Session:

How to collaborate and exploit AI

Moderator Philip Wockats
Telematics Valley

West Sweden

Big Data, Machine Learning & AI

An Inspirational Map

BUSINESS REGION GÖTEBORG

The Mission

Make a map featuring West Sweden actors in the Big Data, Machine Learning & AI arena

”Is it possible to find 100 companies and organisations in the Gothenburg Area only?”

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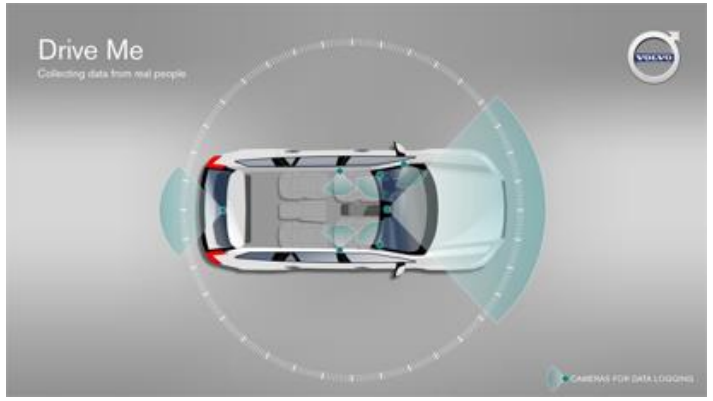
What we laughed at in 2014…

BUSINESS REGION GÖTEBORG

Where we are today…



Spotify

BUSINESS REGION
GÖTEBORG

BIG DATA, MACHINE LEARNING & AI INSPIRATIONAL MAP – WEST SWEDEN 2018

Applications (verticals)

Transport & Automotive

VOLVO (Volvo Group)
VOLVO
Stena Line
veoneer
EINRIDE
Autoliv
ZENUITY
Make it real.
APTIV
qamcom
JEPPESEN
ASTAZERO
ACTIVE SAFETY TEST AREA
RUAG
västtrafik
Hogia

Internet & Security

Recorded Future
GRIFFEYE
NetClean.
OP5
IRISITY
HALON
gemalto
security to be free
Meltwater
Outside Insight

Financial & ERP

ATOMIZE
BOKIO
collector bank
evispot
Seal
WREBIT

Life Science

AstraZeneca
Medfield
captario
Predicare
surgicalscience
HYPOCAMPUS
MICROPOS MEDICAL
ANTAROS
VÄSTRA GÖTALANDSREGIONEN
mentice
1928
Liv Diagnostics
Integrum

Other verticals

SKF
ERICSSON
adfenix
Burt.
TIBCO Spotfire
eGain
REFIND Technologies
TEXTUAL
elia
annotell
EKHONO
GREENBYTE
IRIS.AI
PULSEN
Talkamatic
NEXT GENERATION OF CONVERSATION
STRINTAGI

Partners

Service

ADVECTAS
Excellence in your decisions
CGI
BERGE
COMBINE
TENFIFTY
sigma Technology
CYBERCOM GROUP
QRTECH
HiQ
Statistikkonsulterna
knowit
FINDWISE
COMBITECH
semcon

Research & Education

HALMSTAD UNIVERSITY
SAHLGRENSKA AKADEMIN
HÖGSKOLAN I SKÖVDE
UNIVERSITY OF GOTHENBURG
RI. SE
CHALMERS

Incubators & Arenas

MobilityXlab
DRIVE SWEDEN
CHALMERS VENTURES
almi
Lindholmen Science Park
SAFER
SAHLGRENSKA SCIENCE PARK
GU Ventures

Johan Hogsved, johan@hawco.se

BIG DATA, MACHINE LEARNING & AI INSPIRATIONAL MAP – WEST SWEDEN 2018

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VOLVO (Volvo Group) · VOLVO · Stena Line · veoneer · EINRIDE · Autoliv · ZENUITY (Make it real.) · APTIV · qamcom · JEPPESEN · ASTAZERO (Active Safety Test Area) · RUAG · västtrafik · Hogia

et & Security

Recorded Future · IFFEYE · Clean. · 5 · IRISITY · HALON · nalto (curity to be free) · Meltwater (Outside Insight)

Financial & ERP

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Life Science

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Other verticals

SKF · ERICSSON · adfenix · Burt. · TIBCO Spotfire · eGain · REFIND Technologies · TEXTUAL · elia · annotell · EKHONO · GREENBYTE · IRIS.AI · PULSEN · Talkamatic (Next Generation of Conversation) · STRINTAGI

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Excellence in your decisions · TENFIFTY · sigma Technology · COMBINE · CYBERCOM GROUP · QRTECH · HiQ · Statistikkonsulterna · knowit · FINDWISE · COMBITECH · semcon

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Johan Hogsved, johan@hawco.se

Volvo Cars - Innovation in Transportation

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Volvo Trucks - Innovation in Transportation

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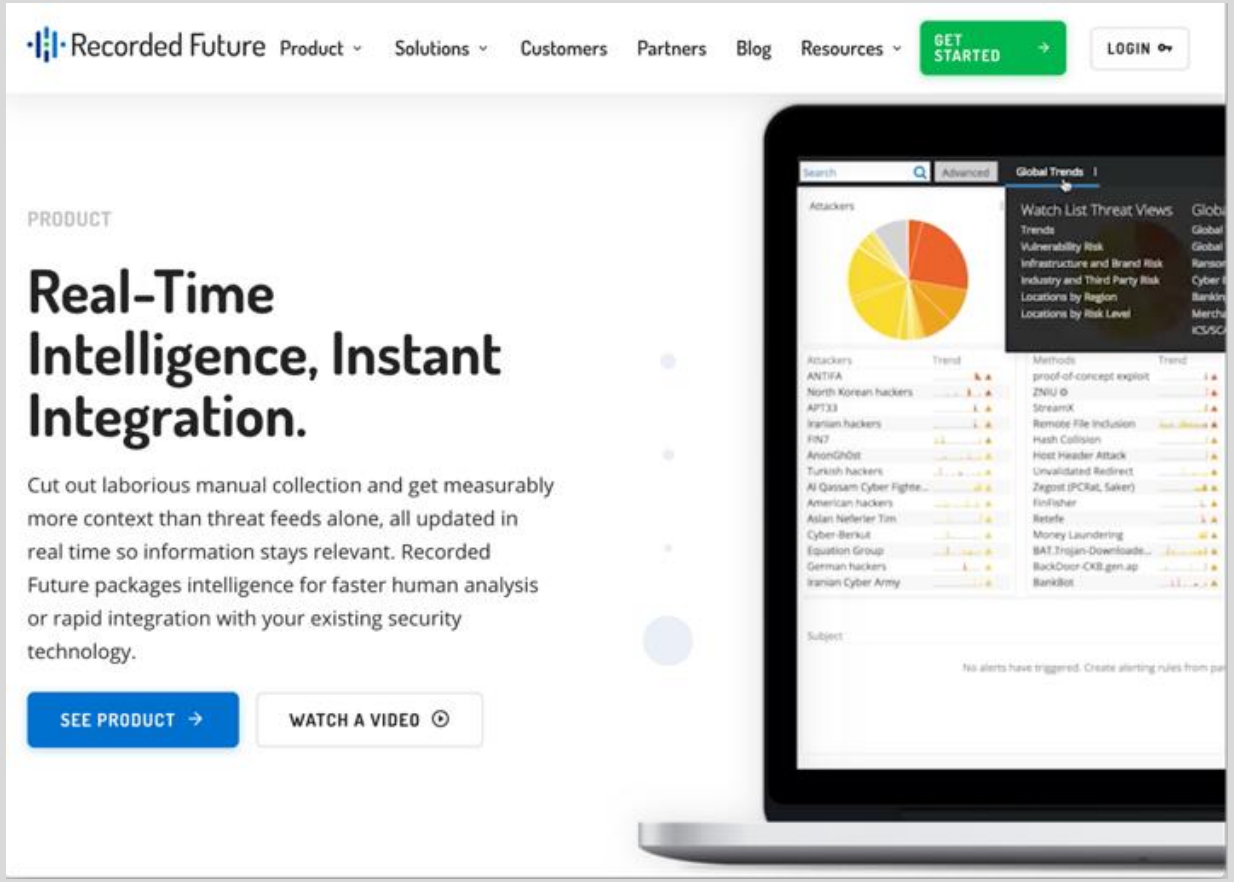
Recorded Future - Innovation in Cyber Security



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GU Ventures

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AI LANDSCAPE – INTERNET & SECURITY

Recorded Future

GRIFFEYE

HALON™

IRISITY

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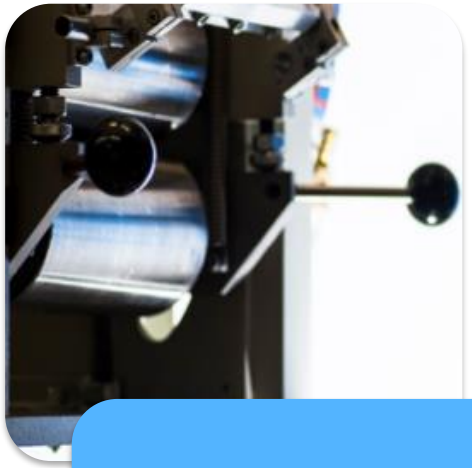
GU Ventures

Johan Hogsved, johan@hawco.se


AI is getting ready for healthcare.
But is healthcare ready for AI?
Life Science study made by Petra Apell

AI can create value across the value chain



R&D
- Drug discovery
- Drug Design
- Clinical trials

Product & service
- Supply & distribution
- Product portfolio
- Education

User experience
- Diagnosis
- Patient support
- Decision support

BUSINESS REGION GÖTEBORG

AI LANDSCAPE – LIFE SCIENCE

AstraZeneca

Integrum

Integrative Research Laboratories

MICROPOS MEDICAL

BUSINESS REGION GÖTEBORG

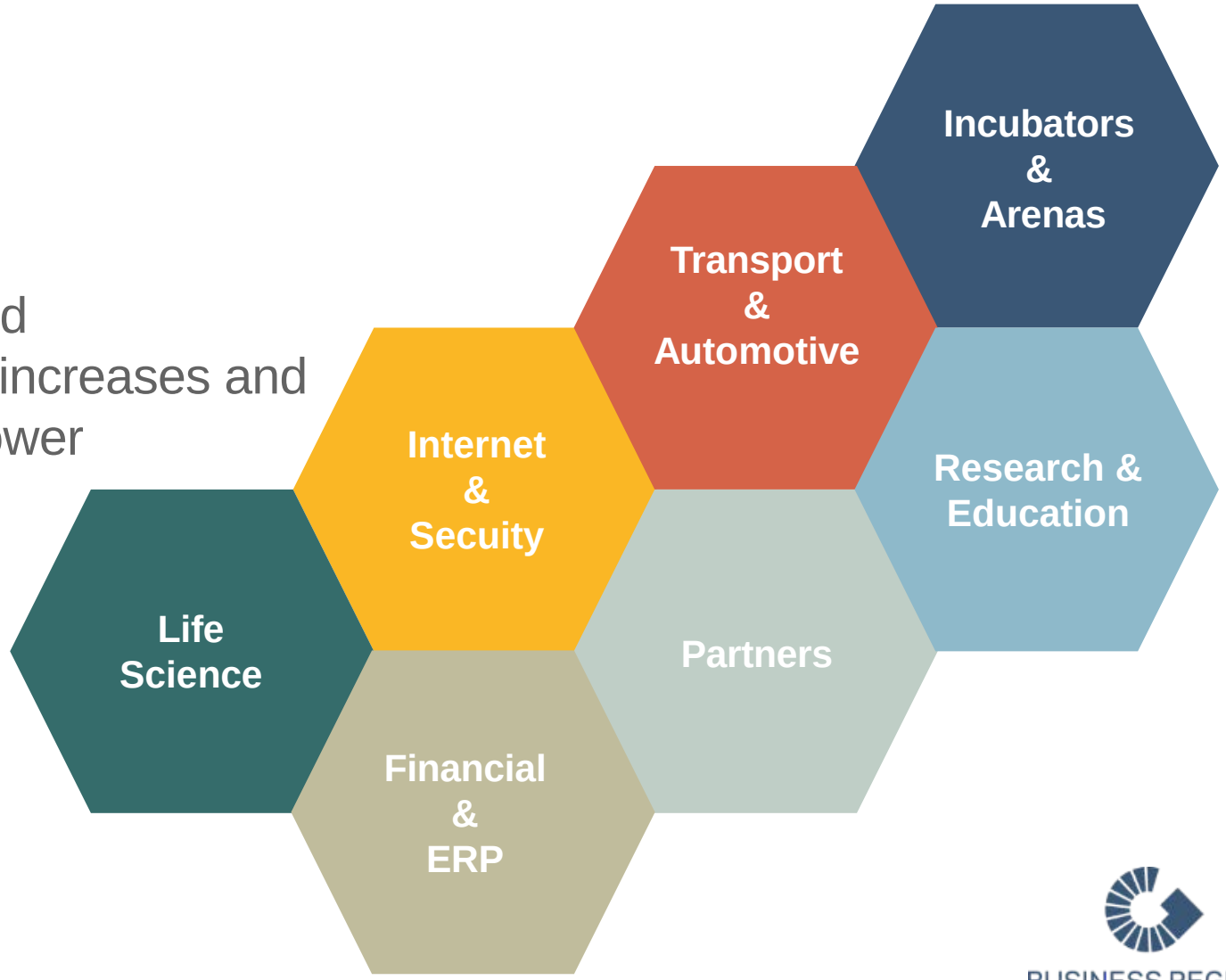
Key Findings

Rapid growth in the region

Found in almost every vertical

Usage of technologies adapted to need
The possibilities using the technology increases and the threshold to start gets lower and lower

All actors are not world leading in AI –
but use it to improve their
current business



Complement other Swedish initiatives

AI WASP Research and PhD School
5 Universities

Applied AI Research - CHAIR
Chalmers Foundation

RISE AI
Resources, Expertise and Project services

Professional AI Training & Students
7 Universities

Various independent AI projects (e.g., VR, Vinnova, SSF, etc.)

CHAIR

OVERVIEW PRESENTATION

CHALMERS
UNIVERSITY OF TECHNOLOGY

AI RESEARCH CENTRE

www.chalmers.se/chair

GOALS

Develop unique AI expertise

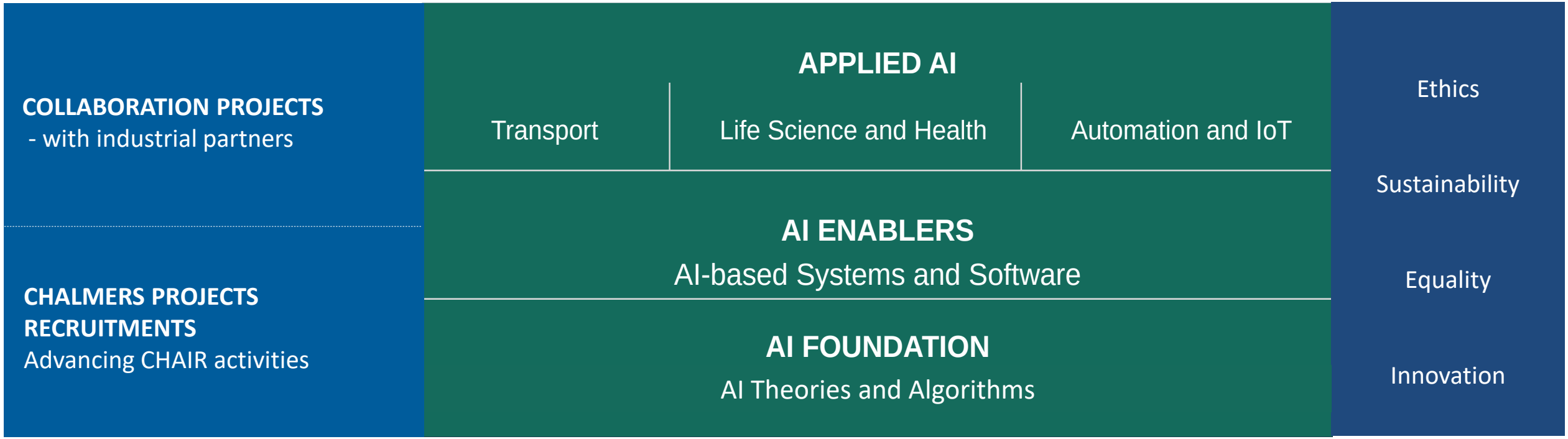
Attract world-leading AI researchers

Become an outstanding education centre in AI

Become the preferred AI partner for industry

PRICIPLES & STRATEGY

Focus and openness to new ideas



- A national & neutral platform to accelerate AI related research & innovation
- Horizontal resources across applications
- Focus on collaborative development across industry, academia & society

- Team of about 10 people, initially with offices in Gothenburg & Stockholm
- Budget SEK 25 million annual
- Funded by Vinnova, Region Västra Götaland and 25+ partners

Founding partners

Public funding

REGION VÄSTRA GÖTALAND

VINNOVA

Corporate

AstraZeneca

essity

VOLVIA

VOLVO

ERICSSON

VOLVO
VOLVO GROUP

ZENUITY
Make it real.

veoneer

CEVT

Medium sized companies & Consulting

ACANDO

Capgemini

CGI

EVRY

FUJITSU

KPMG

SWECO

semcon

qamcom

SMEs & Startups

Recorded Future

Seal
CONTRACT DISCOVERY AND ANALYTICS

UNIVRSES

TENFIFTY
TAILORED AI SOLUTIONS

annotell

PELTARION

COHEREUM

Talkamatic
NEXT GENERATION OF CONVERSATION

Viking Analytics AB

ascenda

FaDO
Finding anomalies on the fly

Machine Intelligence
SWEDEN

Humanitas

Academia & Research Institutes

CHALMERS
UNIVERSITY OF TECHNOLOGY

RI.SE
Research Institutes of Sweden

UNIVERSITY OF GOTHENBURG

JRI
The Swedish Law and Informatics Research Institute

Lifelong Learning

universeum

Public organizations

REGION VÄSTRA GÖTALAND

REGION SKÅNE

Skatteverket

Rymdstyrelsen
Swedish National Space Agency

Sveriges Kommuner och Landsting

National resources

Data Factory

Managed data, processing power and related services

Collaborative projects

of cross industrial, academic and societal partners

International relationships

Ethic & impact on society

Various programs

Communication

Regional nodes

Co-location

of cross industrial, academic and societal research & innovation teams

Activities

Competence & knowledge driving events & workshops

Ecosystem activation

Regional development

Communication

Regional nodes

AI INNOVATION of Sweden

First node in Gothenburg, second and third under discussion in Stockholm and Malmö


