



Data driven logistics at Oda

Vegard Pedersen | Optimization lead



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Optimization Lead

Agenda

Our story

Integrating data and software into logistics

How we work together

Solution example: Workload balancing in route planning



A young man with short blonde hair, wearing a purple long-sleeved shirt with the ODA logo and dark jeans, is walking down a set of concrete steps. He is smiling and carrying a cardboard box with the ODA logo on it, which contains a bouquet of green leafy vegetables. In the background, a yellow delivery truck with the ODA logo and the slogan "de priser, levert på døra" is parked. The scene is set outdoors with trees and bushes, and the overall lighting is dim, suggesting dusk or dawn.

Our story



Søk etter det du trenger



Finn vare etter kategori



Handle en oppskrift



Lag en handleliste og spar tid

Noen av våre produkter



kr 7,90

Bananer
500g



kr 19,90

Solidox Hvite Tenner



kr 14,90

TineMelk Lett
1 liter



kr 24,90

Alpebrød
Frossent halvtekt, United
Bakeries



kr 19,90

Stjernebacon



kr 119,00

Salma Back Loin
400 - 500g

Oda V1

Noen av våre fristende oppskrifter



Spaghetti Bolognese



Hjemmelaget fiskegrøt



Ostesmørbrød med bakt paprika og mozzarella



“Operations”



