



Statens vegvesen

Norwegian Public Roads
Administration

NPRA's strategy for AI

and the expected role AI is to play in large
infrastructure projects

Anita Sengebusch



Photo: Knut Opeide

Anita Sengebusch

Tech lead, Norwegian Public Roads Administration (NPRA)

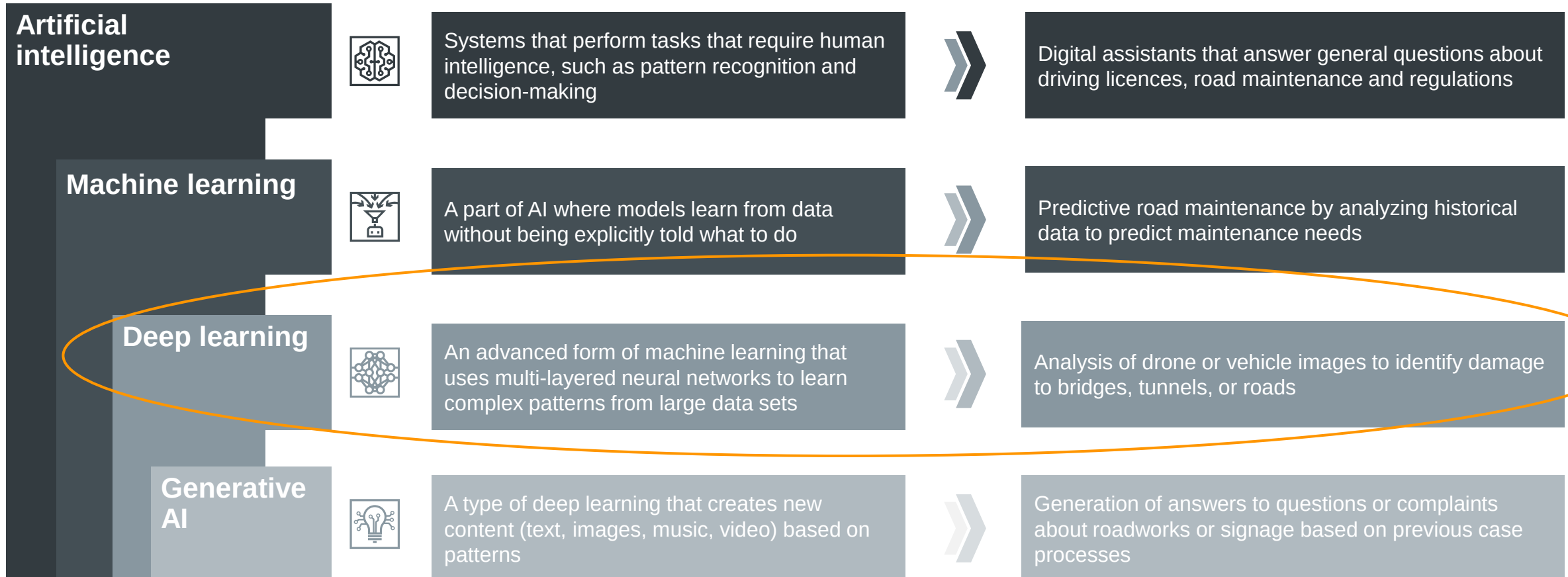
- Works in **the Innovation team** in the NPRA IT department where the main focus is on AI
- 20 years experience as a developer



Artificial intelligence is a collective term for technologies and systems that mimic human intelligence

Artificial intelligence can be divided into several categories

Examples from NPRA



NPRA's strategy for AI

Background

- Prepared in the spring of 2025 by teams from the IT department
- Involvement across the entire NPRA
- Insight conversations and validation with key stakeholders