Thank you!
BUSINESS REGION
GÖTEBORG

Safer intelligent vehicles

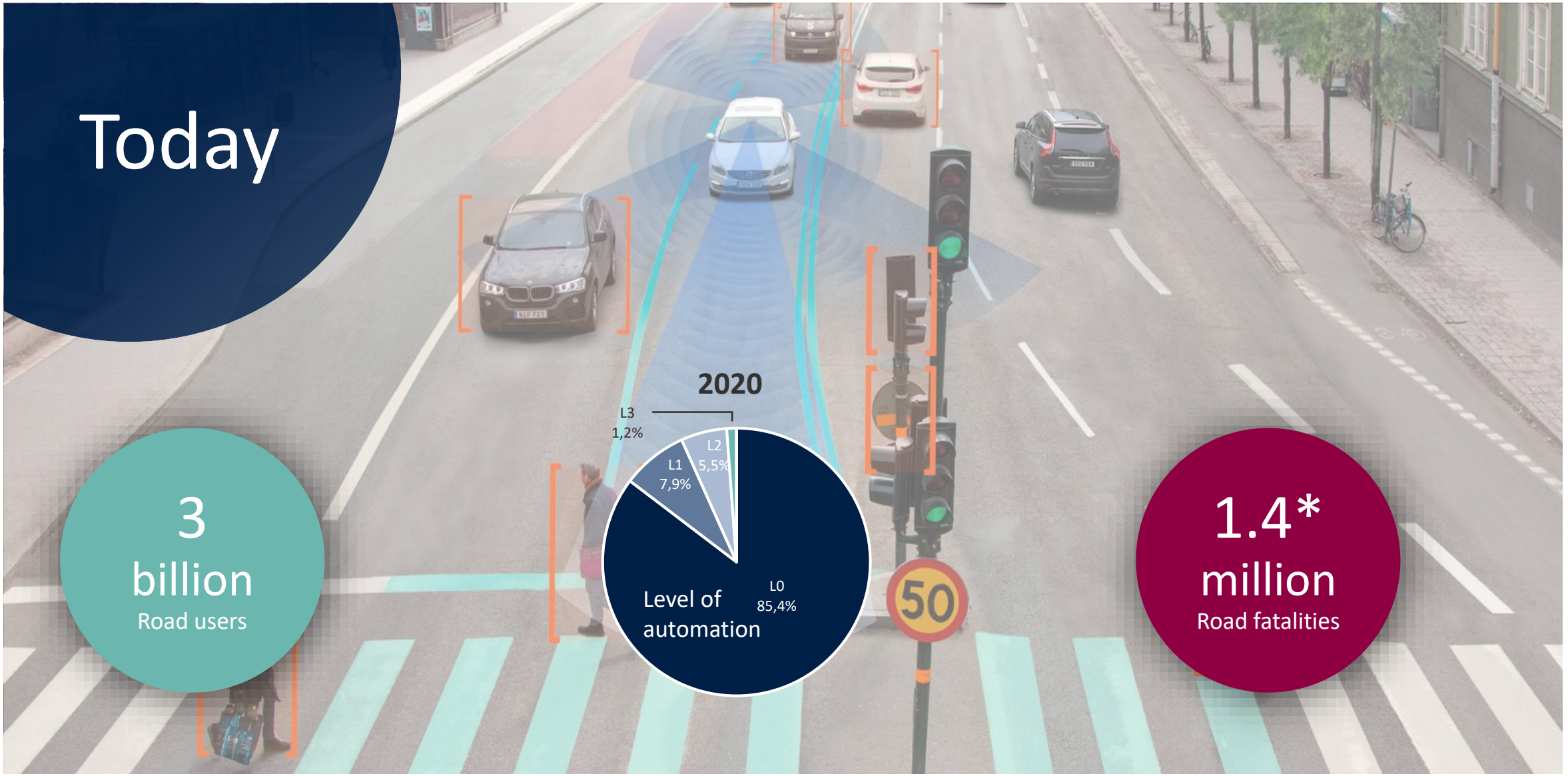
Telematics Valley 2019-10-02

Christian Svensson
Veoneer
Innovation Director

Edvard Brinck
Ericsson
Director Portfolio Development


Our Purpose
Creating Trust in Mobility

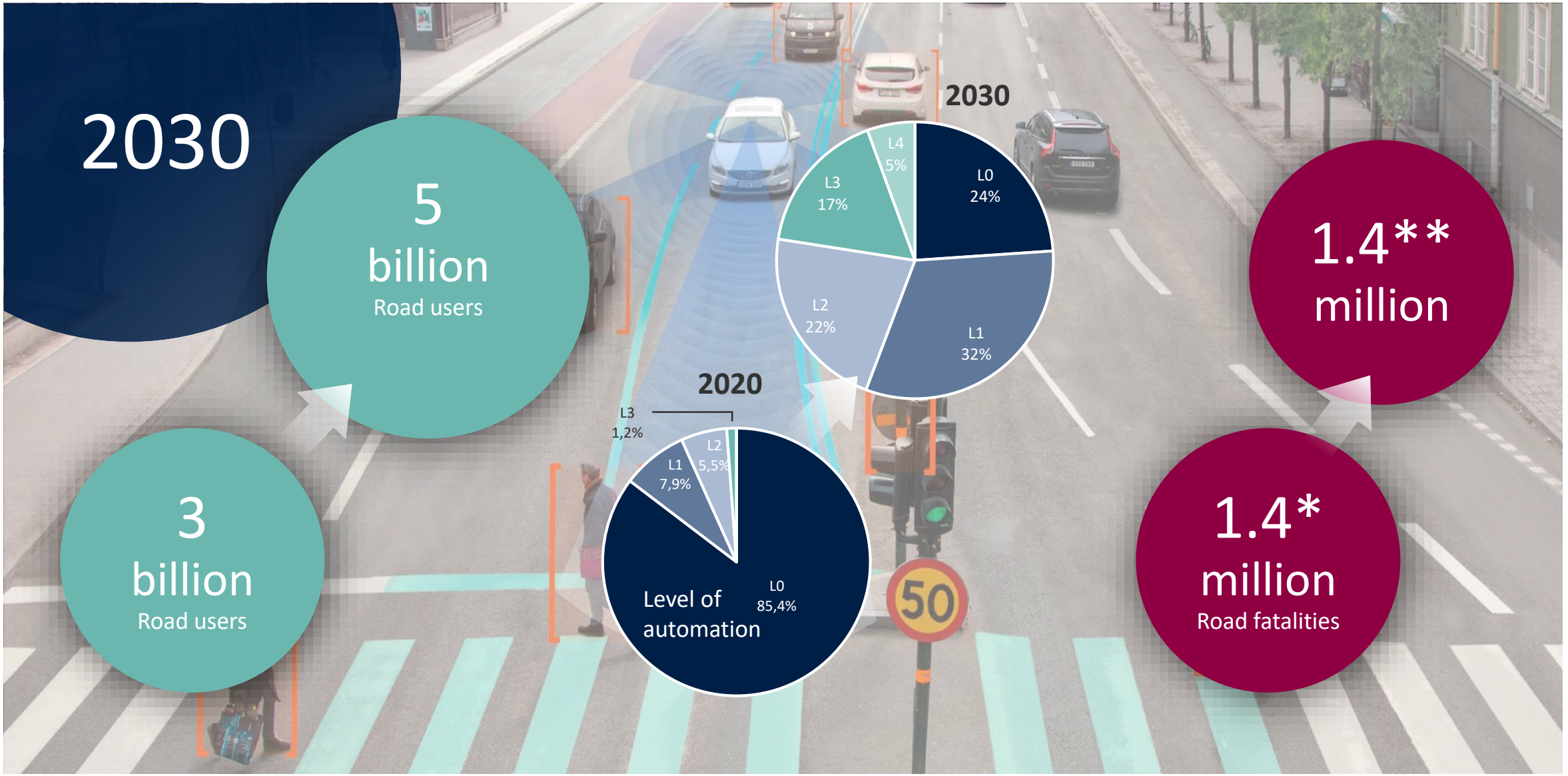
Today



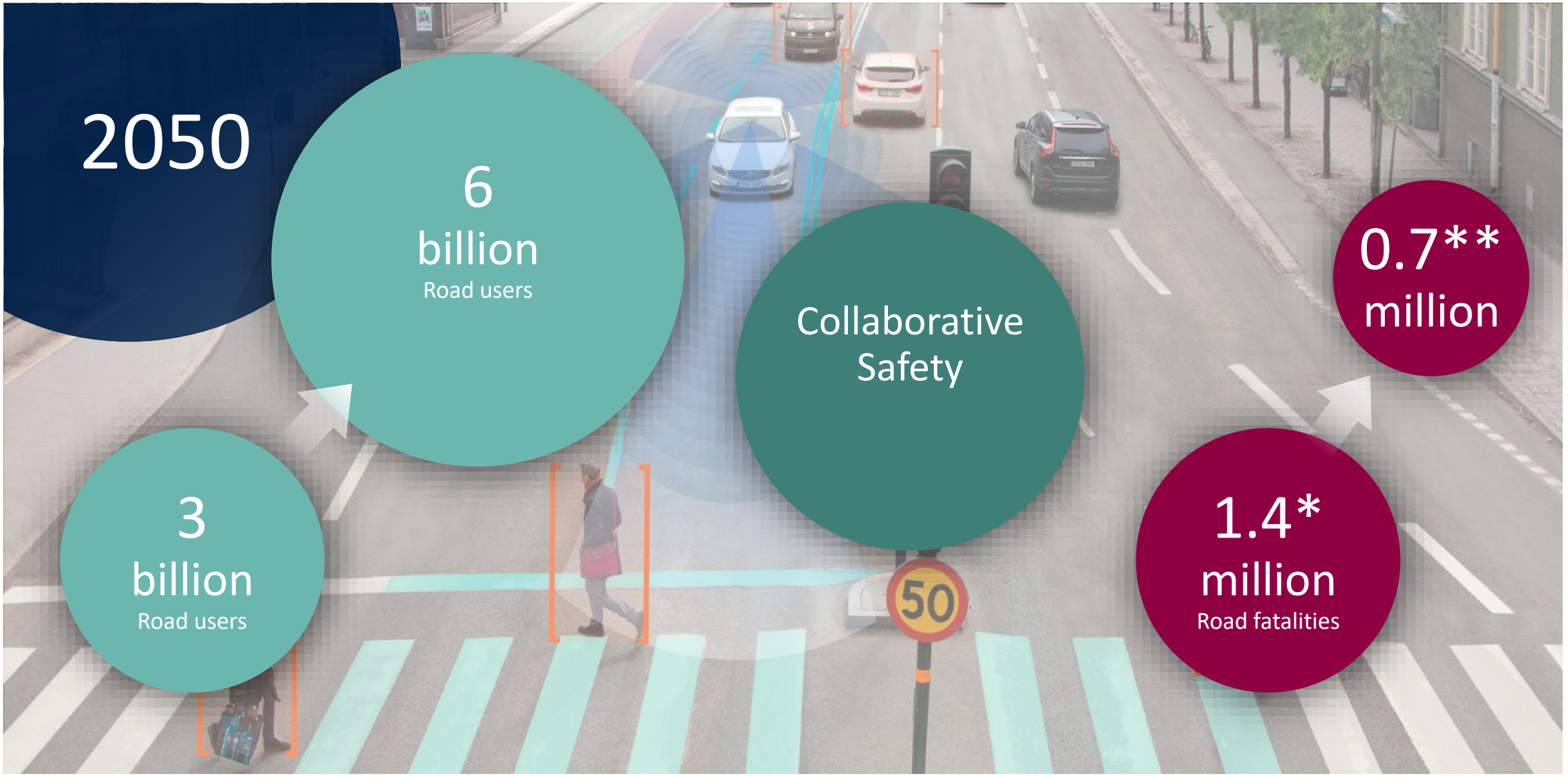
3 billion
Road users

1.4* million
Road fatalities

*using WHO data



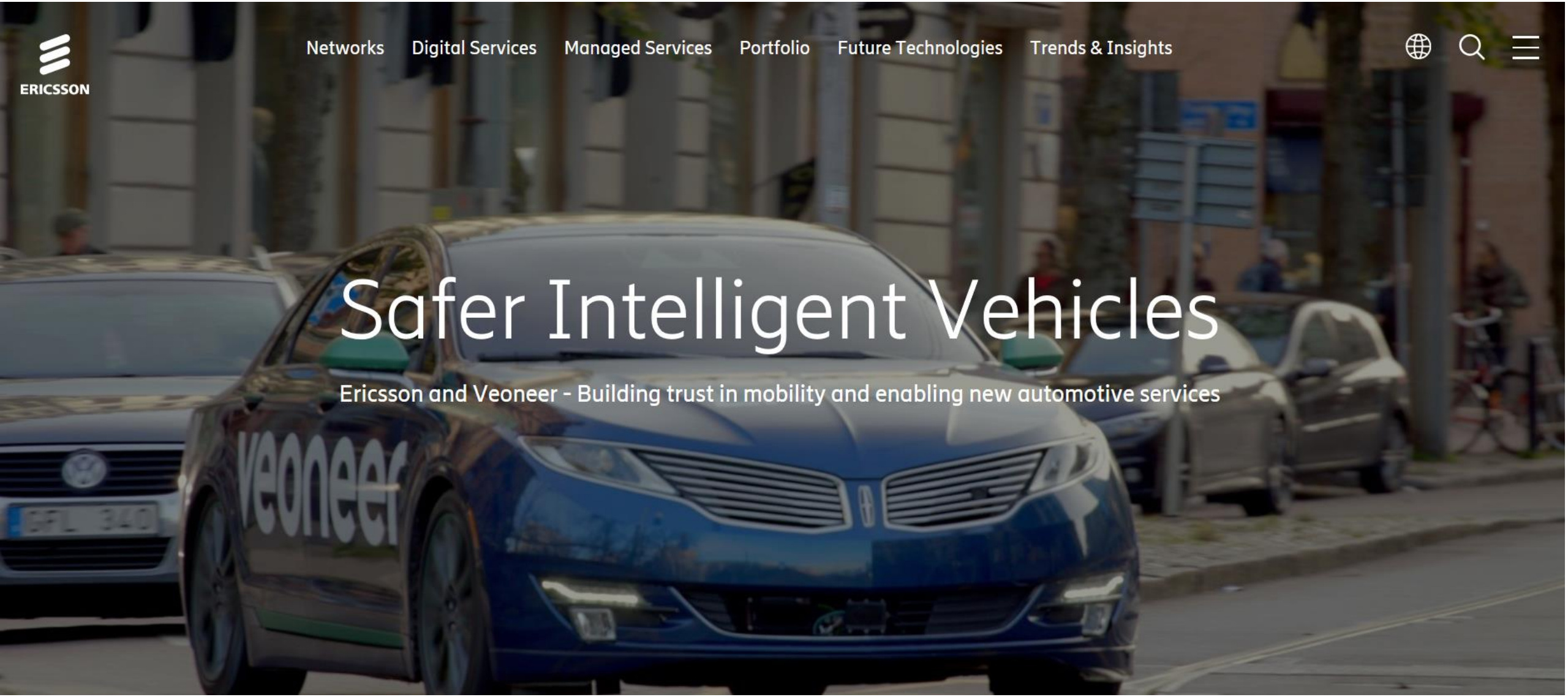
*using WHO data **Veoneer estimate



*using WHO data **Veoneer estimate

LIV3.0 and Geofence/ODD - with Ericsson

www.ericsson.com/veoneer



https://www.ericsson.com/en/internet-of-things/iot-platform/iot-ecosystem/partners/veoneer


Safer Intelligent Vehicles
veoneer

Predictive Mobility and Geofence use cases

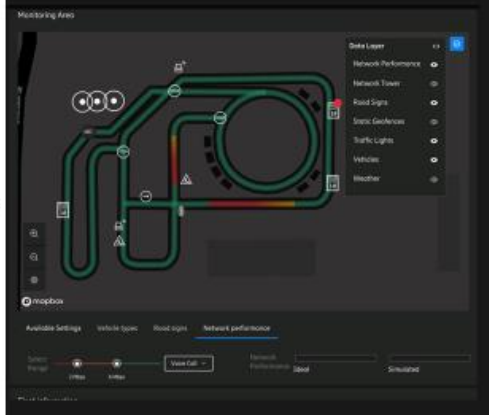
Predictive Mobility / Connectivity blind spots

Sensor | Connectivity | Cloud

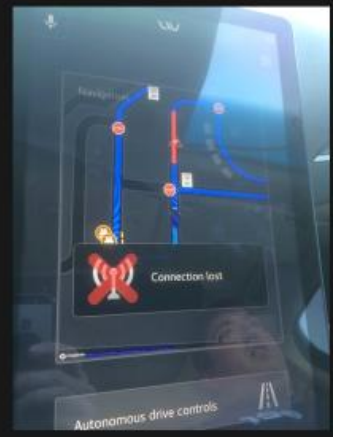
Use Case 8

- Connected Vest
- Traffic Tower dialog through AI
- Mission critical communication
- Check trust in driver and stress level for the AI to determine what they can suggest next
- Creates a temporary static geofence around the UPS fleet that dropped the goods
- Creates a geofence around the UPS driver through the connected vest
- Sends an instruction from the supporting AI to the vehicle with a suggested new route and suggest continue in AD mode
- Driver gets to decide if they want to follow through or not [yes/no]

At the telematics view



Inside LIV car



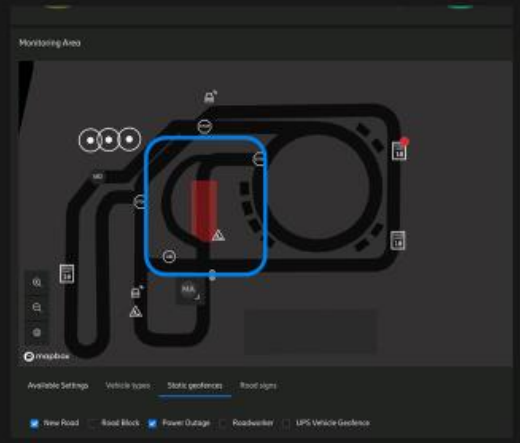
Geofence and Map update

Sensor | Connectivity | Cloud

Use Case 9

- Connected Vest geofence shared
- Distributed edge node caching the latest known High Definition (HD) map tile details that is being shared with the car in due time
- High throughput connectivity is required

At the telematics view

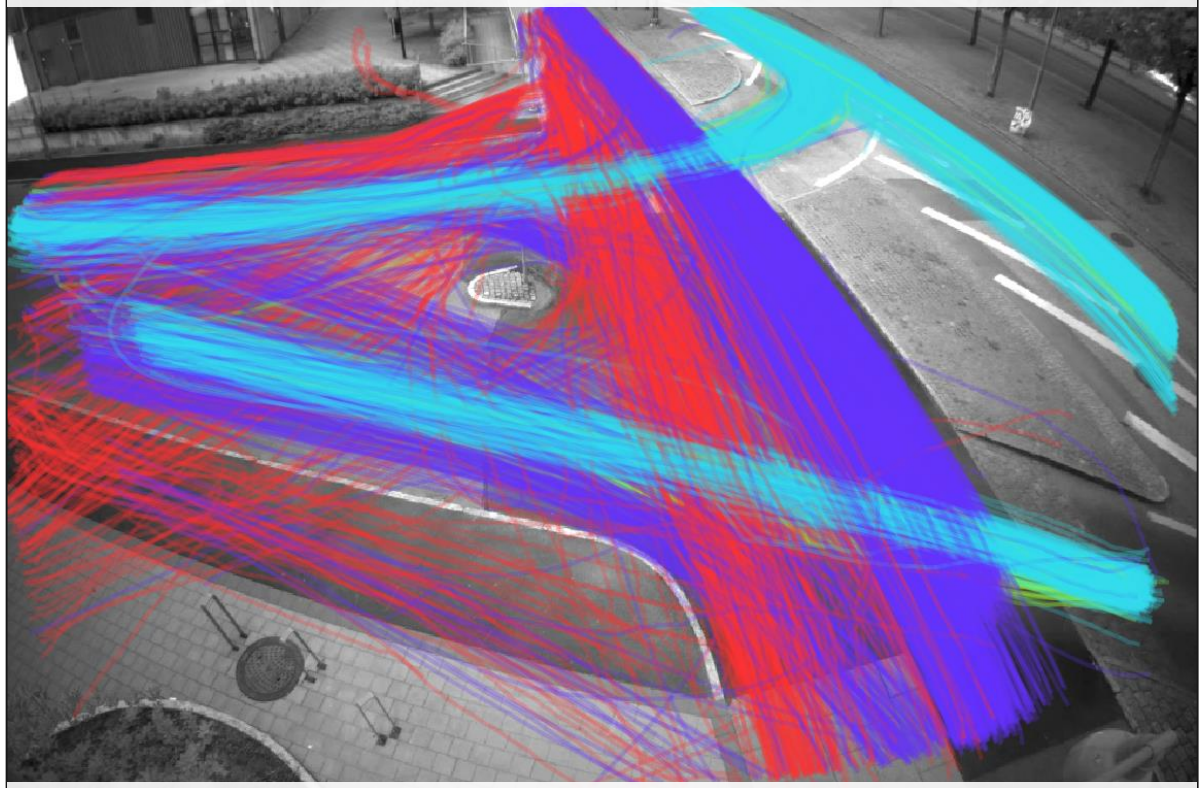


Inside LIV car

3D AI and 5G Safer Traffic in Real

Warning 3 seconds before bicyclist/pedestrian reach conflict zone

Behaviour, interaction and traffic safety



Pedestrians Bicyclists Vehicles

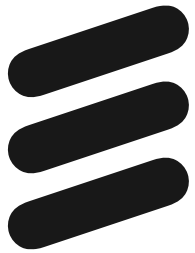
viscando™ veoneer ERICSSON ZENUITY Make it real. mobilityXlab

Collaboration enables cross industry fertilization

Edge analytics NOW and for business development

Two megatrends are meeting – real-time edge analytics and servitization

- **Create customer stickiness**
- **Enable new business models**
- **Prolong the life of your products**
- **Improve SLAs**
- **Quality becomes vital**
- **Rapid product development**
- **Shifts in profits pools**
- **Improve sustainability**



Helena Iremo, Scania Group and Erik Tengedal, Imagimob

C-me Vest

the connected and intelligent vest for driver safety

Problem – Exposed profession

- Working alone
- Workplace accidents
  - plowing
  - falling when loading/unloading
  - hit by falling objects
  - crushed by objects or machines
  - working outside the vehicle
- Robbery

Här är Sveriges tio farligaste yrken

Nära 500 svenskar har förlorat livet på sina arbeten under det senaste decenniet. Några yrken är särskilt farliga visar SvD:s sammanställning av data från Arbetsmiljöverket.

Av Sophia Sinclair · 1 dec, 2018 · Spara artikel

Läs mer om Döden på jobbet

Del 1 av 11

Tre av de arbeten som kräver flest liv i Sverige är lastbilschaufför, elektriker och lantbrukare. Foto: Tomas Oneborg och Lars Pehrson

1. Lastbilschaufför

Foto: Tomas Oneborg

Lastbilschaufför toppar Arbetsmiljöverkets statistik med 59 döda, och är därmed Sveriges dödligaste yrke.

Trafikolyckor är mycket utbredda, men också klämskador som ofta uppkommer i samband med till exempel lastning av fordonet.

Mycket arbete återstår för att förebygga dödsolyckorna, enligt Bengt Järvholm. Han lyfter fram bättre fartkontroller i lastbilarna som preventiva åtgärder och även bötfällning av arbetsgivare om anställda kör för fort.

– Då pratar vi inte om några tusenlappar, utan snarare tiotusentalskronor. I dag ligger stort ansvar på chaufförens axlar, men precis som i annat arbetsmiljöarbete är det arbetsgivaren som ska se till att de anställda har rätt utbildning, tillräckligt med tid och så vidare, säger Bengt Järvholm.

Solution – Connected safety

IN A HIGH TECH COLLAR

- Printed active light technology from Light Flex
- MCU – for lights and Edge AI application (ARM Cortex M4)
- Standard sensors (accelerometer and gyro)
- Edge AI application from Imagimob

Solution – Connected safety

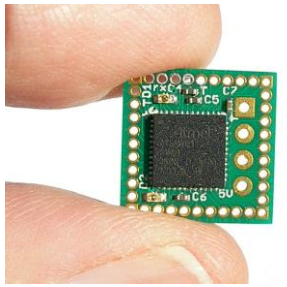
IN A HIGH TECH COLLAR

Edge AI application

with:

High accuracy

Low power super important for all battery powered products



Small footprint important to fit many AI models in RAM memory

Solution – Connected safety

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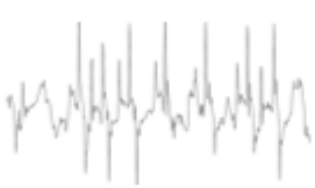
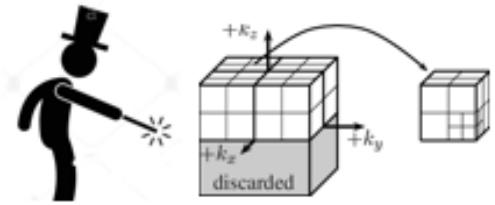


Data Collection & labelling



AI modelling, training and testing

Finished Edge AI application (a trained and optimised AI model)

Integration on chip

Solution – Connected safety

IN A HIGH TECH COLLAR

Result – Be connected. Be safe.

- Connected workwear
- Double sided

- App
- Light settings
- Lights on/off automatically
- Fall detection
- Emergency contact
- Alarm button

- High interest since September 2018

Collaboration

imagimob

Connected Services & Solutions

Parts & Services

intunio

LIGHT FLEX

Clothing Manufacturer

PCB Supplier

Collaboration

Challenges

- Different company cultures
- Short lead time (prototype)
- Integrate two hardware
- New technology

Success factors

- Open dialogue
- Dedicated team
- Goal oriented project
- Humble approach, team effort

SCANIA

Panel

Luxoft
A DXC Technology Company

Qlik

here

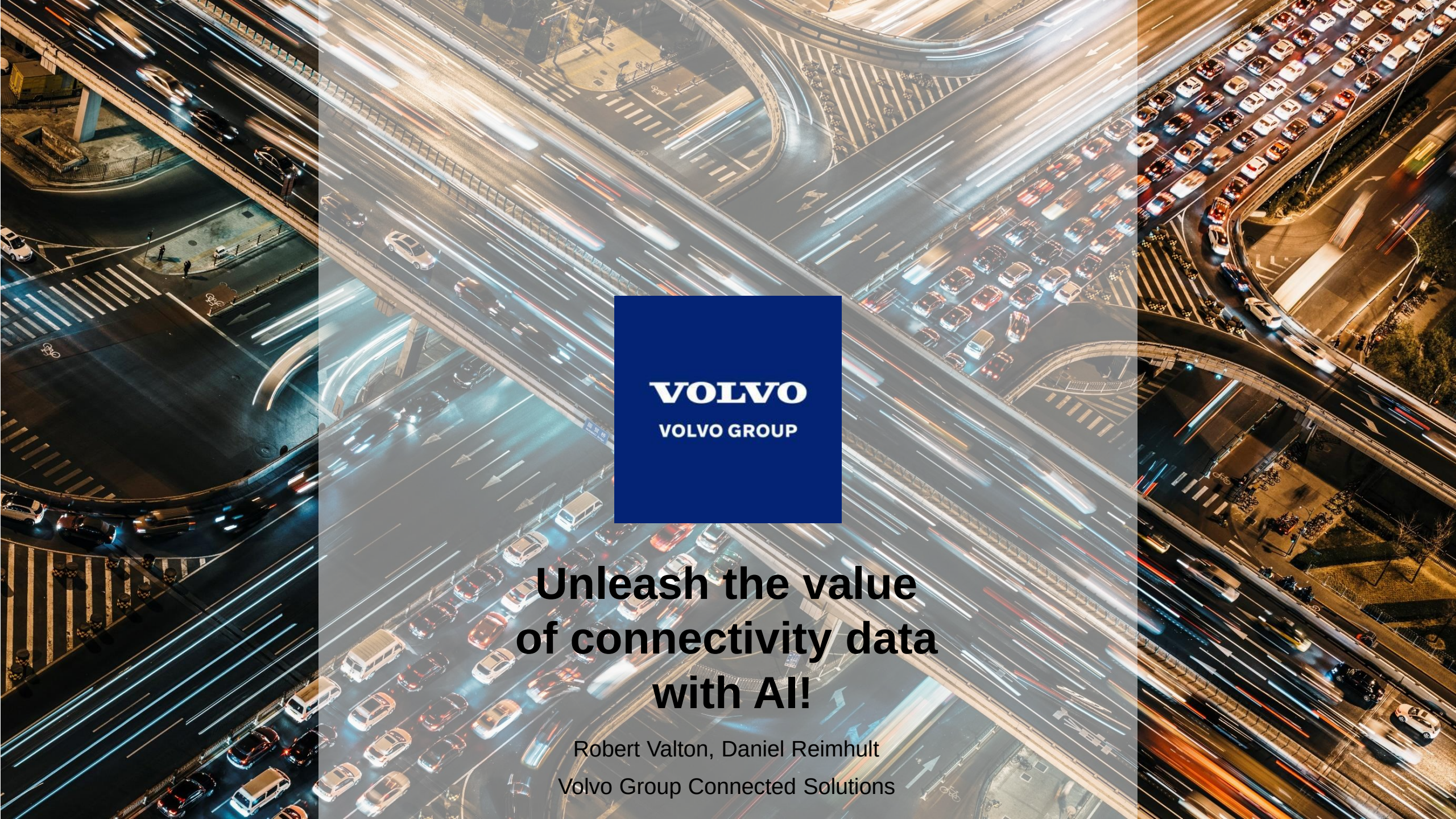
VOLVO
Volvo Group

FINDWISE

teradata.

sas

Networking break see you back at 15.20!