FC1.0:
Dark stores +
manual pick



565%
growth

kr70,000,000

kr60,000,000

kr50,000,000

kr40,000,000

kr30,000,000

kr20,000,000

kr10,000,000

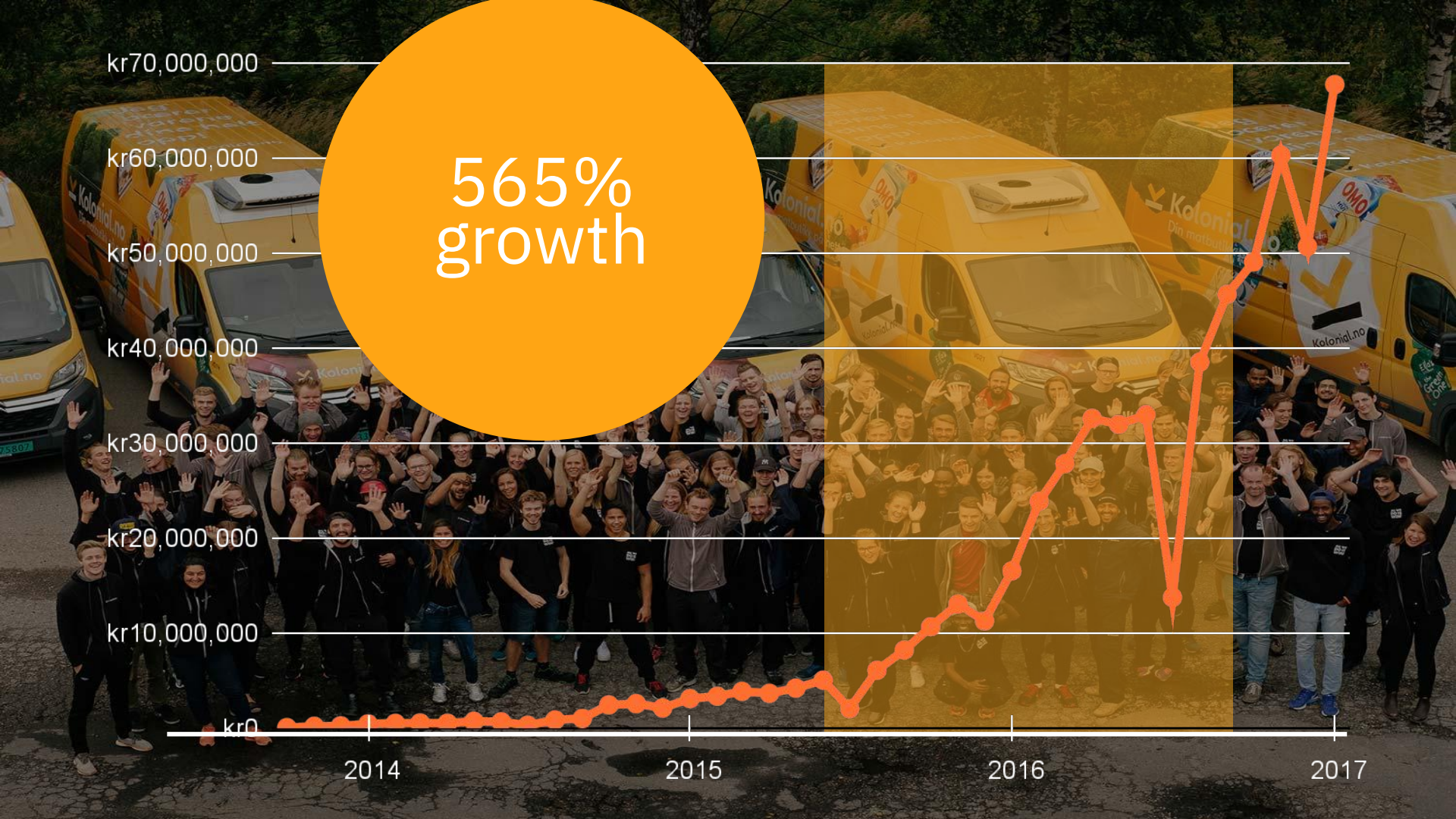
kr0

2014

2015

2016

2017





Daily firefighting
Hiring like crazy
Running out of space
Losing control

In 2018, we made
an important
choice

The unique nature of groceries

The products are difficult

- Fresh, fragile, heavy
- Dominated by high-frequency products
- 3 different temperature zones

The shopping pattern is unique

- Weekly need
- High demand on speed & quality
- Large orders: 40+ items per basket

The economics are nearly impossible

- Low-margin products
- Loss leaders
- Low willingness to pay for delivery



Building an automated system

An assembly line for grocery orders

High-tact assembly of similar, but not identical, grocery orders

Resilient to volume and variation fluctuations

Ultra high turnover of inventory

Separate temperature zones

Minimal footprint

High reliability, low maintenance, low cost



Scaling for the world

Becoming the leading online grocery company in the nordics



Softbank og Prosus investerer to milliarder kroner i Kolonial/Oda: Går inn i Finland og Tyskland

Nattmatbutikkene, som du sikkert kjenner igjen fra et brøt vekstskue, nå satser på de enda brøttrere kjerne, når de skal i Europa med en vesle milliard kroner.

Kolonial.no, som ved halvårsbrevet oppes om 18 Oda, ligger an til å omsette for en halv milliard kroner mens de prøver å etablere seg i Tyskland.

Nå gjør selskapet sin neste største kapitalinnsats, og får noen av verdens største investeringsselskaper på armen.

Runden er på 2,3 milliarder euro, tilsvarende 2,3 milliarder norske kroner. Selskapene kjøper ved å etablere av nye steder for en milliard kroner, som tilfelle selskapet, samt nedlagte å etablere de eksisterende og fornyelse av gjen.

