

## IPSERA 2026 – Procurement AI Agent Lab

### CASH & GO – Hypermarket Checkout Transformation Challenge

#### CONTEXT

Cash & GO operates 500 hypermarkets. The company plans to redesign its checkout infrastructure.

Your mission is to design a Procurement AI Agent capable of recommending the optimal transformation strategy.

You must maximize 5-year financial value while respecting operational constraints.

#### 1. NETWORK STRUCTURE (FIXED DATA)

| Item                   | Value |
|------------------------|-------|
| Hypermarkets           | 500   |
| Current SCOD per store | 76    |
| Minimum SCOD to keep   | 20    |
| Maximum replaceable    | 56    |

Constraint: Each store must retain at least 20 SCOD.

#### 2. LABOR ECONOMICS

| Parameter                | Value   |
|--------------------------|---------|
| 1 SCOD requires          | 1.5 FTE |
| 1 FTE annual cost        | €30,000 |
| Labor cost per SCOD/year | €45,000 |

#### 3. SPACE & REVENUE

| Parameter                        | Value             |
|----------------------------------|-------------------|
| 1 SCOD surface                   | 20 m <sup>2</sup> |
| Revenue per m <sup>2</sup> /year | €25,000           |

#### 4. EQUIPMENT OPTIONS (All investments depreciated linearly over 5 years)

##### Option A – 2SC2 (Self-Scanning Unit)

| Parameter        | Value            |
|------------------|------------------|
| Replaces         | 1 SCOD           |
| Surface required | 6 m <sup>2</sup> |
| Investment cost  | €25,000          |
| Annual license   | €2,000           |

##### Option B – MTD Basic

| Parameter        | Value             |
|------------------|-------------------|
| Replaces         | 6 SCOD            |
| Surface required | 25 m <sup>2</sup> |
| Investment cost  | €180,000          |
| Annual license   | €10,000           |

##### Option C – MTD Advanced

| Parameter        | Value             |
|------------------|-------------------|
| Replaces         | 10 SCOD           |
| Surface required | 25 m <sup>2</sup> |
| Investment cost  | €260,000          |
| Annual license   | €14,000           |

#### 5. OPTIONAL – DEEP LEARNING DATABASE

If implemented chain-wide:

- +3% total revenue uplift
- -7% supply chain cost

Additional Data:

Supply chain cost = 7% of total revenue

Your agent must decide whether to include this option.

## 6. FINANCIAL RULES

Your AI Agent must calculate:

- Annual labor savings
- Surface freed & additional revenue
- 5-year investment cost
- 5-year license cost
- Depreciation impact
- 5-year Net Financial Benefit

No external data allowed.

All calculations must respect constraints.

## 7. YOUR MISSION

Design a Procurement AI Agent that:

- Determines optimal equipment mix
- Maximizes 5-year value
- Performs sensitivity analysis
- Clearly explains logic
- Identifies financial risks

Deliverable during the session:

1. Recommended configuration (per store)
2. 5-year financial impact (chain level)
3. Sensitivity analysis
4. Key risks