



Fordonstrategisk
Forskning och
Innovation

Årskonferens 2019



Kent Eric Lång

Moderator

Vilka är samhällets stora
utmaningar för fordonsindustrin?



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Forskning och
Innovation



VINNOVA



SCANIA

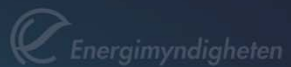
VOLVO

10:00-12:00

Vilka är samhällets stora utmaningar för fordonsindustrin?



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Forskning och
Innovation



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SCANIA

VOLVO



Johanna Lind

Scania

Globaliseringen



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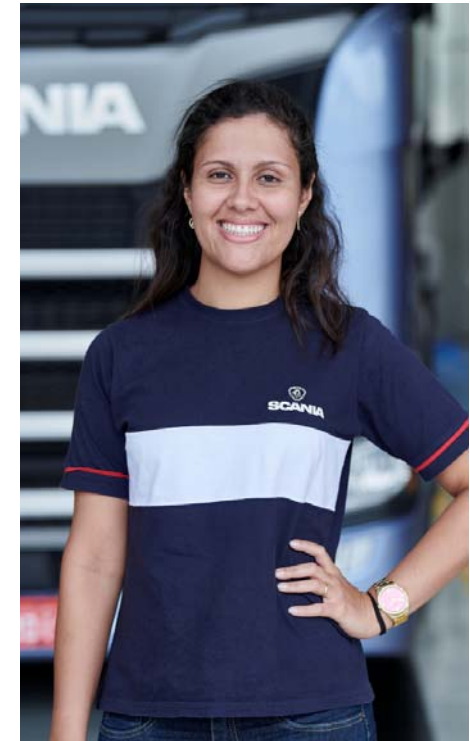


SCANIA

VOLVO

Johanna Lind Business development director
Scania buses & Coaches

Globalisation





The world of Scania

Sales and
services network

1,500 dealers and
workshops

More than **95%**
parts availability

Round-the-clock
assistance



Scania is part of TRATON GROUP

Driving the shift



Scania's aim is to drive the shift towards a sustainable transport system, creating a world of mobility that is better for business, society and the environment.





Our approach to sustainable transport



Energy efficiency



Alternative fuels
and electrification



Smart and safe transport



11 SUSTAINABLE CITIES AND COMMUNITIES







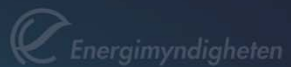




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Malin Andersson

Göteborgs Stad

Urbaniseringen



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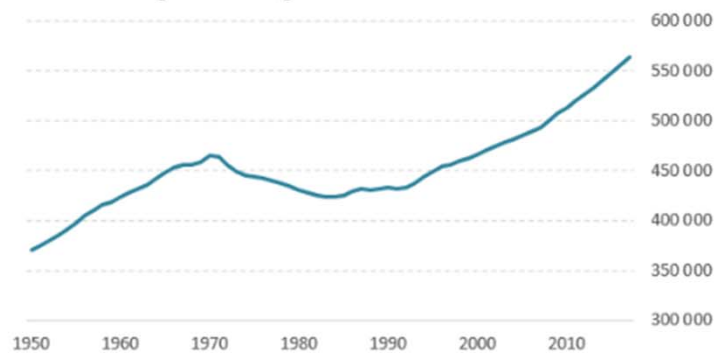
VOLVO

FFI-konferensen 2019

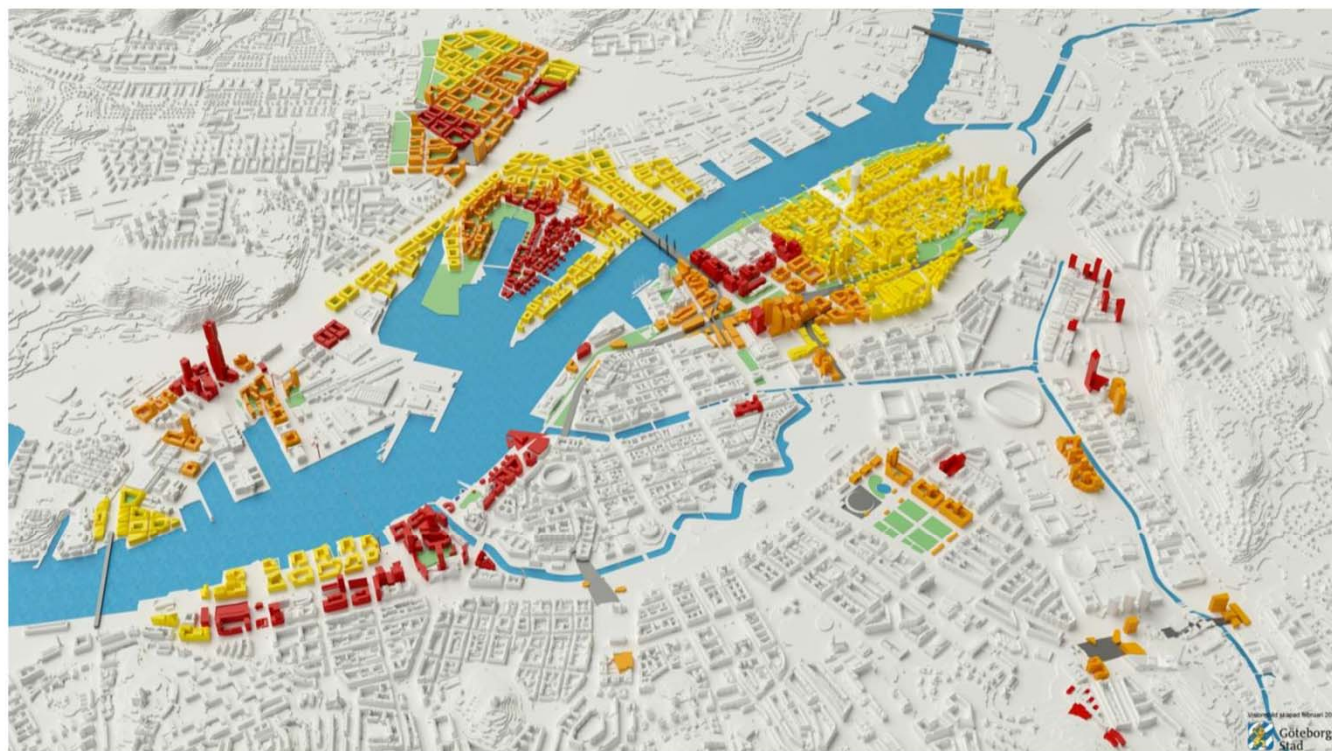
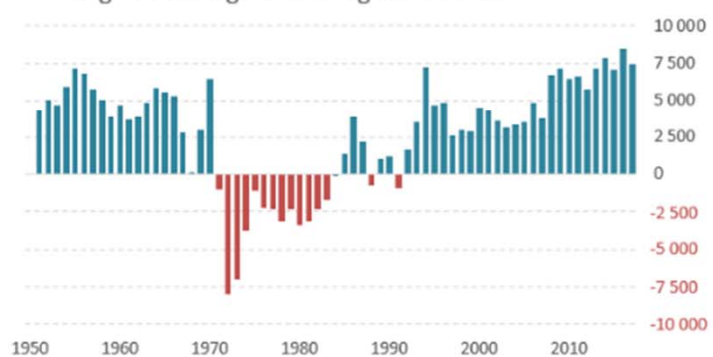
Malin Andersson