Pengene skal brukes på å ekspandere virksomheten til Finland og Tyskland. Selskapet ønsker dermed etablere seg i nye markeder med et utvalg.

Og Kolonial/Oda får ikke hvem som helst på armen i prosessen.



2013 2014 2015 2016 2017 2018 2019



There is a demand for online grocery shopping

2020 2021



Creating an effective logistics model Scaling for the world

2022 2023



Oda slår seg sammen med svenske Mathem

FULLTIDENE: Kolonial/Oda, Karl Martin Koss og adm. direktør Mathem, Arnt Langelund. Foto: Ole Christian Mathem

Den nettbaserte matbutikken Oda slår seg sammen med sin svenske motpart Mathem, og girer parter i en pressetmelding forslag.

Samarbeidet er på fulltidsbasis. Norske med en omsetning på over 5 milliarder norske kroner. Oda Group Holdings ansetter for ca. 3.000 arbeidstakere i 2021.

Denne fusjonen er en egen challenge for dagligvarehandelen på nett. Vi ser frem til å bli enda sammen med Mathem og et nytt skritt på veien mot å bli Europas beste matbutikk på nett. Dette vil bli en av våre nye utfordringer for effektivitet, kvalitet og ikke minst kundetilfredshet, sier Oda- og Karl Martin Koss.

Det gjennomførte selskapet skal hete Oda, men Mathem vil fortsette å operere under sin svenske identitet.

Dropptek Tyskland og Finland

Mathem vil dermed gå over til å bruke Oda's logistikk og teknologiløsninger, noe som vil bidra til å øke effektivitet, sier de.

Oda vil bli en del av Mathem Group, som Oda Norge er en del av, og vil bli en del av Mathem Group. De vil bli en del av Mathem Group som er en del av Mathem Group.

Bla 2022 som helhet, men i andre halvdel. Det var en annen prisering i Oslo, men bli en del av Mathem.



