



dynnoiq

AI4CITIES



# Ix3

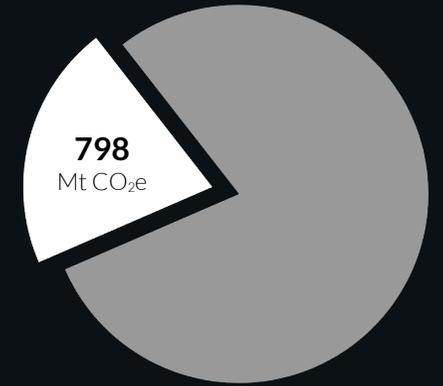
Mid-term review presentation

THE PROBLEM

# Purpose & innovation

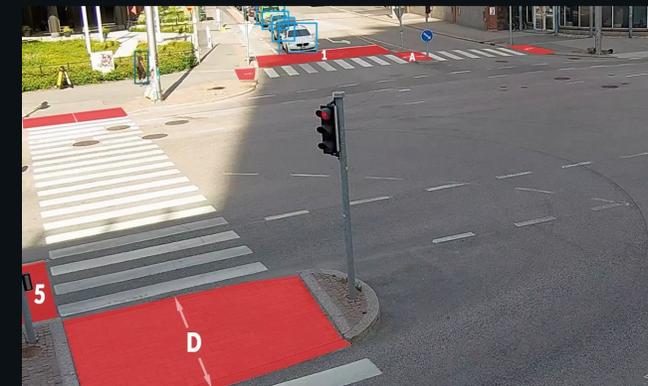
## Reducing CO<sub>2</sub> emissions

- 27% of all emissions = road transport
- ambitious carbon neutrality goals
- hundreds of thousands of traffic lights



## Optimised traffic lights

- precise machine vision
- real time input for traffic light control
- Removal of dead seconds



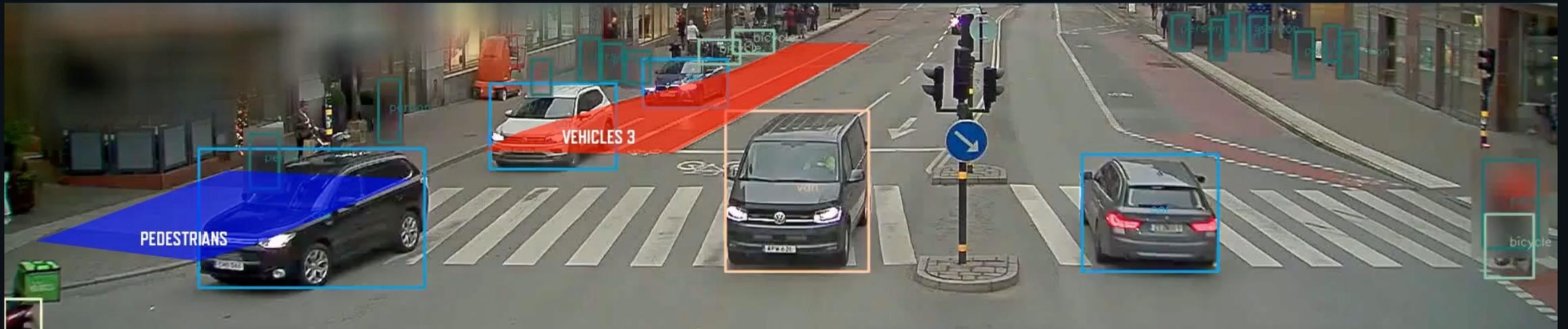
THE PROBLEM

# Innovation

Precise sensing beyond traditional detection lines.

Direct integration to traffic control systems.

Removal of dead seconds with increased traffic safety.