Göteborgs Stad, Trafikkontoret

Göteborgs folkmängd 1950 - 2017

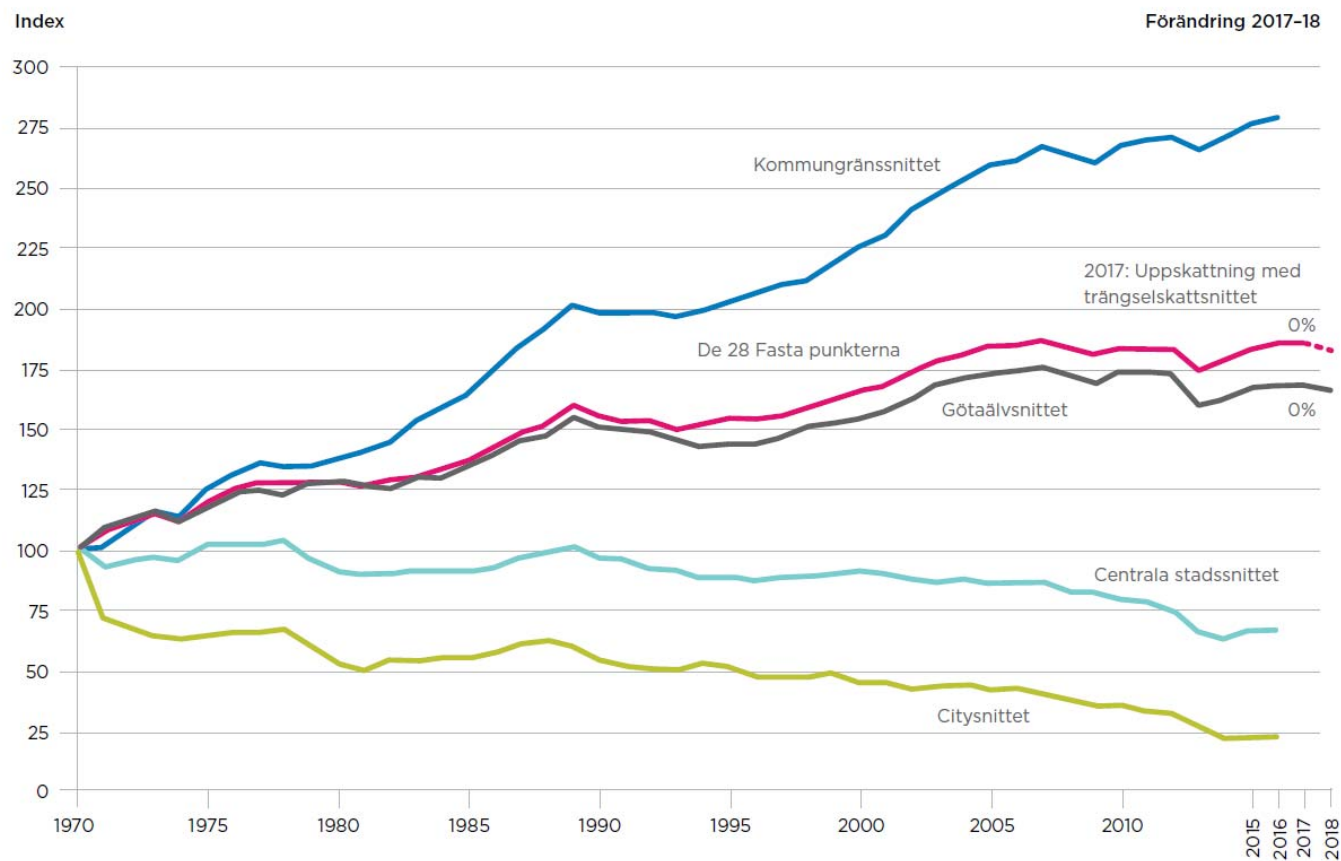


Årlig befolkningsförändring 1950 - 2017



transportsnål samhällsplanering!?