Oda har blitt gitt kjøpt som et resultat for arbeidsmarkedet. Siden starten i 2014 er det akkumulert arbeidsmarkedet i Oda Norge kommet opp over 1,5 millioner kroner.

Satsingen i Tyskland og Finland, som nå er nedlagt, har kostet dyrt, og 2022 blir Oda Group Holdings et resultat for årets på minus 1,2 milliarder kroner.

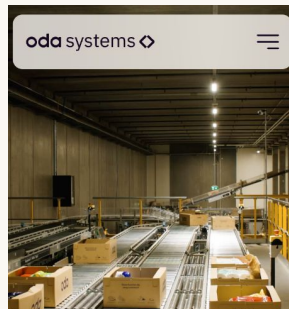
Jakter lønnsomhet

Håper å være en del av Mathem Group i 2021. En vurdering fra Mathem Koss er at selskapet skal bli en del av Mathem Group i 2021. En vurdering fra Mathem Koss er at selskapet skal bli en del av Mathem Group i 2021. En vurdering fra Mathem Koss er at selskapet skal bli en del av Mathem Group i 2021.

2024 2025 2026



Re-grouping and merging with Mathem



Logistics-as-a-service

Truly efficient online grocery logistics. Proven in the Nordics, now available to the world.

Oda Systems is a world-class solution for the fulfillment and delivery of online groceries, providing the infrastructure and support you need at every stage of

NB! Chart only illustrative

A person wearing a high-visibility vest is working on a laptop. The laptop is placed on a server rack. The screen of the laptop displays a web application interface with a sidebar menu and a main content area. The sidebar menu includes items like 'Picking', 'Terminal', 'Optimize', 'Maintenance', 'Station apps', 'Cameras', 'Employee store', 'Home', 'Reports', and 'Admin'. The main content area shows a form or data entry screen. The overall scene is dimly lit, with the laptop screen providing the primary light source.

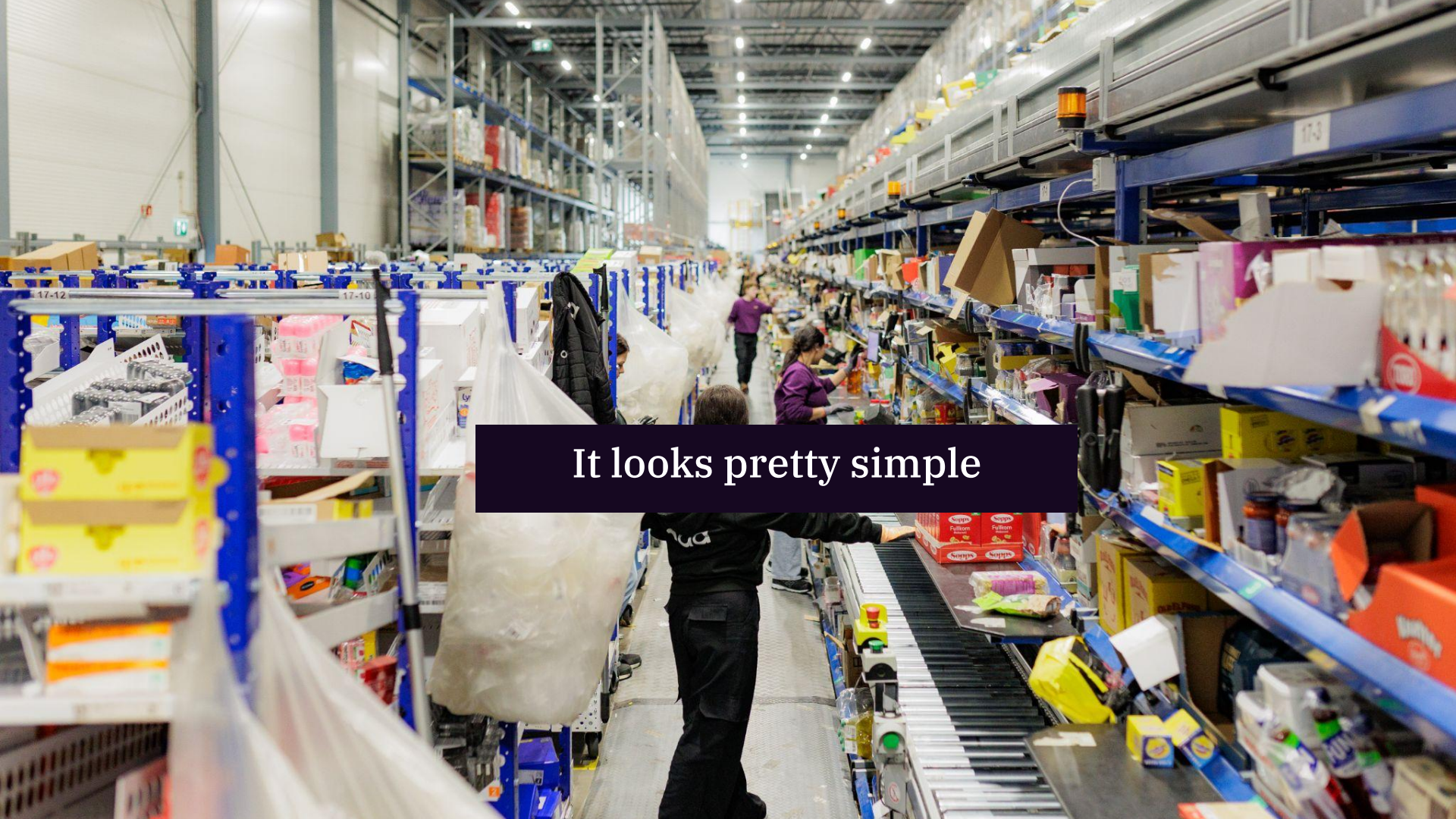
Integrating data and software into logistics



