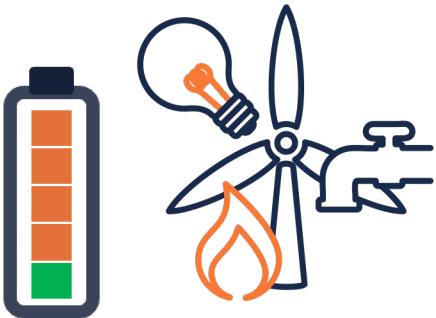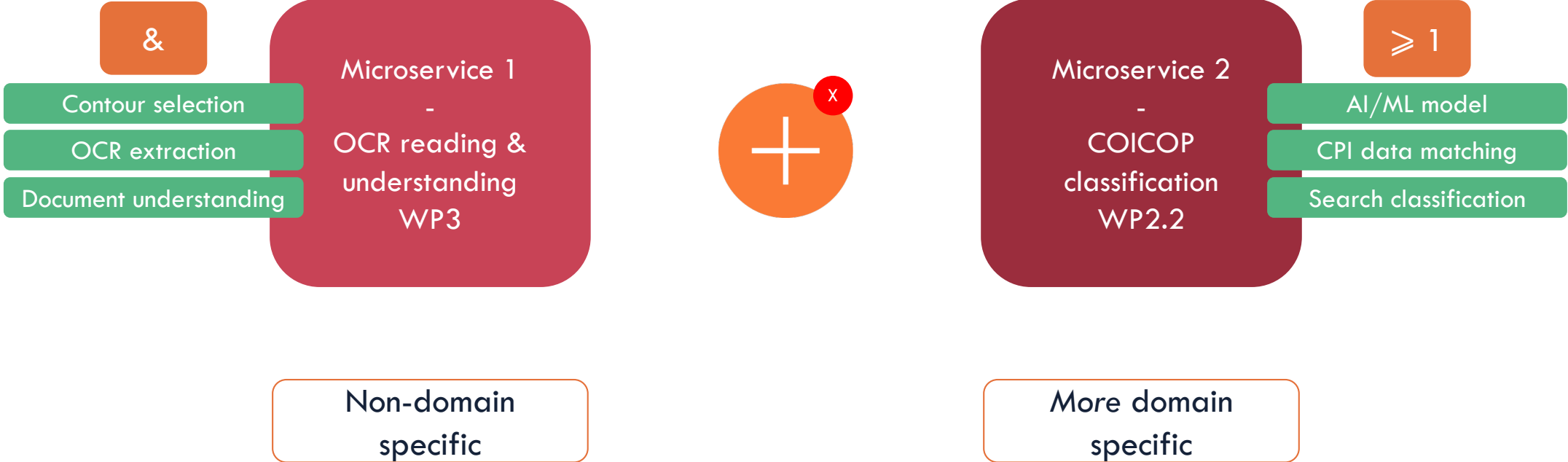# Task 1: Develop microservices
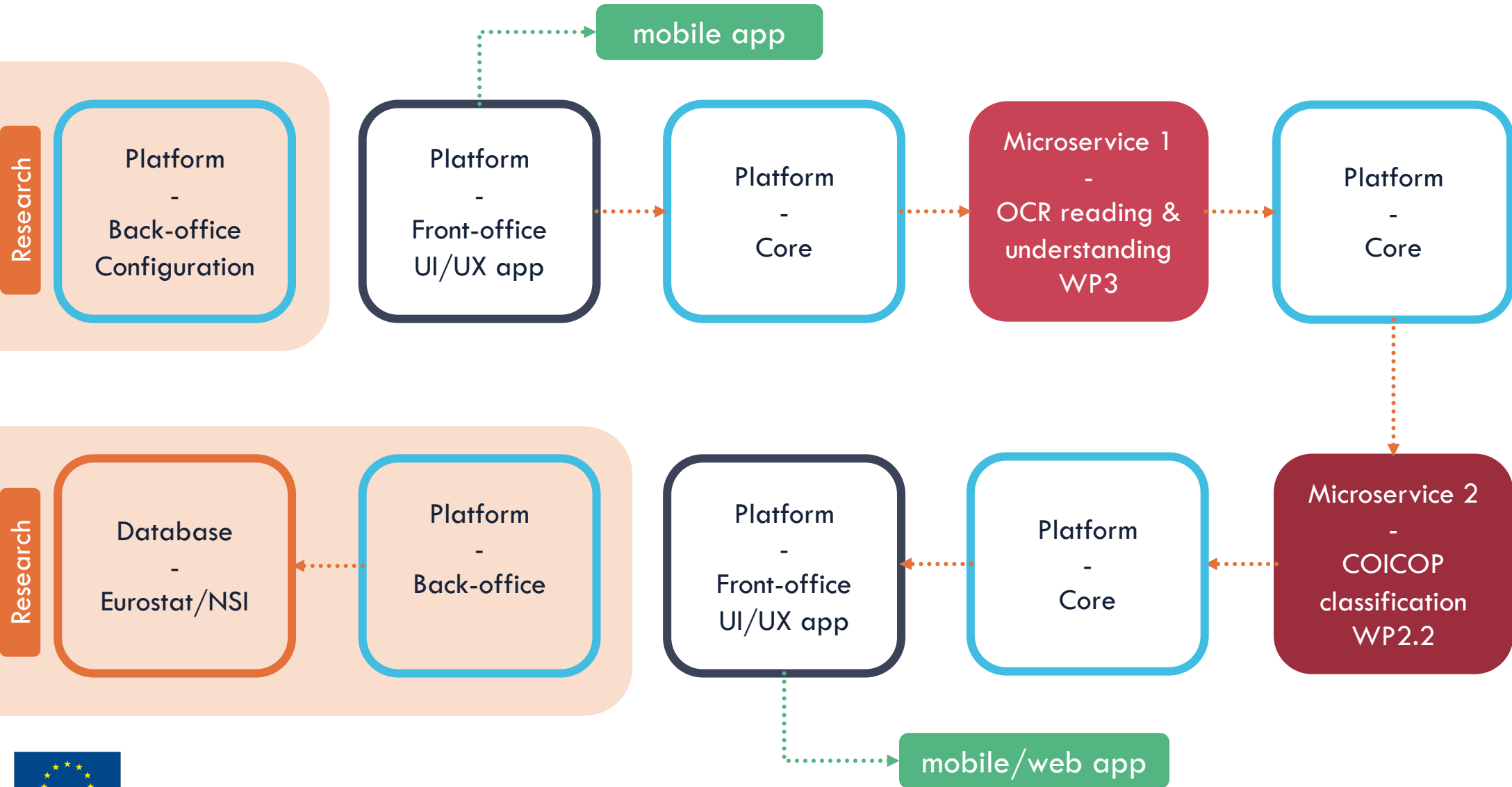
Develop 3 microservices