Biltrafikutvecklingen i de olika snitten 1970-2018, index 100

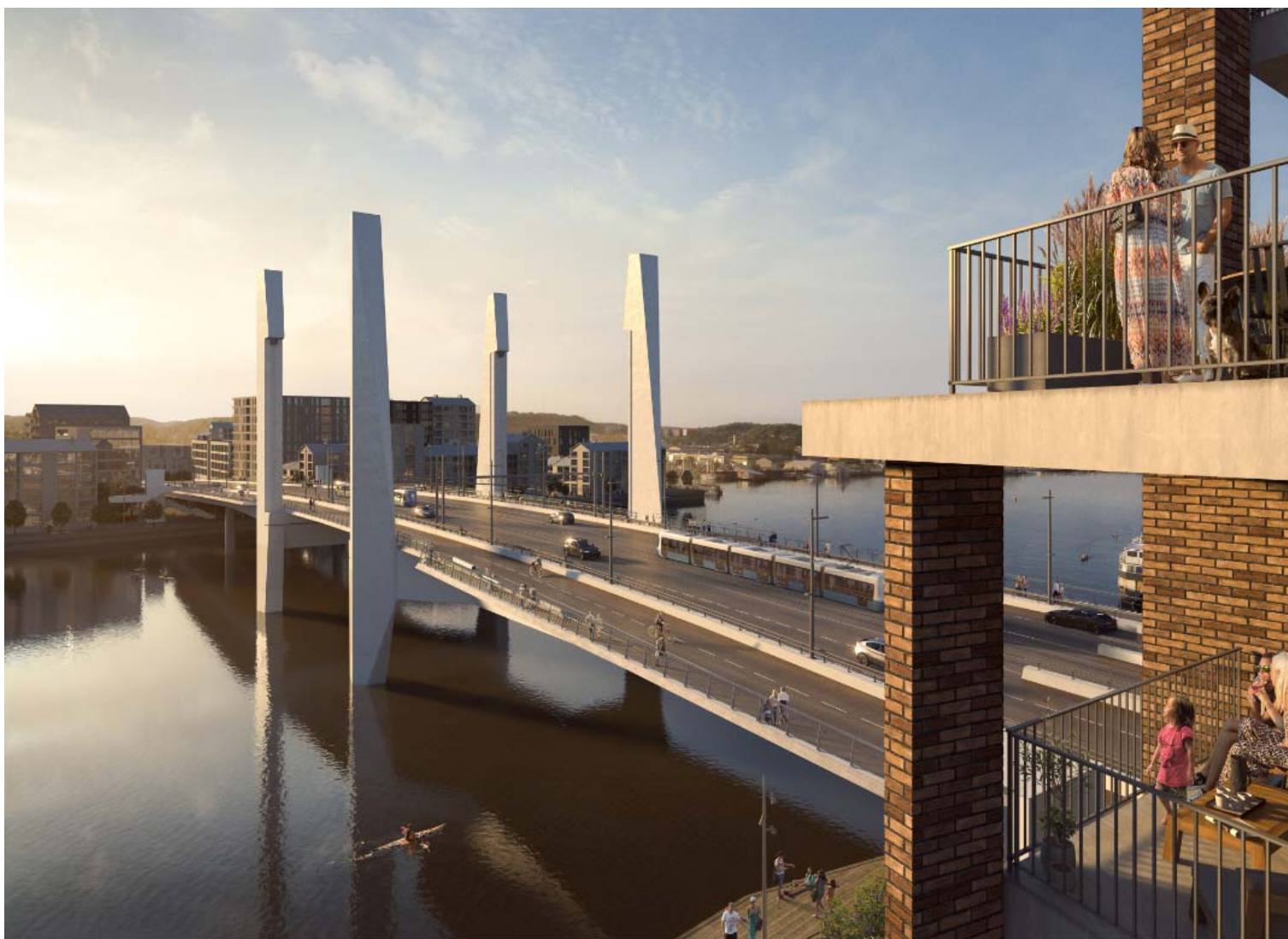


Centralaste staden i går



Centralaste staden i morgon





Hälsosam livsmiljö



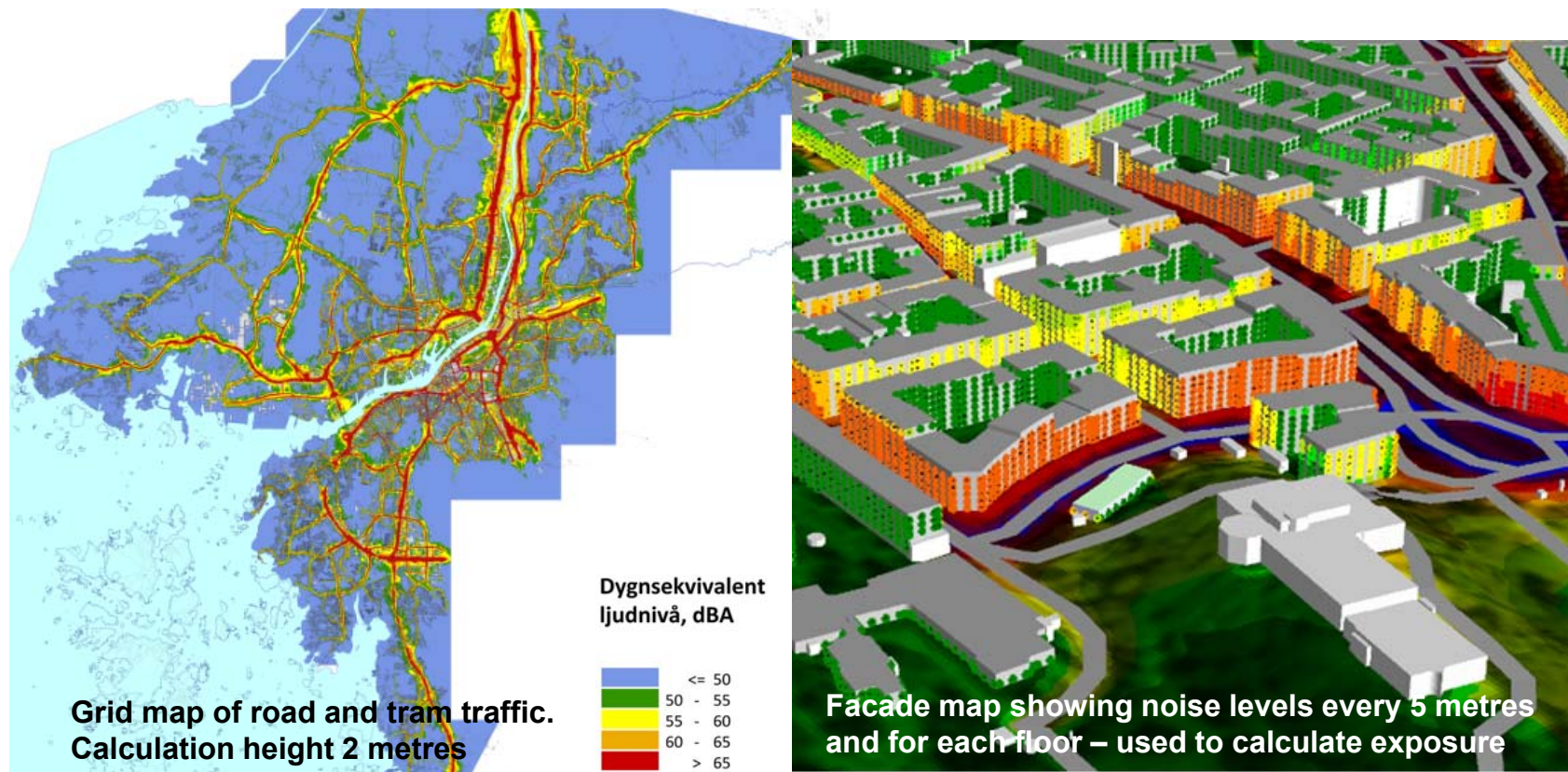
Noise exposure in Gothenburg

>1000 mkr/year (socio economical costs from road traffic)

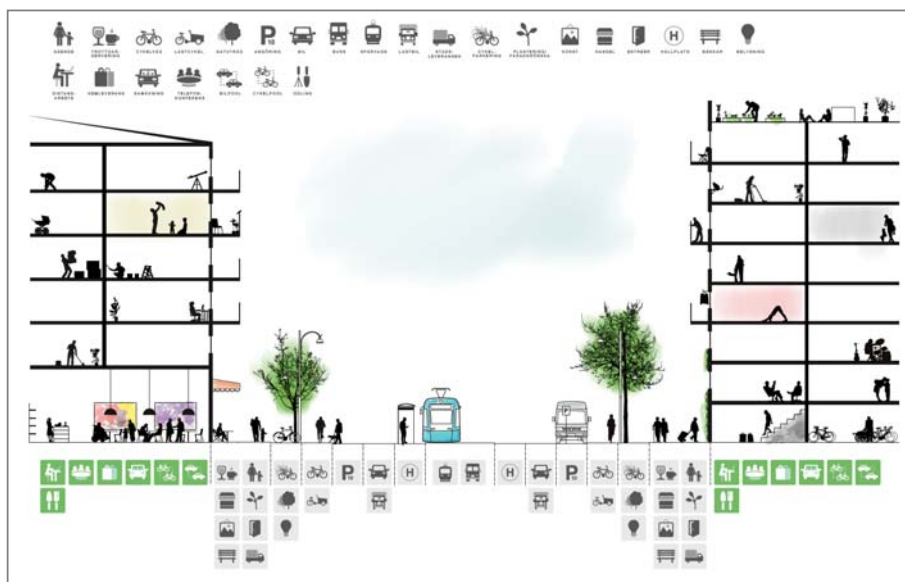
1700 DALYs Disability adjusted life years