THE SOLUTION

# CO<sub>2</sub> reduction method

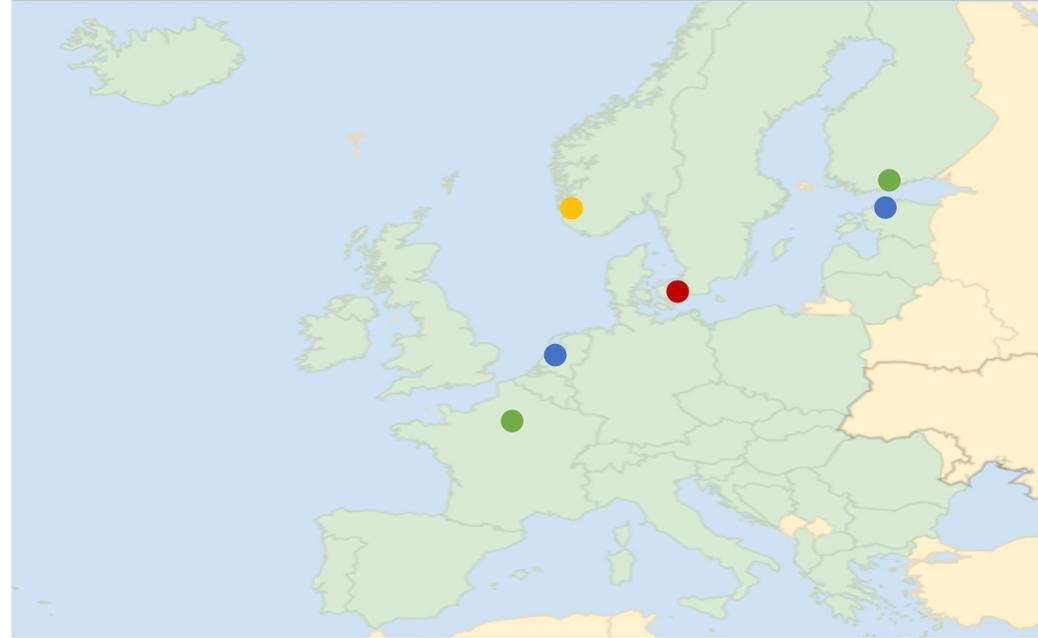
## Vehicle accelerations

Each **stop**, followed by an **acceleration**, is a **significant** source of emissions in cities. According to available studies we estimate the cost of each car stop as **70g<sup>1</sup>** and each heavy vehicle stop as **350g<sup>1</sup>** of CO<sub>2</sub>-equivalent emissions.

$$\begin{aligned} & \textit{The amount of avoided unnecessary stops} \\ & * \textit{ the emission cost} \\ & = \textit{CO}_2 \textit{ reduction} \end{aligned}$$

THE SOLUTION

# CO<sub>2</sub> reduction potential



## Phase 1 (Helsinki)



4% potential

## Phase 2 (Paris region)



3% potential

## Phase 2 (Helsinki)



8% potential

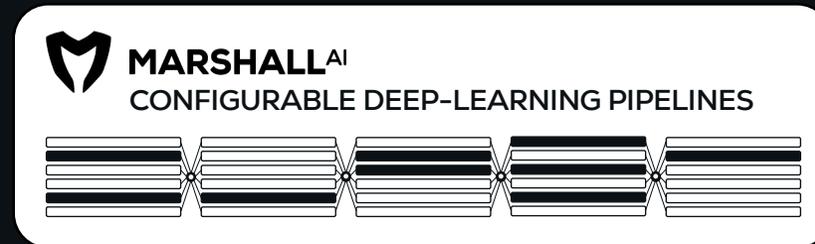
THE USE OF AI

# Unique AI platform

Pre-existing IPR

## Replication of human sensing as a traffic system input.

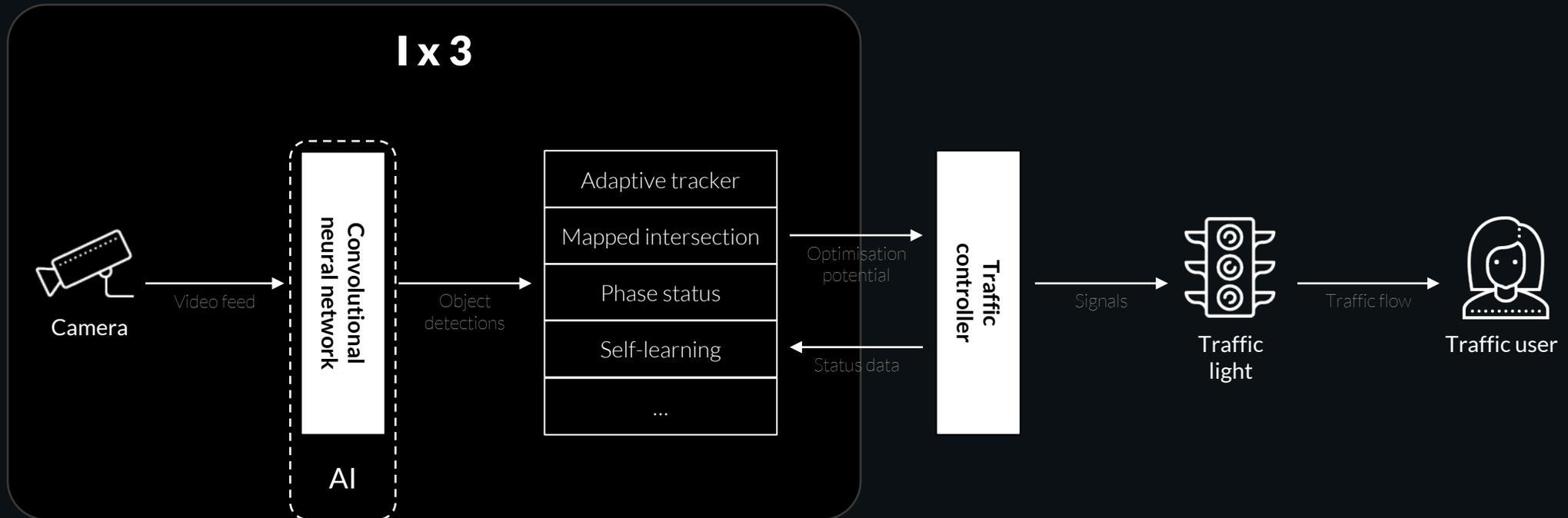
Vehicle types, pedestrian, bicycles, scooter, mobility hinderance, near-misses, automatic push-buttons, zebra-crossing safety, helmet usage, bus prioritisation, etc.