Content

01 Background for the AI strategy



02 What is AI?



03 Where do we stand today?



04 Strategic choices

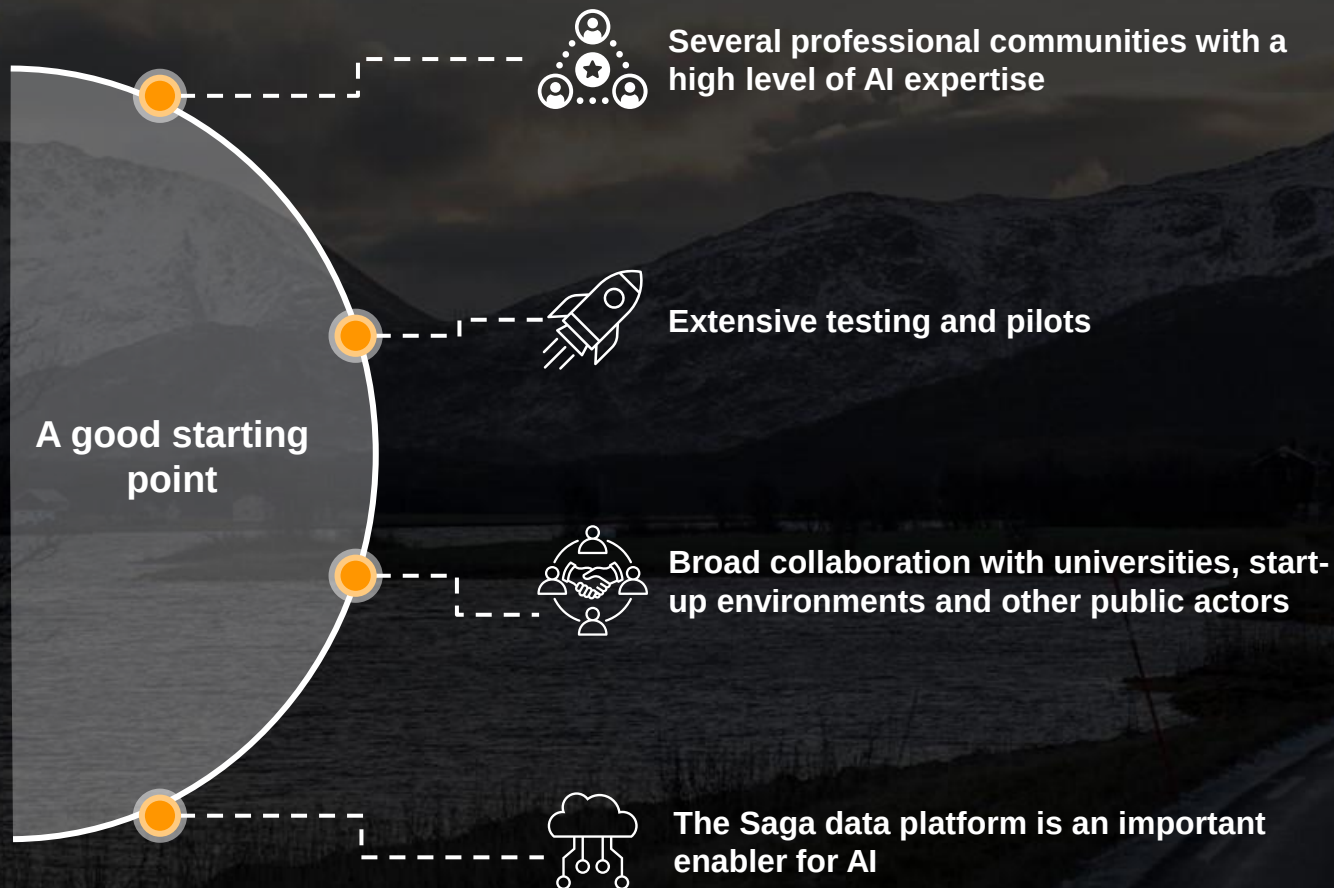


05 Operationalization



Why do we need an AI strategy?

AI is not new to NPRA...



... But we want to go even further!