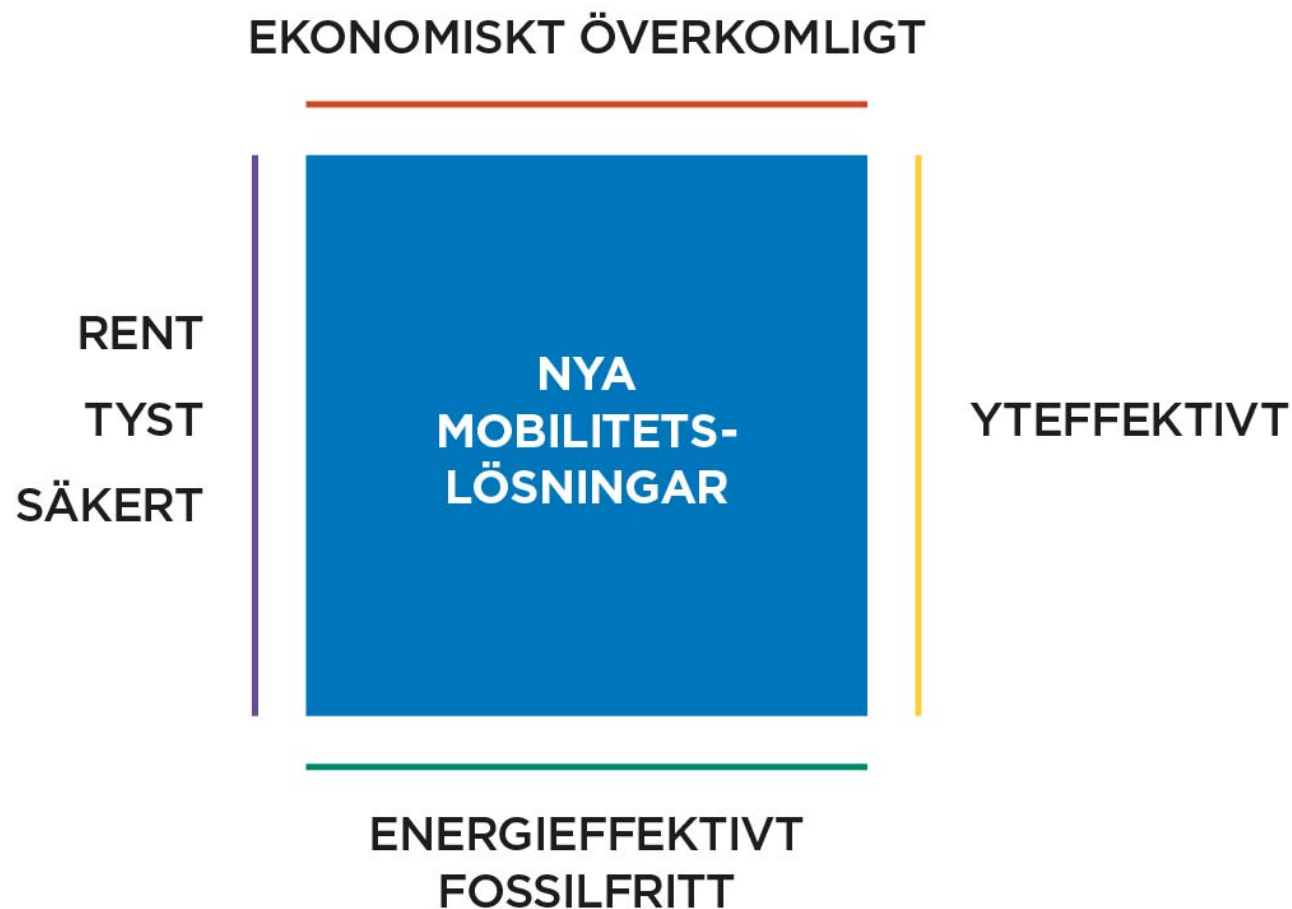


Göteborgs
Stad



lös allt på en gång

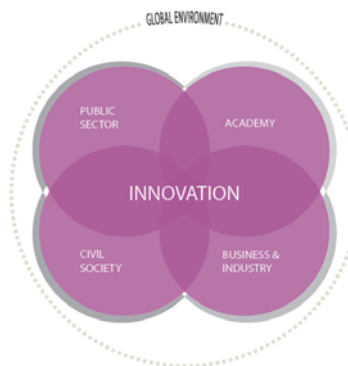




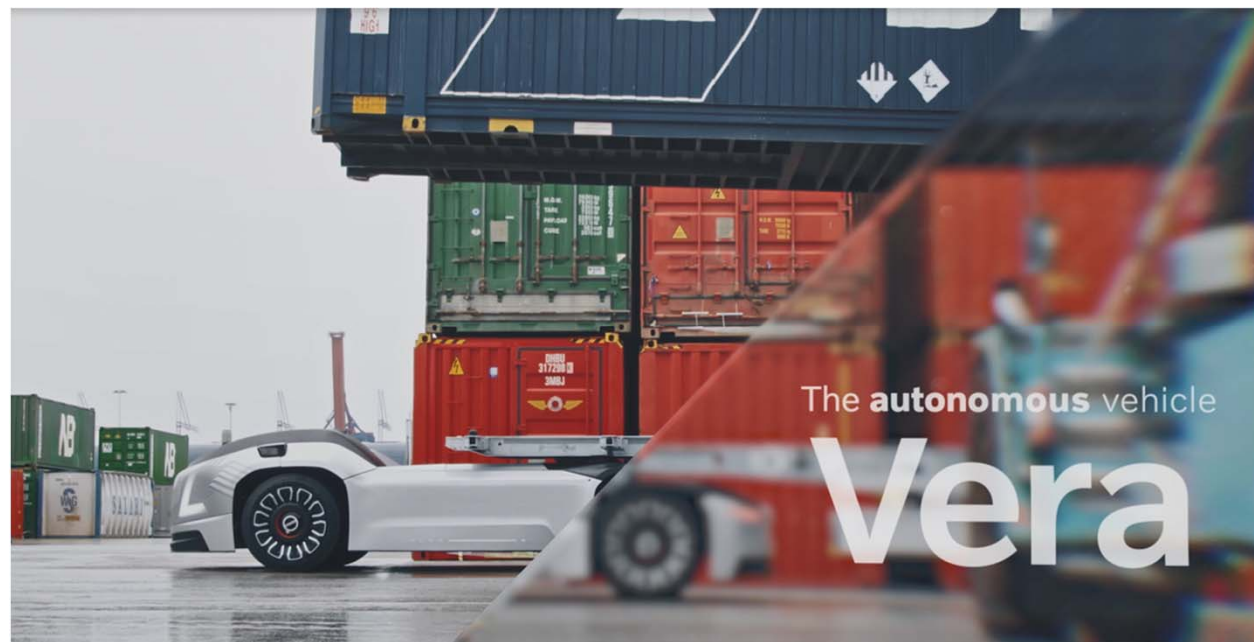
utmaningsdrivna lösningar



tekniskt möjliga OCH samhällseligt kloka



sudda ut gränser





”It is time to give cities back to people”



Tack!

Malin Andersson

Trafikkontoret

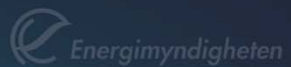
Göteborgs Stad

Malin.andersson@trafikkontoret.goteborg.se





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Erik Coelingh

Zenuity

Automatiseringen av fordon



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“Autonomous drive will be a
truly transformative technology,
reshaping industry & society as we know it.”

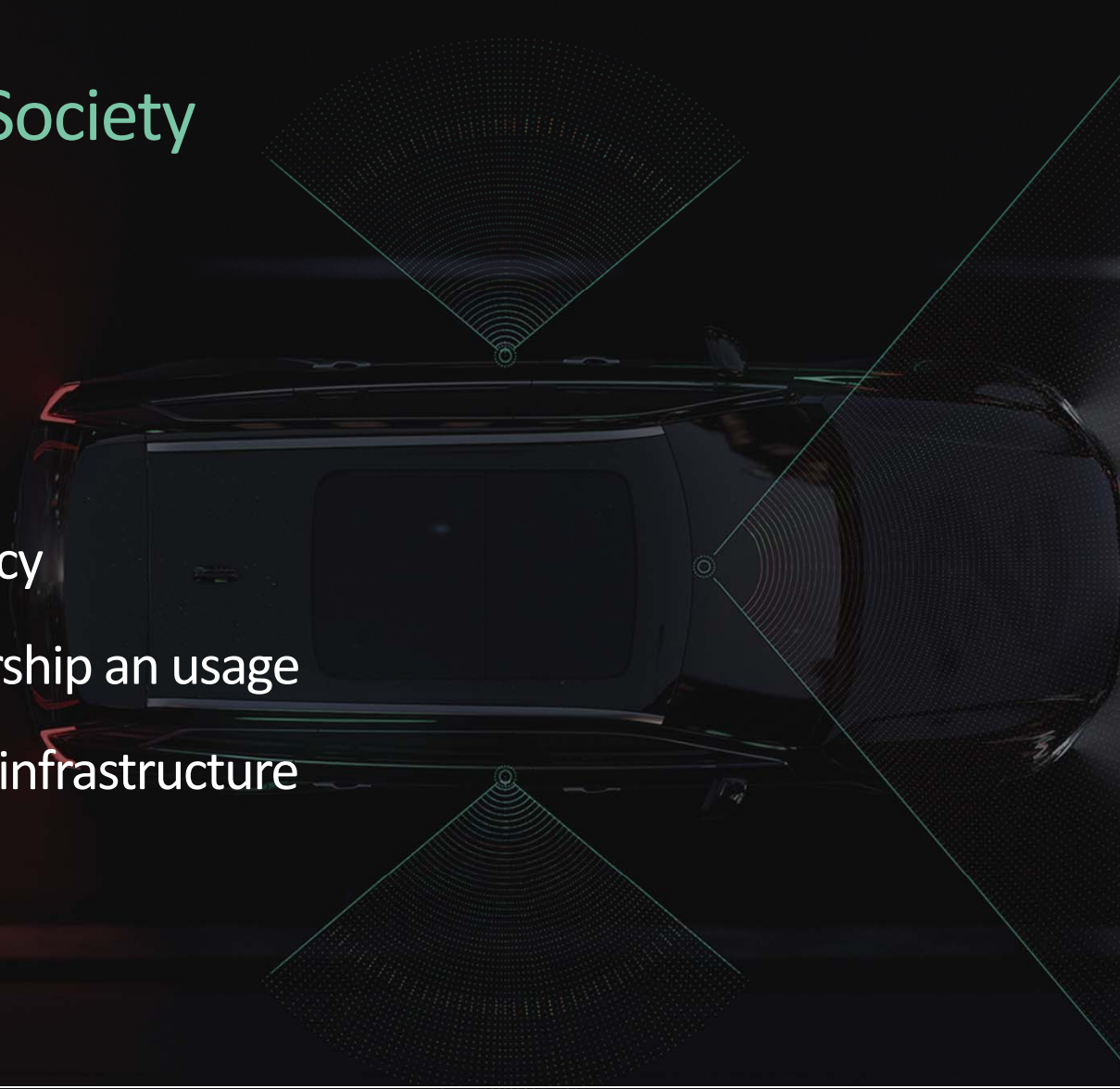
Created by the **safety leaders** of the automotive industry



Z E N U I T Y

The Impact on Society

- Traffic safety
- Traffic efficiency
- Vehicle ownership and usage
- Road and city infrastructure



Key Research Challenges

- Understand the role of the driver/user
- Design and proof sufficiently safe technology
- Scale from somewhere/sometimes to everywhere/always

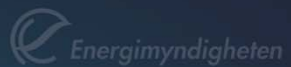


Z E N I T Y

Make it real.



