# optimising for in Norway's largest bureaucracy

#### Audun F. Strand





#### Truls Jørgensen



## NORWEGIAN LABOUR AND WELFARE ADMINISTRATION TL:DR:

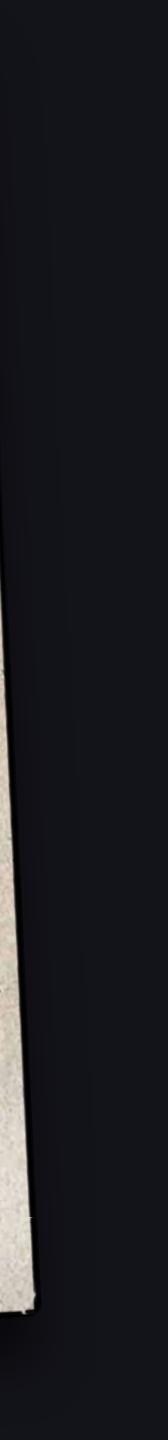
assist people into work child benefits sickness benefits unemployment benefits pensions and more





EST. 2006

## 1030000 DEV HOURS IN A SINGLE EASE



TL;DR: / MORWEGIAN LABOUR AND WELFARE ADMINISTRATION

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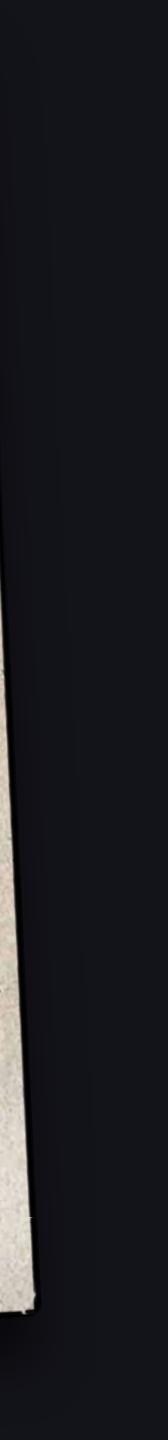
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2006

assist people into work child benefits 1300 sickness benefits unemployment benefits pensions and more



AVG (#DEPLOYS TO PRODUCTION/WEEK) PR YEAR



2020 2022

2018

unemployment benefi

pensions child benefits...



300

150

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LUU

2009

450

## TL;DR: / NORWEGIAN LABOUR AND WELFARE ADMINISTRATION

#### IN HOUSE DEVELOPERS



2020

2022

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TL;DR: / MORWEGIAN LABOUR AND // WELFARE ADMINISTRATION

unemployment bei

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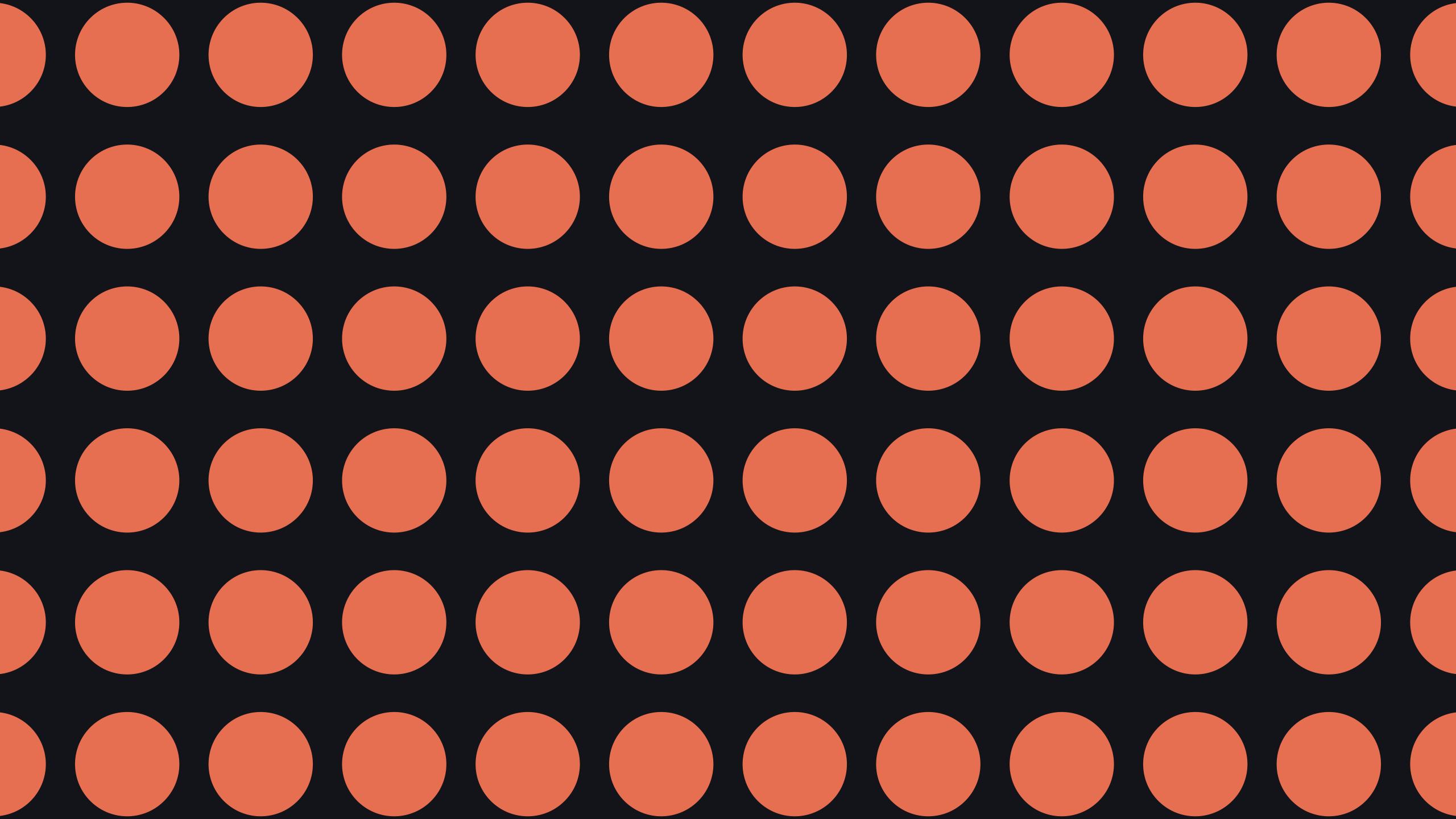
#### **PRODUCT TEAMS**