It looks pretty simple

A wide-angle shot of a factory floor dedicated to cardboard box production. In the foreground, a conveyor belt carries several open-top cardboard boxes, each with the 'oda' logo printed on its side. The boxes are moving from left to right. Behind the conveyor, there are large industrial machines, including two 'CARDBOARD ERECTOR' units. The machinery is complex, with various rollers, sensors, and safety features. A yellow vertical beam is visible in the center. The background shows more of the factory, with stacks of raw cardboard and other equipment. The lighting is bright and industrial. A dark blue banner with white text is overlaid in the center of the image.

It looks pretty simple



It looks pretty simple

A photograph of a warehouse conveyor belt system. Multiple cardboard boxes are moving along a series of parallel metal tracks. The boxes are brown and feature the 'oda' logo and some text in Norwegian. The background shows a large industrial space with concrete walls and overhead lighting. A dark purple rectangular box is overlaid on the center of the image, containing white text.

It looks pretty simple




It looks pretty simple



It looks pretty simple

... but our quality and efficiency outperform all other E-grocery players

 Oda's performance is higher than alternatives

	Metric	Definition	Oda Norway current performance*	Other E-grocery players
Fulfilment metrics	Units per hour (UPH)	Number of units picked, packed and dispatched divided by shift time	294	50-240
	Waste	Loss due to spoilage, as a % of operating revenue	0.21%	>1%
	Item accuracy	% of items delivered to customer without mistake	99.7%	<99%
Delivery metrics	Drops per hour (DPH)	Number of stops divided by number of route hours (incl. loading and unloading)	4.3	2.0-3.0
	Drops per car (DPC)	Average number of orders delivered in one trip	31	15-25
	On-time delivery	% of orders delivered precisely within their scheduled slot	95%	85-95%
Sales	Capacity	Number of items fulfilled and delivered per day in Norway. Designed capacity up to 300k per shift, with three shift setup up to 900k	480k	80-400k

(Almost) all software is developed in-house

- WMS
- ERP
- Picking App
- Conveyor control
- Route planning
- ...



