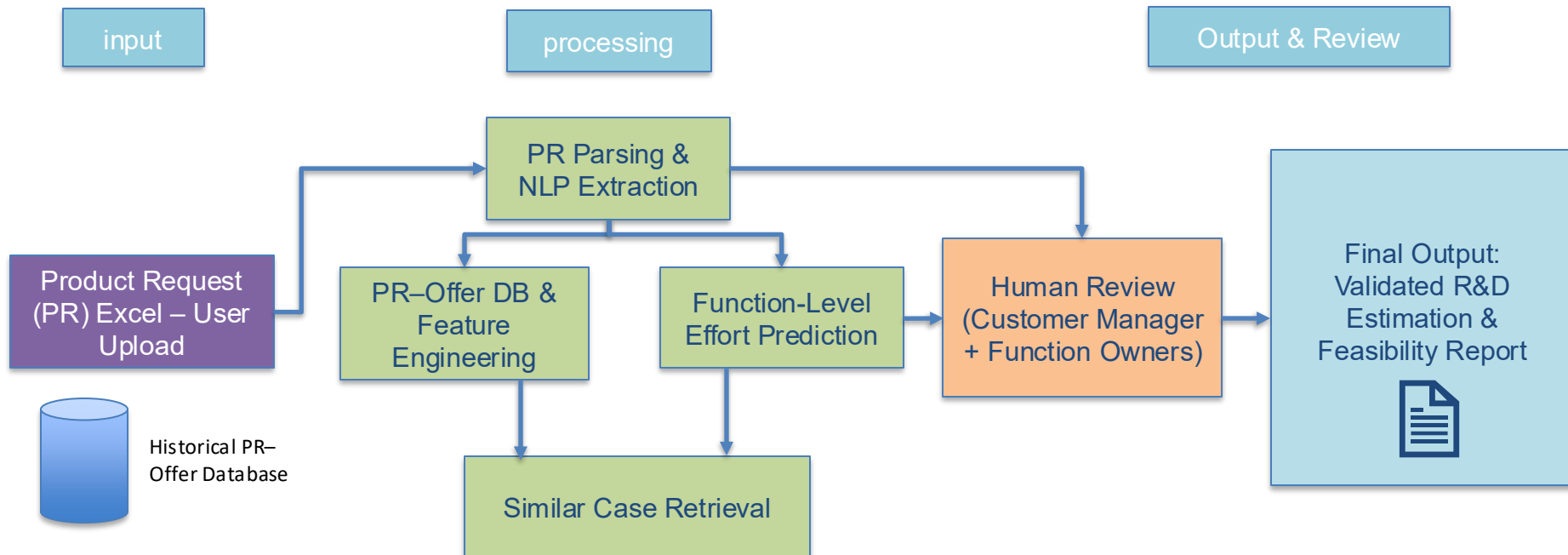
Non-functional:

- ❖ Performance & Accuracy
 - ❖ Fast predictions
 - ❖ Consistent and accurate
- ❖ Usability & Transparency
 - ❖ Easy to use
 - ❖ Explainable outputs
- ❖ System Integrity
 - ❖ Secure internal access
 - ❖ Maintainable & scalable



Functional Diagram

- Input: PR Excel + Database
- Process: NLP → Features → Model → Review
- Output: R&D estimation + similar cases