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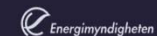


Anna Syberfeldt och Lars Hanson
Högskolan i Skövde

Automatiseringen av produktionen



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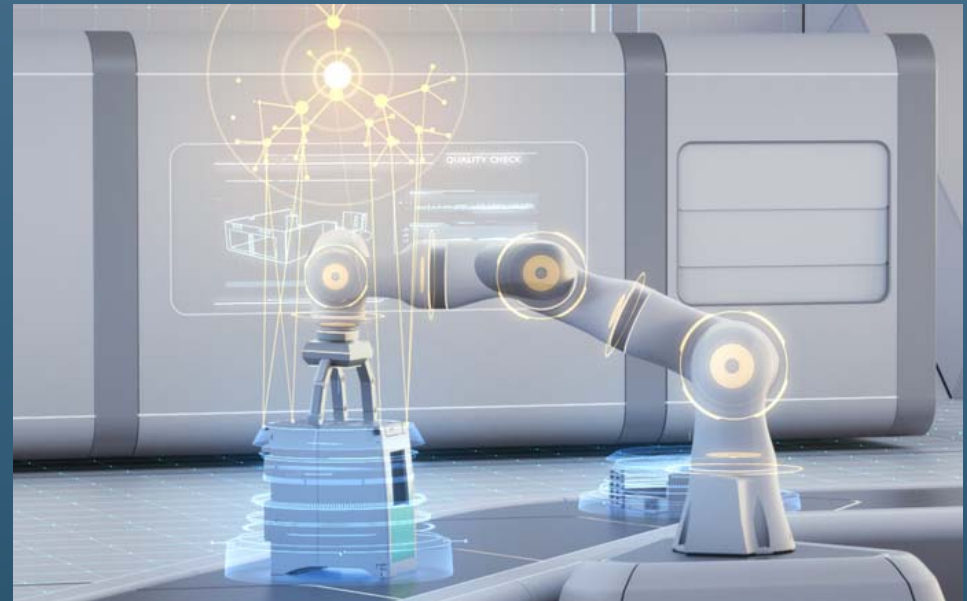


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Automatisering av produktionen

Vad är på gång just nu?

Professor Anna Syberfeldt &
Professor Lars Hanson

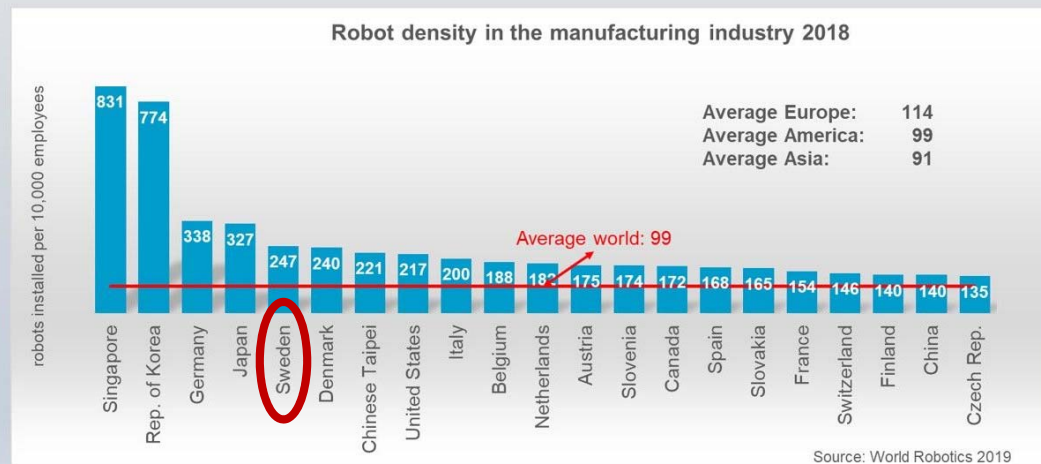
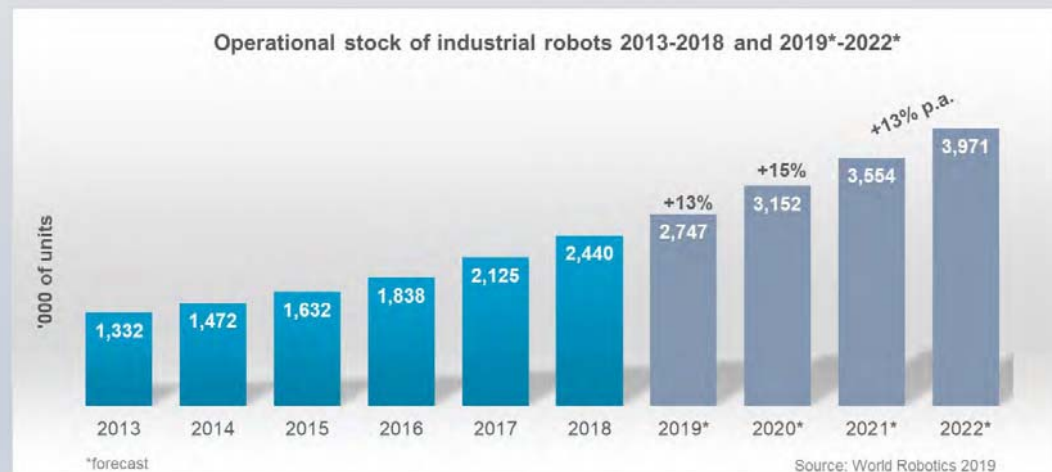




Global konkurrens
Korta produktlivscyklar
Massiv kundanpassning
Handelsbarriärer och
osäkerhet i världen

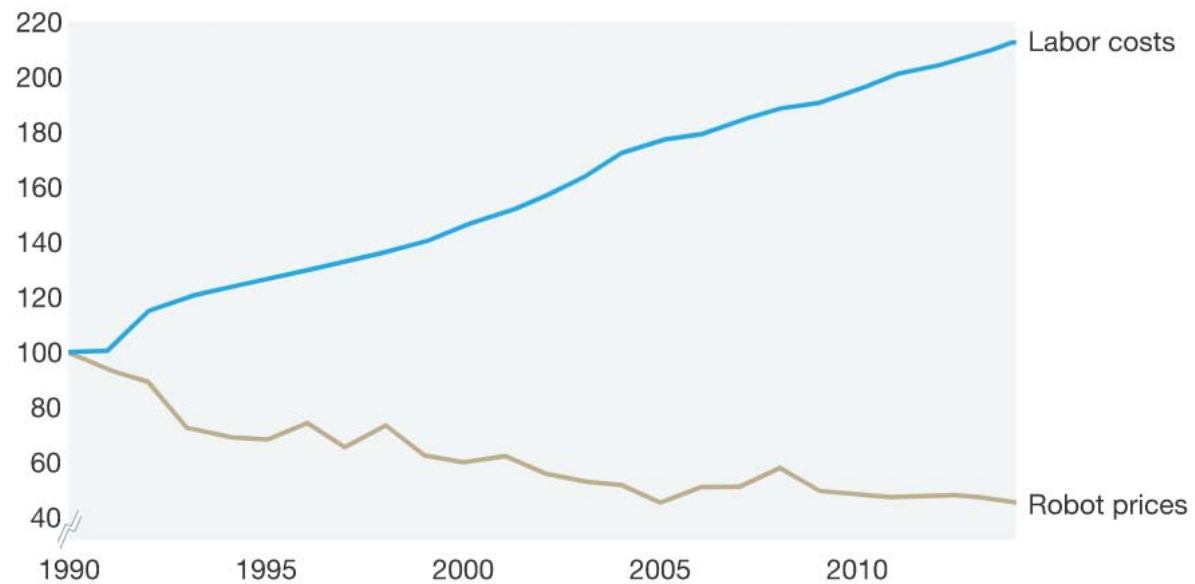


Ökad automation



Cost of automation

Index of average robot prices and labor compensation in manufacturing in United States, 1990 = 100%



Source: Economist Intelligence Unit; IMB; Institut für Arbeitsmarkt- und Berufsforschung; International Robot Federation; US Social Security data; McKinsey analysis

Vad är på gång just nu inom automation?