VOLVO

VOLVO GROUP

Unleash the value of connectivity data with AI!

Robert Valton, Daniel Reimhult

Volvo Group Connected Solutions

Zooming out – The Volvo Group context

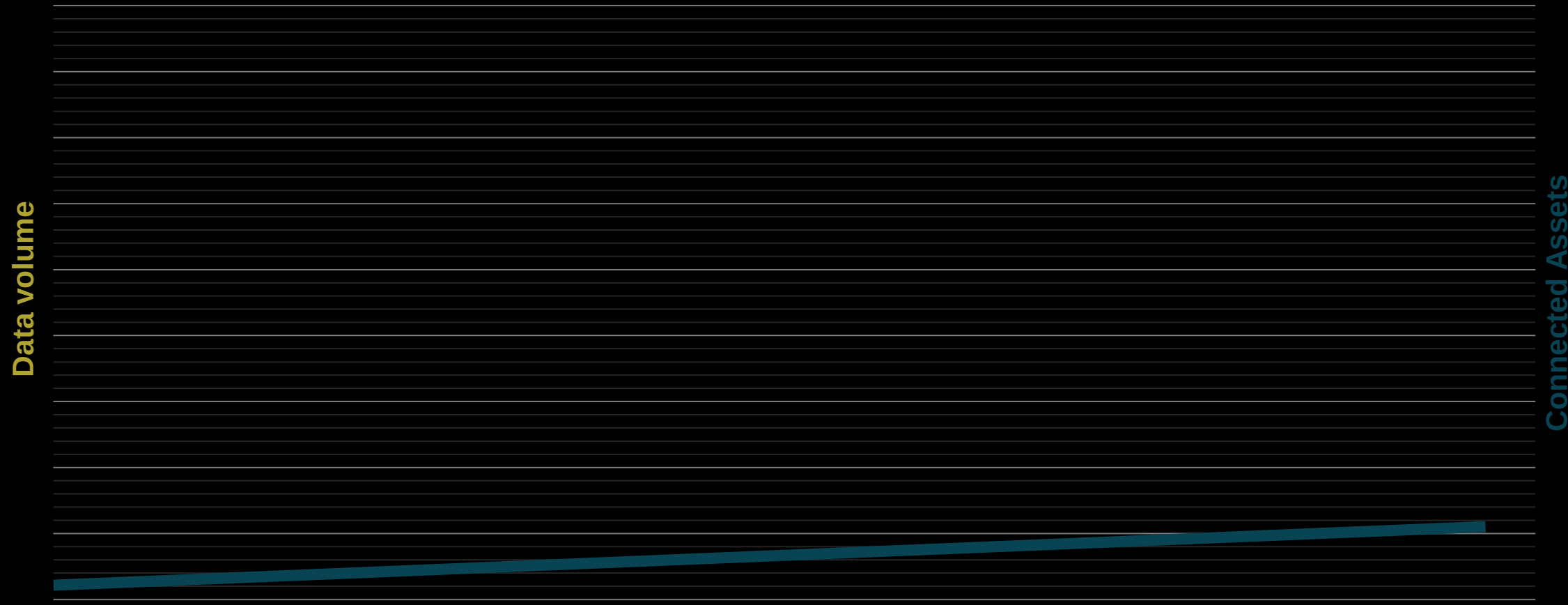
> ***Be the most desired and successful transport solution provider in the world***


GLOBETROTTER
VOLVO
FM
GLOBETROTTER
VOLVO
FM

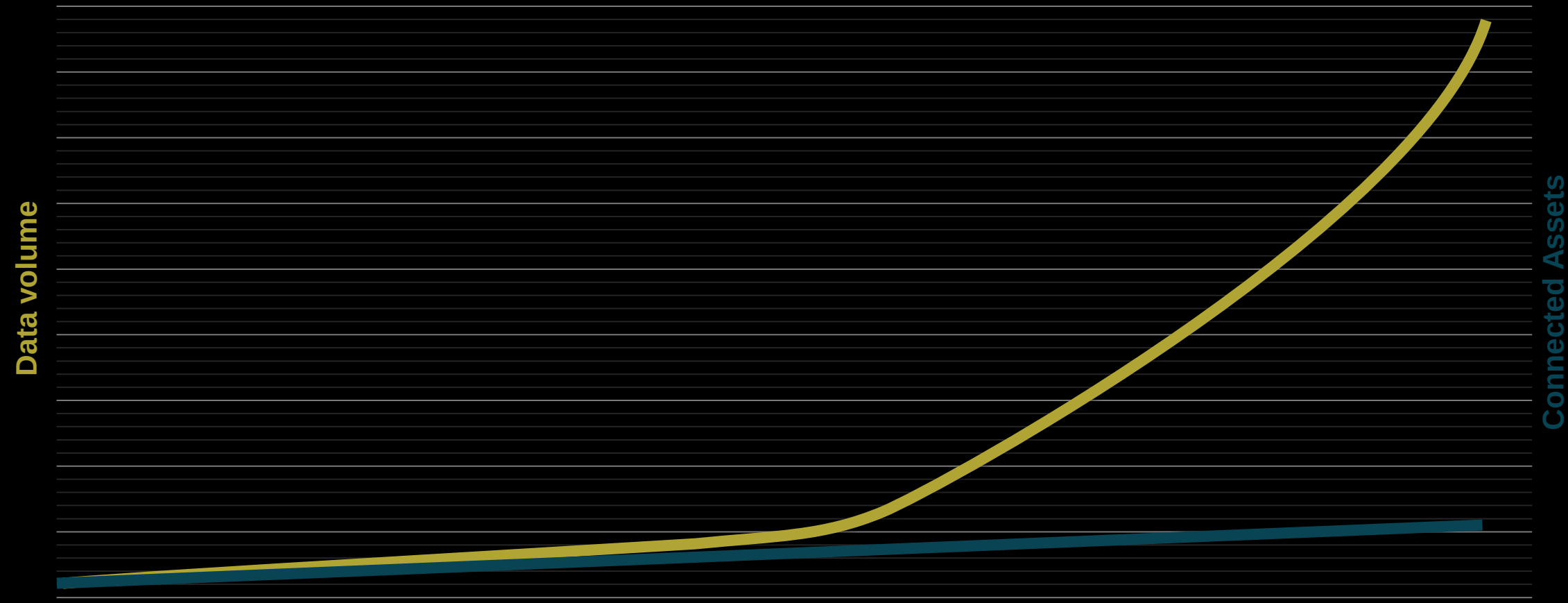

reisenthel
reisenthel
reisenthel
reisenthel


Volvo Group has more than...
900,000
...connected customer assets
VOLVO
VOLVO GROUP

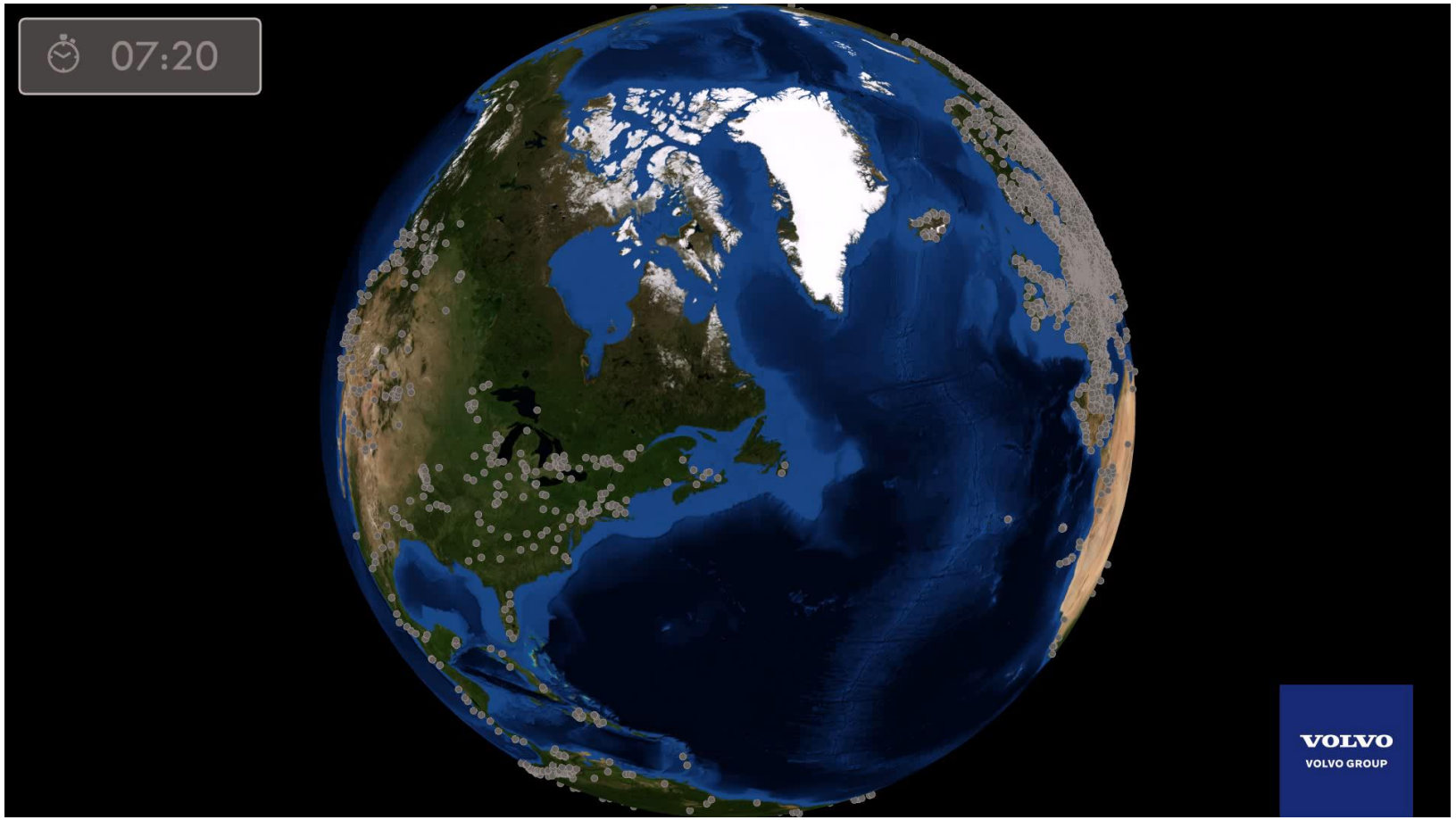
… and there will be increase in both numbers and volume



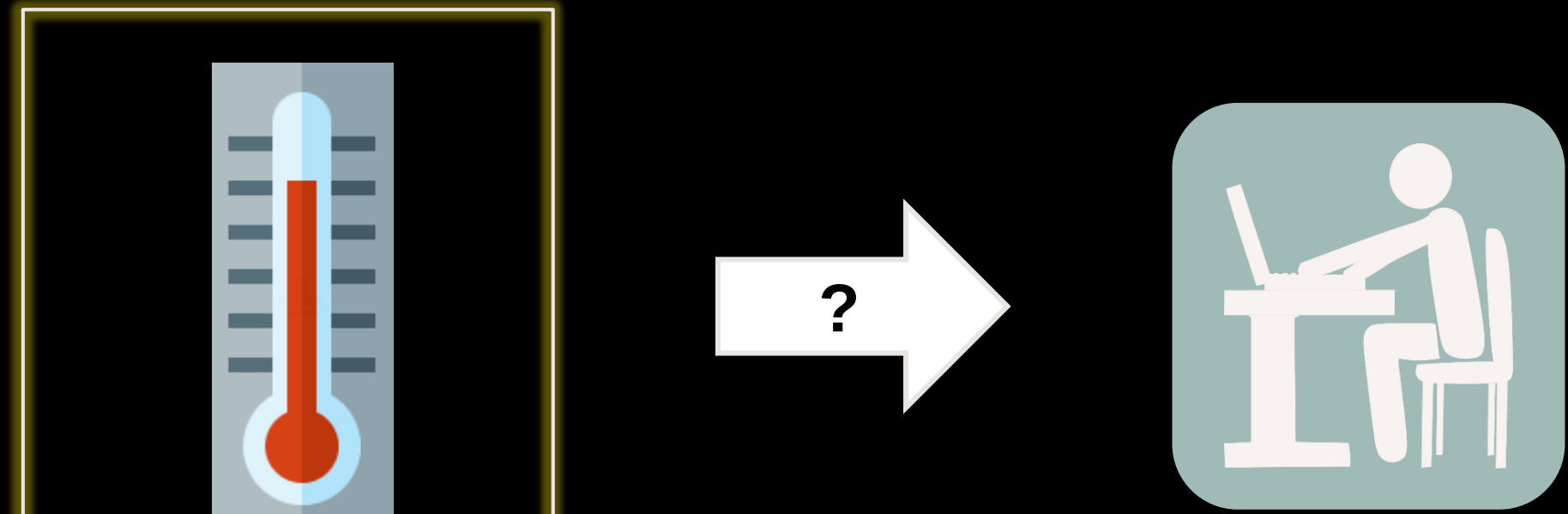
… and there will be increase in both numbers and volume

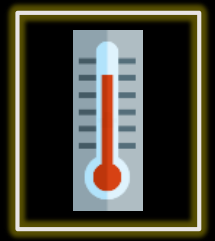



“unleash the value of connectivity data”


07:20
VOLVO
VOLVO GROUP

Knowing your data





Sensor
- Detecting (with known or unknown bias & accuracy)

Onboard computer 1
- Conversion
- Filtering
- Encoding

Onboard computer 2
- Combining several signals
- Aggregating in time

Telematics unit
- Subsampling
- Compressing
- Converting
- Transmitting

Splitting & routing

Cleaning & filtering

Intermediate database

Cleaning, processing & filtering

Final Database

VOLVO
VOLVO GROUP

Processing, algorithms, models, AI/ML

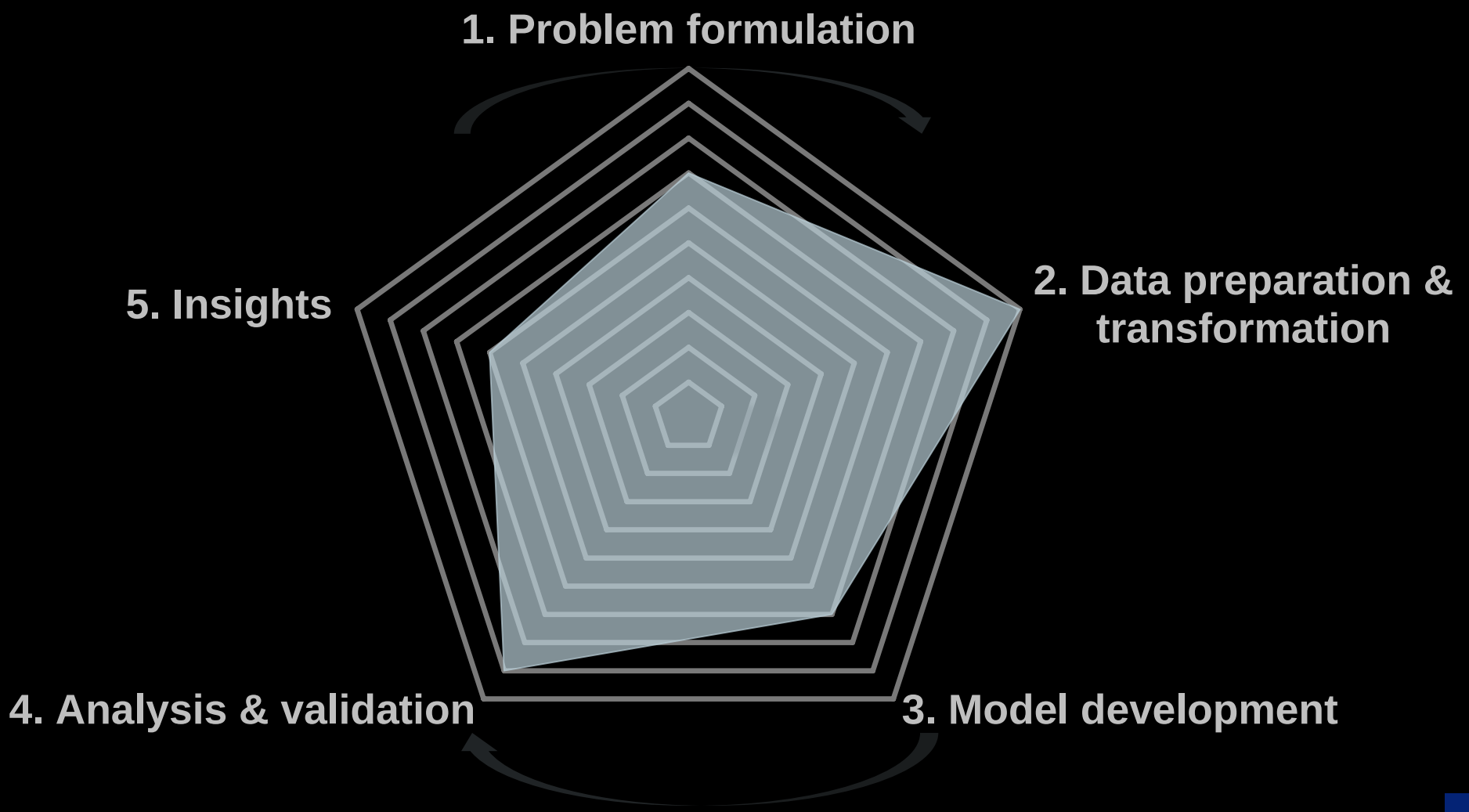
Selecting, aggregating, cleaning, filtering