Really **succeed** in **scaling** the good solutions



Ensuring that we extract **real** effects



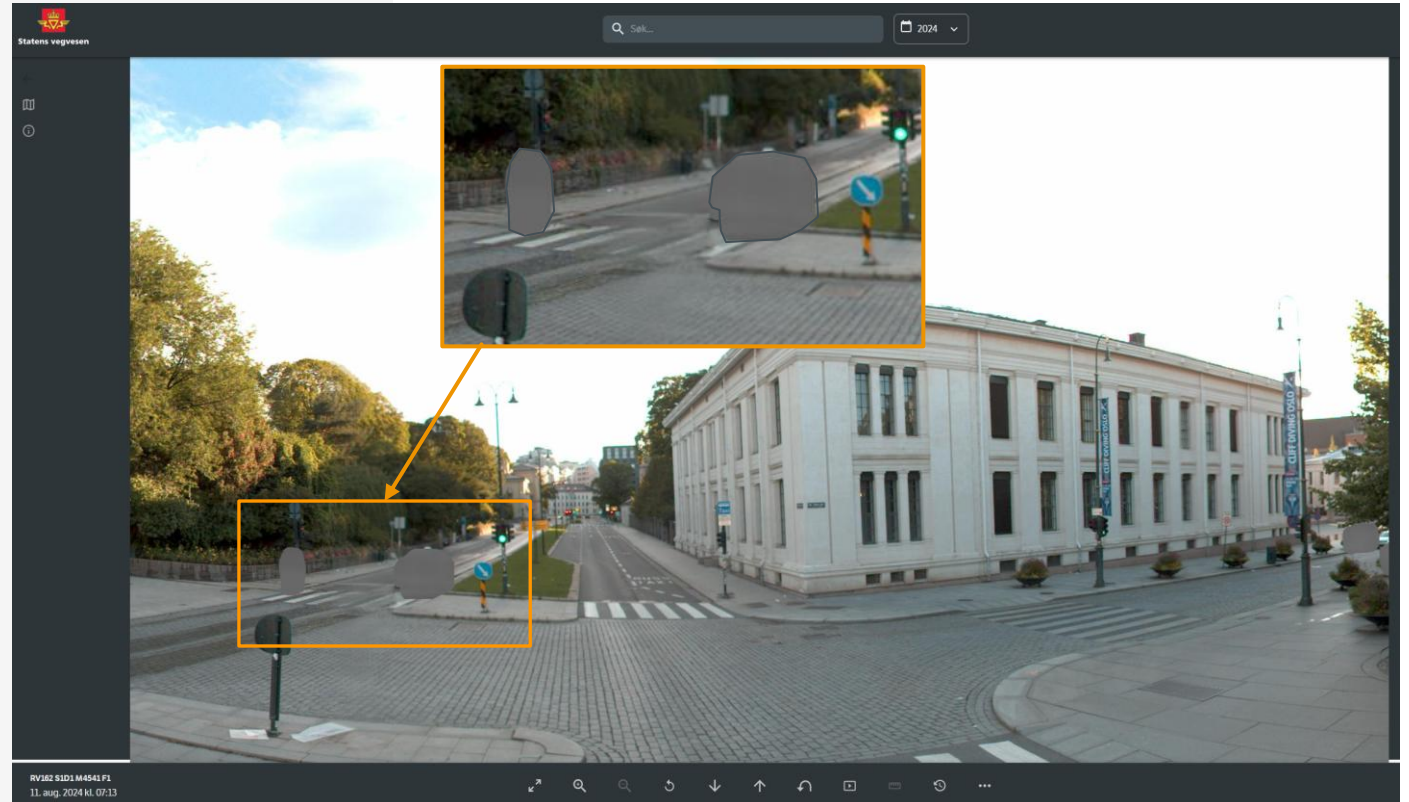
Solve real problems and needs through effective use of artificial intelligence



To an even greater extent **exploit the opportunities** of a rapidly developing technology

Computer vision

- Tools and standardization of workflow for computer vision is established in the Saga data platform.
- Use case: Road image blurring (strict privacy requirements)



Computer vision is used to detect and redact personally identifiable information in the published road images.

Improved bridge inspections

- R&D project: Automatic interpretation of damage to concrete bridge
- 400 images annotated for cracks, corrosion and peeling
- Another usecase on the **Saga** data platform ?