... and the system is fueled by data and algorithms

Data-driven decisions at
scale

Fulfillment controlled by
algorithms

Route planning for capacity
management and delivery

DAILY OPERATIONS MEETING

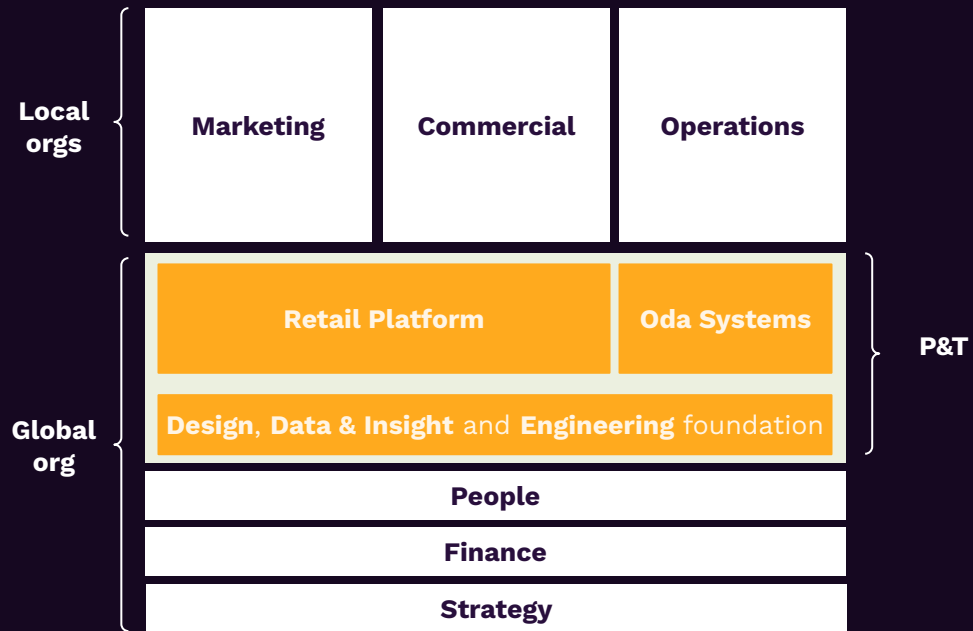


We have the data to
drive continuous
improvement

DAILY OPERATIONS MEETING

How we work together

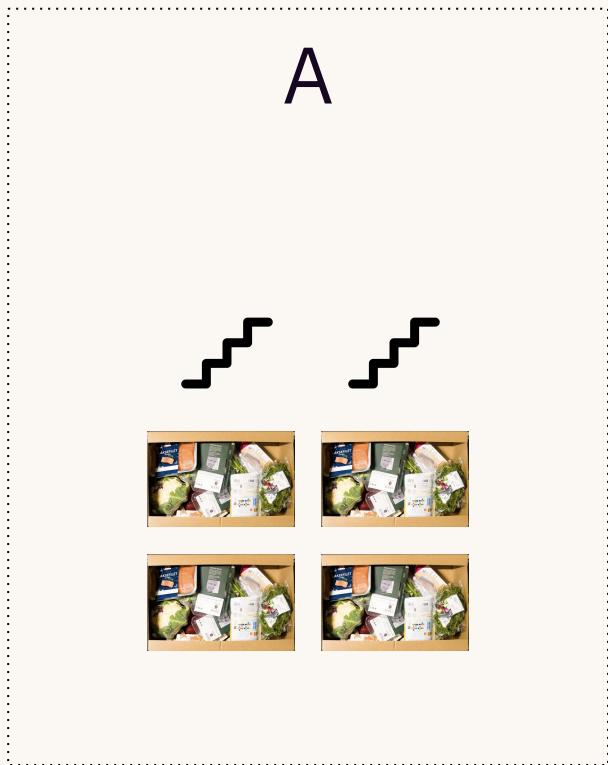
We have local organizations and a global product & tech



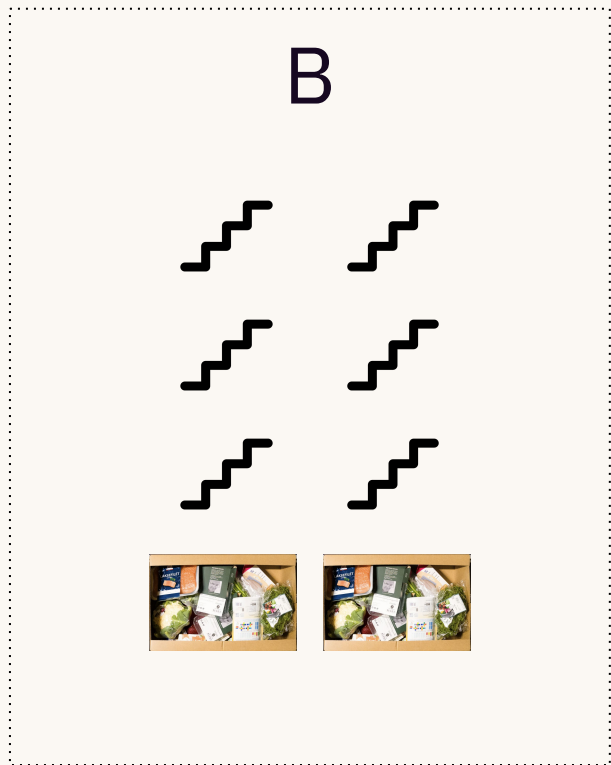
A photograph of a truck's interior from the driver's perspective. A person's hands are on the steering wheel. A smartphone is mounted on the dashboard, displaying a map application. The phone has a Zebra logo at the top. The dashboard features a radio and air vents. The image is dimmed with a dark overlay.