Present & evaluate results

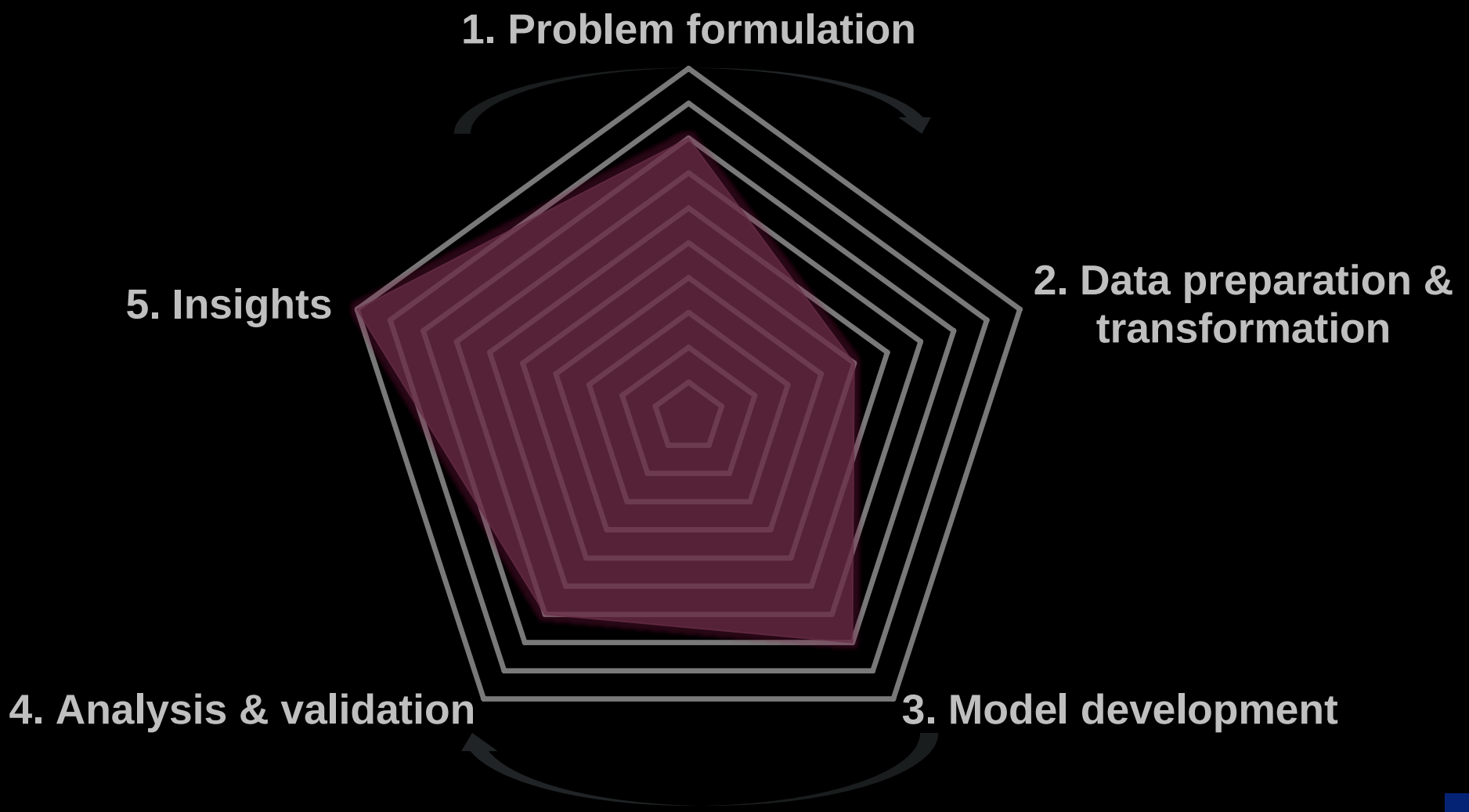
Internal user

Dashboard solution

Work flow


1. Problem formulation
2. Data preparation & transformation
3. Model development
4. Analysis & validation
5. Insights

Work flow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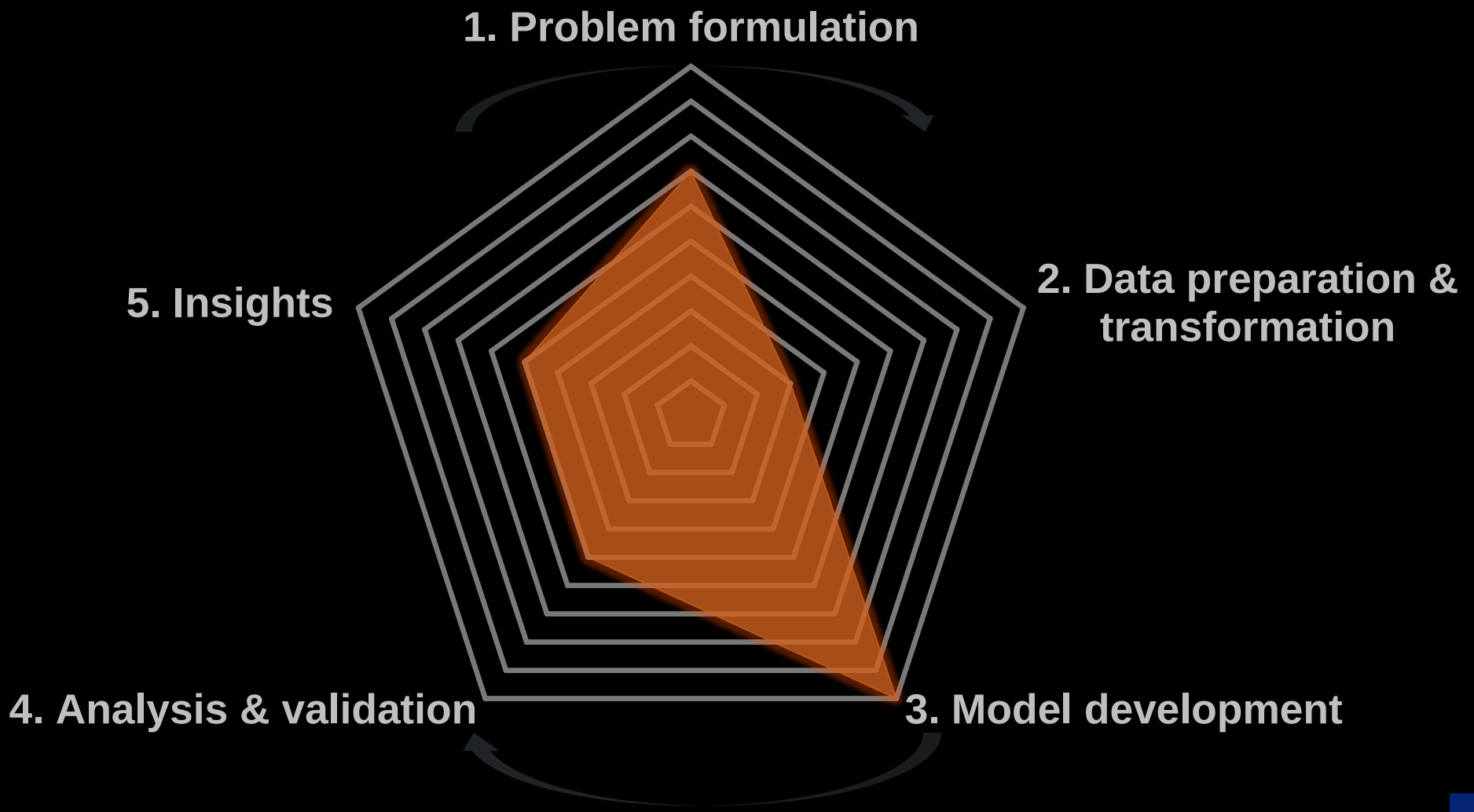
Work flow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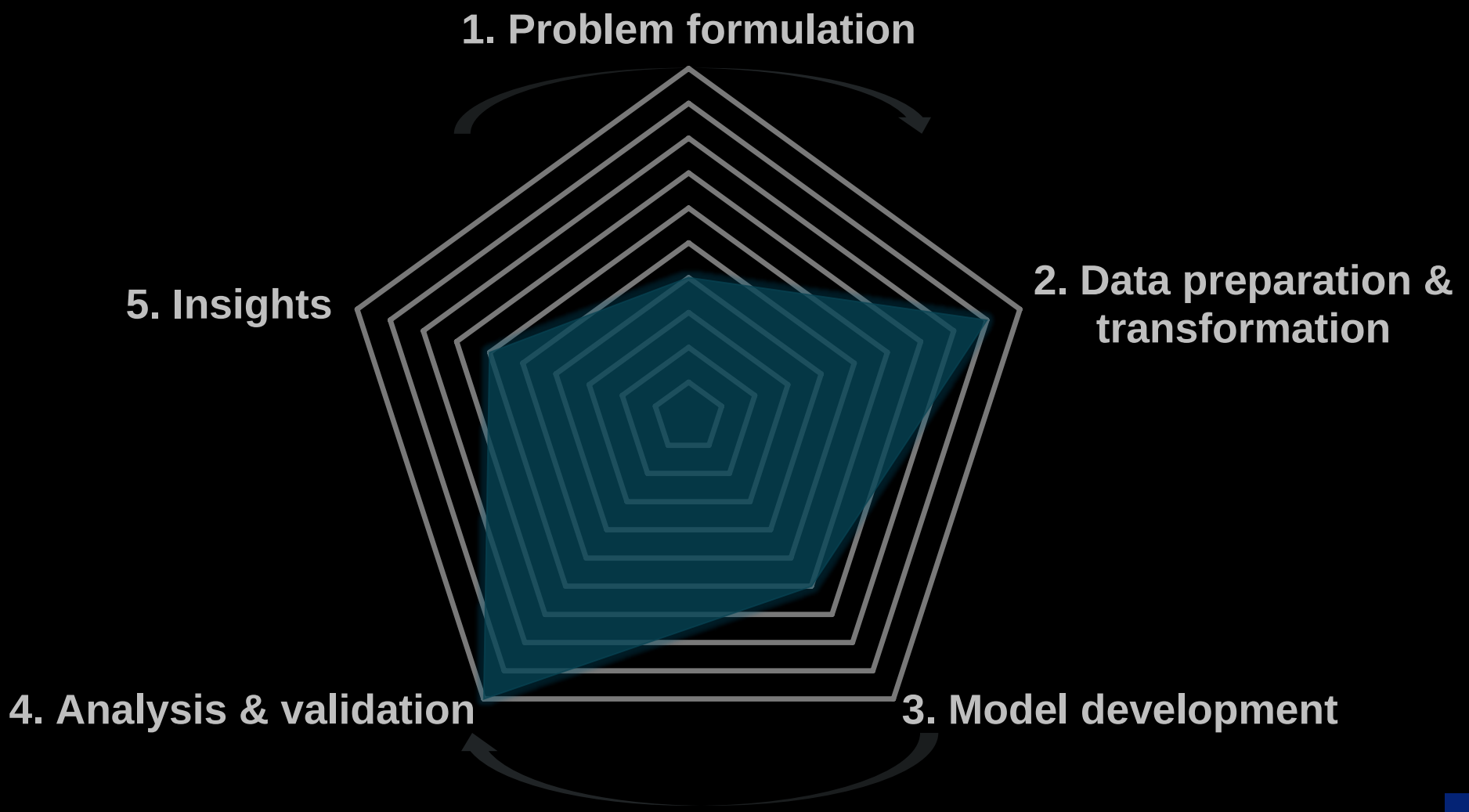
Work flow


1. Problem formulation
2. Data preparation & transformation
3. Model development
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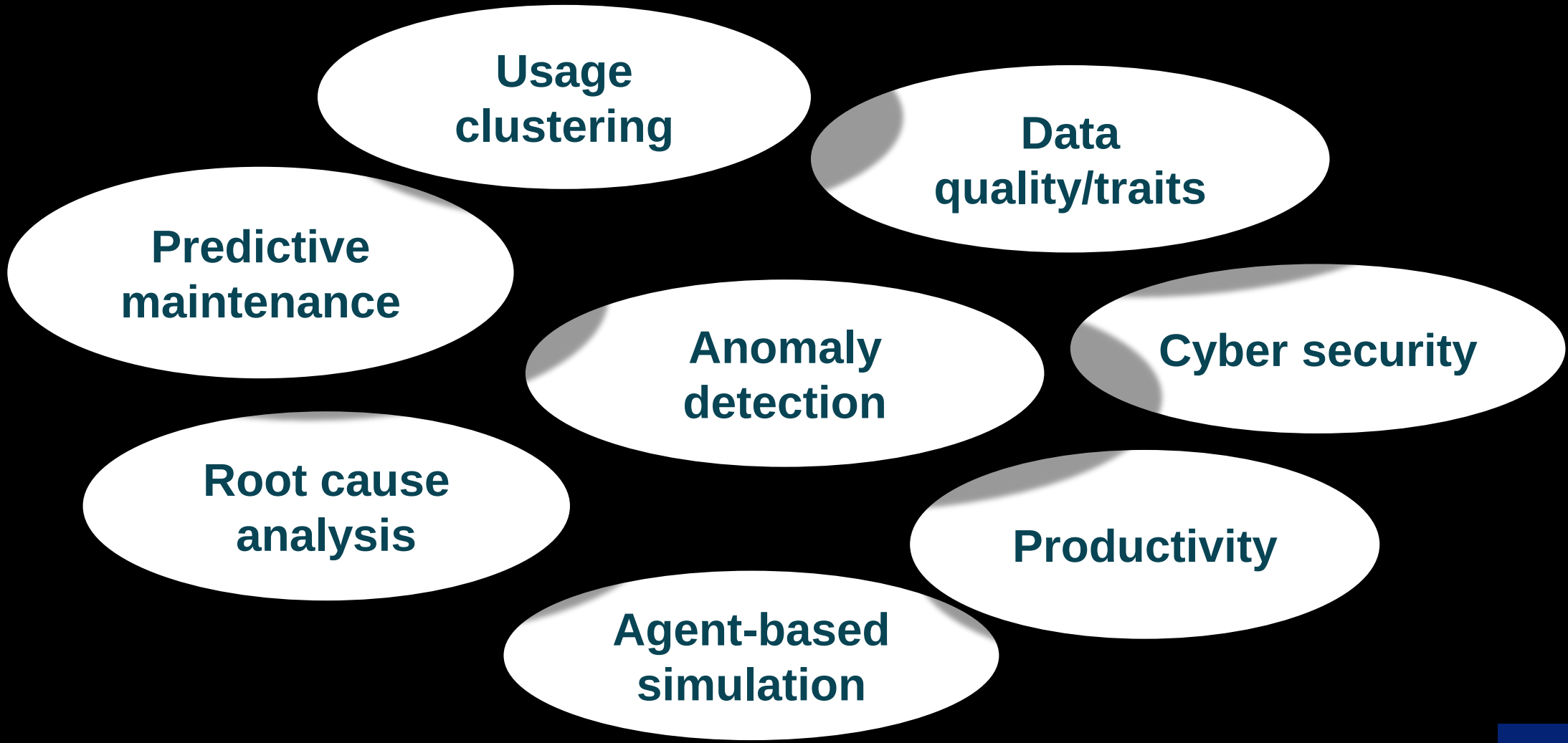
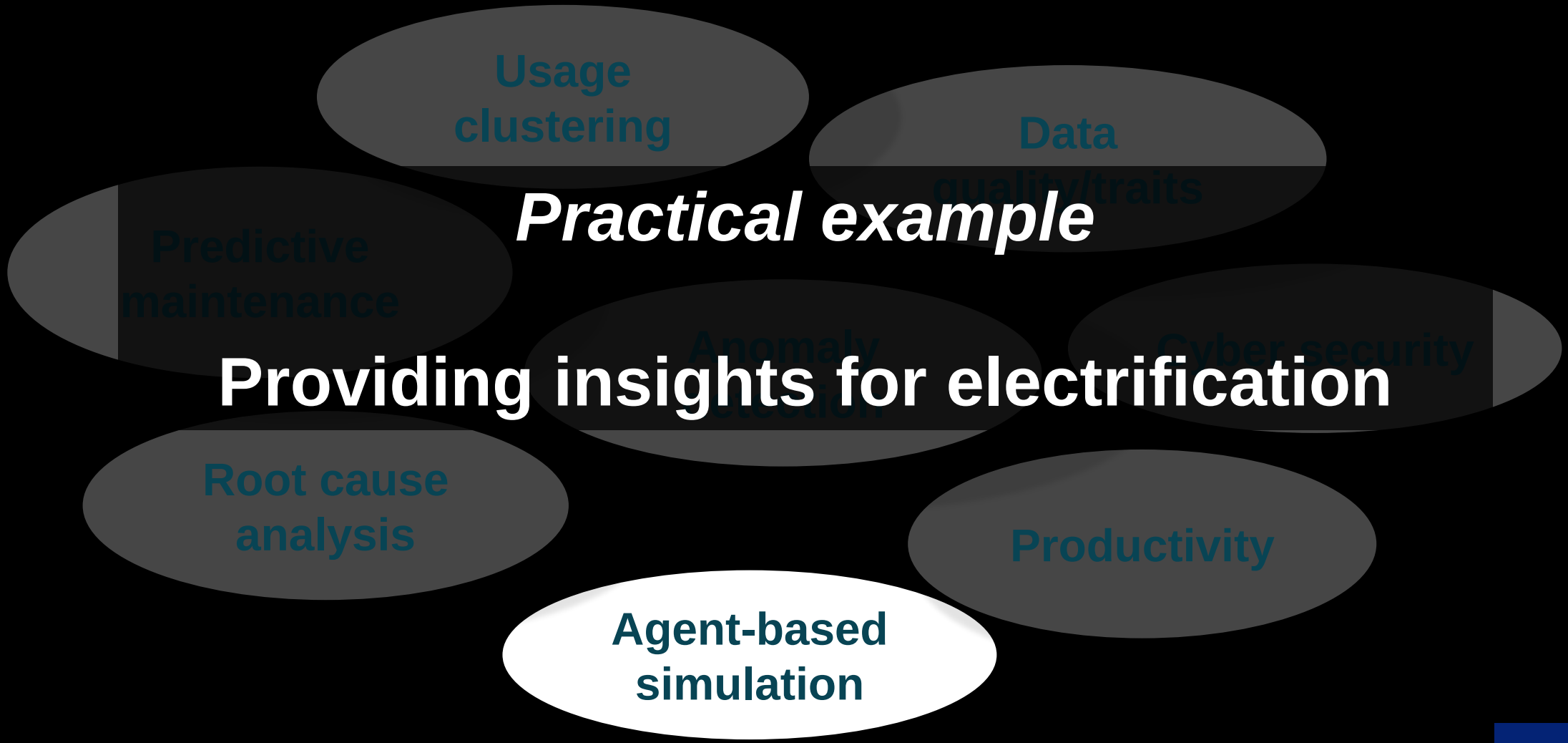
5. Insights

AI use case examples



AI use case examples



Practical example

Providing insights for electrification

VOLVO
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 0

Done

VOLVO

VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 1

Done

VOLVO

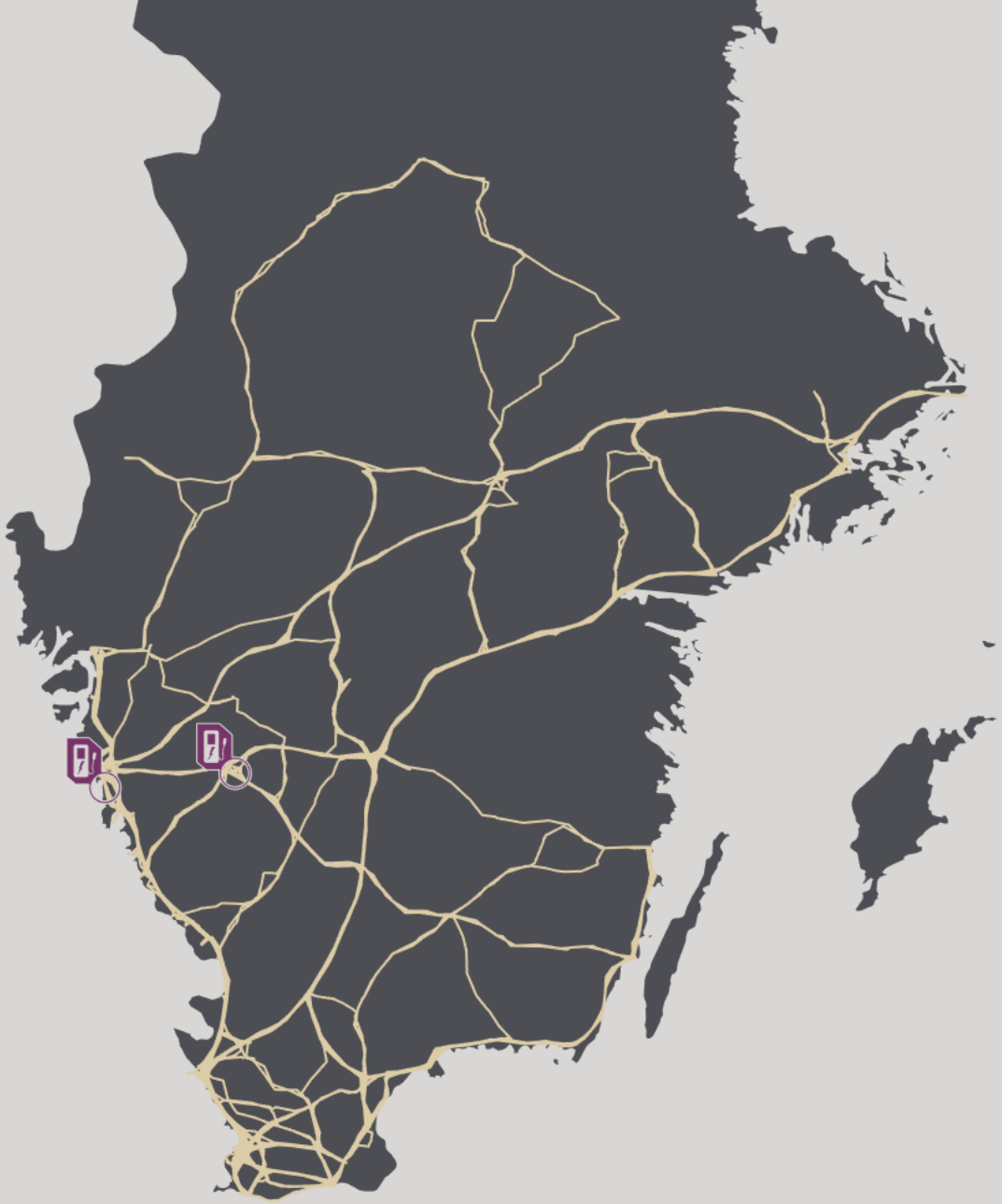
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 2

Done



VOLVO

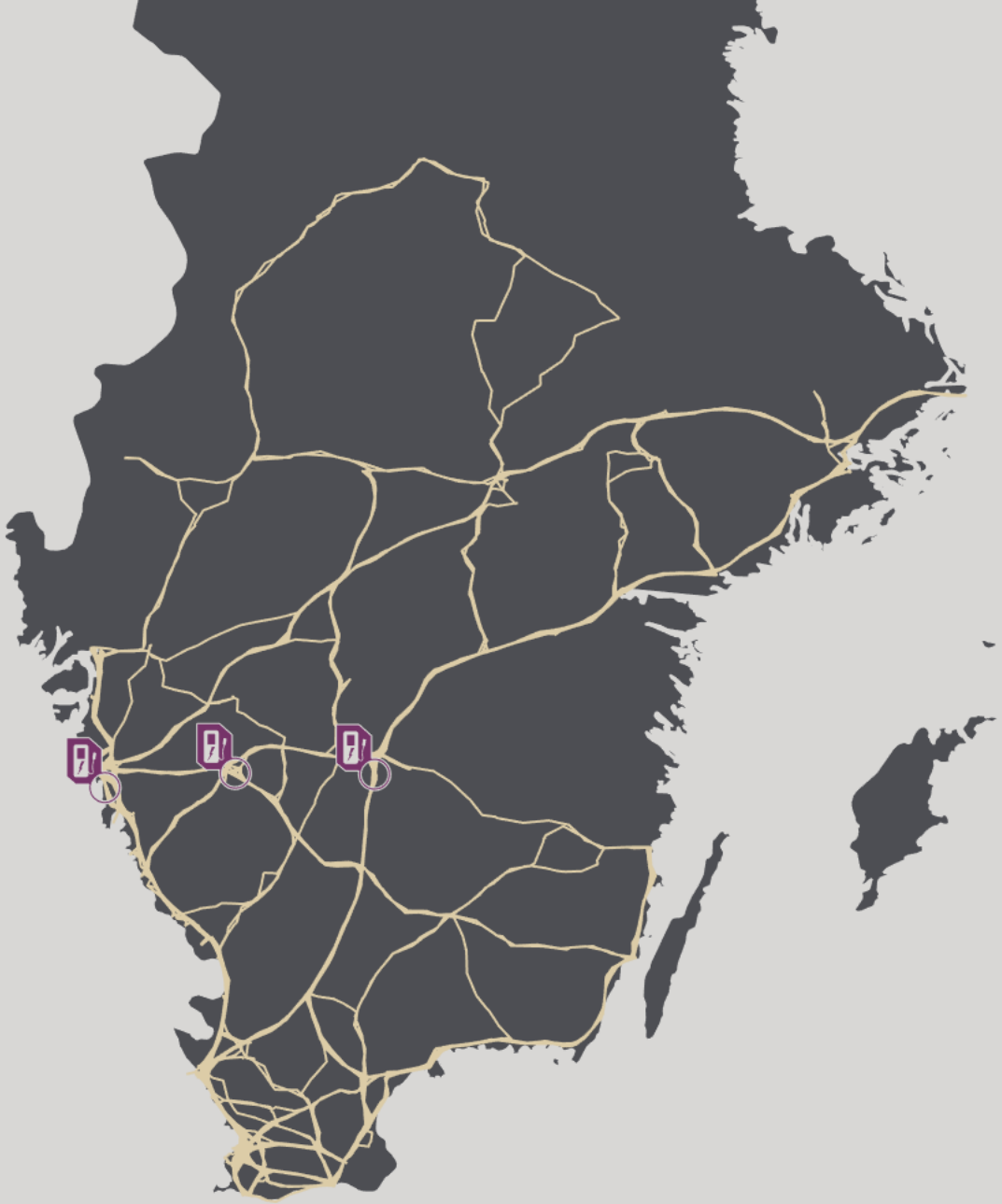
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 3

