



PRESENTS

## **PRODUCTATHON**

### **B2B Lead Intelligence Agent**

HPCL's Direct Sales / Bulk Fuels & Specialties business serves industrial customers across sectors such as power, chemicals, fertilizers, shipping, Mining and other industries.

The offering spans fuels and multiple specialty / bulk products such as (Refer HPCL Website):

- Fuels: MS, HSD, LDO, FO, LSHS, SKO
- Bulk fuels & specialties: Fuels, Bitumen, Marine bunker sales, Hexane, Propylene, JBO, Solvent 1425, Turpentine Oil (MTO 2445), Sulphur, SKO (Non-PDS)
- HPCL also has a Product/Price Enquiry Form capturing company details, closest DS regional office selection, and product interest across categories (e.g., fuels, bitumen, marine bunker fuels, molten sulphur, propylene, solvent 1425, SKO non PDS, turpentine oil, etc.).

The B2B acquisition is still largely relationship-driven. The gap is early discovery; identifying who is expanding / procuring / tendering / setting up capacity and converting that signal into actionable leads for local sales officers.

## Problem Statement

Build a system (Product / Application) that:

1. Discovers potential B2B customers (new + existing) by monitoring public web signals (company websites, news, tenders, industry directories, filings where allowed, etc.).
2. **Understands the customer's likely product requirement** (from HP Direct Sales portfolio) using intelligent extraction + industry context mapping.
3. Generates a Lead Dossier: company profile, facility location(s), procurement clues, estimated product fit, urgency, confidence, and suggested next action.
4. Triggers mobile notifications and sends a WhatsApp alert to the assigned local sales officer (with link to full dossier and next-best-action).
5. Captures feedback loop (Accepted/Rejected/Converted) to improve model scoring.

## Scope

- Products to be recommended (anchor to HP Direct Sales)

The recommender must work at minimum for these product families (as per HPCL DS pages):

- Industrial Fuels: MS, HSD, LDO, FO, LSHS, SKO.
- Specialty Products: Hexane, Solvent 1425, Mineral Turpentine Oil, Jute Batch Oil.
- Other DS portfolio items: Bitumen, Marine-Bunker Fuels, Sulphur, Propylene (and other items listed in DS offering pages/forms).

## Key Use Cases

### A. New customer discovery

- A new manufacturing plant / warehouse / captive power unit commissioning -> infer probable demand for FO/LSHS/HSD/LDO based on sector + equipment hints.

### B. Existing customer cross-sell / expansion

- Existing customer adds a new unit (e.g., solvent-based manufacturing) -> recommend Hexane / Solvent 1425 / MTO where relevant.

### C. Tender / procurement signal capture

- Tenders mentioning “FO/LSHS/HSD/LDO”, “Bunker fuels”, “Bitumen”, “solvents” -> create high-intent leads with urgency.

## Functional Requirements (How the app should work)

### 1) Web Intelligence & Source Governance

- “Web Scraping” must be policy-safe:
  - o Prefer official APIs, RSS, public datasets, and permitted crawling.
  - o Respect robots.txt, ToS, rate limits; log provenance and timestamp for every extracted fact.
- Maintain a Source Registry: domain, category (news/tender/site), access method, allowed crawl frequency, trust score.

### 2) Entity Resolution & Company Profile Builder

- Normalize company identity across sources:
  - o Company name variants, CIN/GST where available, website domain, address, plants.
- Output “Target Company Card”



- o Industry, key products, geography, contacts if publicly listed (avoid personal data unless lawful).

### 3) Product-Need Inference Engine

- Extracting signals:
  - o Keywords (FO, LSHS, LDO, bunker, bitumen, solvent, hexane, etc.)
  - o Operational cues: boilers, furnaces, gensets, captive power, shipping operations, road projects, jute mills, steel wash oil references, etc.
- Map to HP DS products with:
  - o Recommendation (Top 3)
  - o Reason codes (“Matched: boiler fuel + furnace oil mention”, “Matched: jute batching oil use-case”, etc.)
  - o Confidence score + uncertainty flag

### 4) Lead Scoring & Routing

- Score components:
  - o Intent strength (explicit tender vs vague mention)
  - o Freshness (days since signal)
  - o Company size proxy (turnover/capacity mentions)
  - o Geographic proximity to DSRO / depot coverage (routing)
- Assign lead to local sales officer using territory rules.

### 5) Mobile App + Workflow

- Mobile views:
  - o “New leads” queue
  - o Lead dossier
  - o One-tap actions: call, email template, schedule meeting
  - o Lead status updates + notes
- Offline caching + low bandwidth mode.

### 6) WhatsApp Alerting (Sales Officer notifications)

- Send structured lead alert via WhatsApp (to employees).
- Must follow WhatsApp policy requirements, especially:
  - o Contact only if recipient has provided number + opt-in permission
  - o Use approved message templates for business-initiated messages and follow the 24-hour service window rule where applicable

(If HPCL chooses not to manage WhatsApp templates/opt-ins, provide fallback to Teams/SMS/email as configurable channels.)

## Non-Functional Requirements

- Explainability
- Auditability
- Security
- Scalability
- Latency for new Signal

## Expected Deliverables

1. Working prototype:
  - o Source ingestion + extraction pipeline
  - o Lead dossier generation
  - o Product inference + scoring
  - o Mobile UI (even a functional PWA acceptable)
  - o WhatsApp/notification integration (sandbox acceptable)
2. Model cards: inference logic, limitations, bias risks
3. Demo dataset: 200-500 sample company pages/tenders/news items + labelled product needs
4. Executive dashboard:
  - o leads/week, conversion funnel, top sectors, top products, geography heatmap
5. Deployment architecture:
  - o event-driven pipeline + monitoring + cost estimate