Robotutveckling

Samarbetsrobotar



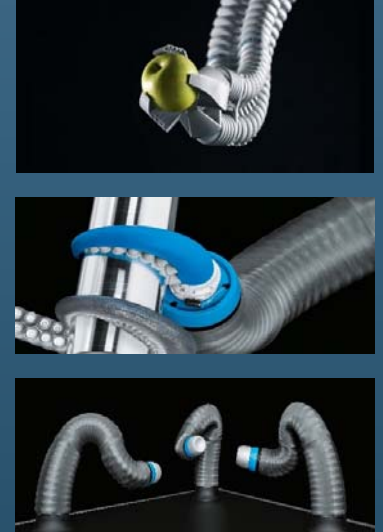
Mindre, enklare och billigare robotar



Stora, starka och dyra robotar



Robotar inspirerade från naturen



Internet-of-Things och Cyber-Physical Systems



Allting är uppkopplat

Monitorering och
optimering i realtid

Decentraliserad
intelligens

Hög flexibilitet

Artificiell Intelligens

Deep Neural
Networks

Expert
systems

Computer
Vision

Machine
Learning

Big data

Natural
Language
Processing

Sensor
Fusion

Data lakes



Reinforcement
Learning

Data mining

Self-
Optimization

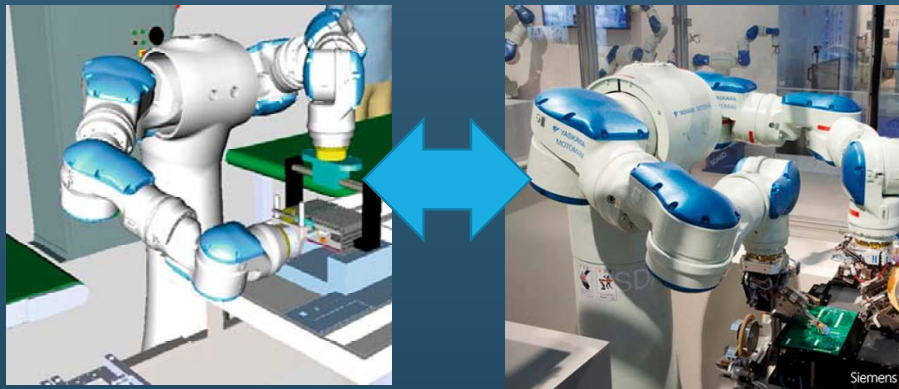
Unsupervised
learning

Predictive Analytics

Personalization

Block Chains

Virtuella originalet och digitala tvillingen