Done



VOLVO

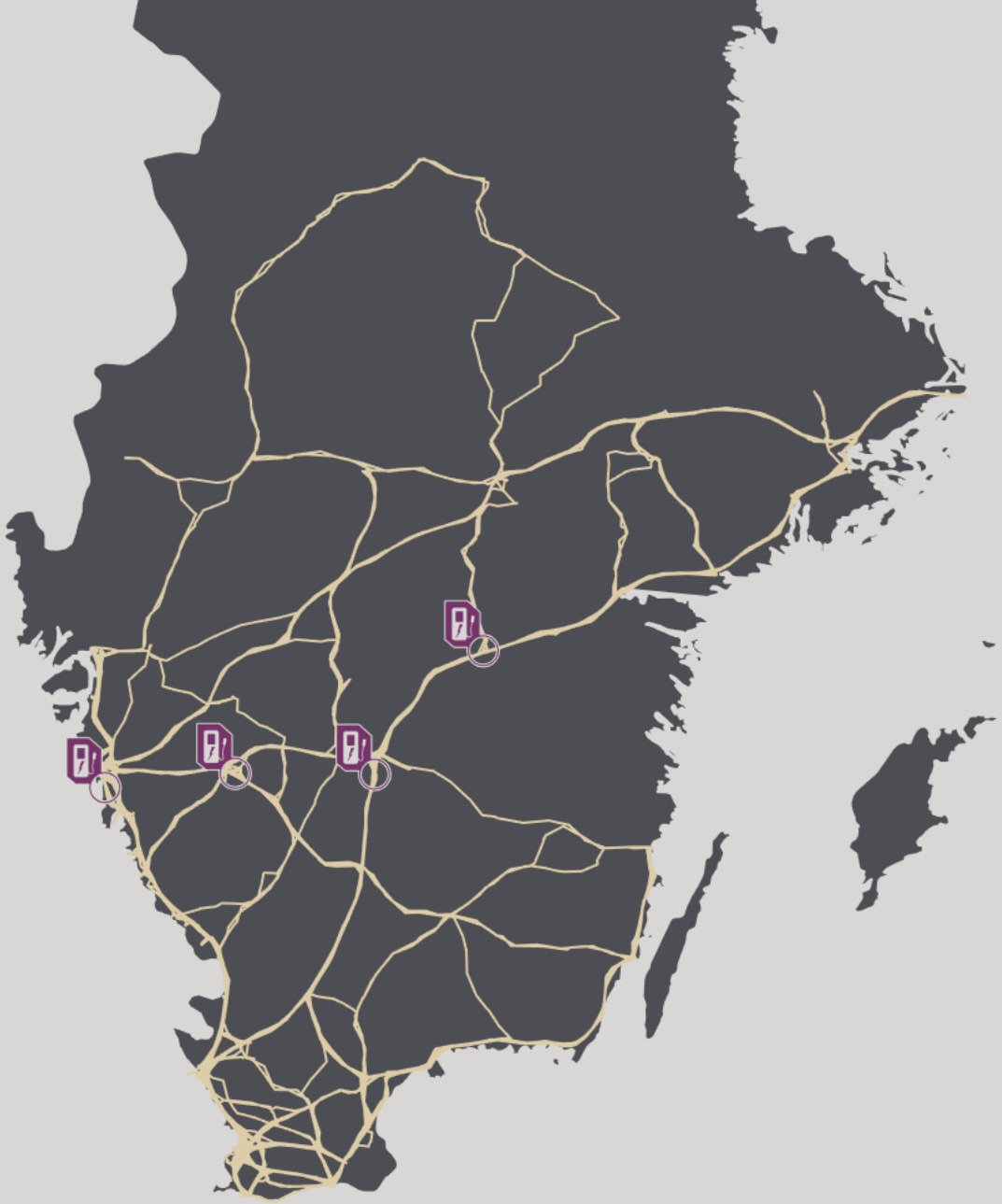
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 4

Done



VOLVO

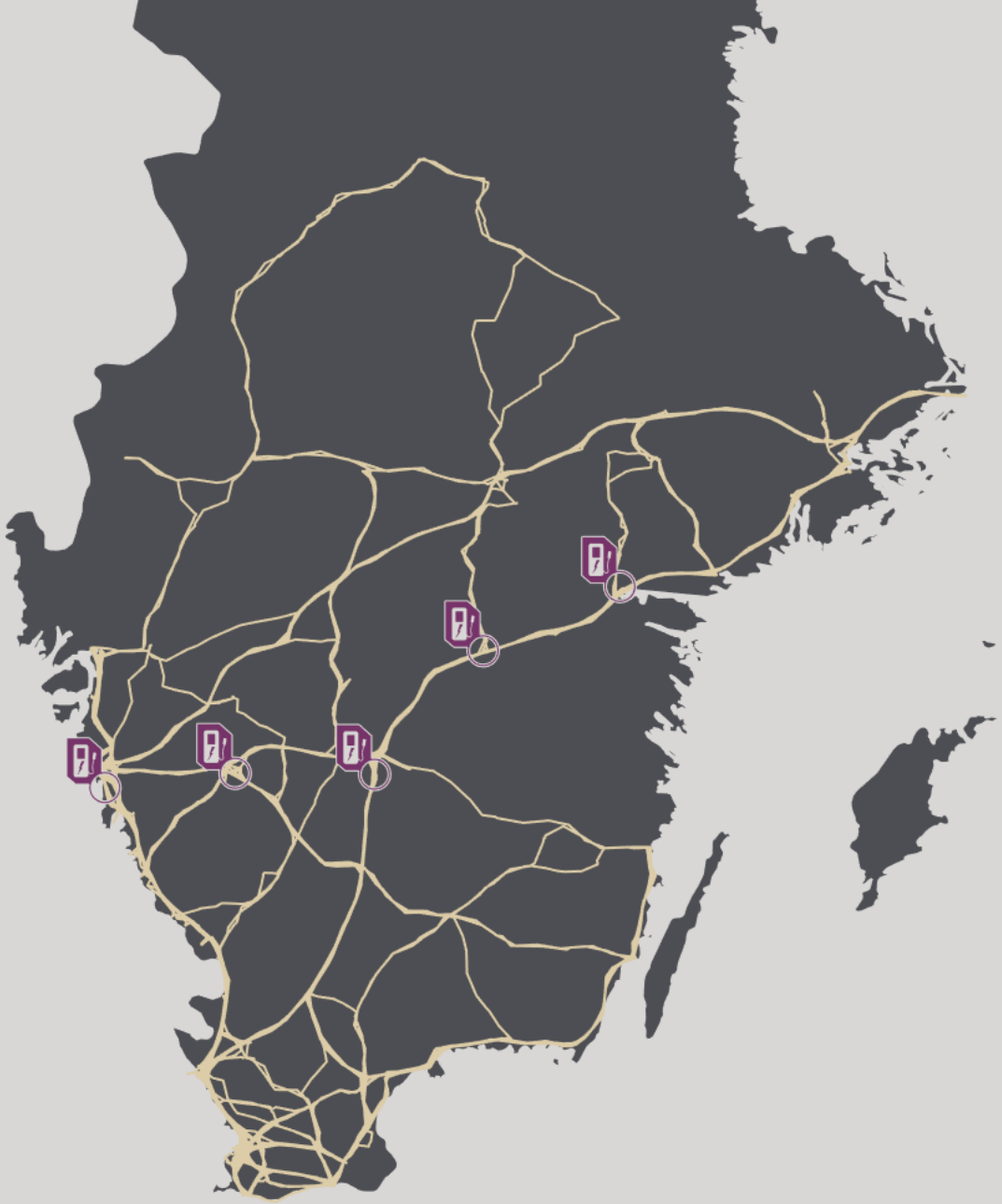
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 5

Done



VOLVO

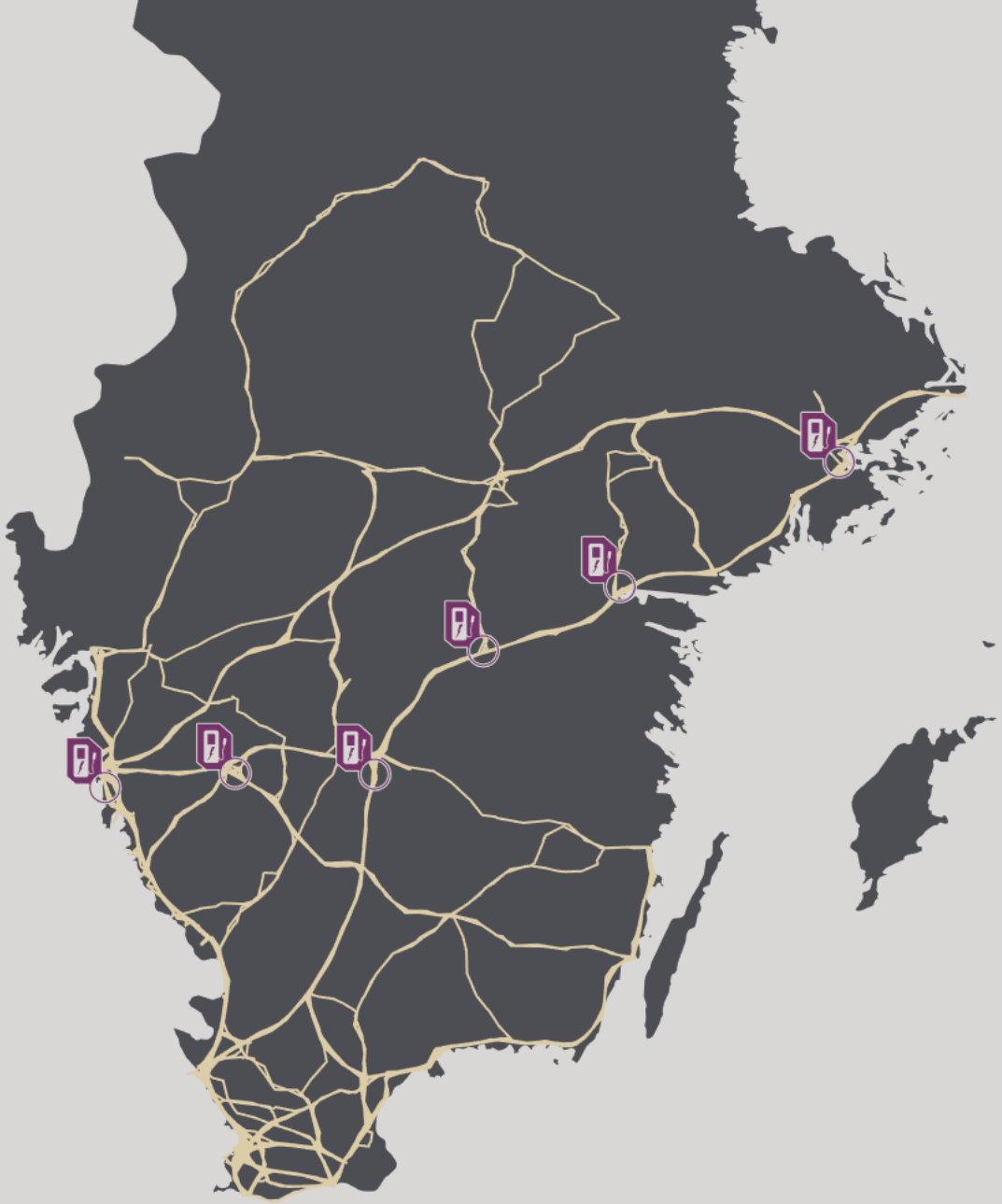
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 6

Done



VOLVO

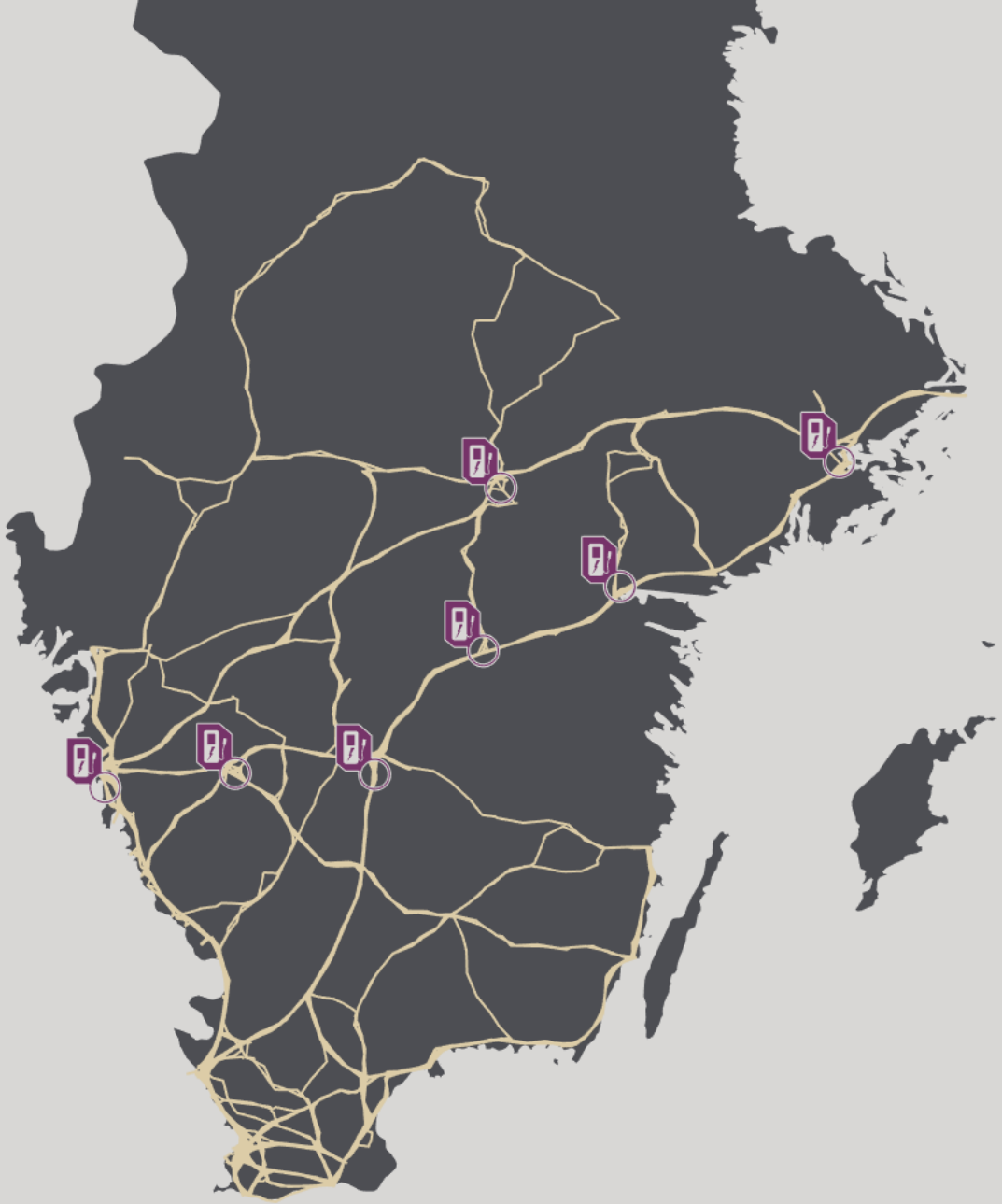
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 7

Done



VOLVO

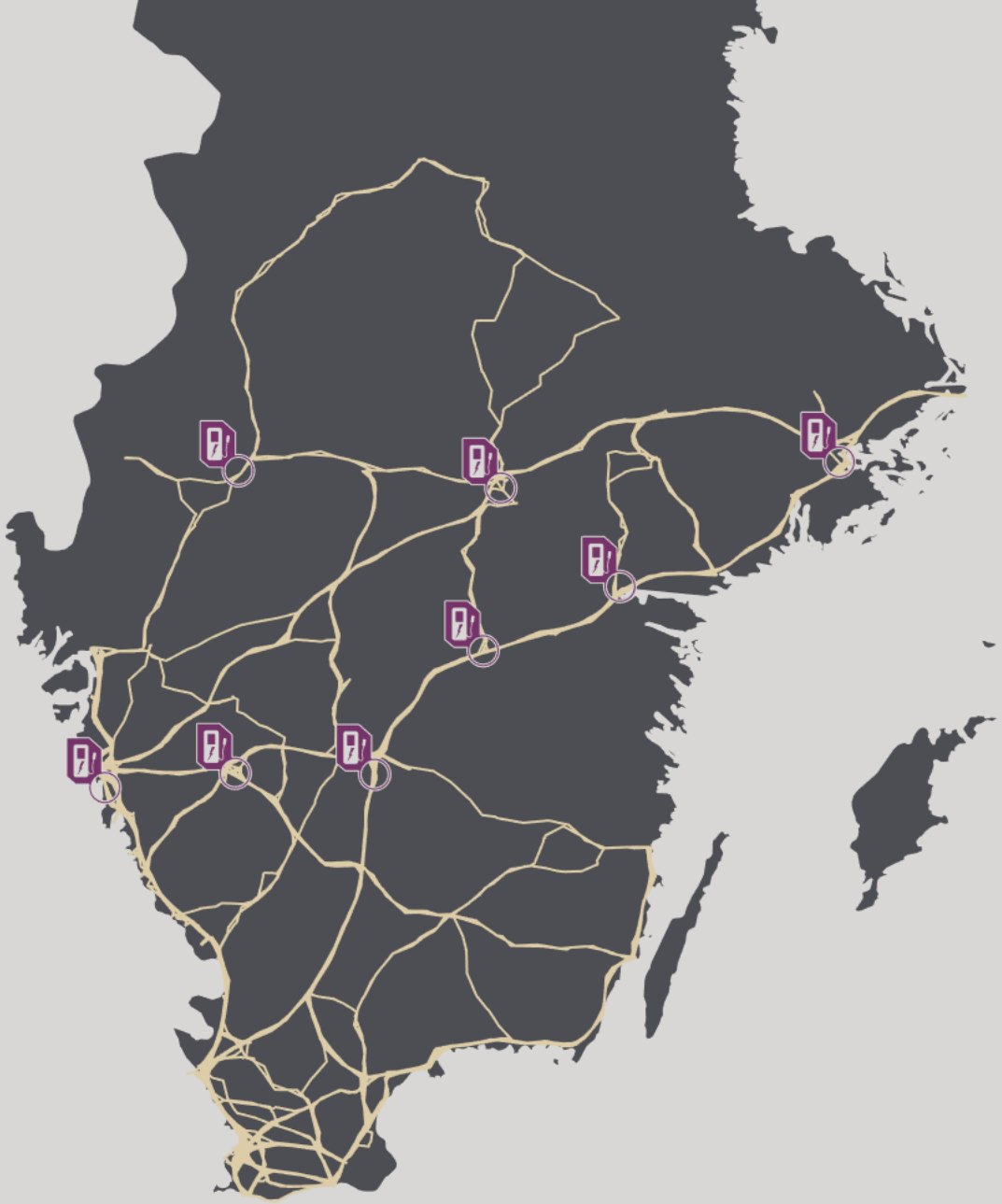
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 8

Done



VOLVO

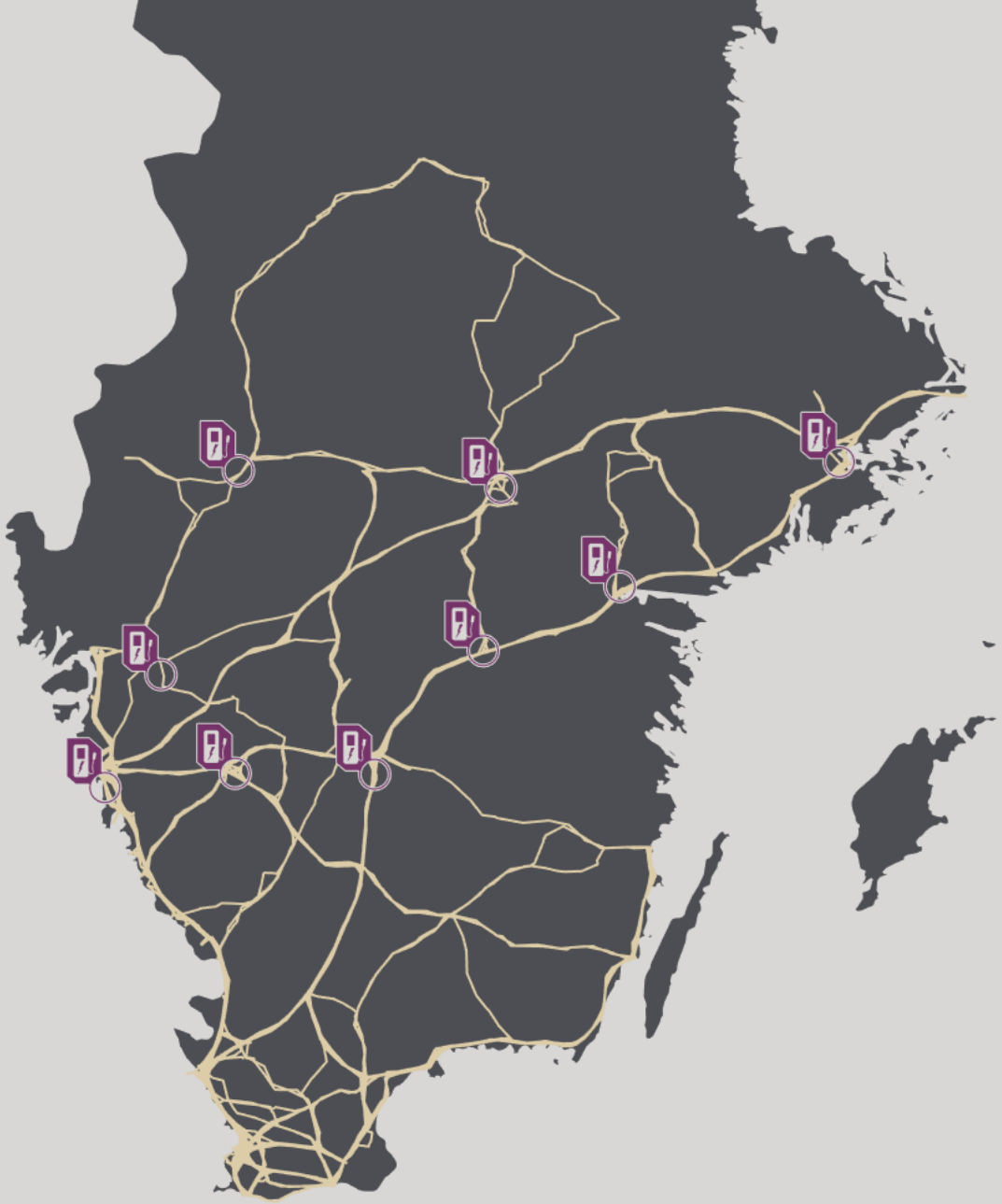
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 9