Solution example: Workload balancing in route planning

What is workload?

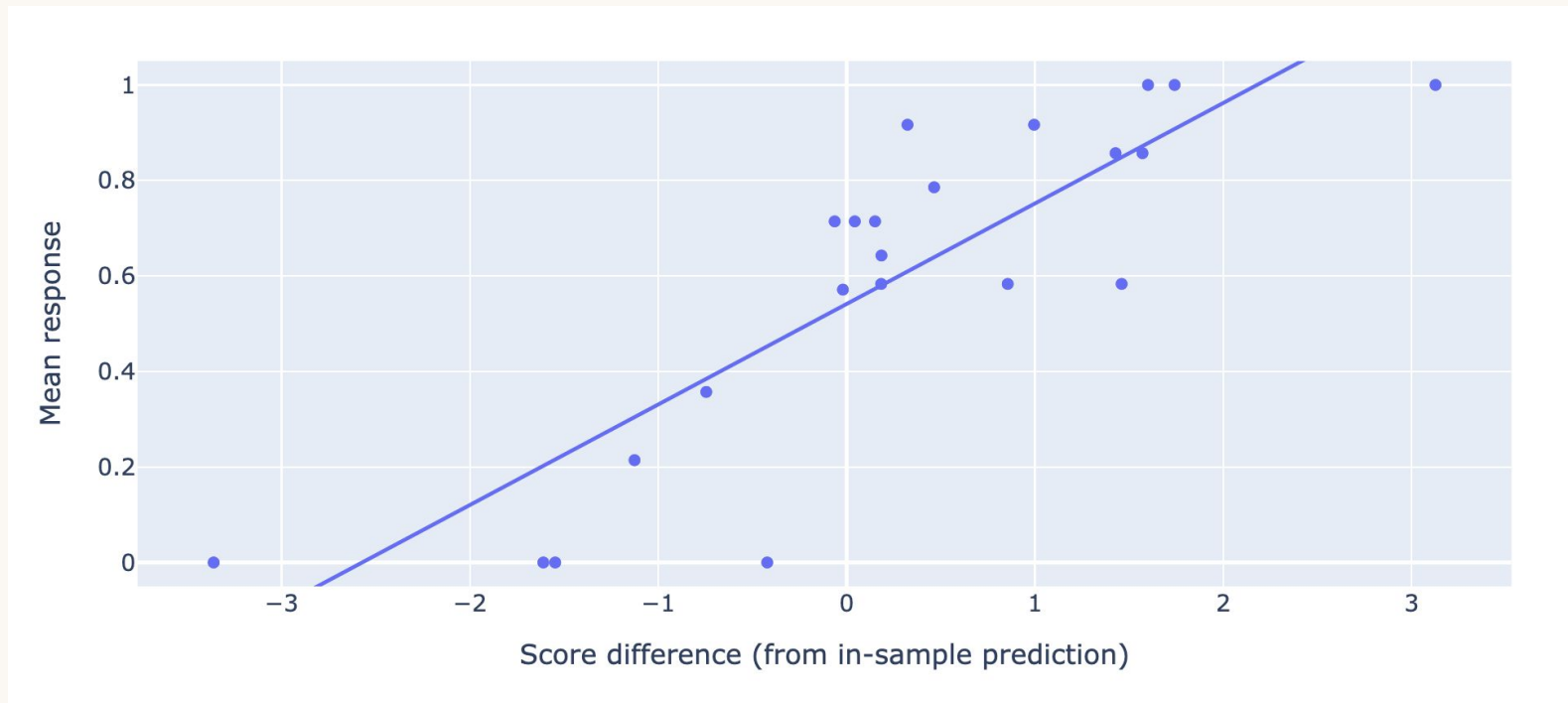


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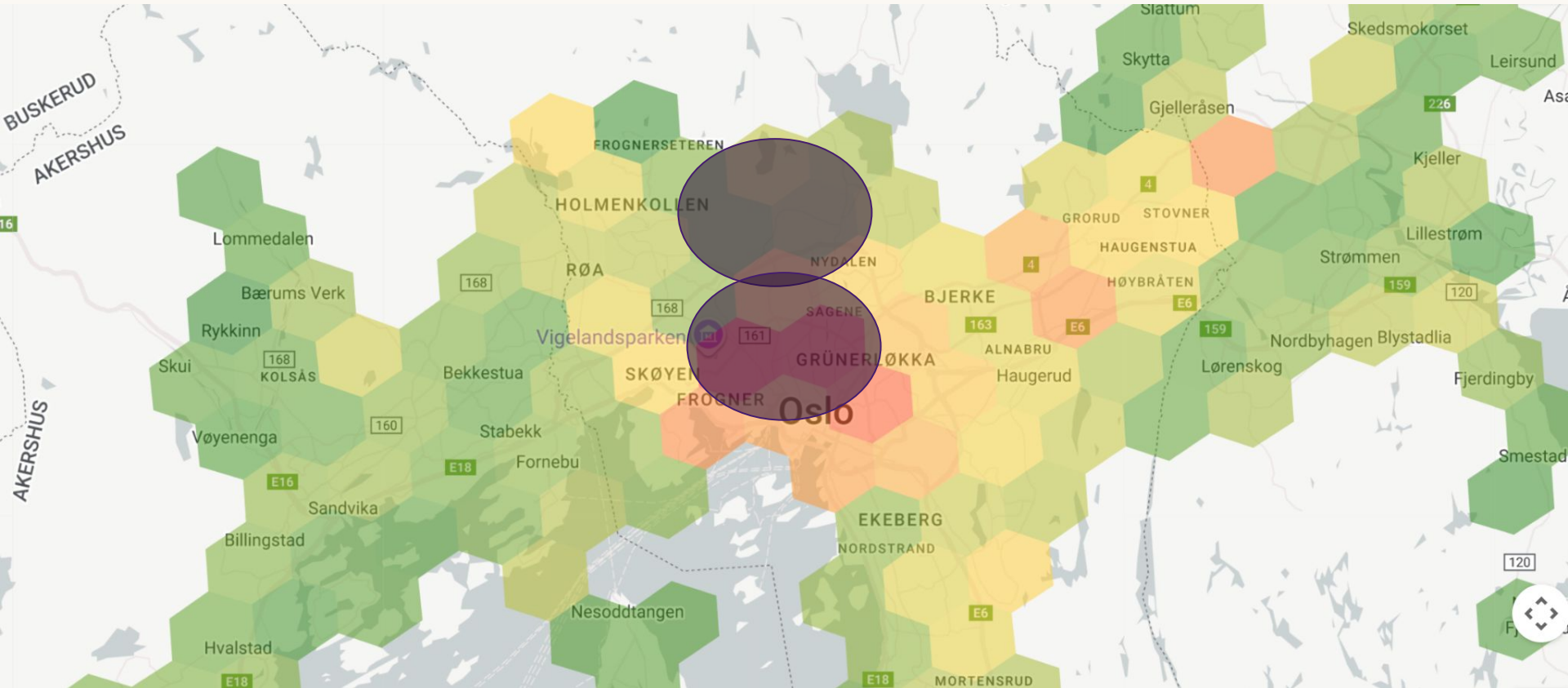


What is workload?