Kortare ledtider vid installation

Minskade kostnader

Test och utveckling i säker miljö

Effektivare förändrings- och förbättringsarbete

Enklare underhåll och felsökning

Användarinteraktion





Virtual VERIFICATION

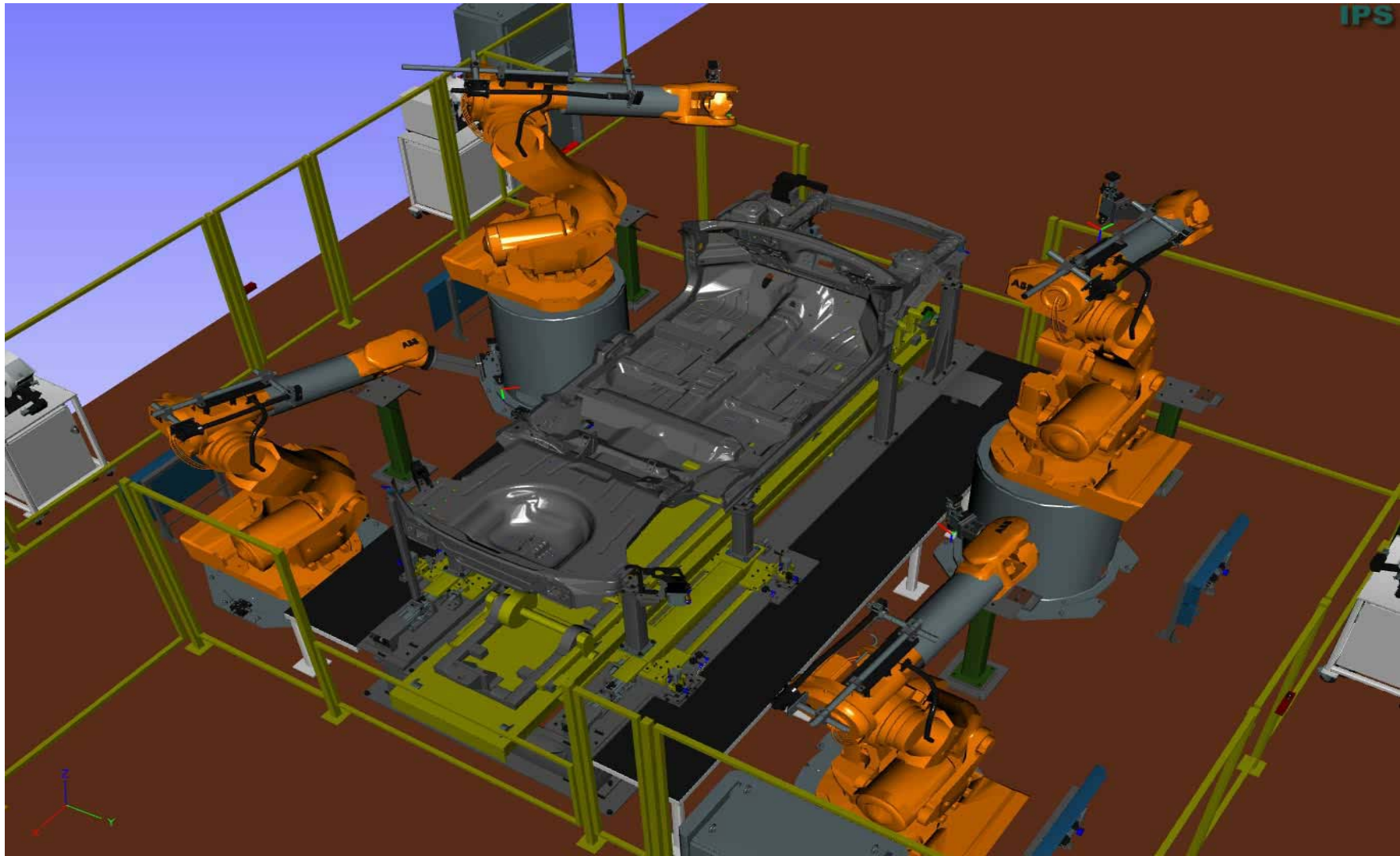
Human Robot Collaboration

LarS Hanson, SCANIA & SKÖVDE UNIVERSITY

Human Robot Collaboration

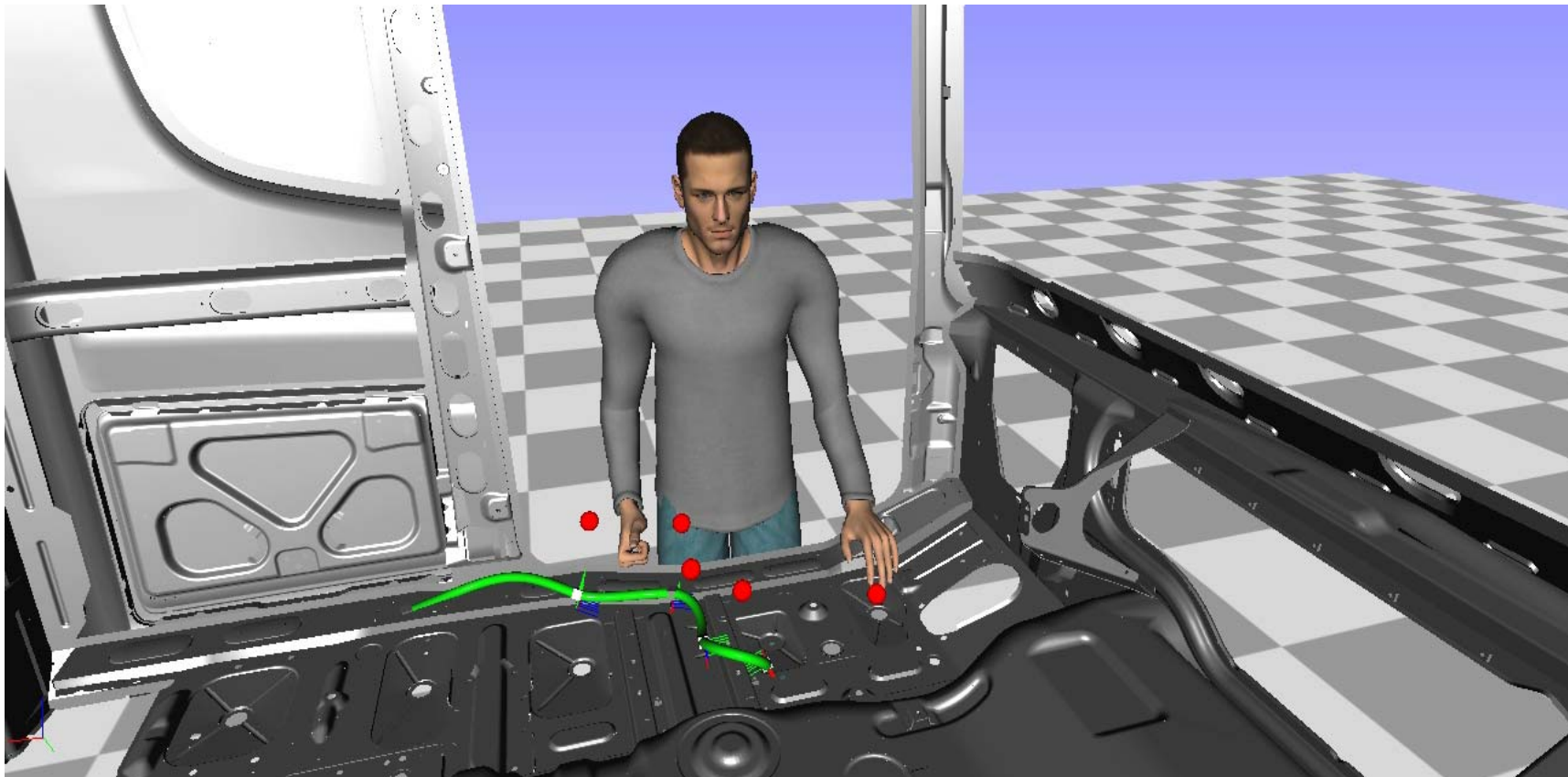


Virtual Verification of Robots





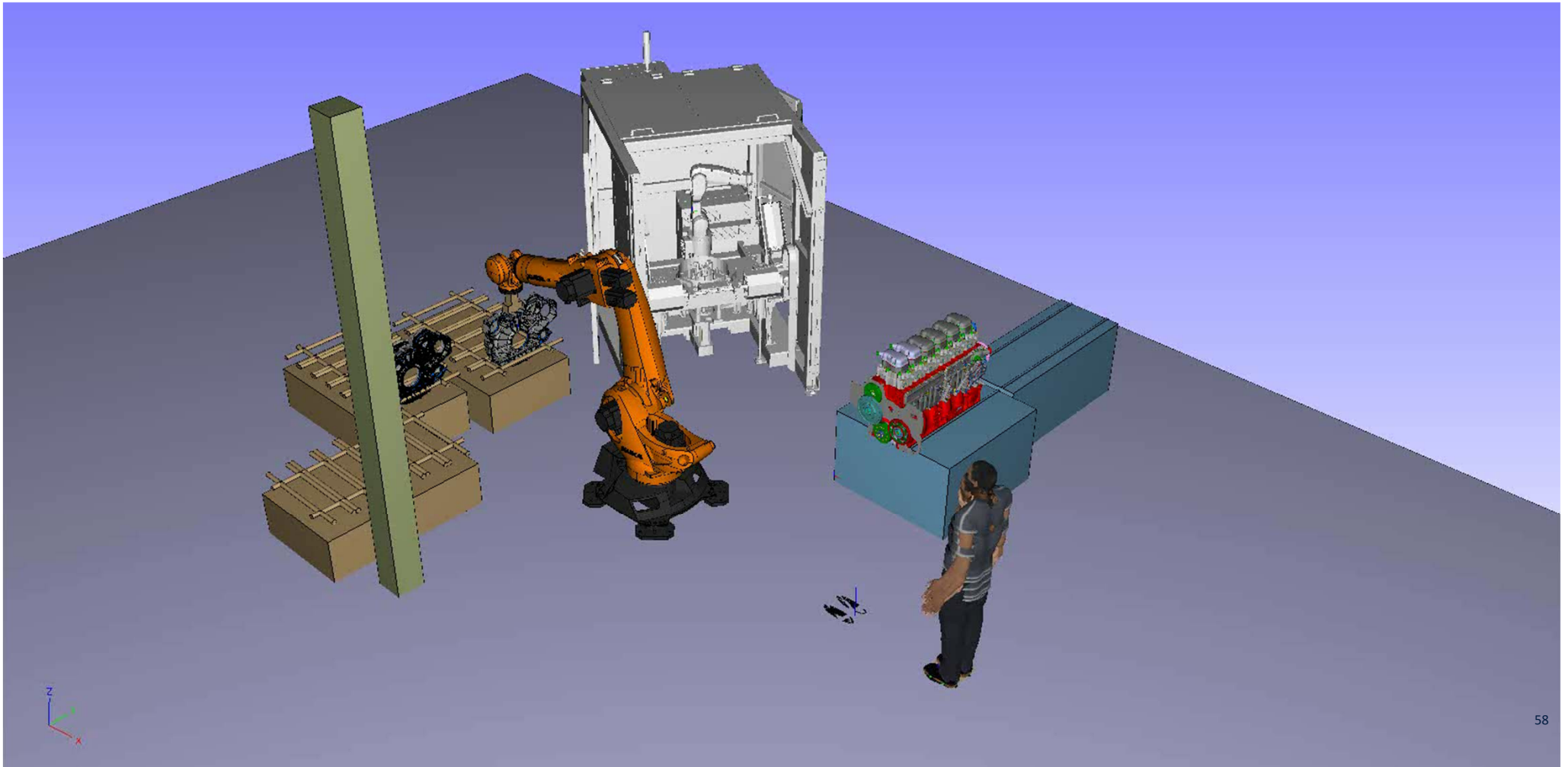
Virtual Verification of Humans



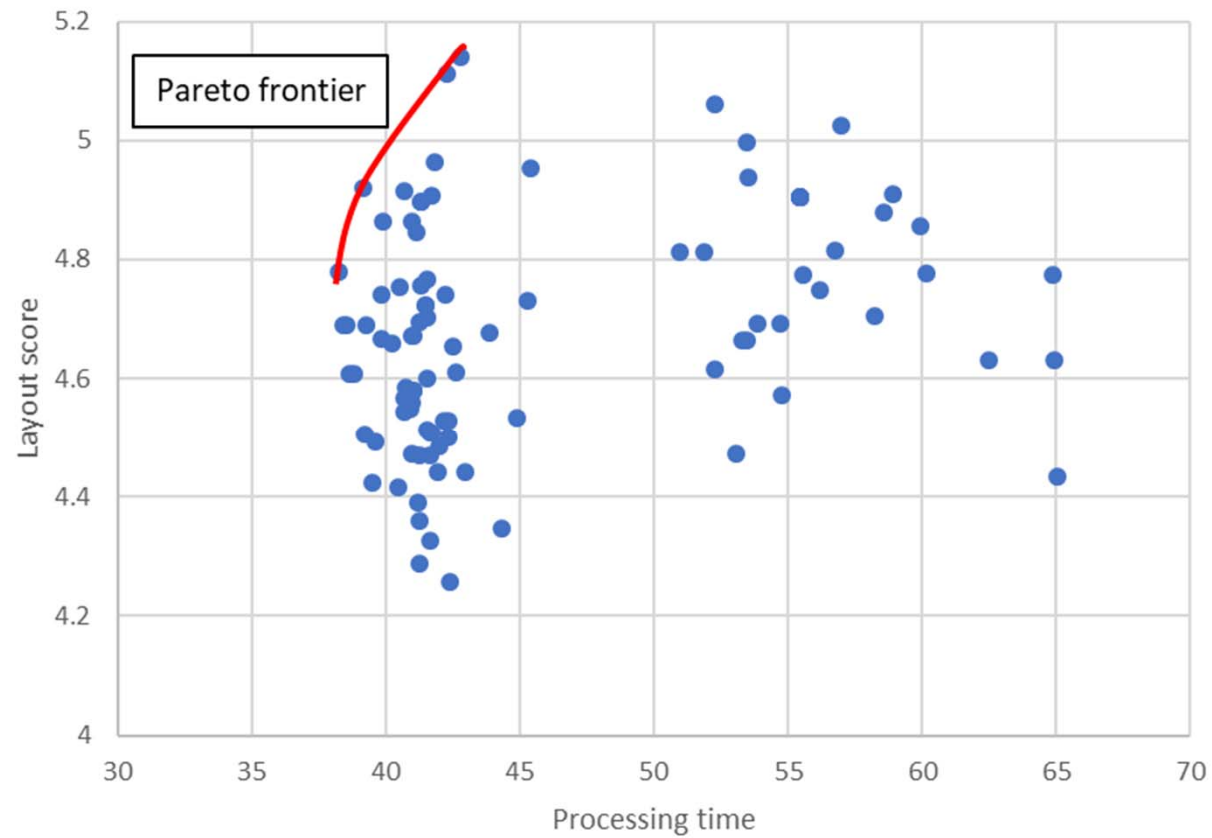
Aim project

To develop a user friendly simulation, optimisation and visualisation tool for virtual verification of human robot collaboration.