Done



VOLVO

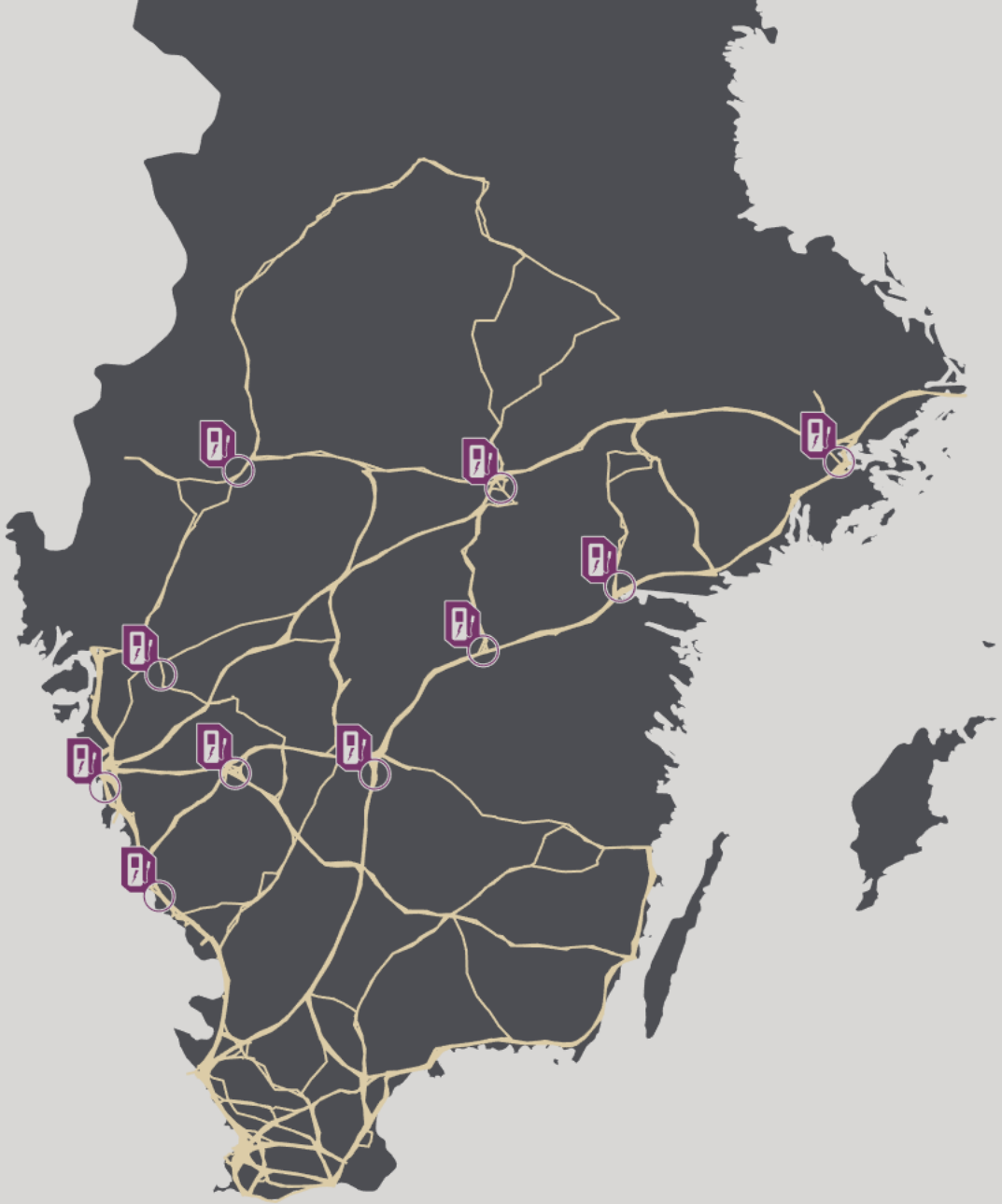
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 10

Done



VOLVO

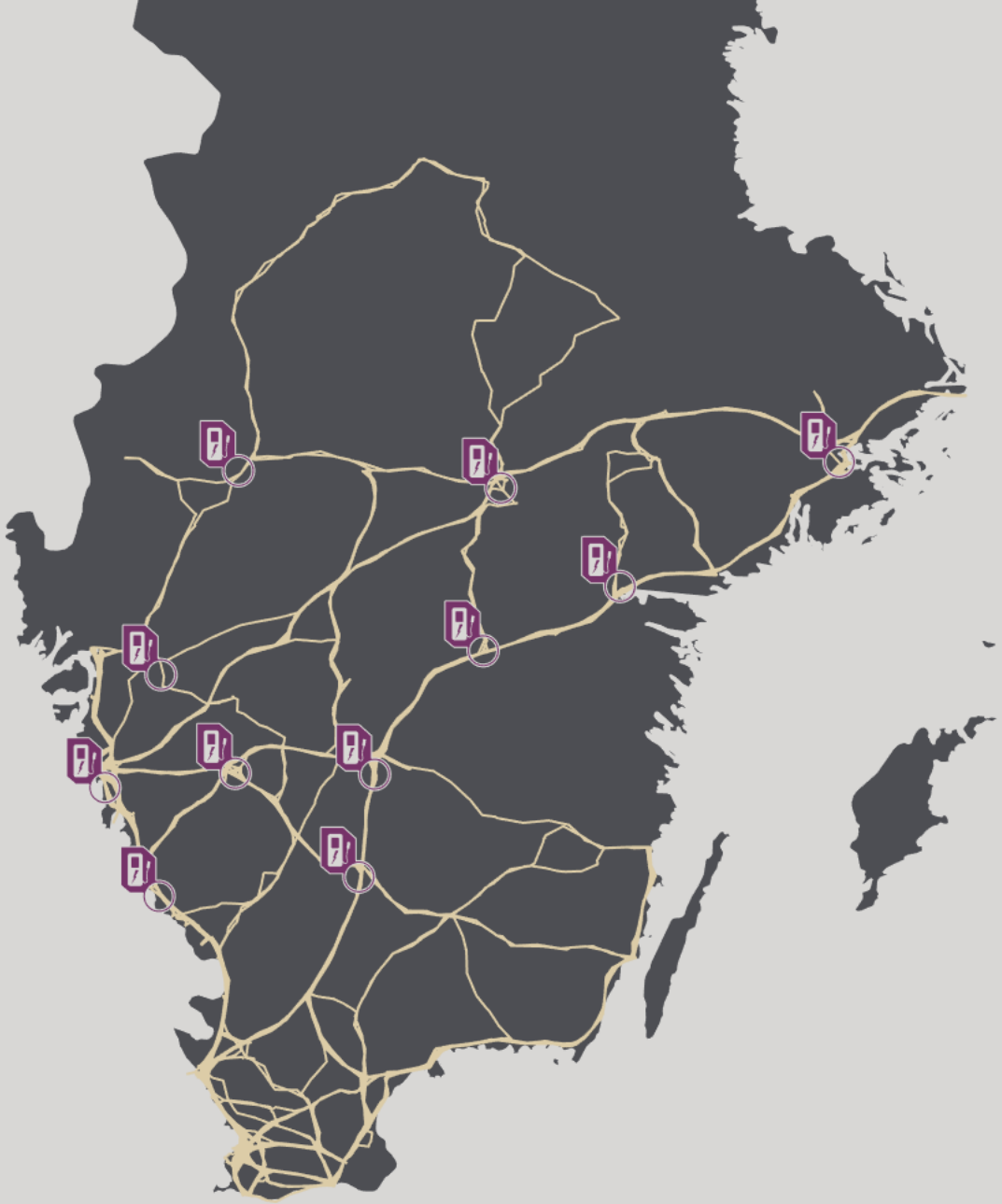
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 11

Done



VOLVO

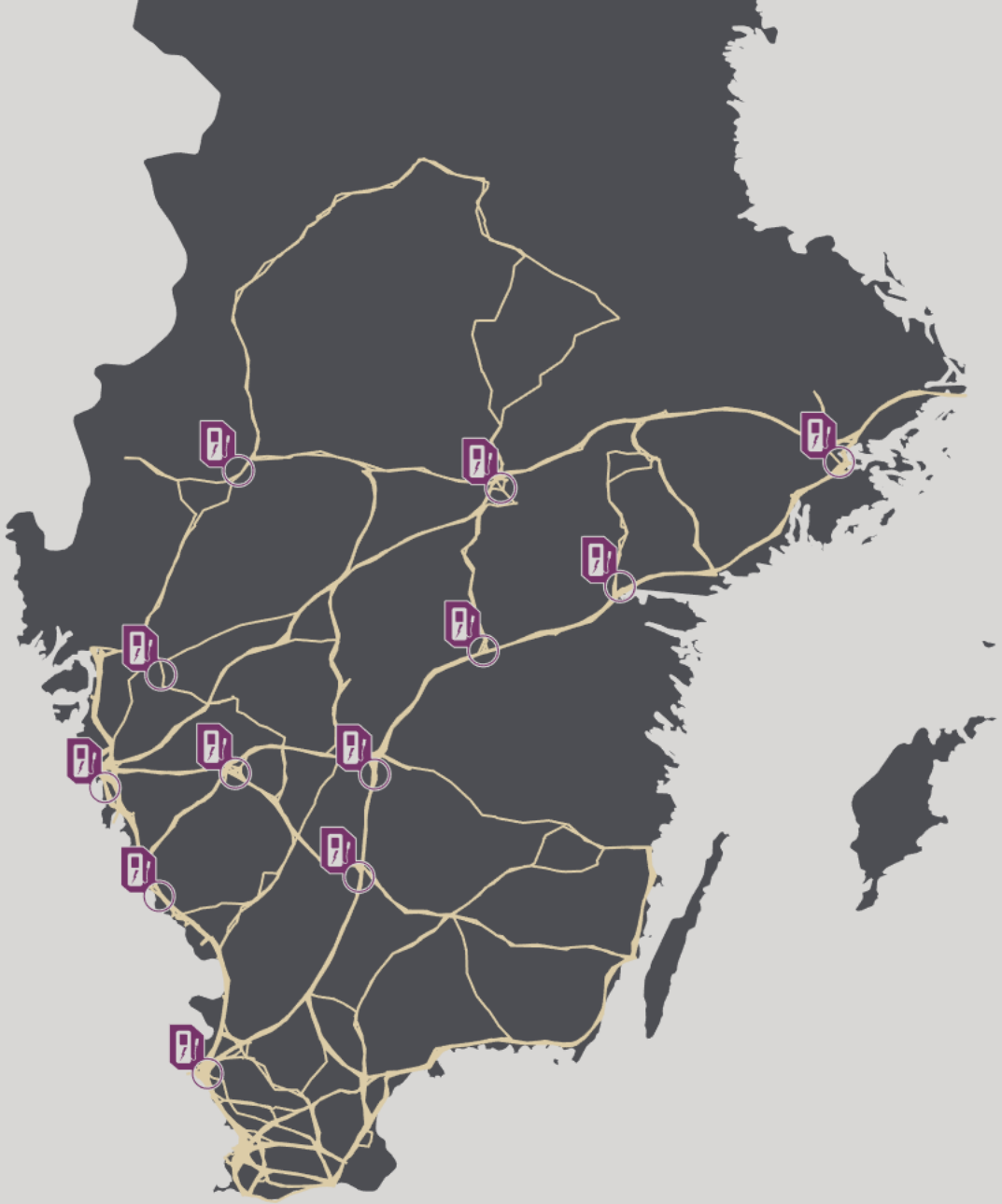
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 12

Done



VOLVO

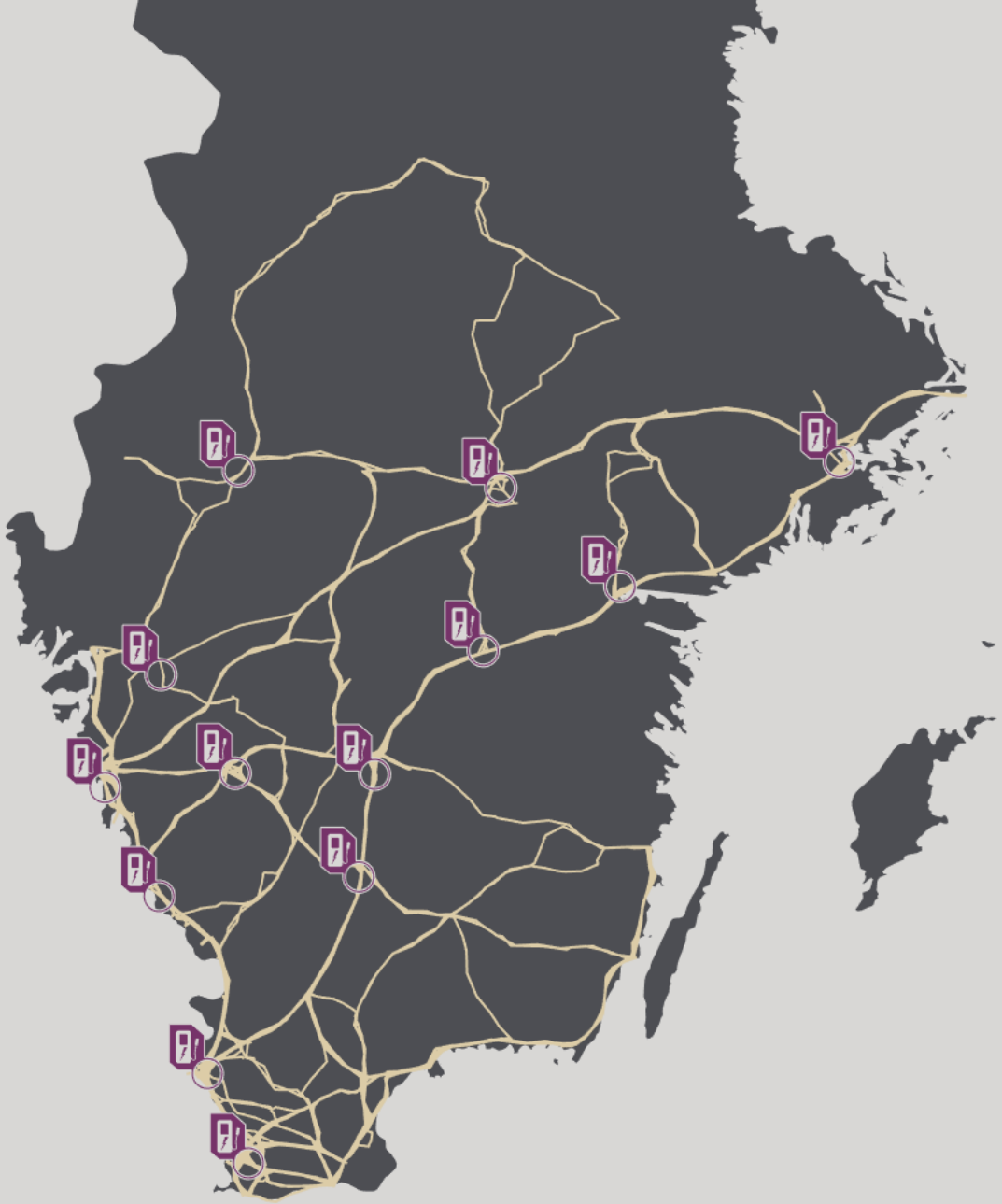
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 13

Done



VOLVO

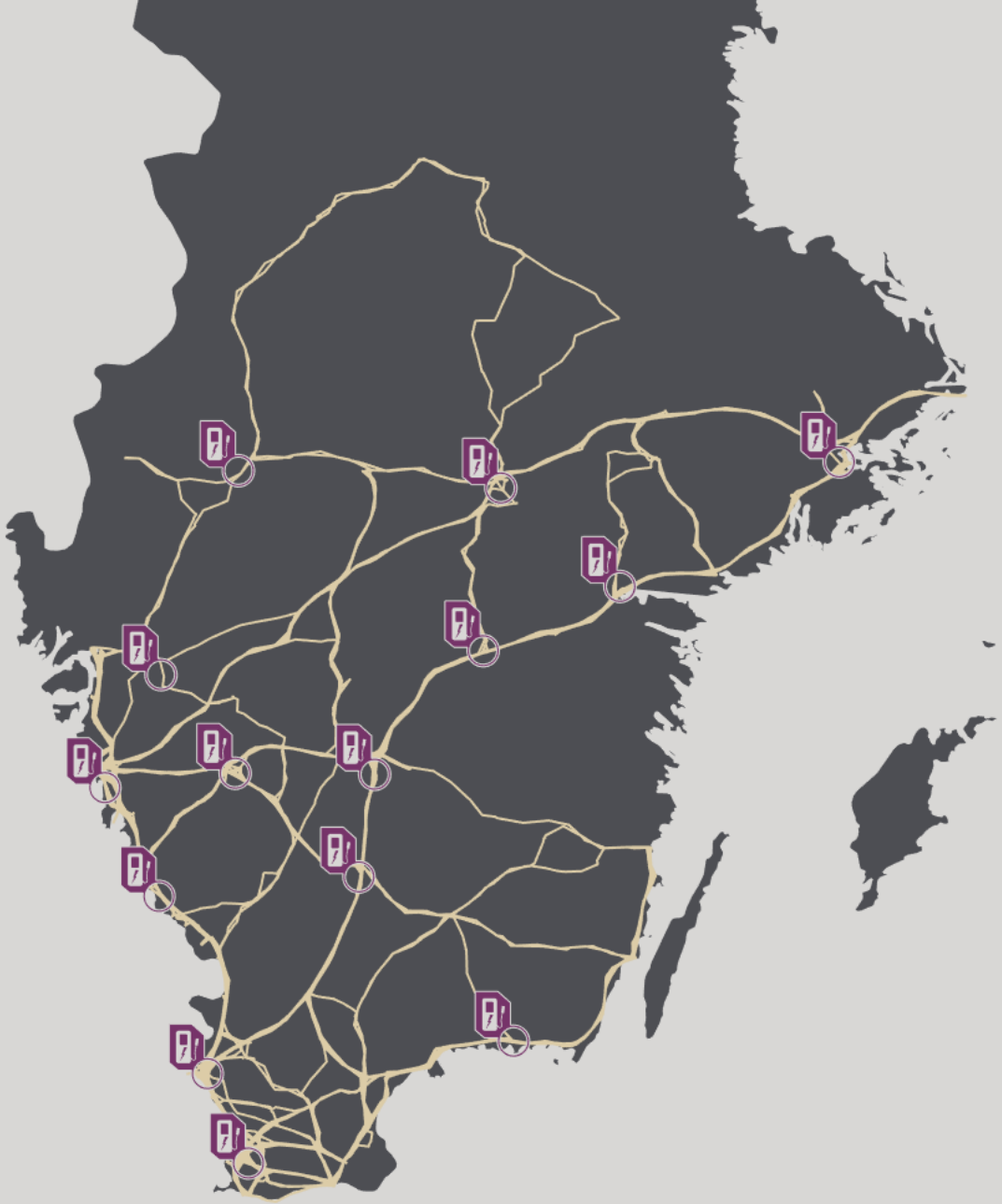
VOLVO GROUP

Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 14

Done



VOLVO

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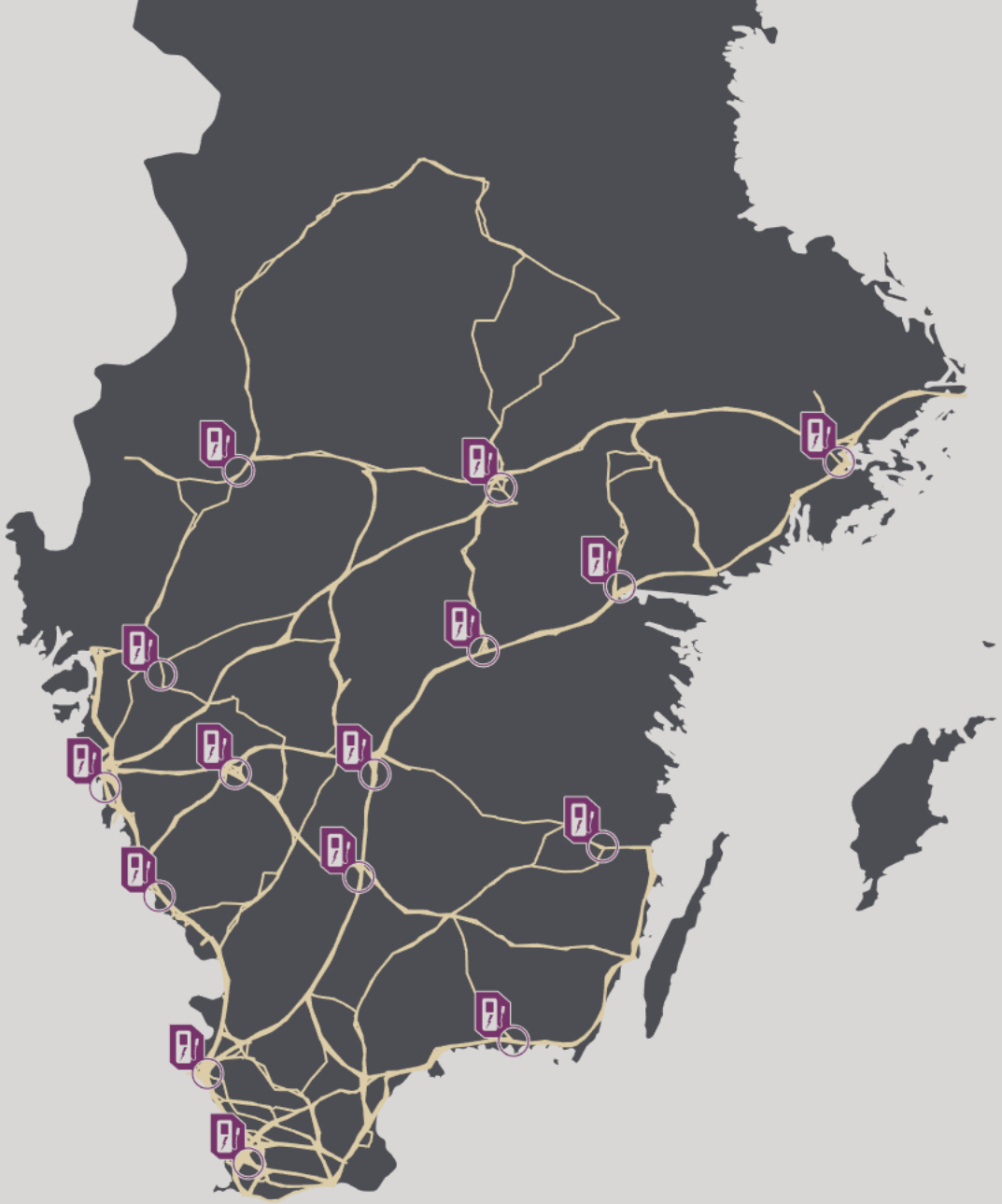
Create charging stations

Place mouse cursor
and click to create
a new charging station

Station count: 15

Done



VOLVO

VOLVO GROUP

Number of drivers

Battery capacity

Charging power

Start

Number of drivers

500

+ −

Battery capacity

+ −

Charging power

+ −

Start

VOLVO

VOLVO GROUP

Number of drivers

500

+ −

Battery capacity

+ −

Charging power

+ −

Start

VOLVO

VOLVO GROUP

Number of drivers

500

+ −

Battery capacity

B

+ −

Charging power

+ −

Start

VOLVO

VOLVO GROUP

Number of drivers

500

Battery capacity

C

Charging power

Start

VOLVO

VOLVO GROUP

Number of drivers

500

Battery capacity

C

Charging power

Start

VOLVO

VOLVO GROUP

Number of drivers

500

+ −

Battery capacity

C

+ −

Charging power

P

kW

+ −

Start

VOLVO

VOLVO GROUP

Number of drivers

500

+ −

Battery capacity

C

+ −

Charging power

Q

kW

+ −

Start

VOLVO

VOLVO GROUP

Simulation of electrified transport system

00:00 10x

Vehicles: 500
Battery capacity:
Charging power:

Mission status

- Driving
- Charging

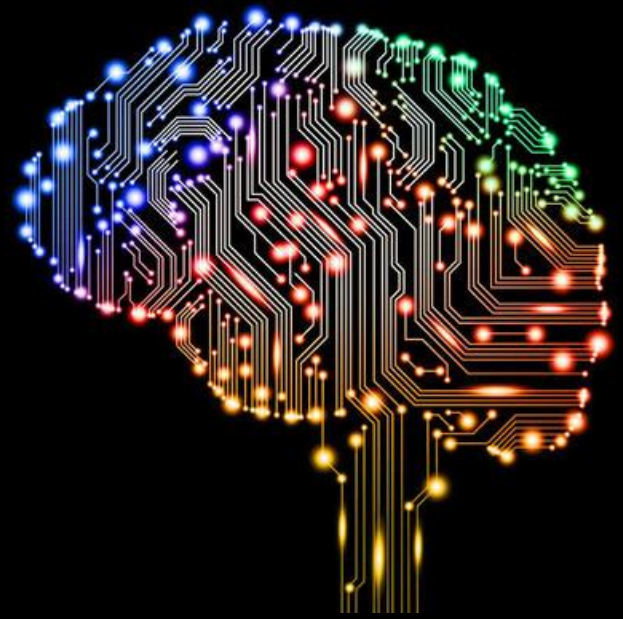
- Arrived successfully
- Arrived late
- Failed/Out of charge

VOLVO
VOLVO GROUP


ELECTRIC
FL
ELECTRIC
POWERED
BRIGGEN

The journey to unleash the value of connectivity data with AI has just begun.