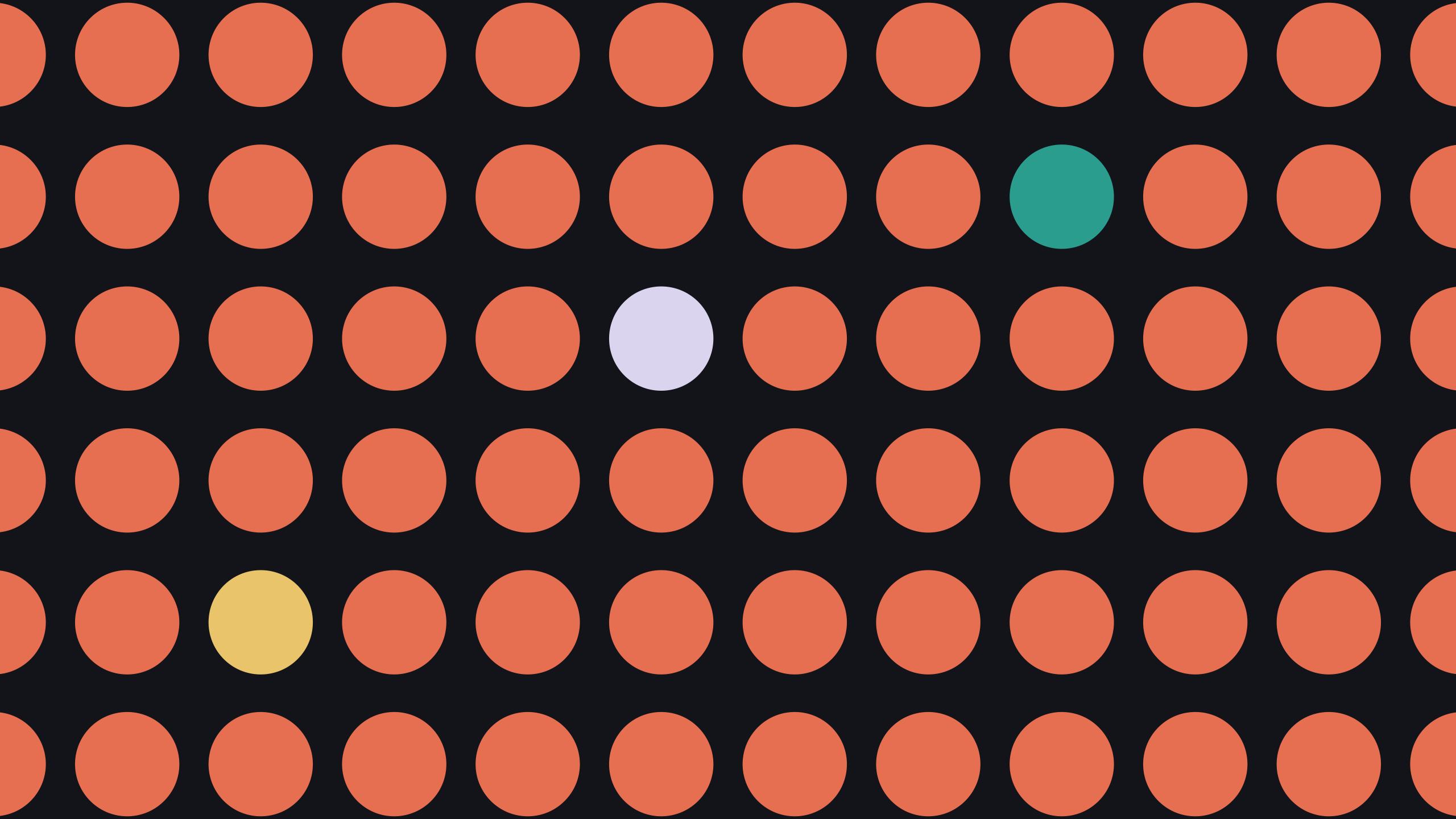


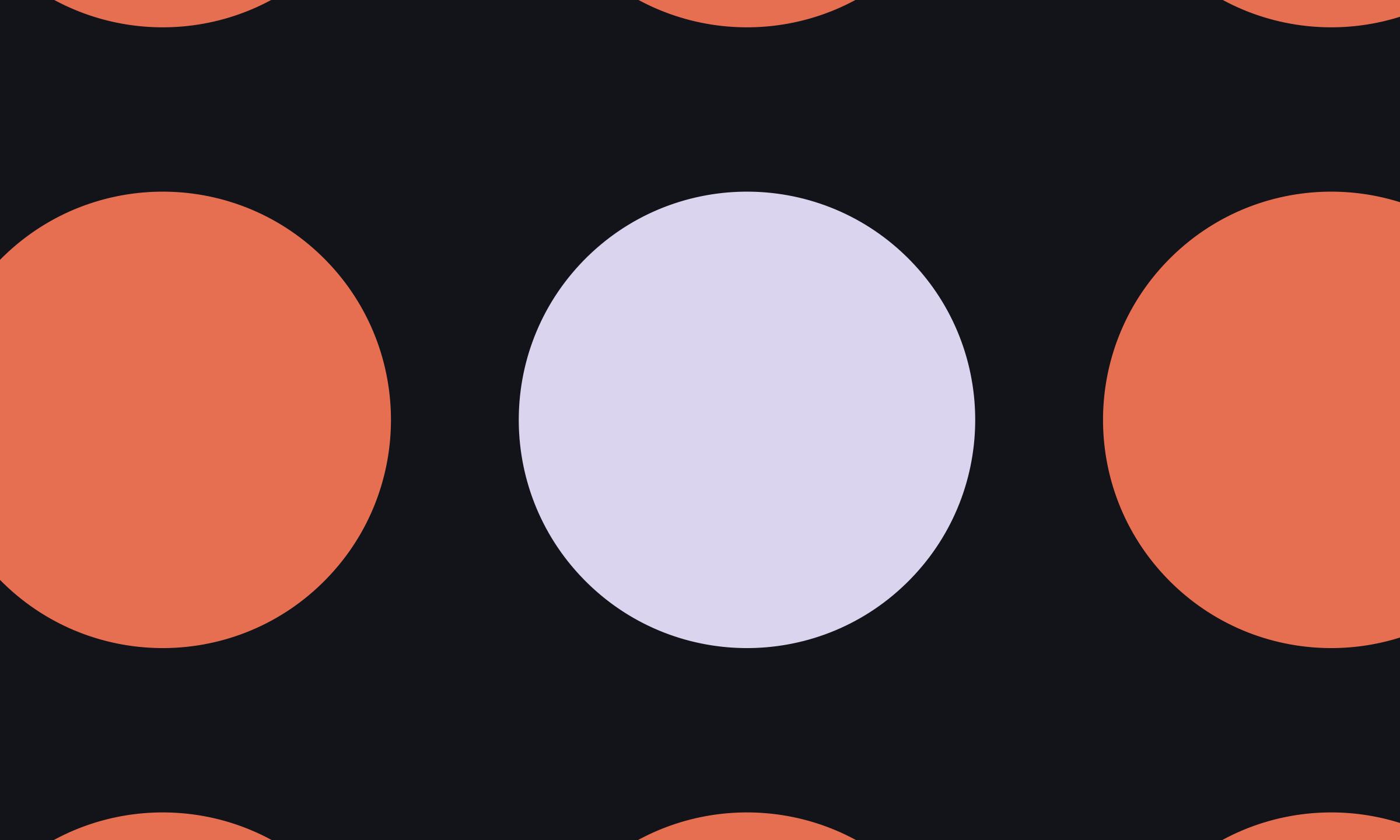