Task 2: Develop 2 parts of the microservice

&

Contour selection

OCR extraction

Document understanding

Microservice 1
-
OCR reading &
understanding
WP3

x

≥ 1

AI/ML model

CPI data matching

Search classification

Microservice 2
-
COICOP
classification
WP2.2

Non-domain
specific

More domain
specific

A theoretical data flow: research and user level

Receipt Scanning: 7 snapshots

1 — AI models in Receipt Scanning microservice

2 — Integration to platforms: front-office & back-office core

3 — Training AI/ML models

4 — COICOP search tag list

5 — COICOP classification AI/ML model(s)

6 — Visualisation in platforms: back-office core

7 — Data export

Presentation 1: hbits & CBS

Presentation 2: Destatis

Presentation 3: hbits & Destatis

Presentation 1: hbits

run time

non-run time
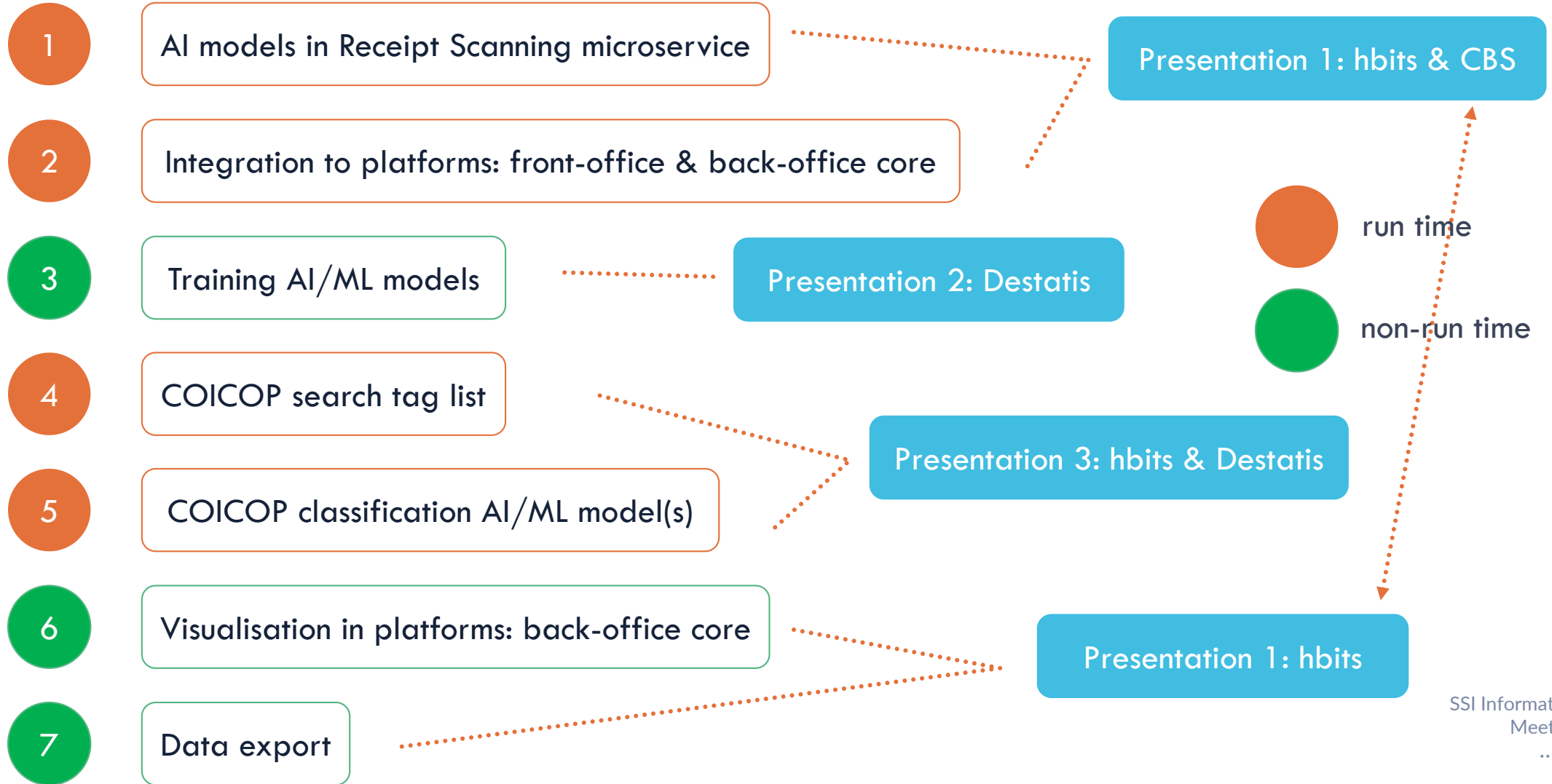
A theoretical data flow: research and user level
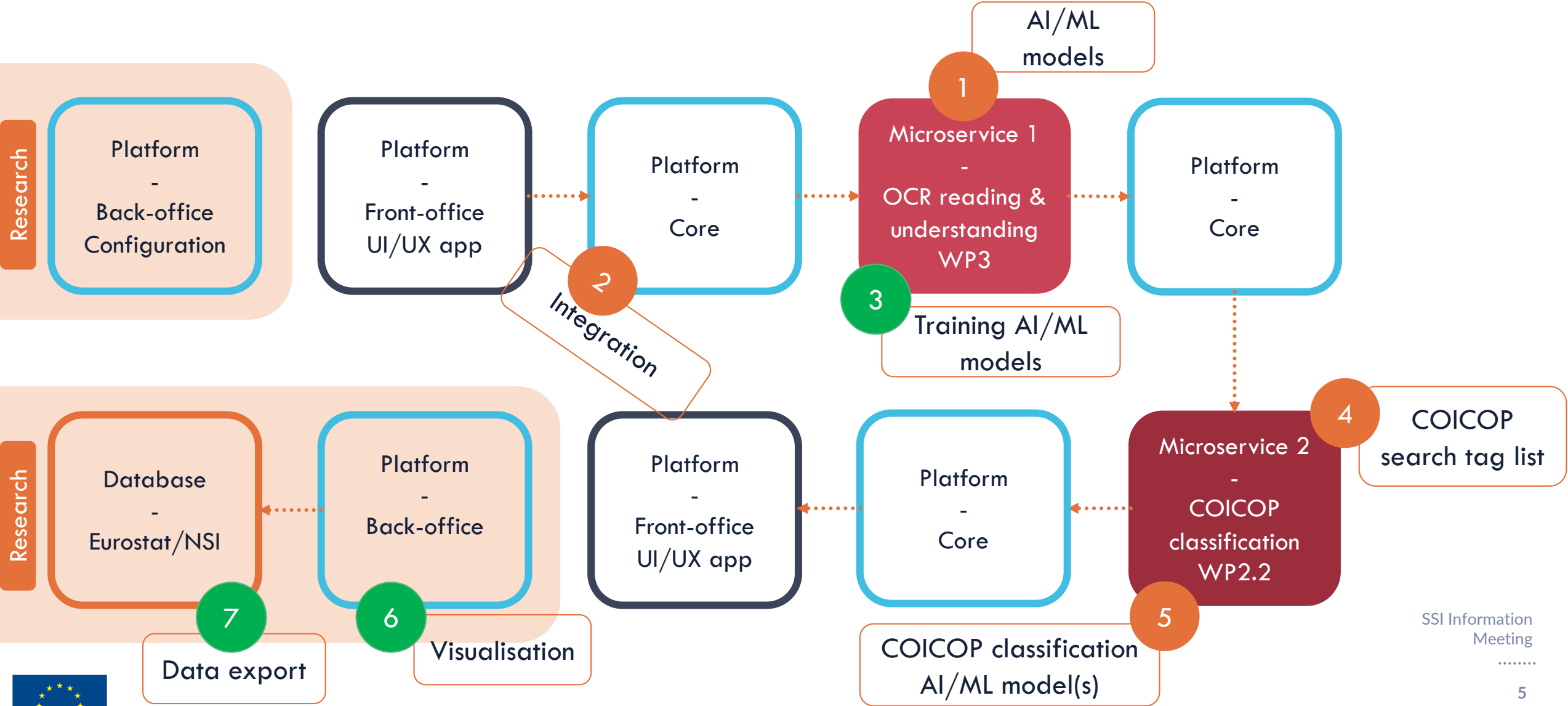
Demo 1: Entire data flow – only with Microservice 1