Robert Valton & Daniel Reimhult
Volvo Group Connected Solutions



Develop AI

cheaper and faster with collaborations

Hans Salomonson
CEO EmbeDL AB

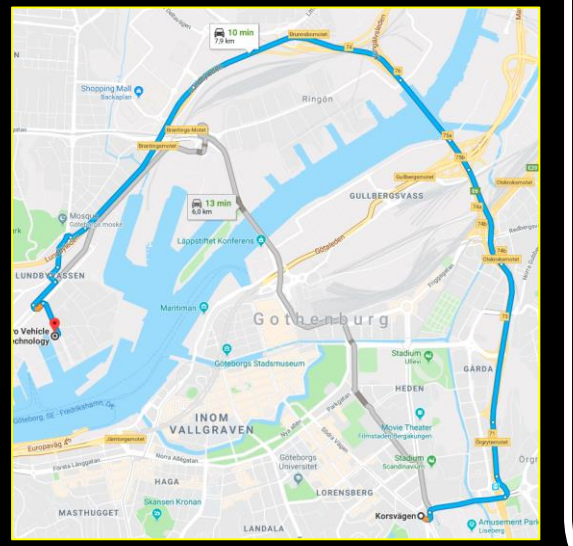
1. The AI development process
2. In-house vs collaboration
3. How we can help?

1. The AI Development Process

(autonomous driving as an example)

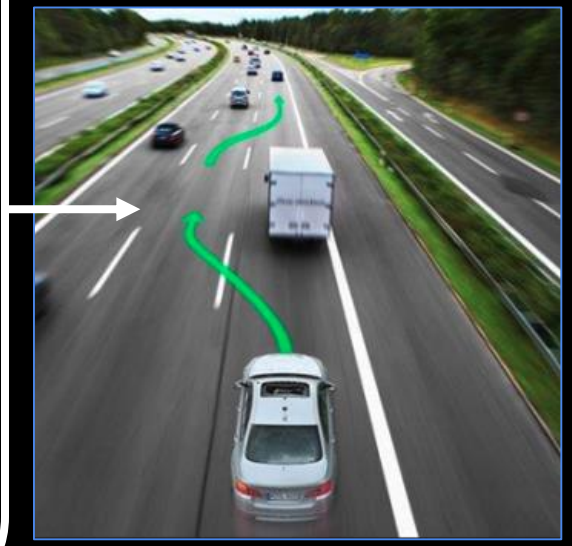
Where is the AI in Autonomous Driving?

Navigation System

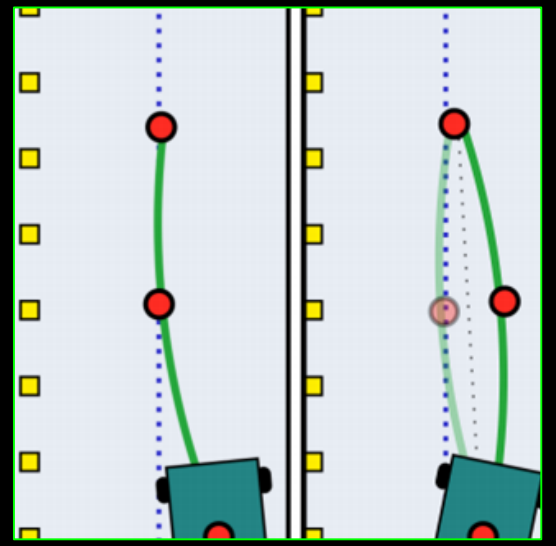


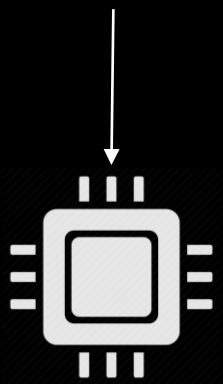
Perception System

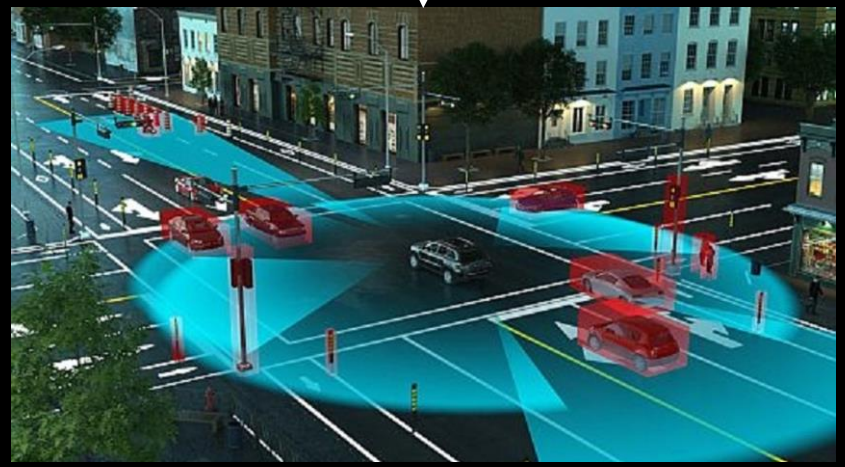
Decision System

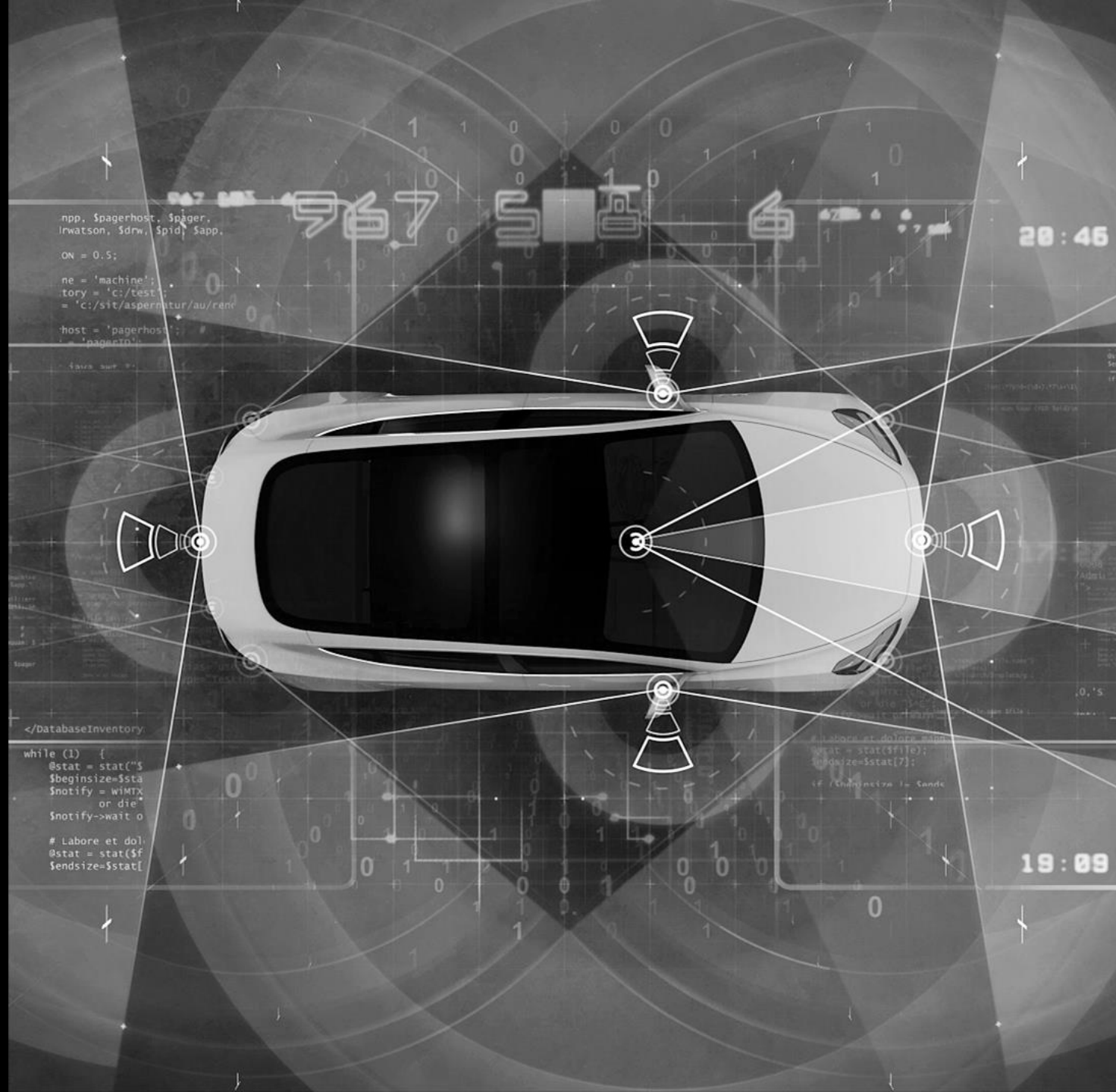


Control System









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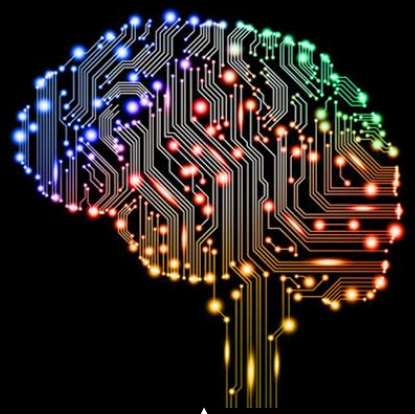
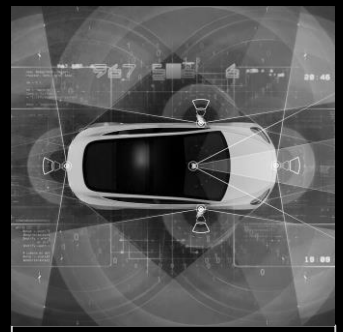


error

How does machines learn?

The Perception System Development Process

Select Sensors and Configuration



Equip Vehicle with Sensors and logging eq.

Route and Conditions

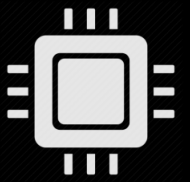
Log Real Data

Annotate Real Data

Develop Perception System

Analyse Perception System

Select Compute Target



Optimise System for Target

Testing & Verification (HIL/MIL)

Integration with Decision and Control Systems

Testing & Verification (HIL/MIL/SIL)

Deployment

2. In-house vs collaboration

In-House **Collaboration**

Does the task require high degree of domain specific knowledge?

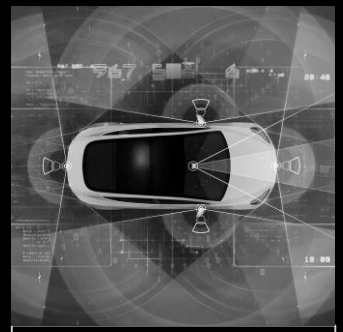
Can the task be done more efficiently using technology, i.e. economy of scale?

Is the IP of the solution to the task what you are commercialising?

Do you have/prepared of paying for having the competencies required to solve the task on a world class level?

The Perception System Development Process

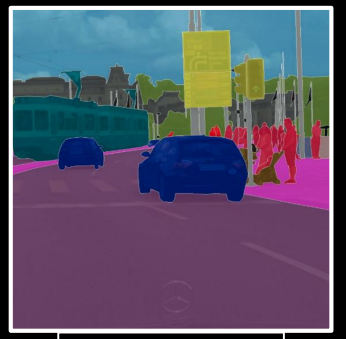
Select Sensors and Configuration



Equip Vehicle with Sensors and logging eq.

Route and Conditions

Log Real Data

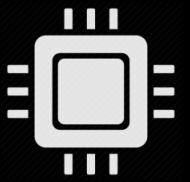


Annotate Real Data

Develop AI System

Analyse Perception System

Select Compute Target



Optimise System for Target

Testing & Verification (HIL/MIL)

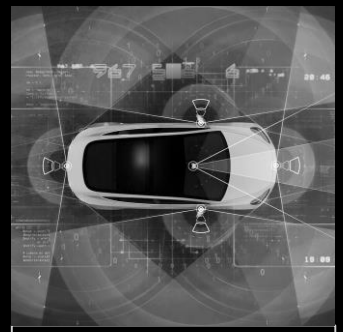
Integration with Decision and Control Systems

Testing & Verification (HIL/MIL/SIL)

Deployment

The Perception System Development Process

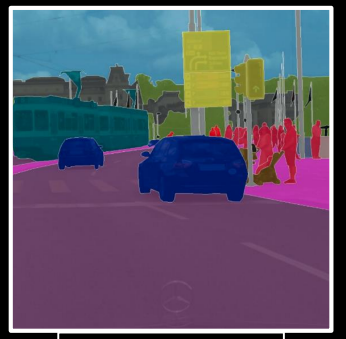
Select Sensors and Configuration



Equip Vehicle with Sensors and logging eq.

Route and Conditions

Log Real Data



Annotate Real Data

Develop AI system

Analyse Perception System

Select Compute Target

Optimise System for Target

Testing & Verification (HIL/MIL)

Integration with Decision and Control Systems

Testing & Verification (HIL/MIL/SIL)

Deployment

https://embedl.com

EmbeDL has received funding from the European Union's Horizon 2020 research and innovation programme under the grant agreement No 780681.

Machine Intelligence SWEDEN

the AI startup garage

Synthetic Data SOLUTIONS

EmbeDL

AI INNOVATION of Sweden

MobilityXlab

HiPEAC

CampX BY VOLVO G

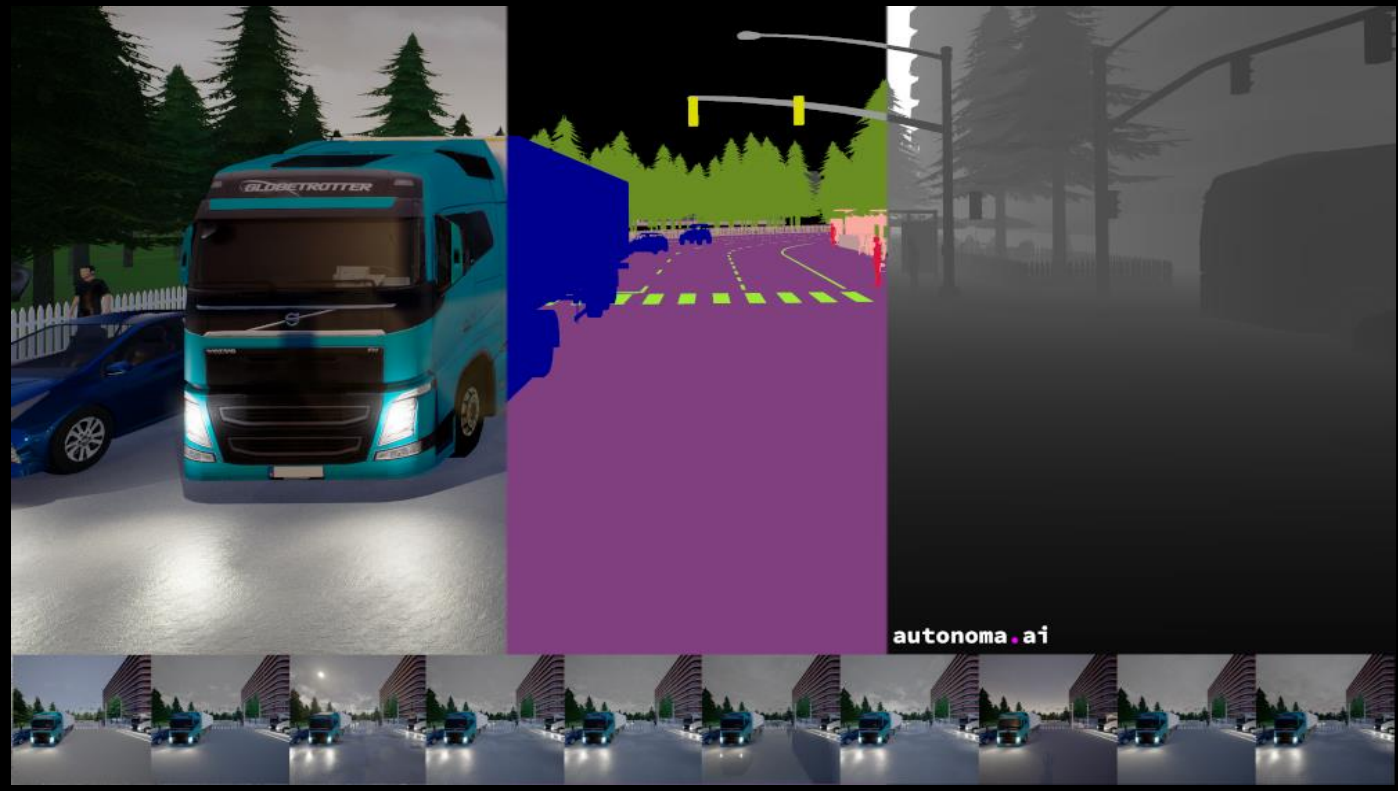
https://embedl.com

Partners, Customers and Supporters

Synthetic Data SOLUTIONS

Solving the AI data problem

What is synthetic training data?

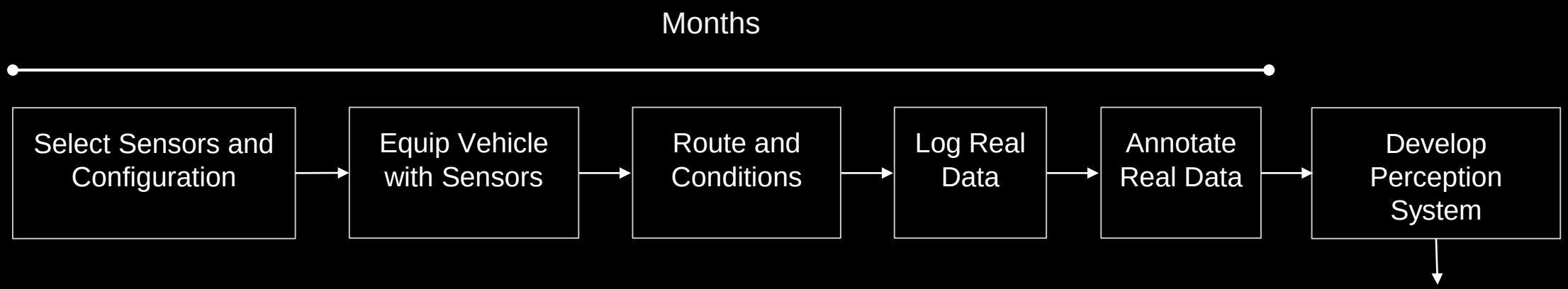


Benefit I: Cost of annotation

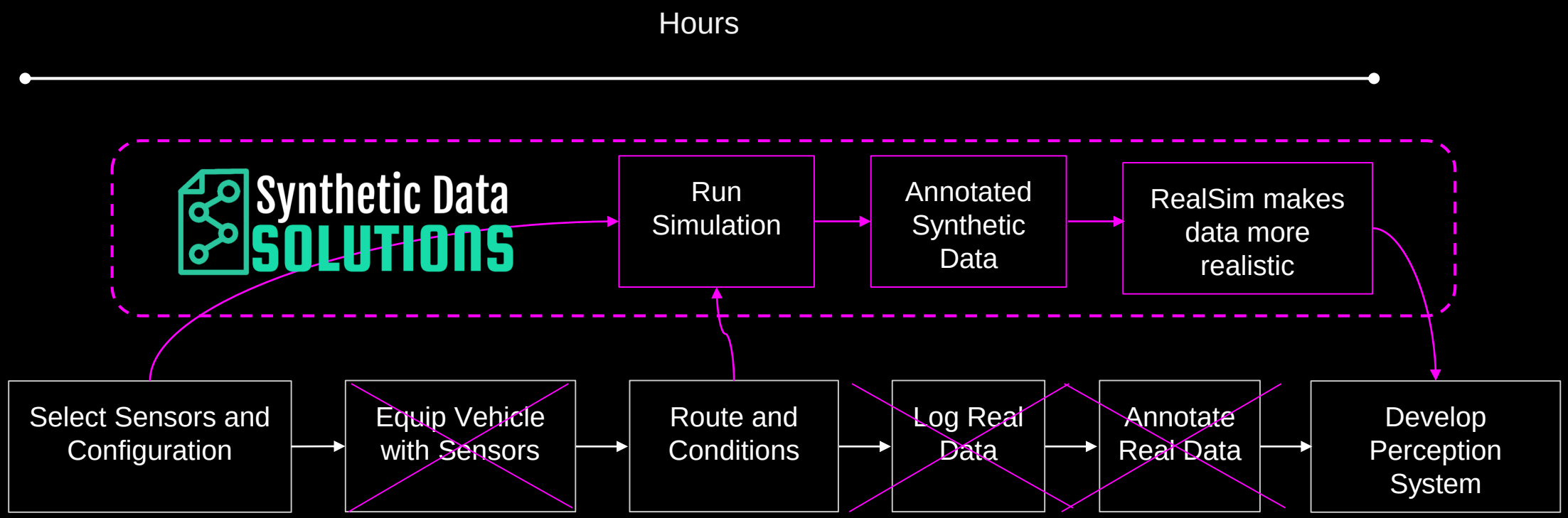
1 real annotated image = 2000 synthetic annotated images