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THE USE OF AI

# The role of AI in Ix3



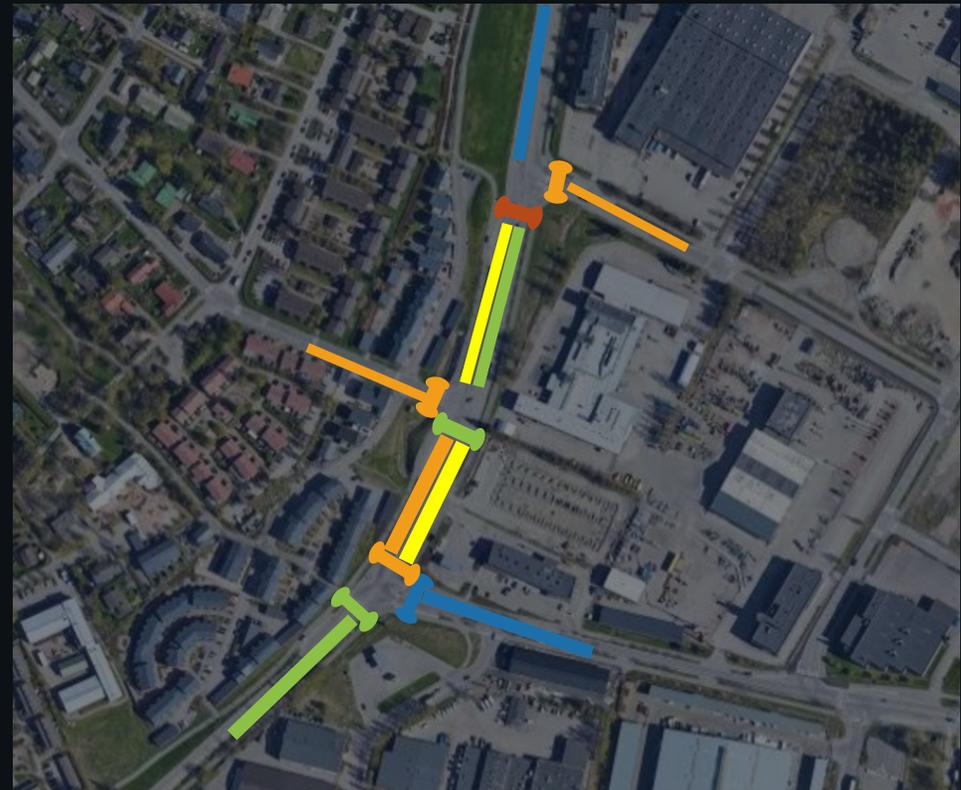
PHASE 3

# Piloting plans and expectations

MEUDON, 3-7% REDUCTION



HELSINKI, 3-8% REDUCTION



PHASE 3

# Piloting status

Per 9.6.2022

MEUDON

HELSINKI

	MEUDON	HELSINKI
<b>PREPARATION</b>		
Installation planning		
Site survey		
Installation permissions		
Traffic controller integration plan		
<b>PILOTING</b>		
Traffic controller integration	11.7.	
Installations	4.7.	
Configuration	4.7.	
Baseline measurement	11.7.	
Live traffic management	18.7.	27.6.
Dissembling	5.9.	27.8.
<b>REPORTING</b>		
Impact analysis	27.8.	27.8.
End report	3.9.	3.9.

## PHASE 3

# Blocking-points and status

Per 9.6.2022

MEUDON

HELSINKI

### PREPARATION

Installation planning	Resolved, SMdF → Meudon	
Site survey		
Installation permissions		
Traffic controller integration plan	Resolved, new controller	Resolved, minimum green

### PILOTING

Traffic controller integration		
Installations	Pending, no 24/7 electricity	
Configuration		
Baseline measurement		
Live traffic management		
Dissembling		

### REPORTING

Impact analysis
End report

END REPORT

# Draft per piloting city

## 1. Baseline

Situation in the intersection before the pilot, KPI stops per vehicle seen.

## 2. Factual CO<sub>2</sub> reduction

Amount of stops reduced by Ix3 that was carried out by the controller.

## 3. Theoretical CO<sub>2</sub> reduction

Comparison of KPI during baseline and pilot multiplied by the amount of vehicles seen during the pilot.

## 4. Project summary

Obstacles and learnings during the project and how they were resolved.



# Thank you.

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