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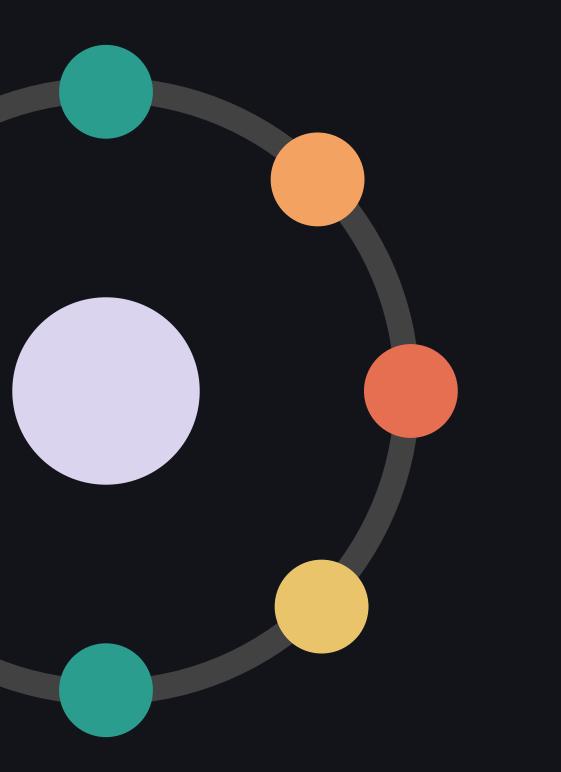