Benefit II: Unlikely events are often the most important ones

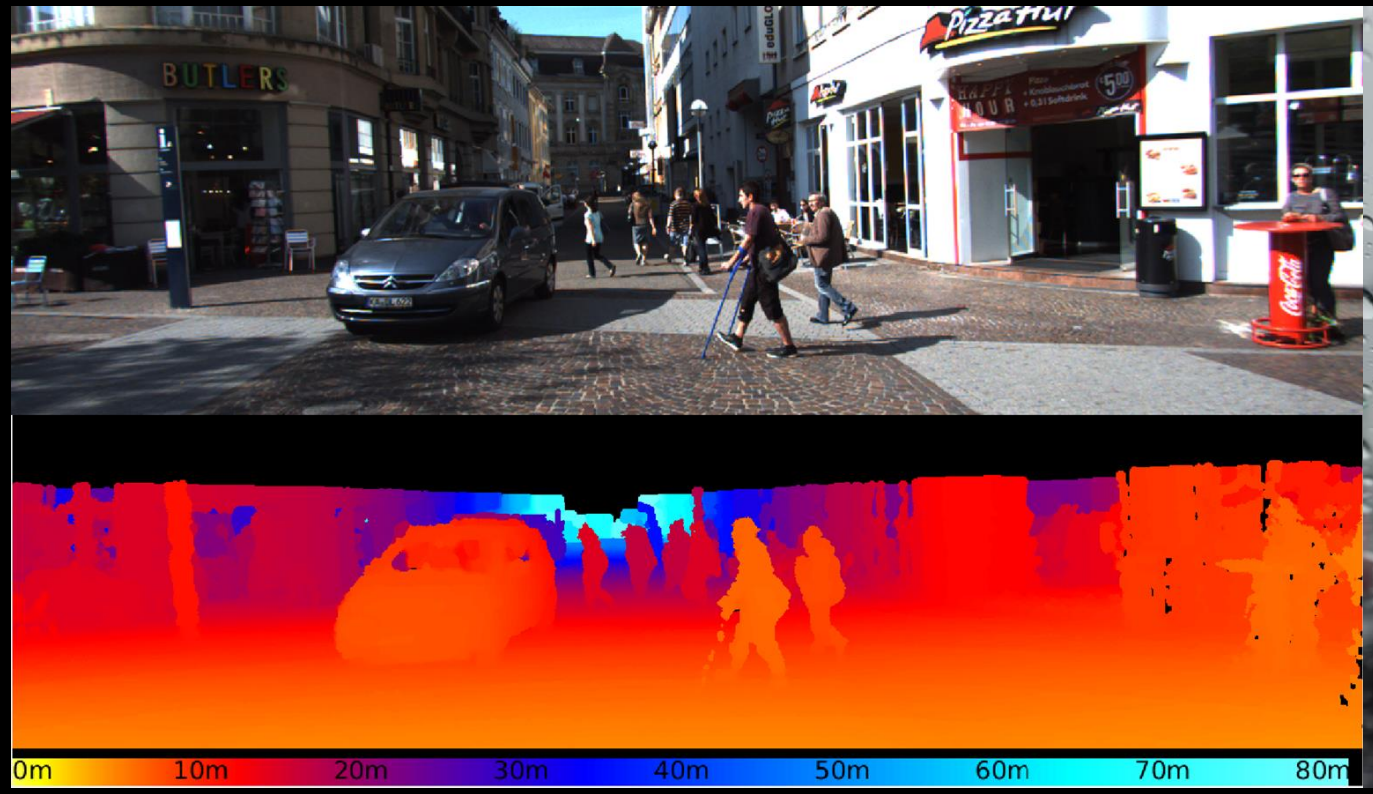
Benefit III: Reducing development time



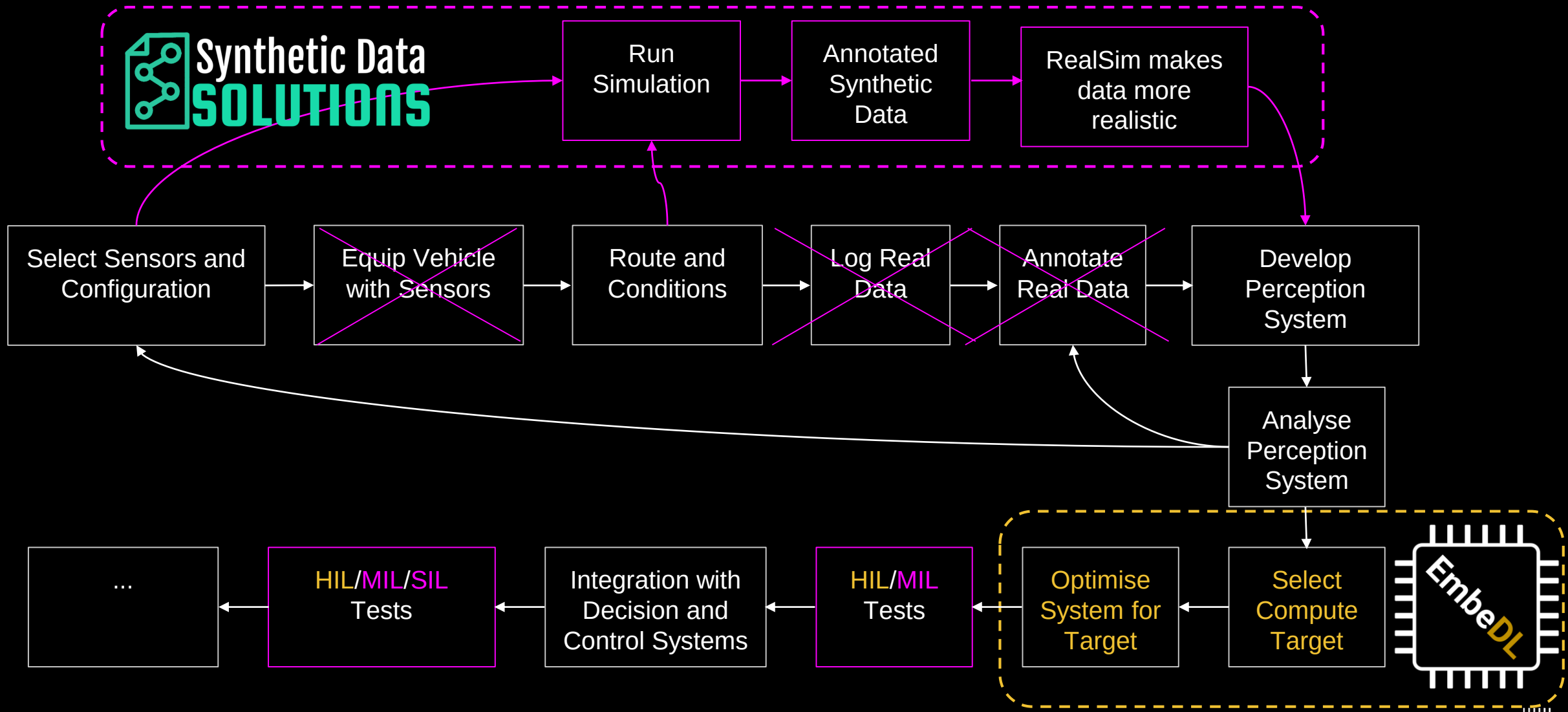
Benefit III: Reducing development time



Benefit IV: We can create perfect annotations even in challenging conditions



The Perception System Development Cycle



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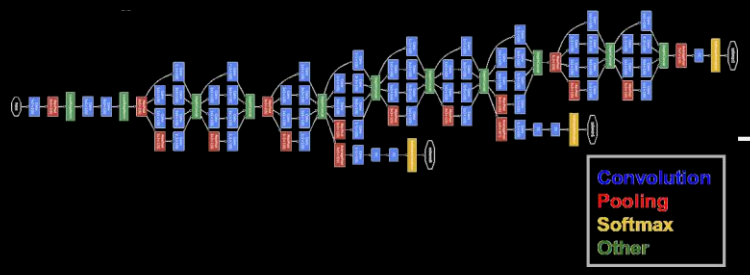
EmbeDL

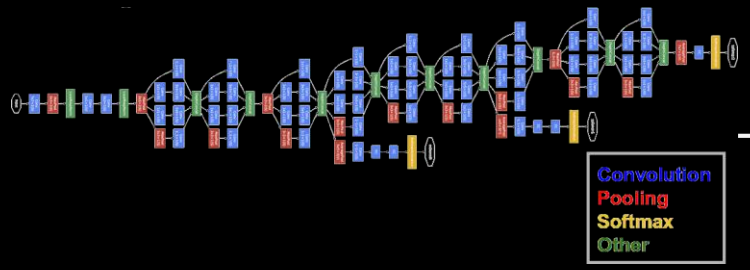
Efficient^3 Deep Learning in Embedded Systems

Member of: AI INNOVATION of Sweden · MobilityXlab · HiPEAC · CampX BY VOLVO G

http://embedl.com

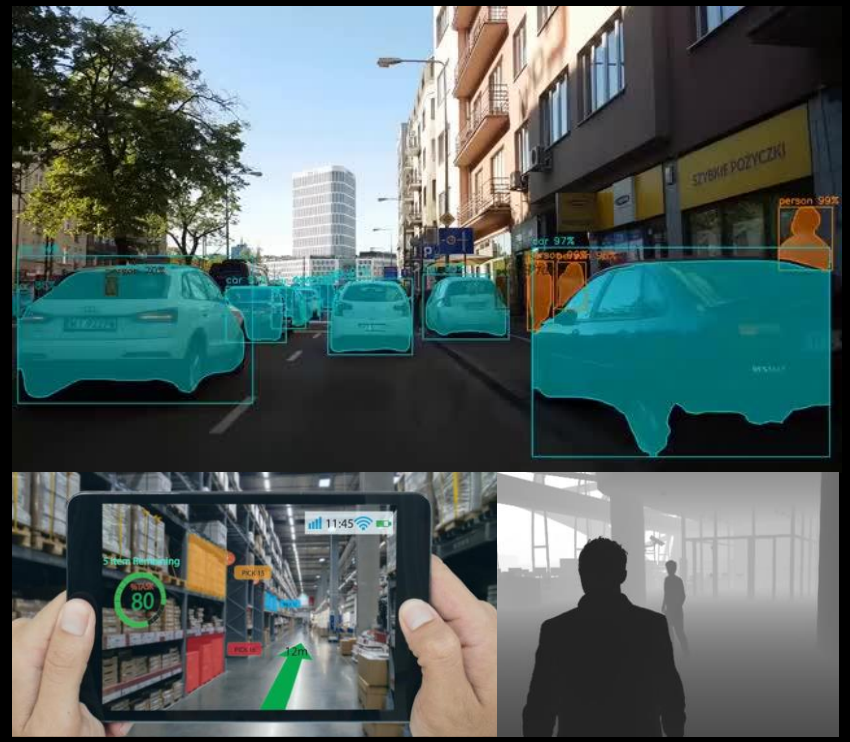
The Problem





- Slow
- Draining batteries
- Expensive HW

AI R&D / PoC / Pilot

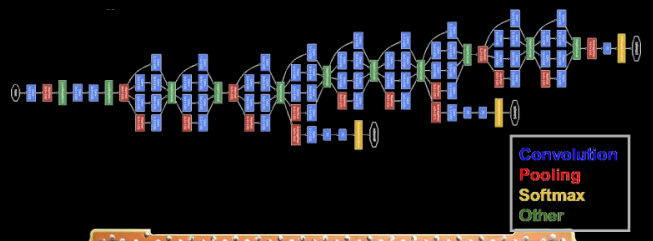


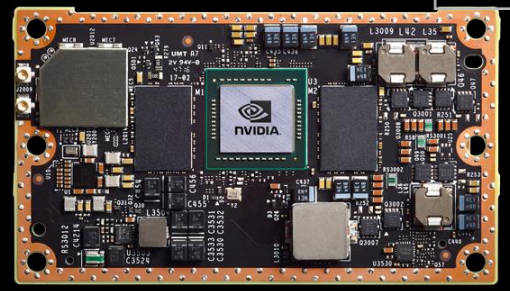
↑ 16x Performance
↓ 90% Hardware Cost
↓ 93% Energy Usage
↓ 93% Dev Time & Skills

EmbeDL

Product

↑ 4x Performance





$299

vs

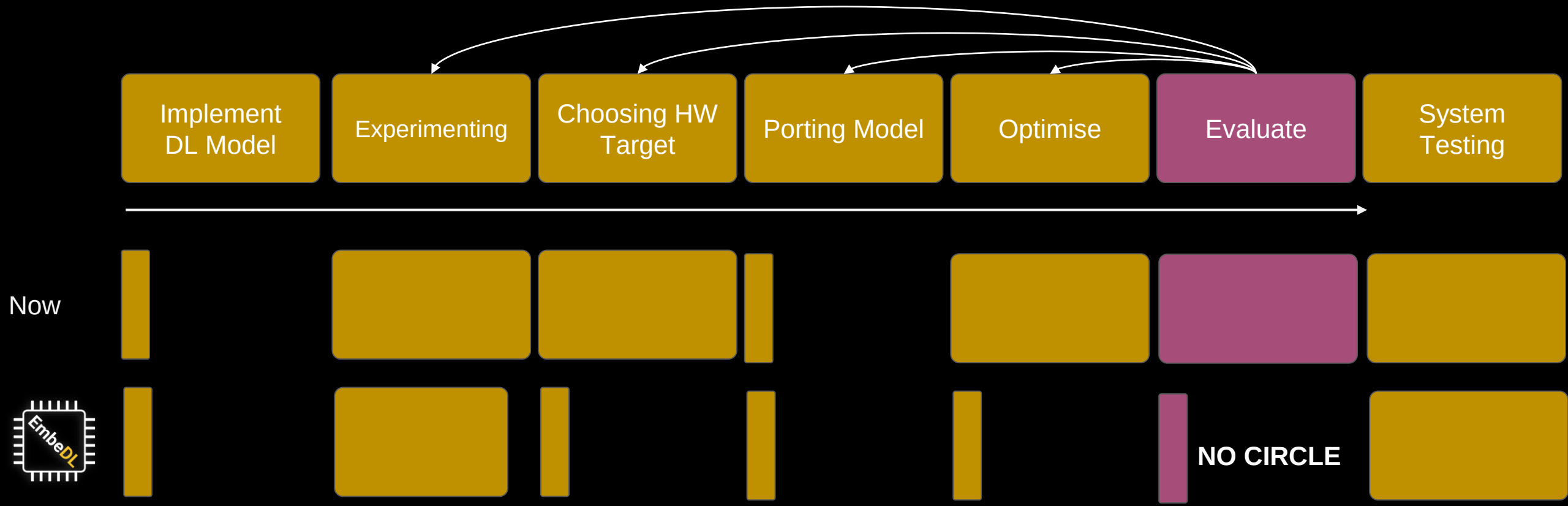
$129

SAVES $170 !

Total Savings: **$204 M**

600 k cars / year

Reducing development time



Thanks for your attention!

Hans Salomonsson
hans.salomonsson@embedl.com

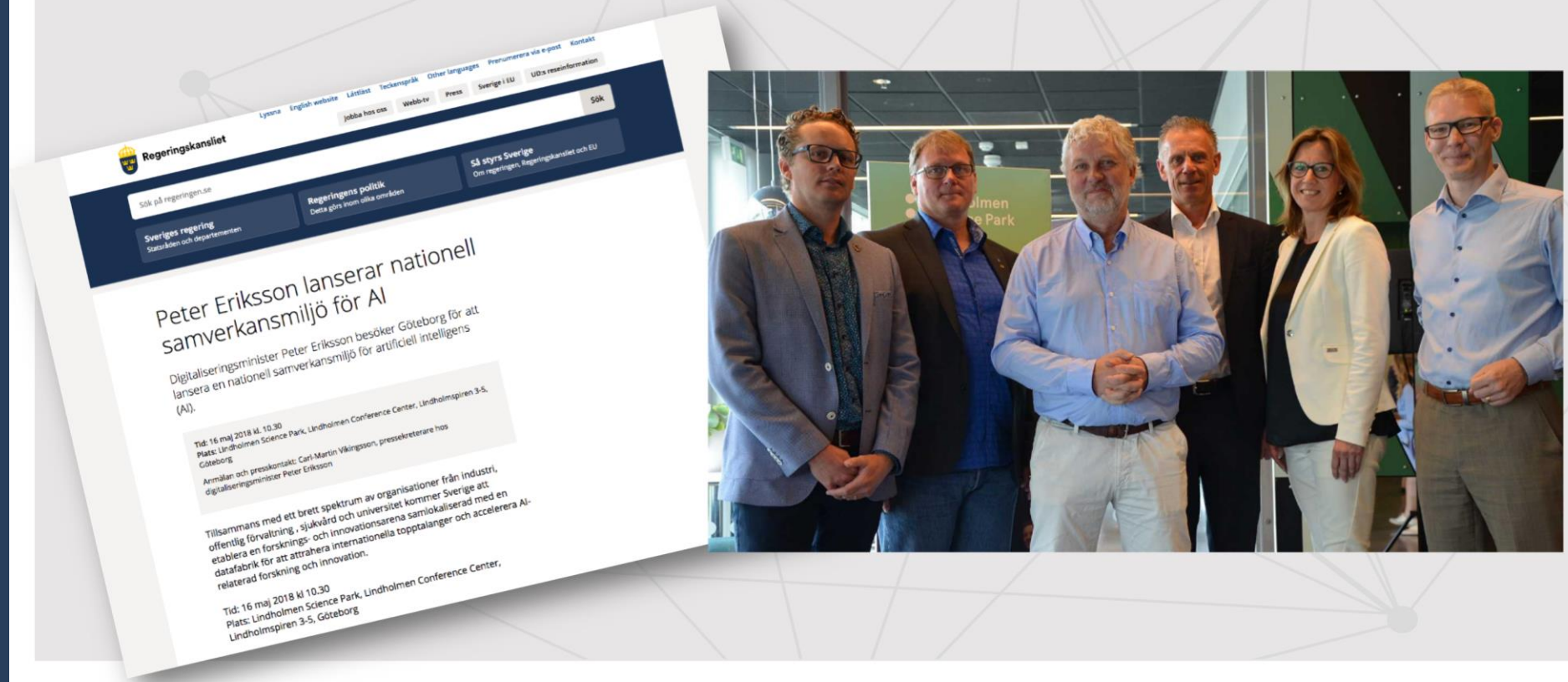
AI INNOVATION of Sweden

ai.se

Announced May 16, 2018

Assignment:

Accelerate AI related research & innovation



To move from the old to the new is the only tradition worth keeping

Founding partners

Public funding

REGION VÄSTRA GÖTALAND

VINNOVA

Corporate

AstraZeneca

essity

VOLVIA

VOLVO

ERICSSON

VOLVO
VOLVO GROUP

ZENUITY
Make it real.

veoneer

CEVT

Medium sized companies & Consulting

ACANDO

Capgemini

CGI

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KPMG

SWECO

semcon

qamcom

SMEs & Startups

Recorded Future

Seal
CONTRACT DISCOVERY AND ANALYTICS

UNIVRSES

TENFIFTY
TAILORED AI SOLUTIONS

annotell

PELTARION

COHERIUM

Talkamatic
NEXT GENERATION OF CONVERSATION

Viking Analytics AB

ascenda

FaDO
Finding anomalies on the fly

Machine Intelligence
SWEDEN

Humanitas

Academia & Research Institutes

CHALMERS
UNIVERSITY OF TECHNOLOGY

RI.SE
Research Institutes of Sweden

UNIVERSITY OF GOTHENBURG

IRI
The Swedish Law and Informatics Research Institute

Lifelong Learning

universeum

Public organizations

REGION VÄSTRA GÖTALAND

REGION SKÅNE

Skatteverket

Rymdstyrelsen
Swedish National Space Agency

Sveriges Kommuner och Landsting


AI INNOVATION of Sweden

Educational initiatives

AI Competence for Sweden

National initiative on education and competence development in AI
7 Universities
Strengthen Sweden’s competencies and competitiveness
Promoting life-long learning

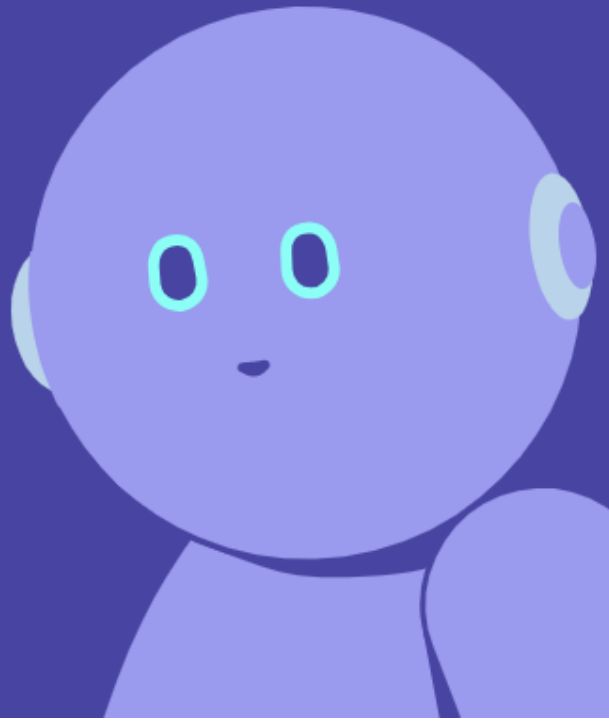
http://ai-competence.se/

Elements of AI

Finnish →

Welcome to the Elements of Artificial Intelligence free online course

English | Start the course



UNIVERSITY OF HELSINKI

Reaktor

LINKÖPINGS UNIVERSITET

AI INNOVATION of Sweden

AI COMPETENCE FOR SWEDEN

Swedish launch funded by VINNOVA Sweden's Innovation Agency

Elements of AI | Kursbeskrivning

Meny

Välkommen!

Registrera dig eller logga in för att se hela kursmaterialet. Kursen är gratis!

Logga in

Registrera dig

Kapitel 1

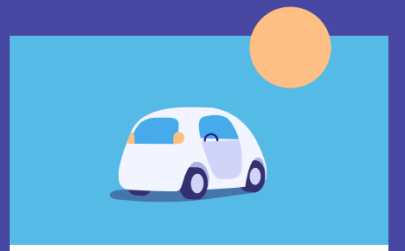
Vad är artificiell intelligens?

Avsnitt	Uppgift
I. Hur definieras artificiell intelligens?	1/1
II. Andra ämnesområden	0/2
III. Filosofin kring artificiell intelligens	0/1

Kapitel 2

Problemlösning med hjälp av artificiell intelligens

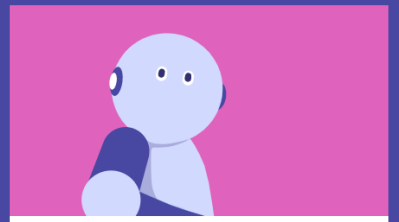
Avsnitt	Uppgift
I. Sökning och problemlösning	0/2
II. Problemlösning med hjälp av artificiell intelligens	---
III. Spel och sökning	0/1



Kapitel 3

AI i praktiken

Avsnitt	Uppgift
I. Odds och sannolikheter	0/2
II. Bayes sats	0/2
III. Naiv bayesiansk klassificerare	0/2



Kapitel 4

Maskininlärning

Avsnitt	Uppgift
I. Olika typer av maskininlärning	---
II. Närmaste granne-klassificeraren	0/2
III. Regression	0/4

Kapitel 5

Neuronnät

Avsnitt	Uppgift
I. Principerna för neuronnät	0/1
II. Hur bygger man neuronnät?	0/2
III. Avancerade neuronnätmetoder	---

Kapitel 6

Konsekvenser

Avsnitt	Uppgift
I. Att förutspå framtiden	0/1
II. AI i samhället	0/1
III. Sammanfattning	0/1

AI Utmaningen

Artificiell Intelligens kommer att påverka hela samhället. Men hur många vet verkligen vad det är, eller vad det kommer betyda för samhället?

Följande företag har antagit AI-utmaningen:

”At the end of the day it is not technology that creates success, it is people. It is leaders that take the right decisions based on the most accurate data, insights and their ability to work with the best people”

- Marcus Wallenberg

peter.kurzwelly@ai.se

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Panel

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Concluding remarks