Pieter Beyens - hbits

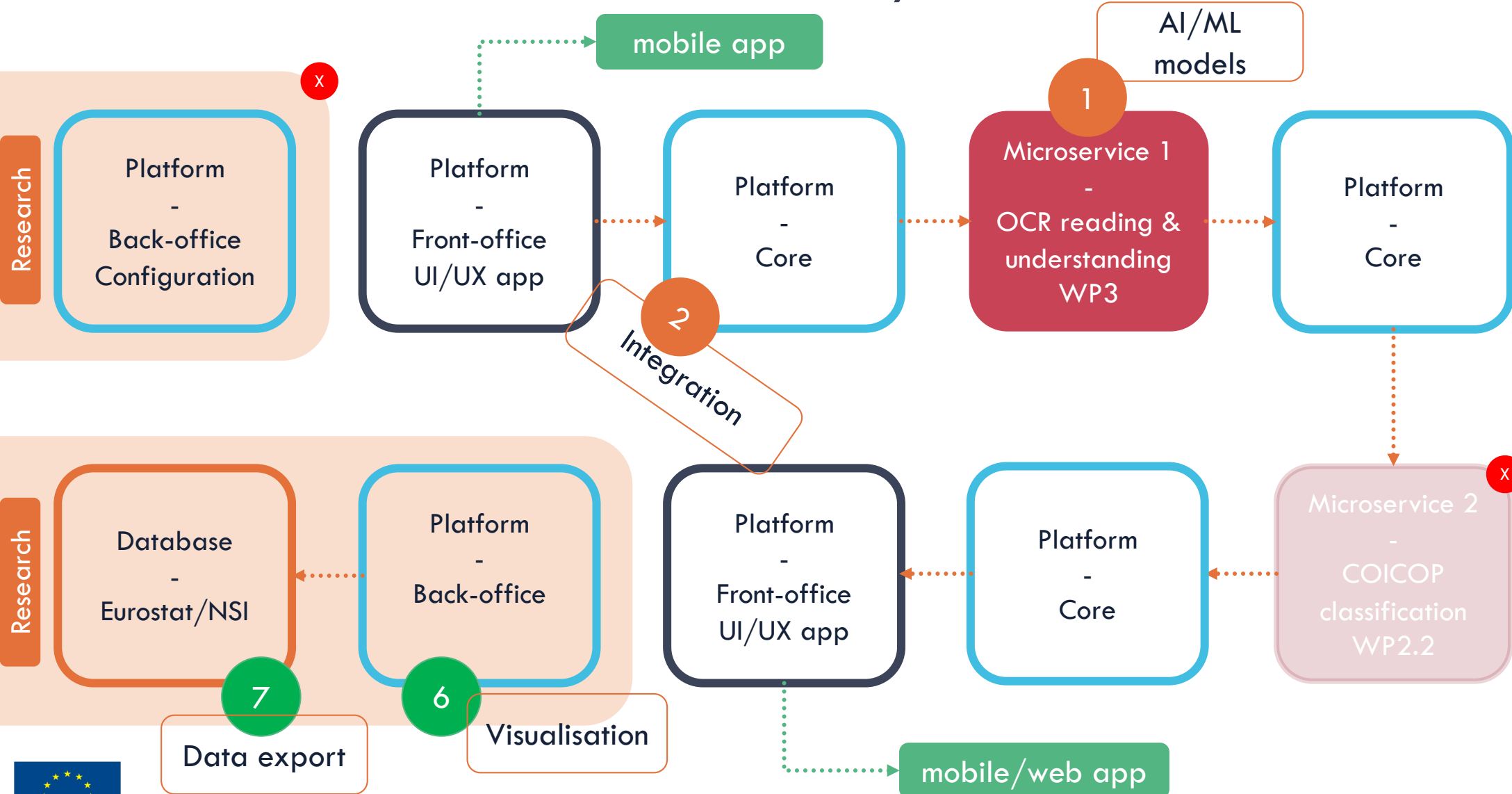Entire end-to-end process

Integration

Containers

Need for training data

Demo 1: Entire data flow – only with Microservice 1

Task 2: support integration into platforms