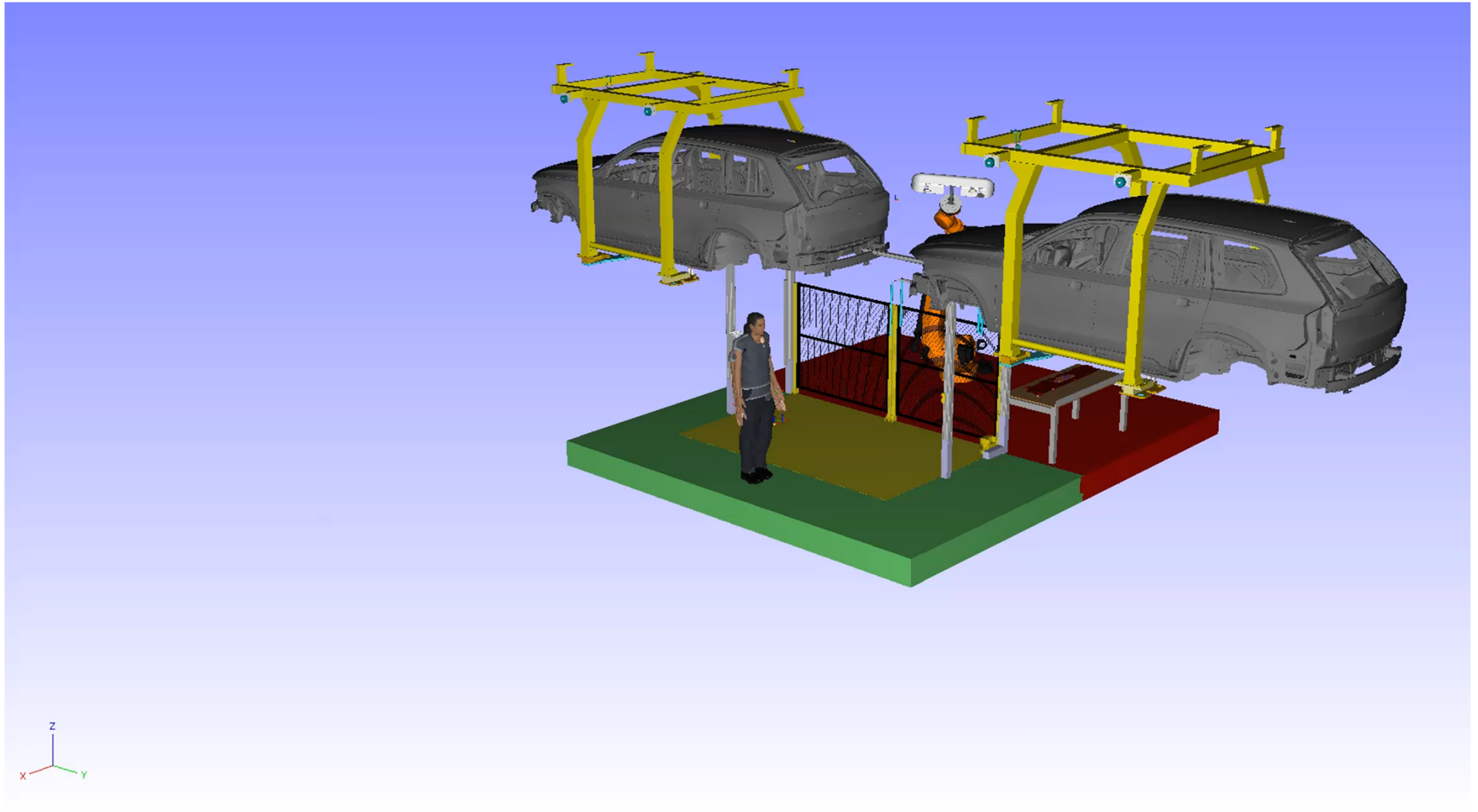
Scania Use Case

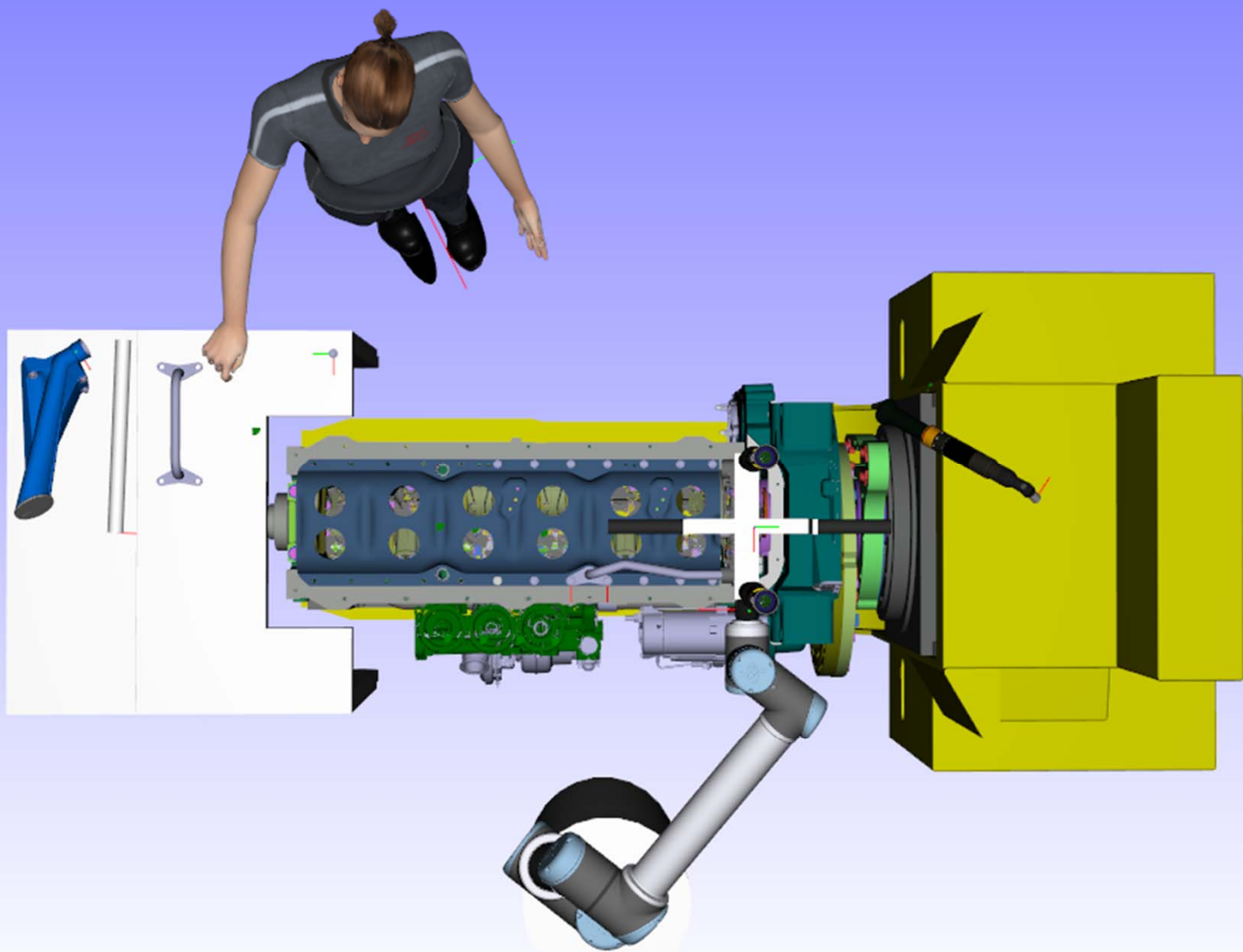


Example Results of Evaluation



Volvo Use Case







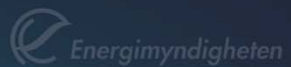
THANKS!



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