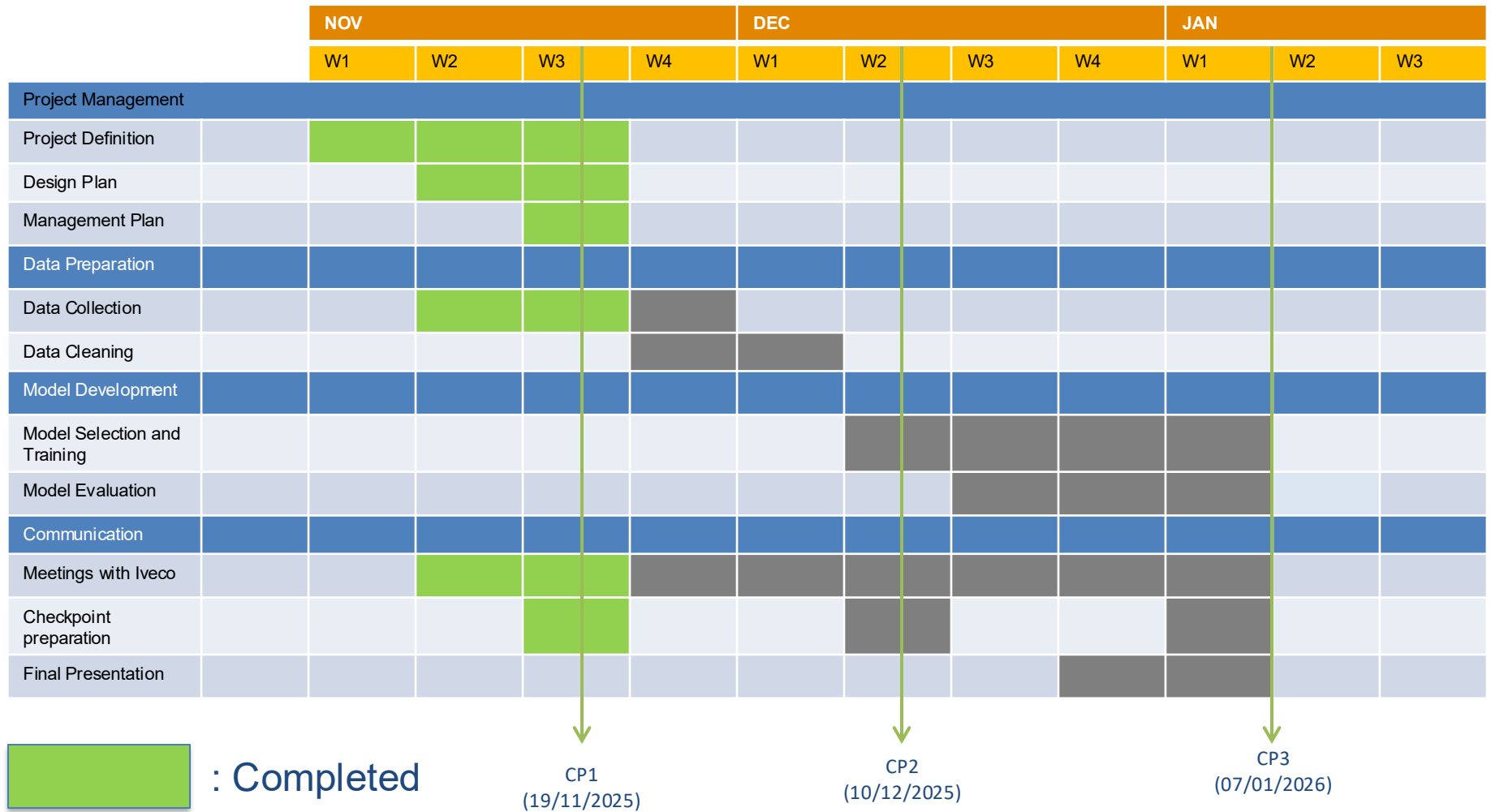


Manage - Work breakdown structure

- **WP1 — Design and Management**
 - **Duration:** 1 Nov 2025 → 19 Nov 2025
 - T1.1 Define Value Proposition
 - T1.2 Set Objectives
 - T1.3 Identify Stakeholders
 - T1.4 Functional Diagram
 - T1.5 Design and Management Plan
 - T1.6 Prepare Checkpoint 1 presentation
- **WP2 — Data Collection and Preparation.**
 - **Duration:** 20 Nov 2025 → 30 Nov 2025
 - **Tasks:**
 - T2.1 Collect historical PR–Offer Excel files
 - T2.2 Clean and structure data
 - T2.3 Design PR–Offer database
 - T2.4 Explore PR text and fields
- **WP3 — Model Development**
 - **Duration:** 1 Dec 2025 → 10 Dec 2025
 - **Tasks:**
 - T3.1 NLP for PR extraction
 - T3.2 Feature engineering
 - T3.3 Regression model for function-level effort prediction
 - T3.4 Similar-case retrieval module
 - T3.5 Evaluation & refinement
 - T3.6 Prepare Checkpoint 2 presentation
- **WP4 — Deployment and Delivery**
 - **Duration:** 11 Dec 2025 → 7 Jan 2026
 - **Tasks:**
 - T4.1 Meeting with IVECO for feedback
 - T4.2 Project Deployment
 - T4.3 Prepare Checkpoint 3 presentation
 - T4.4 Final technical report



Manage - Gantt





THANK YOU

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