

Automated Processing of Fuel and Electricity Invoices using UiPath

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Why are we happy to present today?

this project gave us the opportunity

A real-life scenario: from raw data to PowerPoint by using UiPath

to transform a chaotic not complete collection of Data
(fuel and charging invoices)



into a structured, automated, and fully traceable process

Let's Start with a Few Questions

Have you ever received ten different types of invoices and thought: → **How do I even begin to compare them?**

Would you **trust a digital robot to read, validate, and analyze them — all by itself?**

What does it take to turn messy input into meaningful magic insights?

Situation

- We received a set of sample invoices:
 -  For electric vehicles
 -  For fuel-powered cars

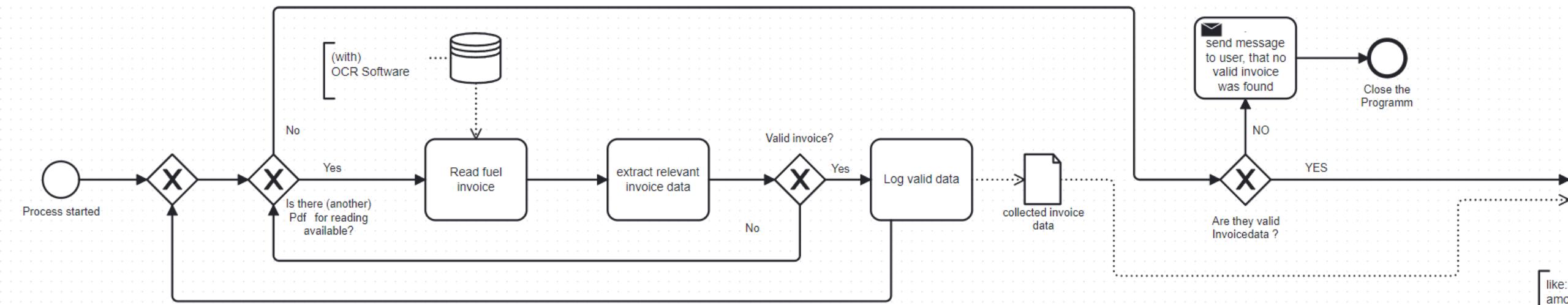
Our task:

To designing an automated process that extracts, validates, analyzes, and finally prepares these invoices.

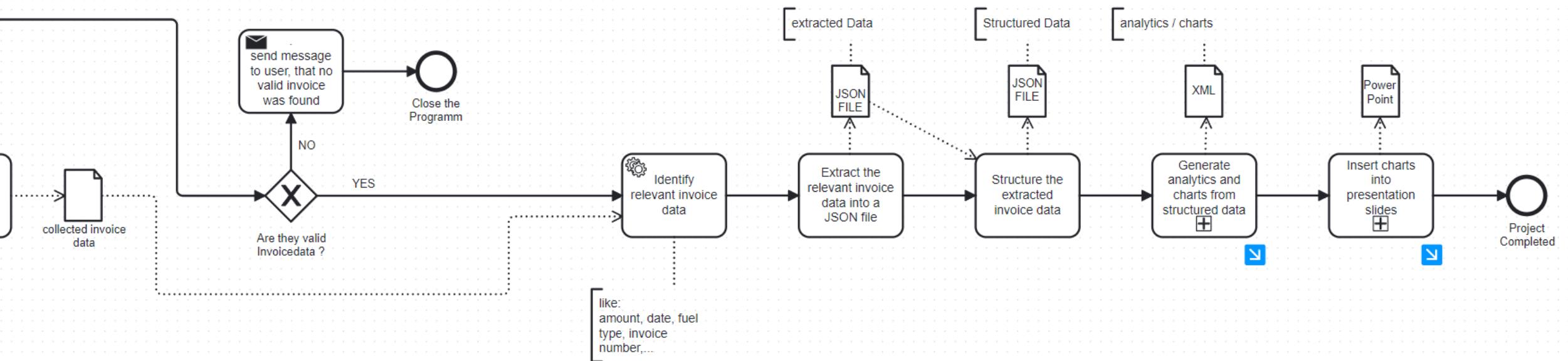
Our tools included:

- OCR for reading scanned invoices
 - APIs for refining data
 - And UiPath, to automate the full workflow from data handling to slide generation
- But before all that, we created a **BPMN model** to understand and plan the ideal process flow.