Integrate shareable microservices into platforms

| Integrate | Feasibility | Information |

MISTAKE: Need for training data

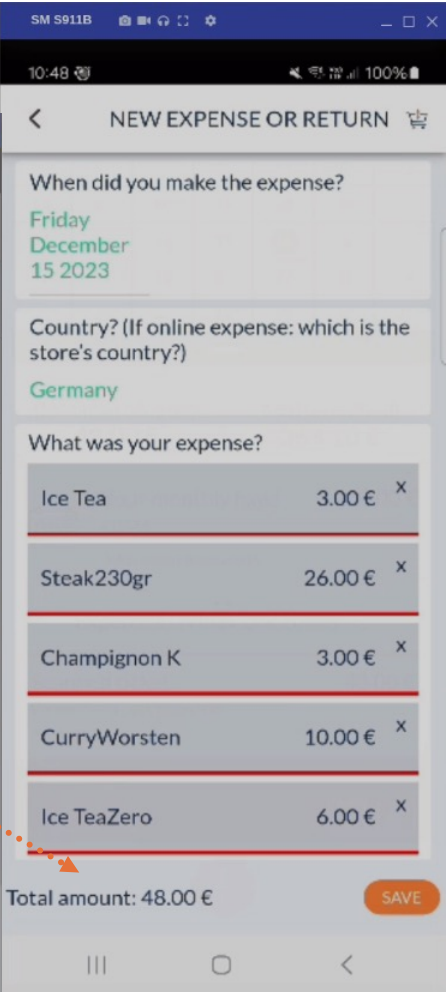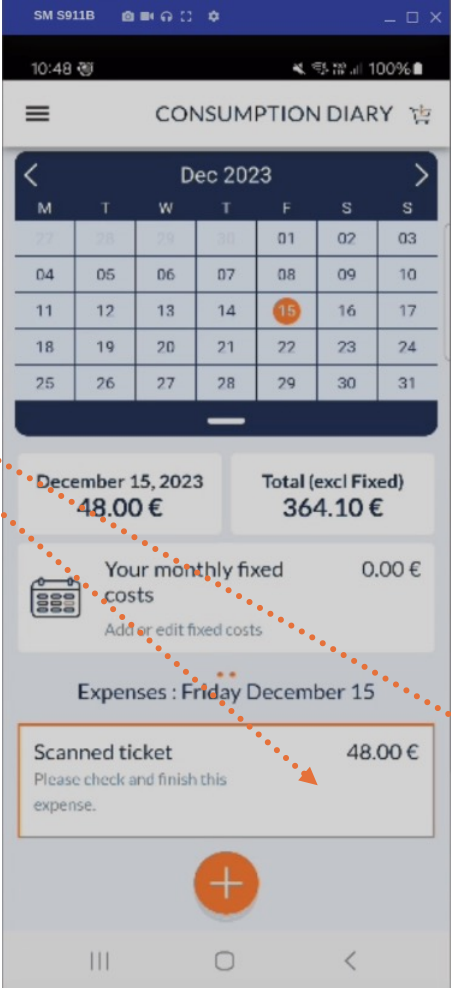

Demo 2:
How to train these models?