# cross functional team



### sustainable system, adaptive to change

### more user friendly service

# efficient case handling **£**

better compliance



# human practice

## machine theory



# human practice

## machine theory



### sustainable system, adaptive to change

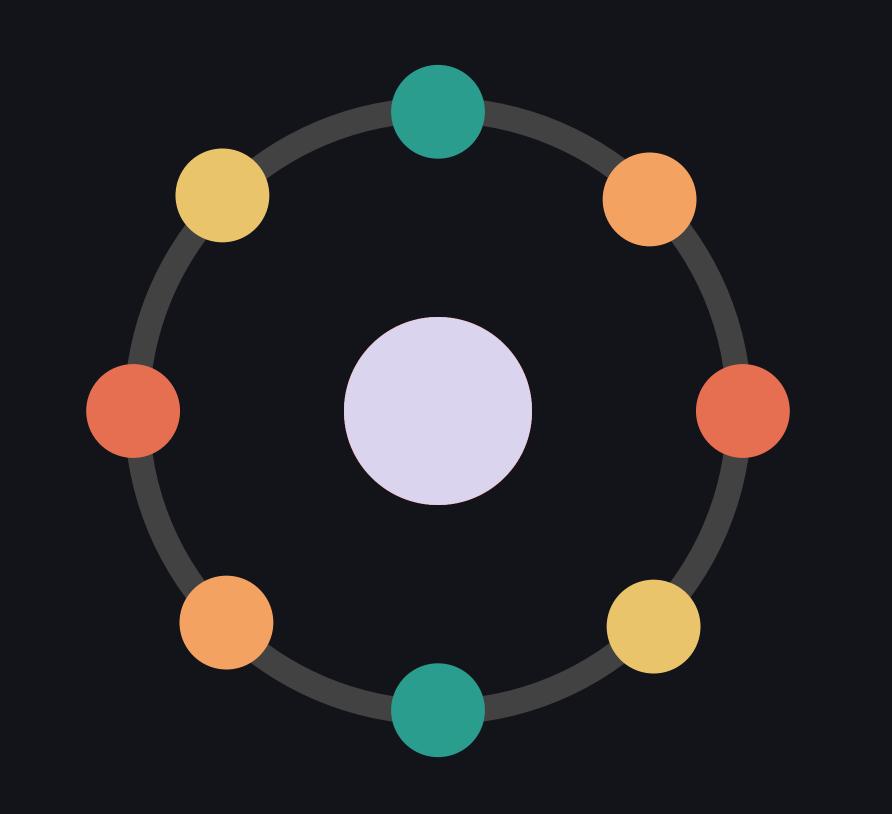
### more user friendly service

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better compliance

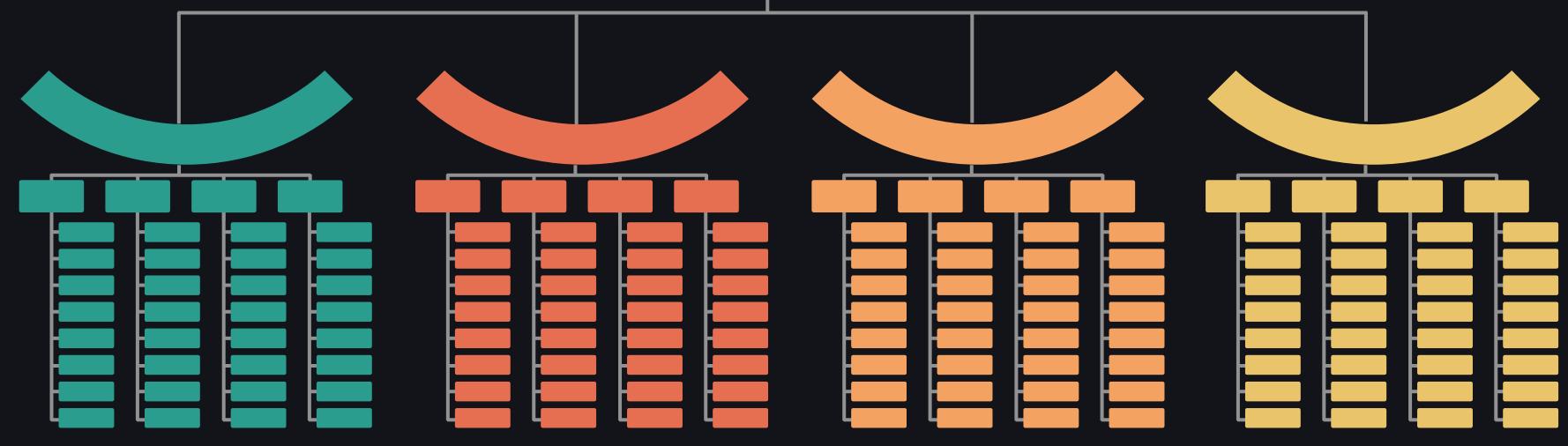