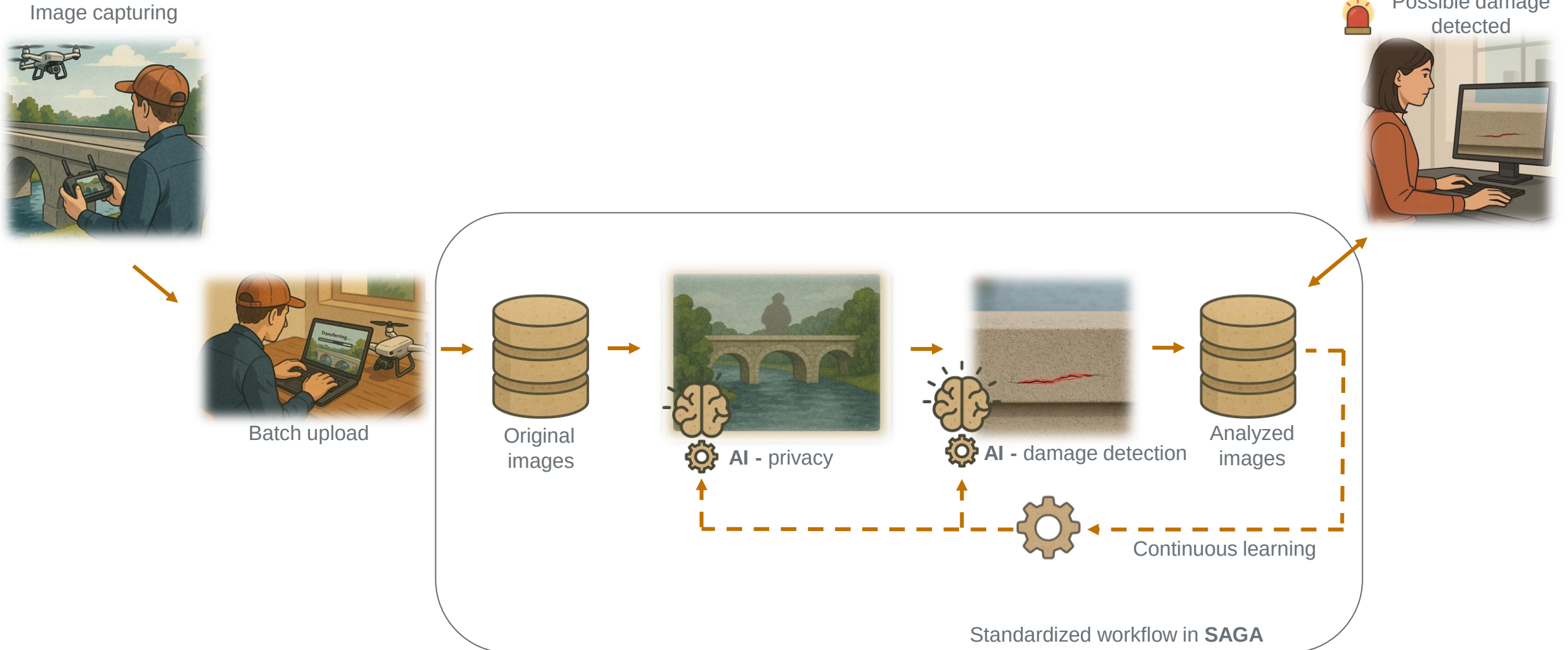
Proof of Concept – not in production







Possible complete workflow



In 2026, we're prioritizing initiatives in physical inspection, decision support, and customer service support

Priority areas 2026

Physical Inspection



Decision support



*Both analytical and generative AI are relevant to this area, but in 2026 we will focus on generative AI

Customer service support



Analytical AI
Generative AI

Description

Physically automated inspection of e.g. railings, bridges and roads using cameras and AI to detect damage and deviations

Supporting professionals through AI-based analysis and recommendations in complex decisions such as road design and traffic safety

Use of e.g. chatbot or voice-controlled assistants to answer questions and help users around the clock