Our BPMN Process Model



Our BPMN Process Model



Approach

OCR tool:



Tesseract OCR

- Open-source and completely free of charge
- Supports multiple languages and image formats
- Easy integration in UiPath
- ChatGPT-based OCR testing was unsuccessful,
Tesseract delivered better and reliable results

RPA tool



- Free student access via UiPath Academy
- Large developer community and extensive online resources
- Usually strong integration capabilities

Challenges along the way

1) Not all invoices were OCR-readable

- ChatGPT-based OCR failed
- Invoices were often unreadable
- Tesseract via UiPath struggled with poor invoice quality

Solution:

Improved **Regex** in **UiPath** to handle variations

2) Missing kilometer data (Power invoices)

- No km info on electricity invoices → Incomplete charts

Solution:

Worked with available cost data and noted the gap

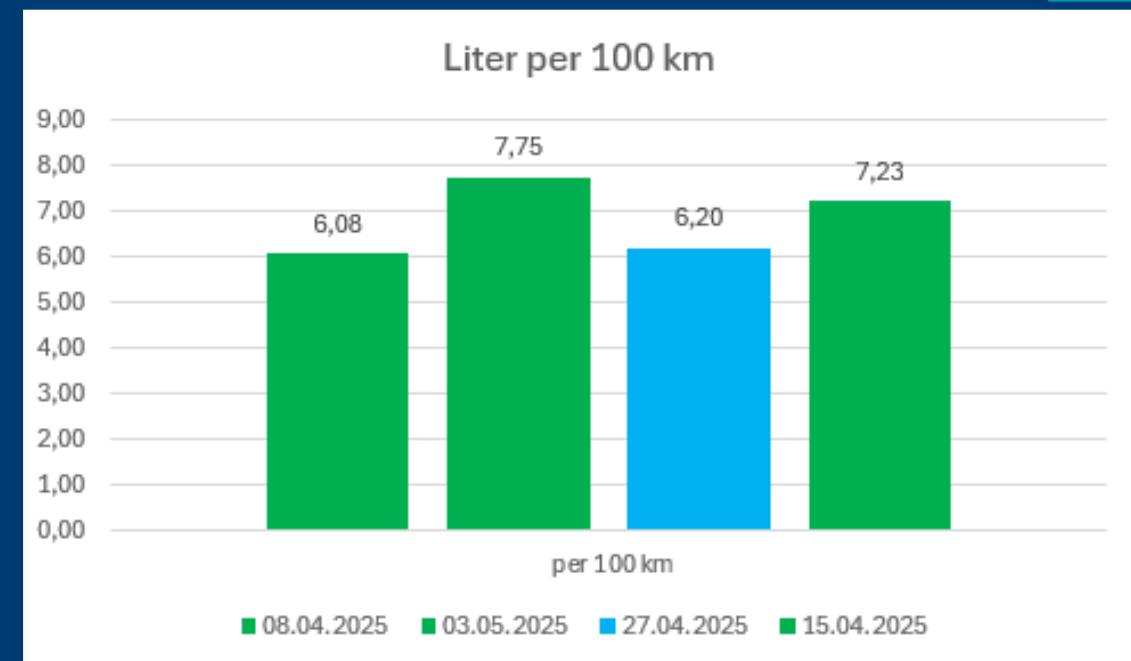
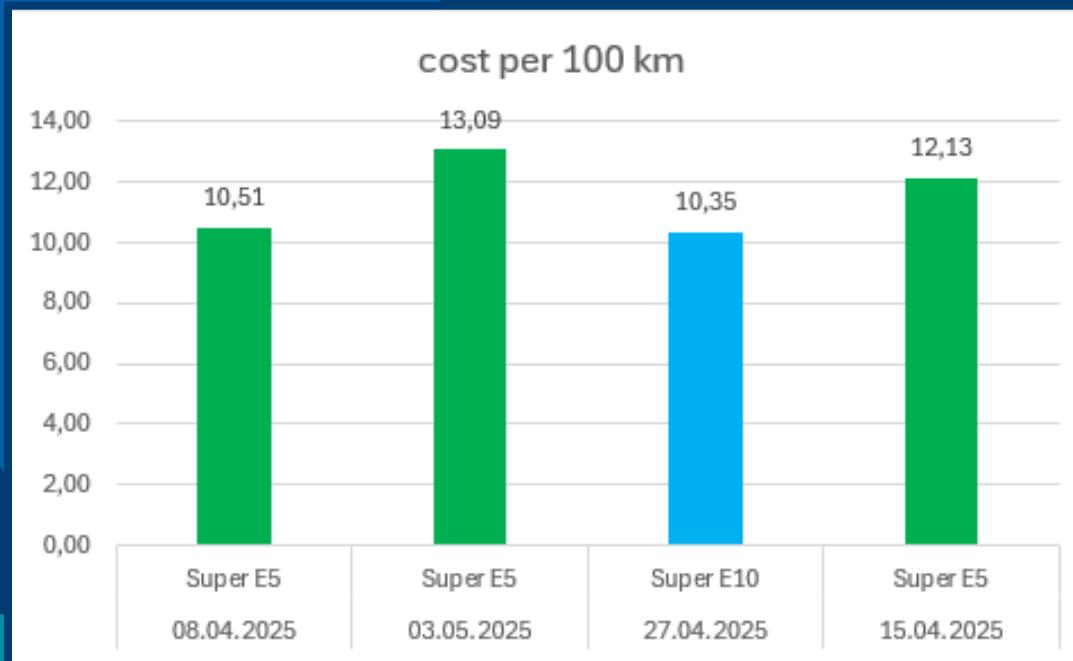
3) UiPath → Excel/PowerPoint issues