# software development is a LEARNING PROCESS working code is a side effect -Alberto Brandolini



#### 

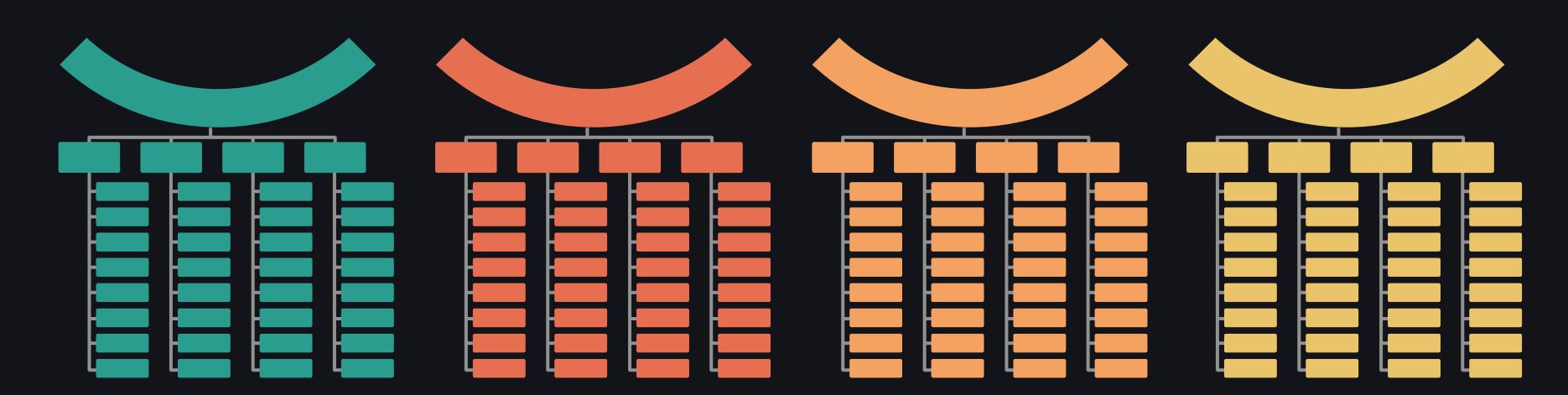
# support

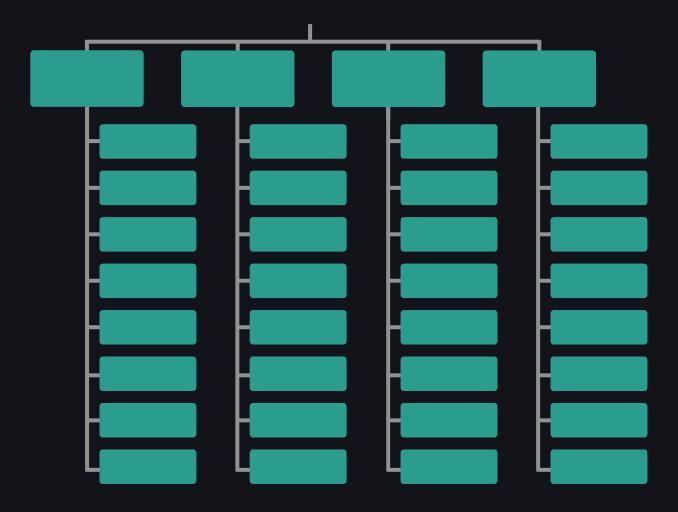


#### 

VS

## everybody wants to go to heaven nobody wants to die

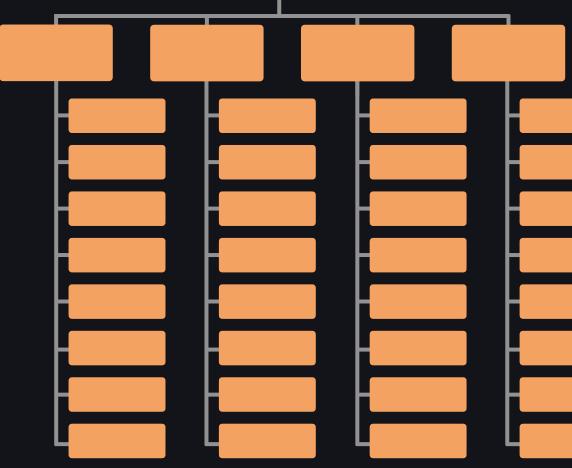




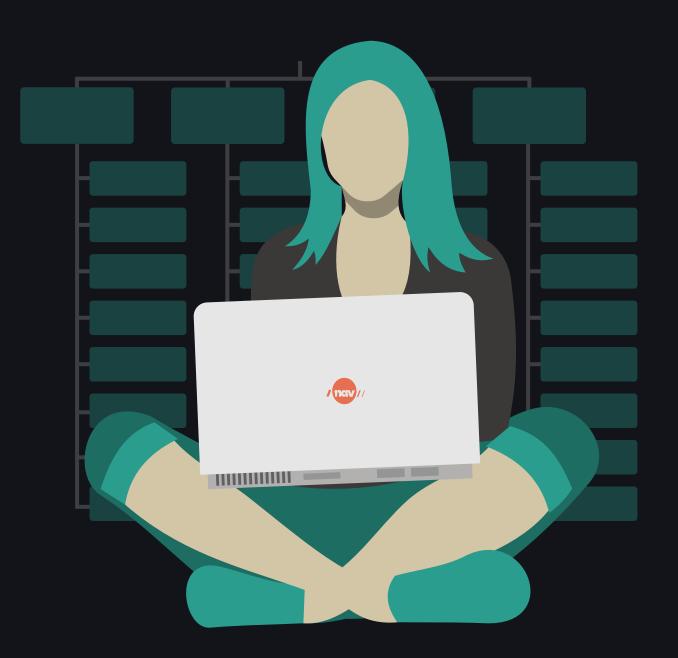
## what could these do

### to set the teams up for success?







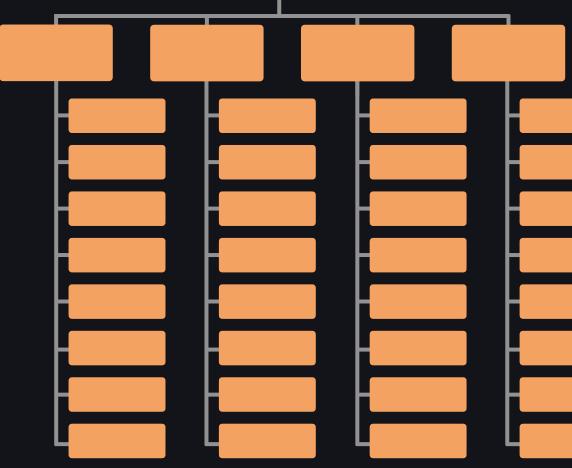