Labelled text

Val Lime   2,70
Not labelled correctly

Lasse Häufglöckner - Destatis

OCR and labelling

Standardised training

Demo 2: Training microservice 1

Data

Countries

Languages

Shops

Standardisation

Microservice 1
-
OCR reading &
understanding
WP3

3

Training AI/ML
models
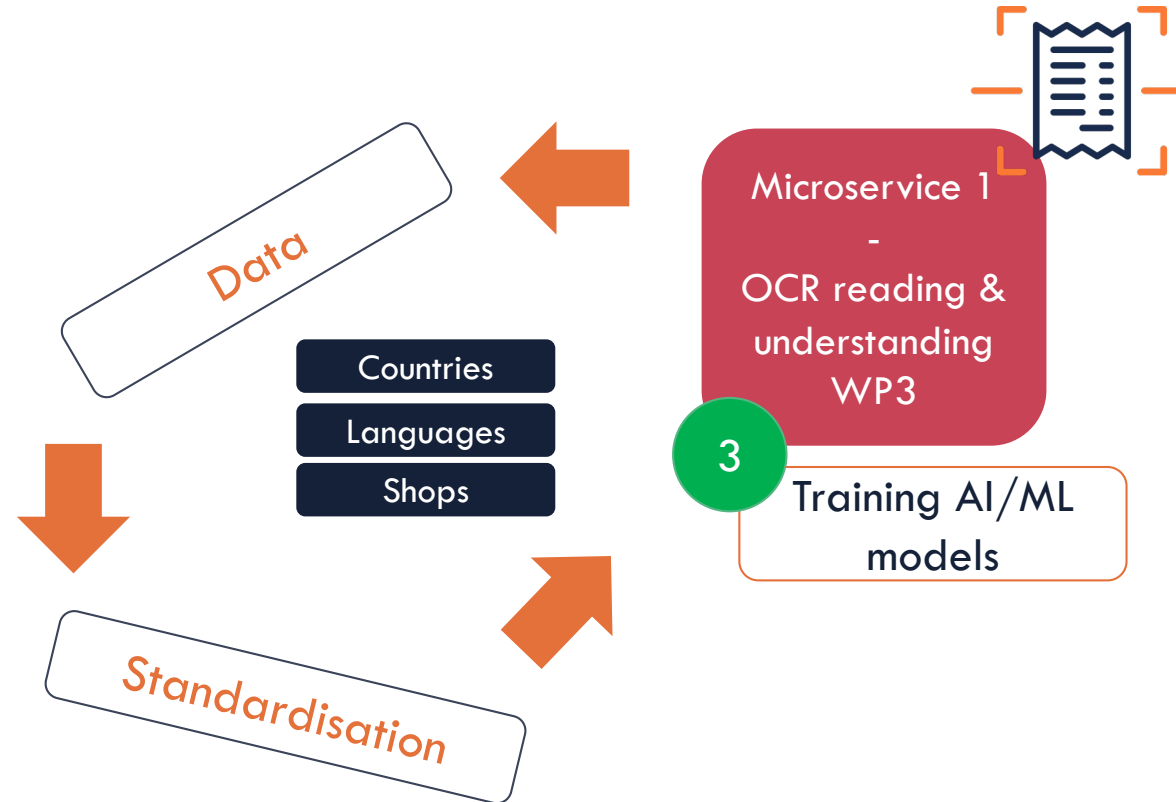
Demo 3: Microservice 2 – COICOP classification

Tim de Jong - CBS
- Classification strategies
- COICOP classifier
- Product dynamics
- Lack of data

Jerome Olsen - Destatis
- MVP COICOP classifier
- R container
- Product look-up
- More complex model

Joël Van Hoorde - Destatis
- Search tag look-up
- Container
- Platform integration
- #COICOPs & #tags