- Automated export failed

Solution: Charts were created manually

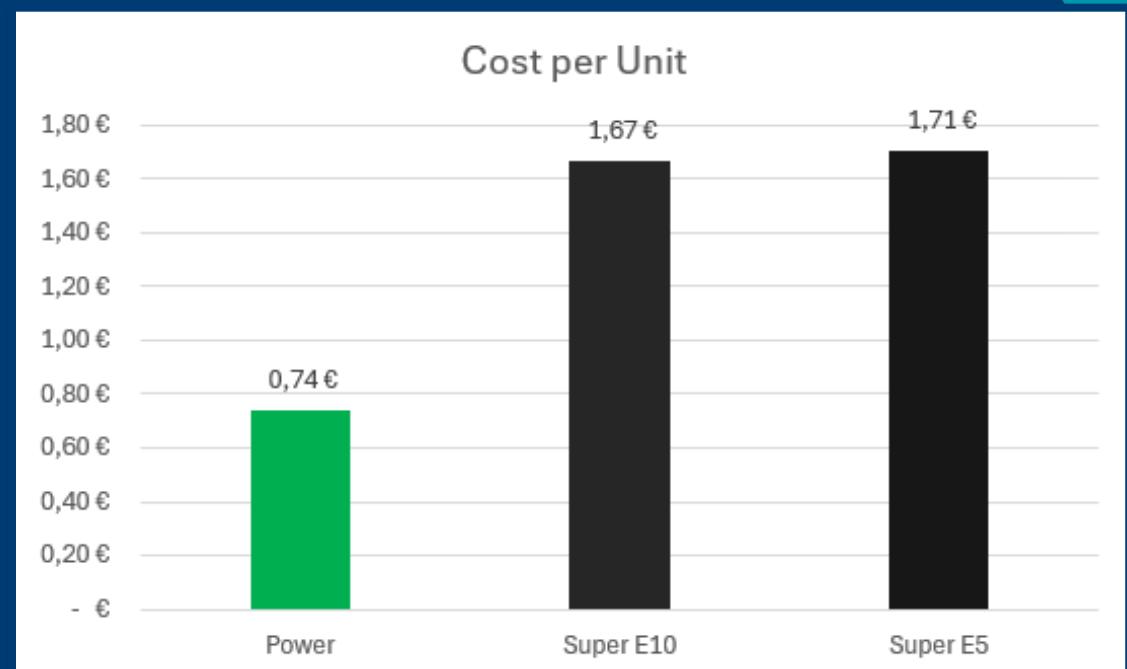
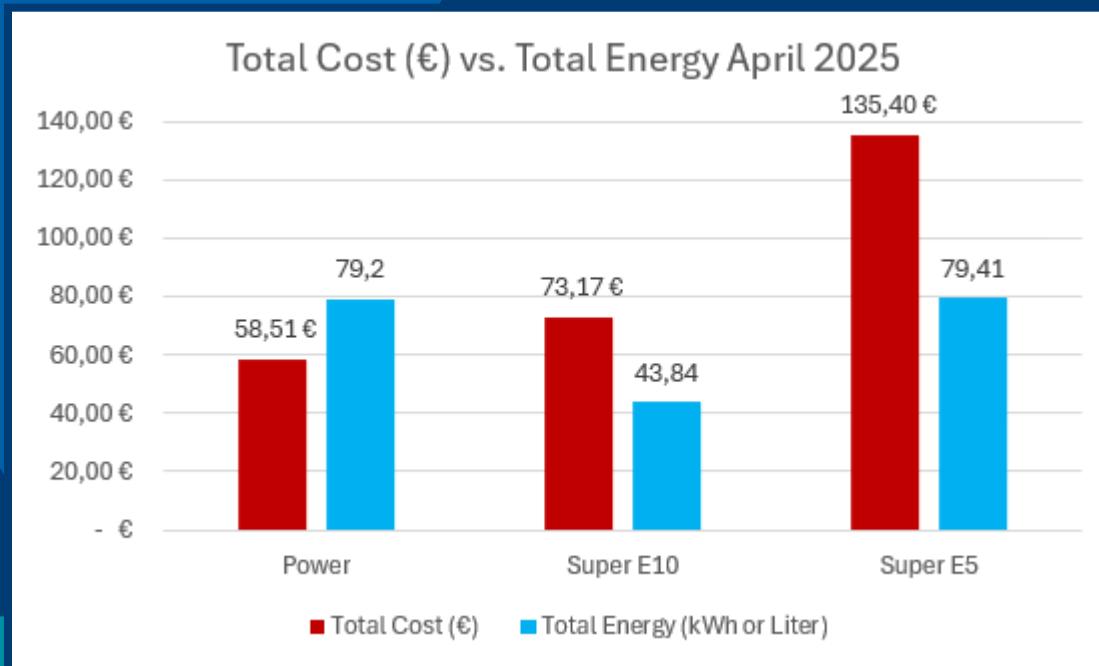
Liter per 100 km vs. Cost per 100 km

- Super E10 shows a slight price advantage per liter → comparing cost for Super E10 / E5
- Significant cost fluctuations for Super E5 → between €10.51 and €13.09 per 100 km
→ influenced by fuel price , driving behavior



Total Energy Consumption and Unit Price Comparison - April 2025

- Power shows the lowest total cost and the lowest unit price per kWh.



Thank You – and Over to You

We hope we've answered the questions we raised at the beginning.

We'd be happy to answer yours now.