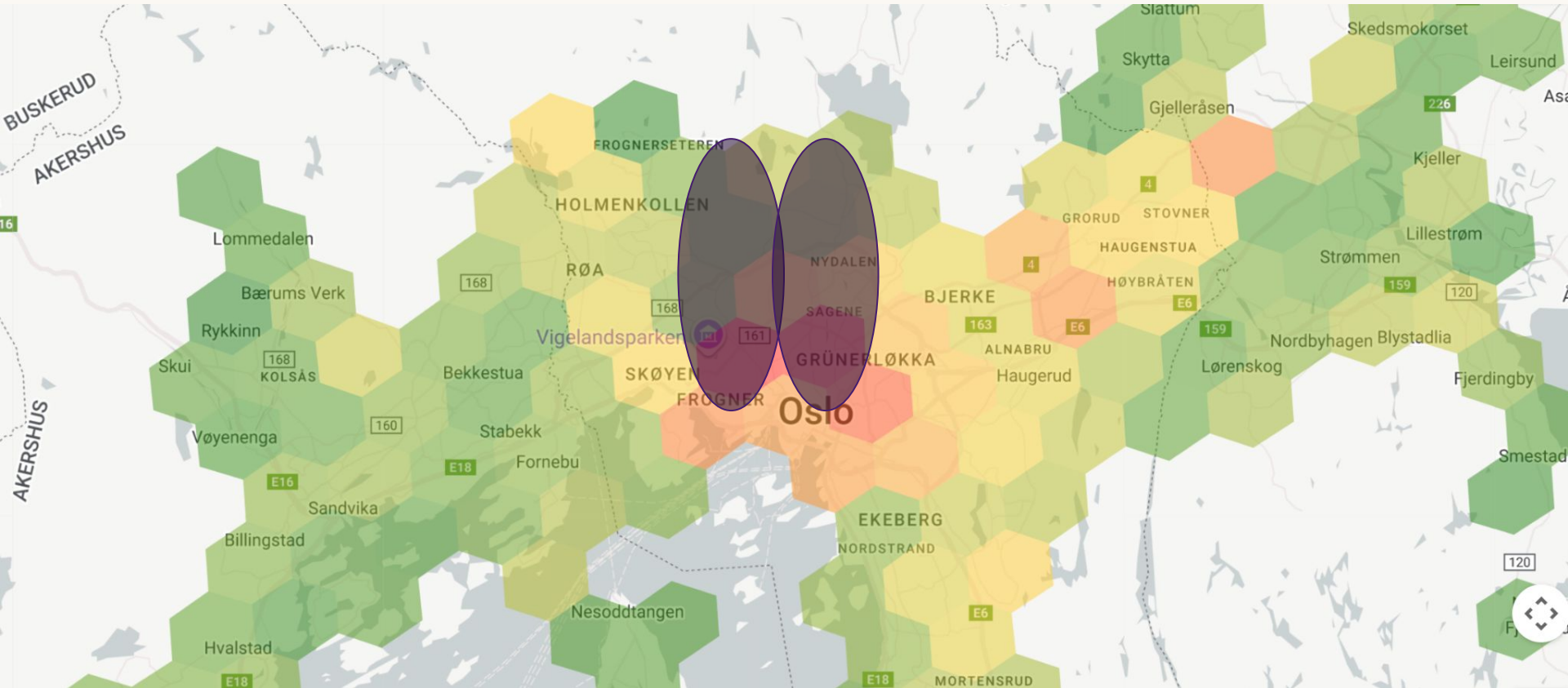
$$\text{workload} = \beta_1 \cdot \text{floor} + \beta_2 \cdot \text{weight} + \beta_3 \cdot \text{weight} \cdot \text{floor}$$



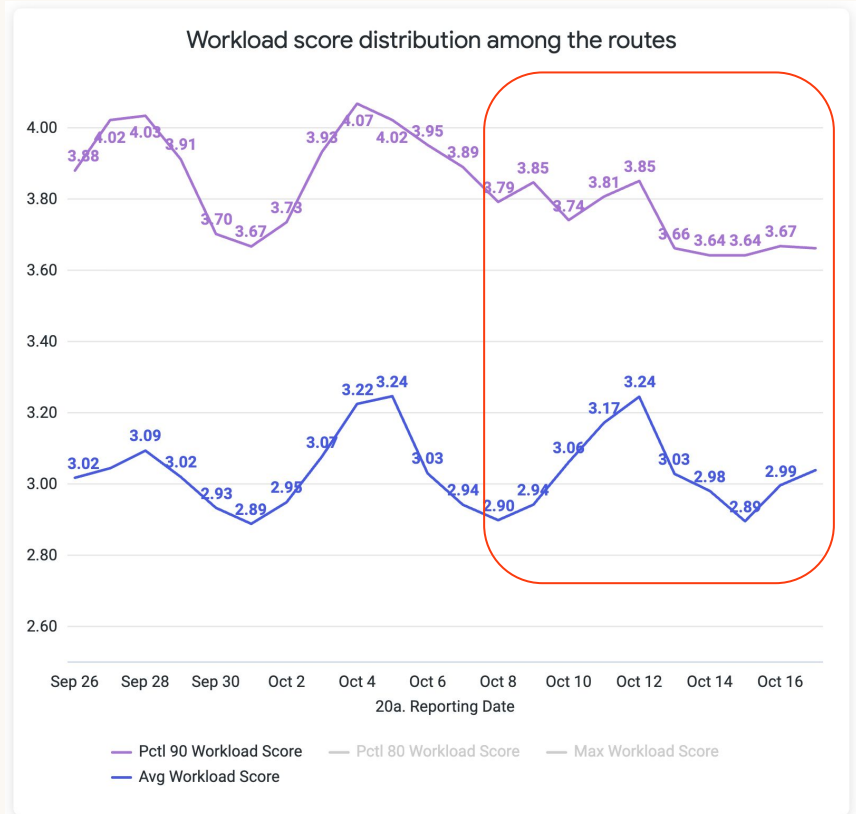
Can we remove routes with highest workload?



Can we remove routes with highest workload?



What improvements have we seen so far?



- Avg workload is still the same, and depends on our customers, not our routes
- The 90th percentile is significantly lower than before 🎉

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Thank you