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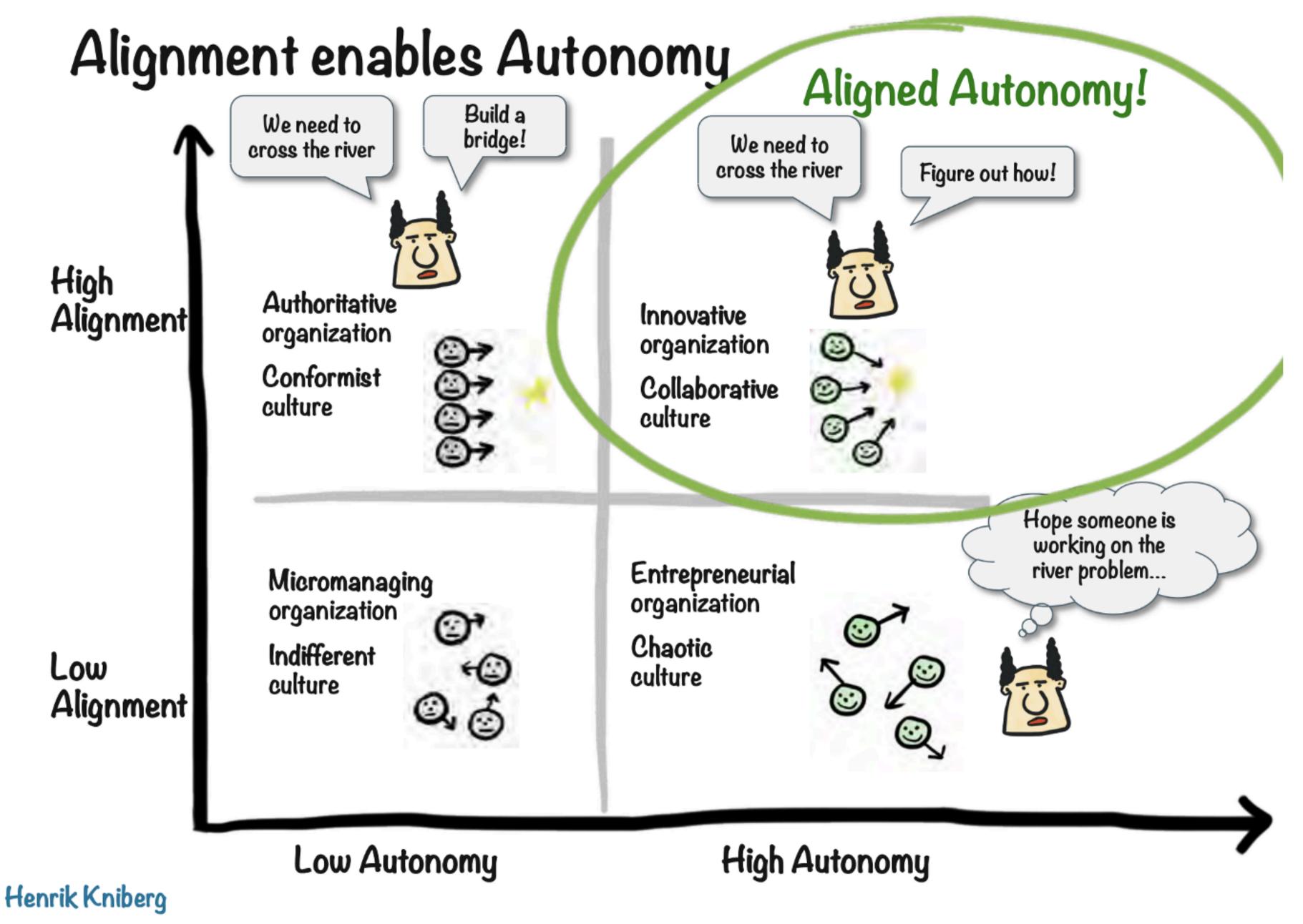








# ALIGNMENT in the age of autonomy





# principles on the company wiki ISN'T GOOD ENOUGH!





## for (team in teams) { with **RESPECT** for the team autonomy make the team WANT to do it and provide HELPFUL GUIDANCE adapted to their **CONTEXT** and **ABILITIES** without exceeding their **COGNITIVE CAPACITY**