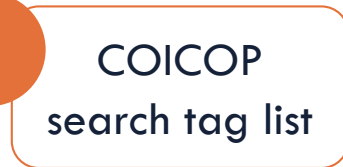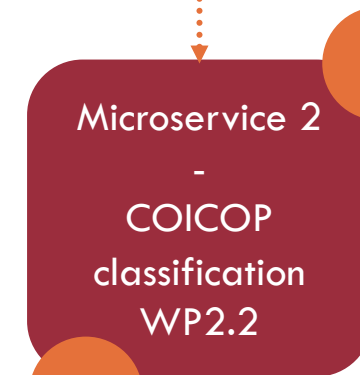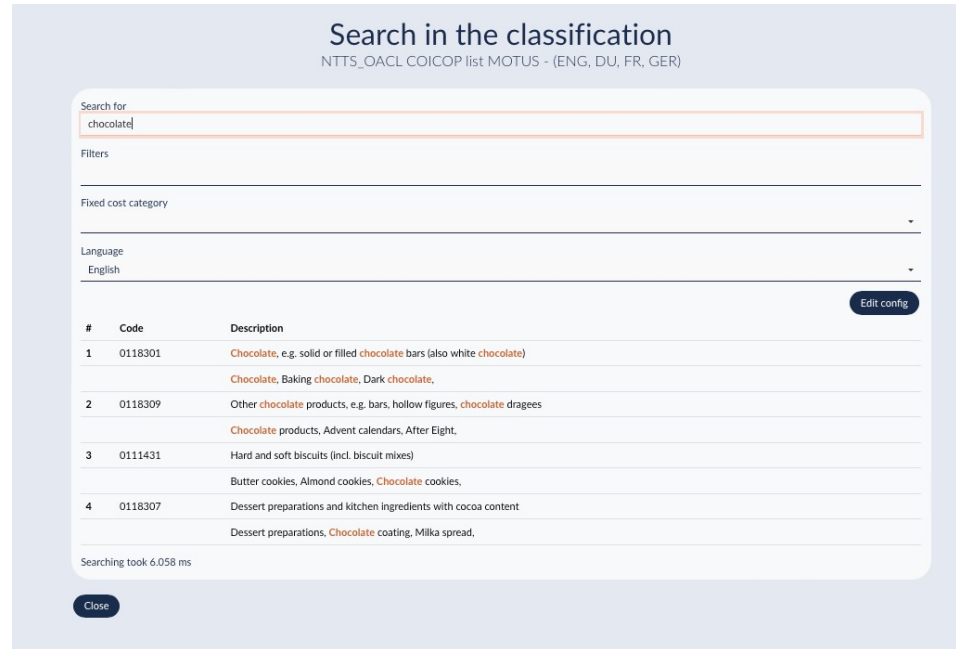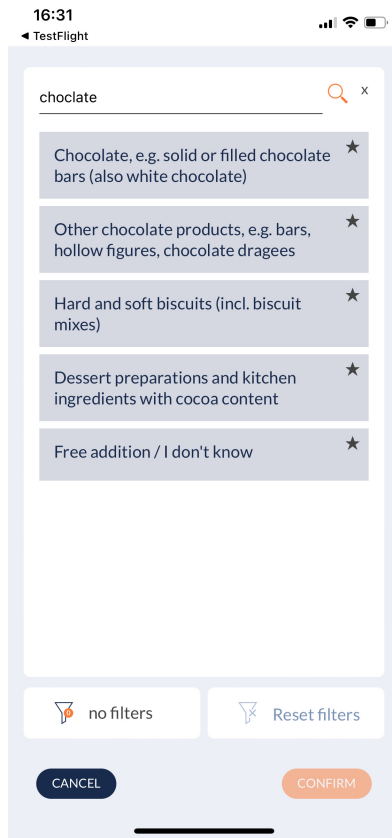# Demo 3: Microservice 2 COICOP classification

Search in the classification
NTTS_OACL COICOP list MOTUS - (ENG, DU, FR, GER)

Search for: chocolate

Filters

Fixed cost category

Language: English

Edit config

#	Code	Description
1	0118301	Chocolate, e.g. solid or filled chocolate bars (also white chocolate)
		Chocolate, Baking chocolate, Dark chocolate,
2	0118309	Other chocolate products, e.g. bars, hollow figures, chocolate dragees
		Chocolate products, Advent calendars, After Eight,
3	0111431	Hard and soft biscuits (incl. biscuit mixes)
		Butter cookies, Almond cookies, Chocolate cookies,
4	0118307	Dessert preparations and kitchen ingredients with cocoa content
		Dessert preparations, Chocolate coating, Milka spread,

Searching took 6.058 ms

Close

Phone screen:
16:31
TestFlight

choclate

- Chocolate, e.g. solid or filled chocolate bars (also white chocolate) ★
- Other chocolate products, e.g. bars, hollow figures, chocolate dragees ★
- Hard and soft biscuits (incl. biscuit mixes) ★
- Dessert preparations and kitchen ingredients with cocoa content ★
- Free addition / I don't know ★

no filters   Reset filters

CANCEL   CONFIRM

Diagram:
Platform - Core

4 — COICOP search tag list

Microservice 2 - COICOP classification WP2.2

5 — COICOP classification AI/ML model(s)

Task 3: support WP2

Develop 3 microservices

Integrate shareable microservices into platforms

Validate/evaluate, test (quality, security) microservices

WP2