-  External maturity
-  Internal maturity
-  Data and architecture

Roadguard – Tire Scanner



Statens vegvesen
Norwegian Public Roads
Administration



iSi inSight - Guardrail Control

Annual check of 7200 km of guardrails

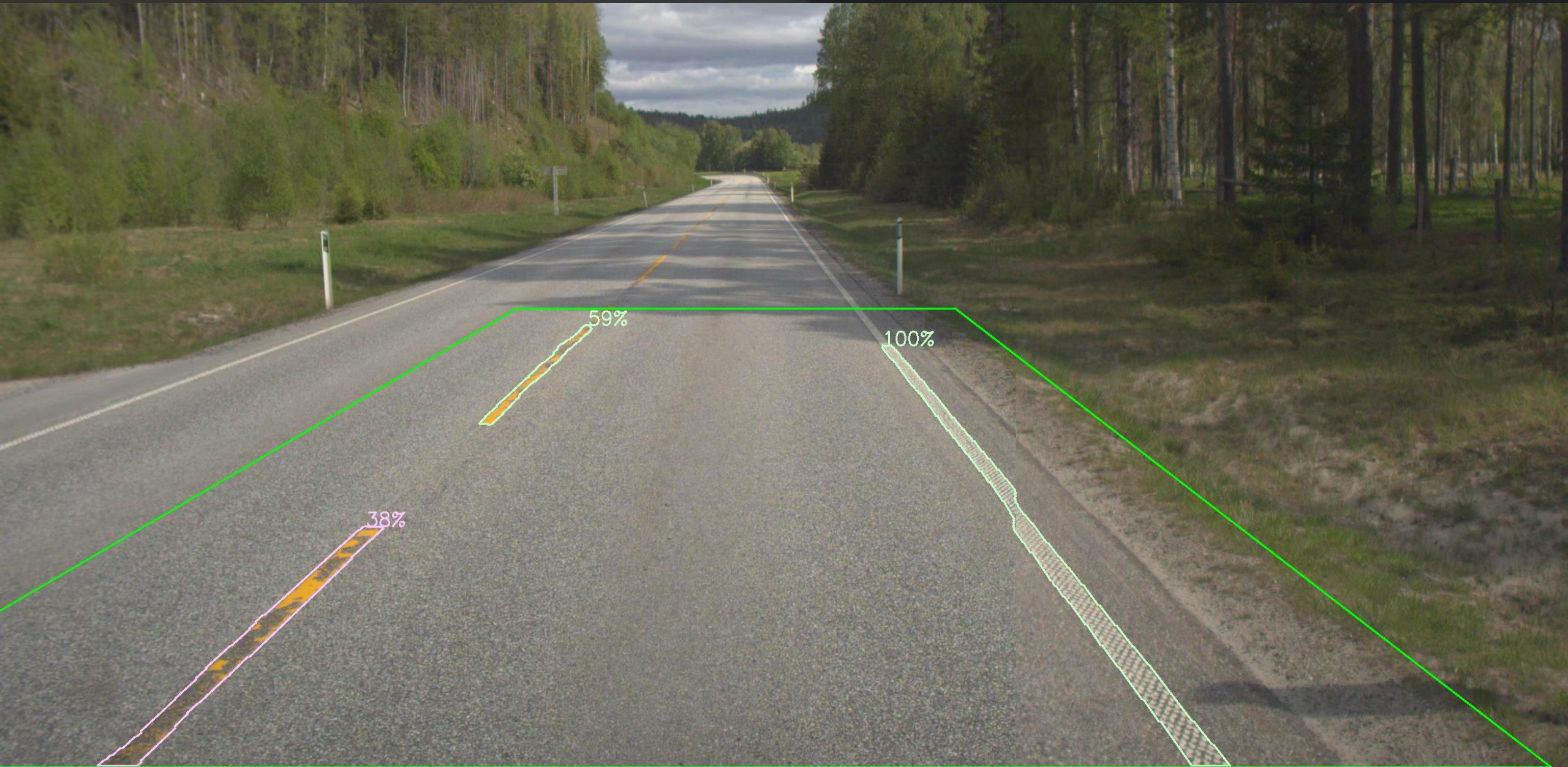
For example, a manual check of 17 km can take 4-5 hours, but now typically 17 km will take 17 minutes, and is much safer!



Løs bolt

helning ok

Automatic detection of road markings



Classification of road conditions



Våt, bar veg | 99.33%

E18 Hanekleiva nord (74 moh - retning Tønsberg) 2024-02-16 11:59:43





Hanekleiva nord
Retning Tønsberg



0°C
Lufttemperatur



0.6°C
Vegtemperatur



VAT
Føreforhold (DSC211)



0mm
Vannmengde



0mm
Ismengde



0mm
Snømengde



Tørr, bar veg | 62.56%

Fv319 Sagbukta (6 moh - retning Svelvik) 2024-02-16 11:59:27





Sagbukta
Retning Svelvik



0°C
Lufttemperatur



-0.8°C
Vegtemperatur



-
Føreforhold (DSC211)



Våt, bar veg | 63.93%

E18 Kjellstad (12moh - retning Drammen) 2024-02-16 11:59:59





Kjellstad døgnhvileplass
Retning Drammen

The scope for using AI is enormous for NPRA

Not exhaustive

Development and operation of the road network



Procurement of road services

Procurement support

Development projects

Identify high-risk road sections

Maintenance

Predictive maintenance

Planned maintenance

Physical Inspection

Traffic management

Real-time adjustment of speed, road signs, etc.

Subject-specific decision support

Sensor-based detection

Work notification

Sustainability initiatives (resource utilization, lighting...)

Supplier follow-up

Public services



Route planning

Real-time route planning

Real-time warning of dangerous driving conditions

Incident Notification and Emergency Preparedness

Real-time incident management

Customer service

Customer service support

Driver and Vehicle Services (theory test, driving test, vehicle inspection, license plates...)

Proceedings

Case management support

Internal services



HR Services

Finance features

Reporting and follow-up

IT services

Streamlining internal processes

IT development

General administration support

Digital security

Decision support

Activity

Bruksområde for KI



Statens vegvesen

Norwegian Public Roads
Administration