# weekly technical DEMO



# weekly technical DEMO



# technical DIRECTION

## **Technical** direction

Audun F. Strand Truls Jørgensen

# Technical direction

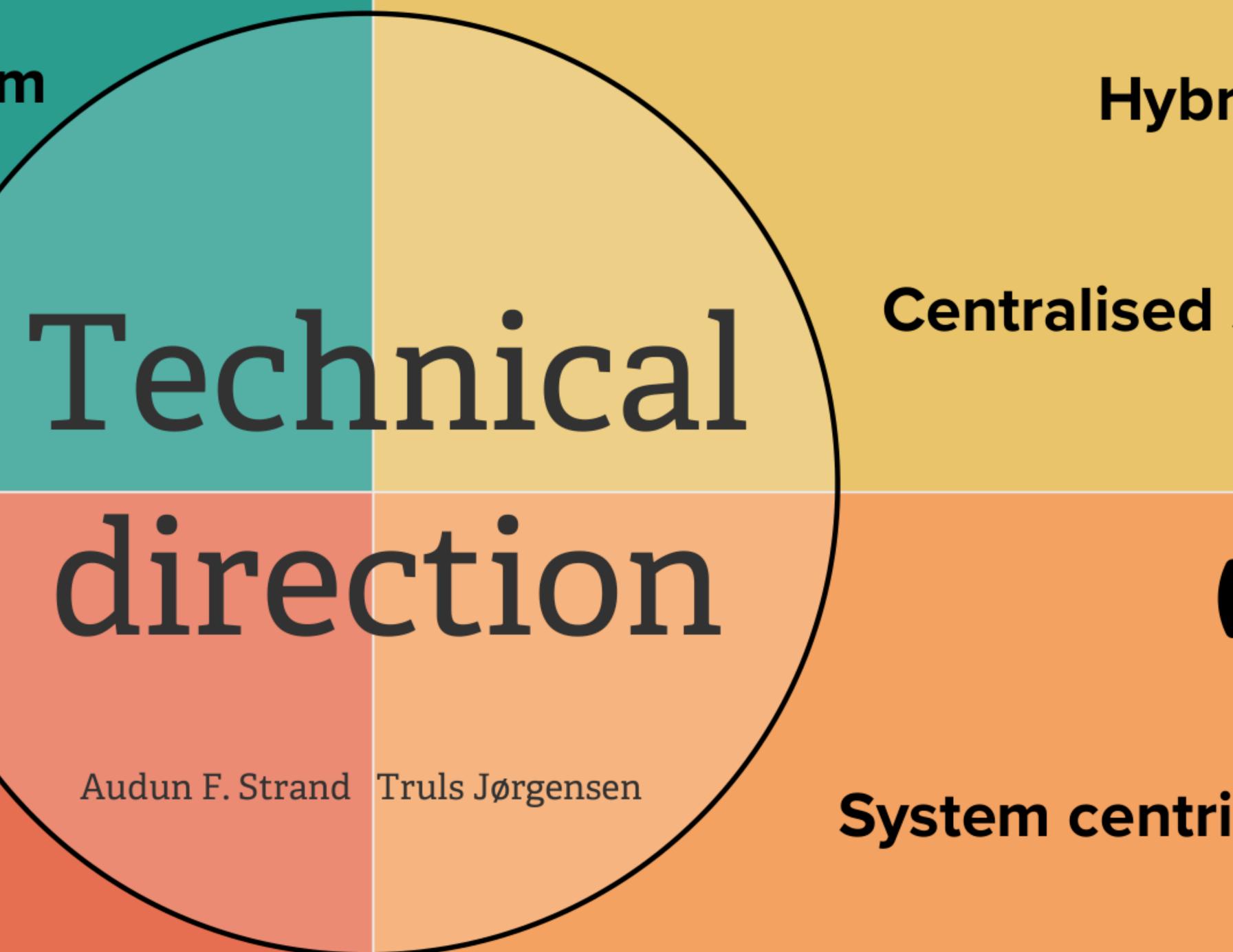
Audun F. Strand Truls Jørgensen

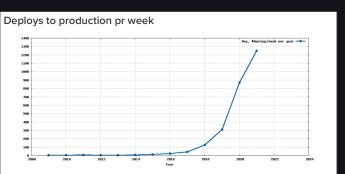
## n on a data platform

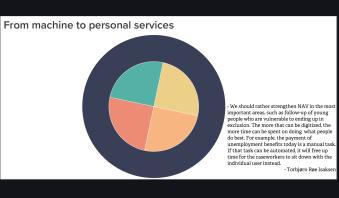
## ption layer

#### y radar









#### Our plan:

Present this for all teams in NAV Discuss how it affects your team

- We can
- discuss in more detail in a follow up meeting
  provide training material / backgrund material for each topic
  provide subject matter experts to help on a specific topic

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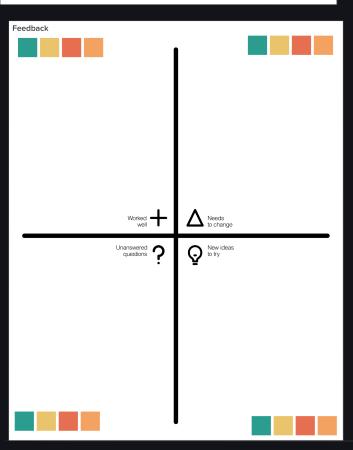
#### How to read this presentation:

Each topic has a set of arrows, where each arrow indicates a direction from someting and to something

NAV is heterogeneous. A team's ability to change differs a lot. It depends on not only the level of internal technical ownership, but on how adaptive to change their software systems are.

Our systems has different starting points and different ability to change, but we encourage every team to try to move From \_\_\_то

#teknisk\_retning



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Remote friend
Input/Outp

Closed source code

**B** 

Share data with REST/SOAP/DB

Point-to-point integration

Monitor the applications

Analytic data as by-product

Dependency on data models

Centralized governance of

approved technologies

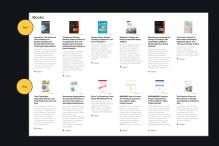
10x developer

Hard to find data

we don't own

Input/Outpu

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Data driven		්ස දිරි	niques
	Share data as streams/ versioned data sets	గ్రామ్ Feature Branch	Trunk based development
	Publish events	Shared test environments	Isolated component and E2E-tests
	Monitor the user behaviour	List of 136 compliance requirements	→ Built in compliance
	Data products in product areas	Ad hoc handling of technical debt	At least 25% of team capacity on technical maintenance
	Data mesh on a data platform	Hybrid cloud	────→ Multi cloud
	Anti corruption layer	nical	Distributed, built in security Security Champions in teams
Culture	dire	ction $(\mathbf{\hat{s}})$ Sosiot	echnical
	Technology radar Audun F. Strand	Truis Jørgensen System centric architecture	Sosiotechnical architecture
	Pair programmering	Horizontal, layered responsibility	
	Code in the open	Centralized, coordinated interaction	→ Team api
	Remote first	Team	→ Team topologies
	Outcome	Product areas backed by financing programs	Stable financing of product area
Team health checks		Projects in financing programs	Domain driven team organizatio

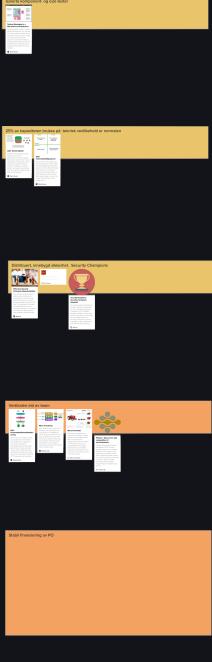


Turk based development





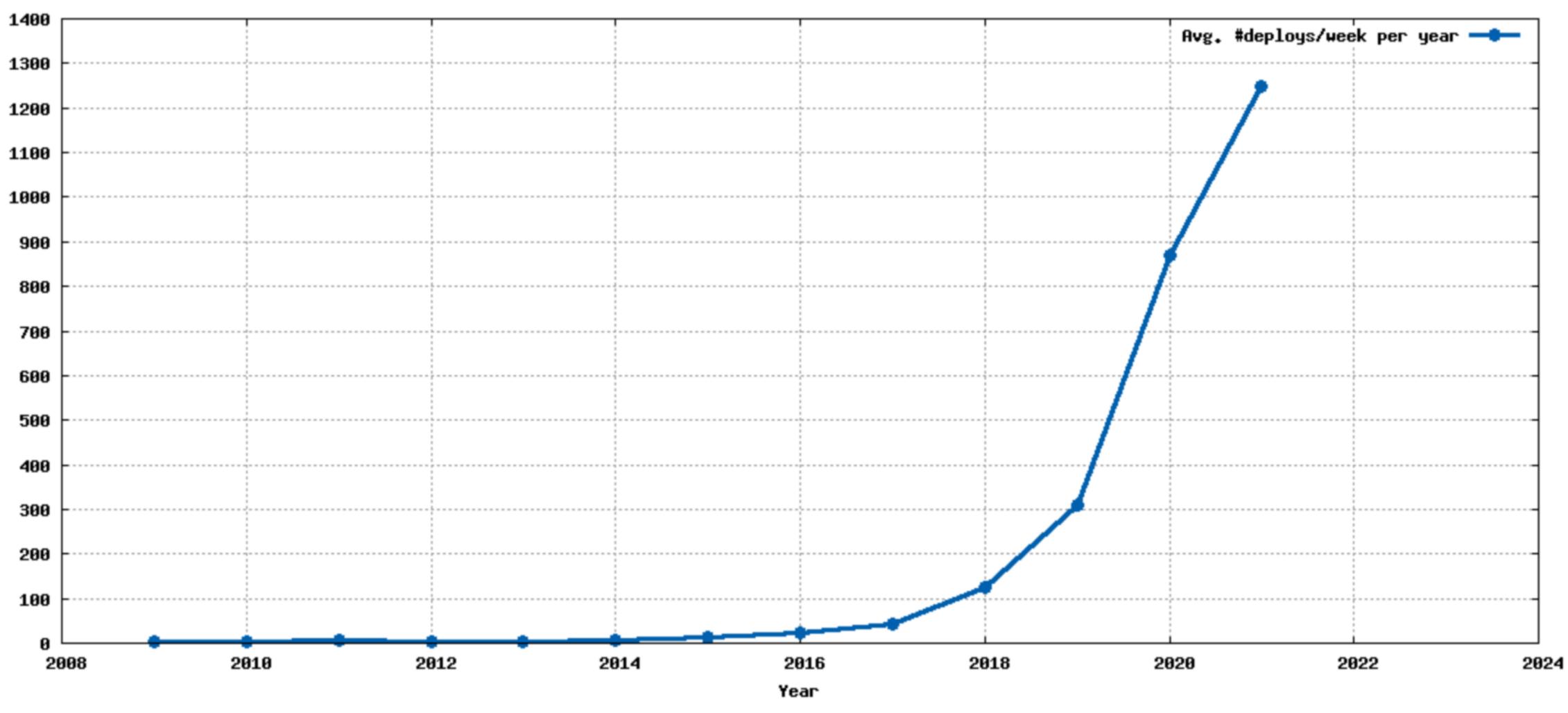








#### Deploys to production pr week



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Present this for all teams in NAV Discuss how it affects your team

We can

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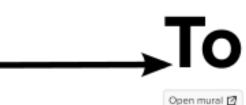
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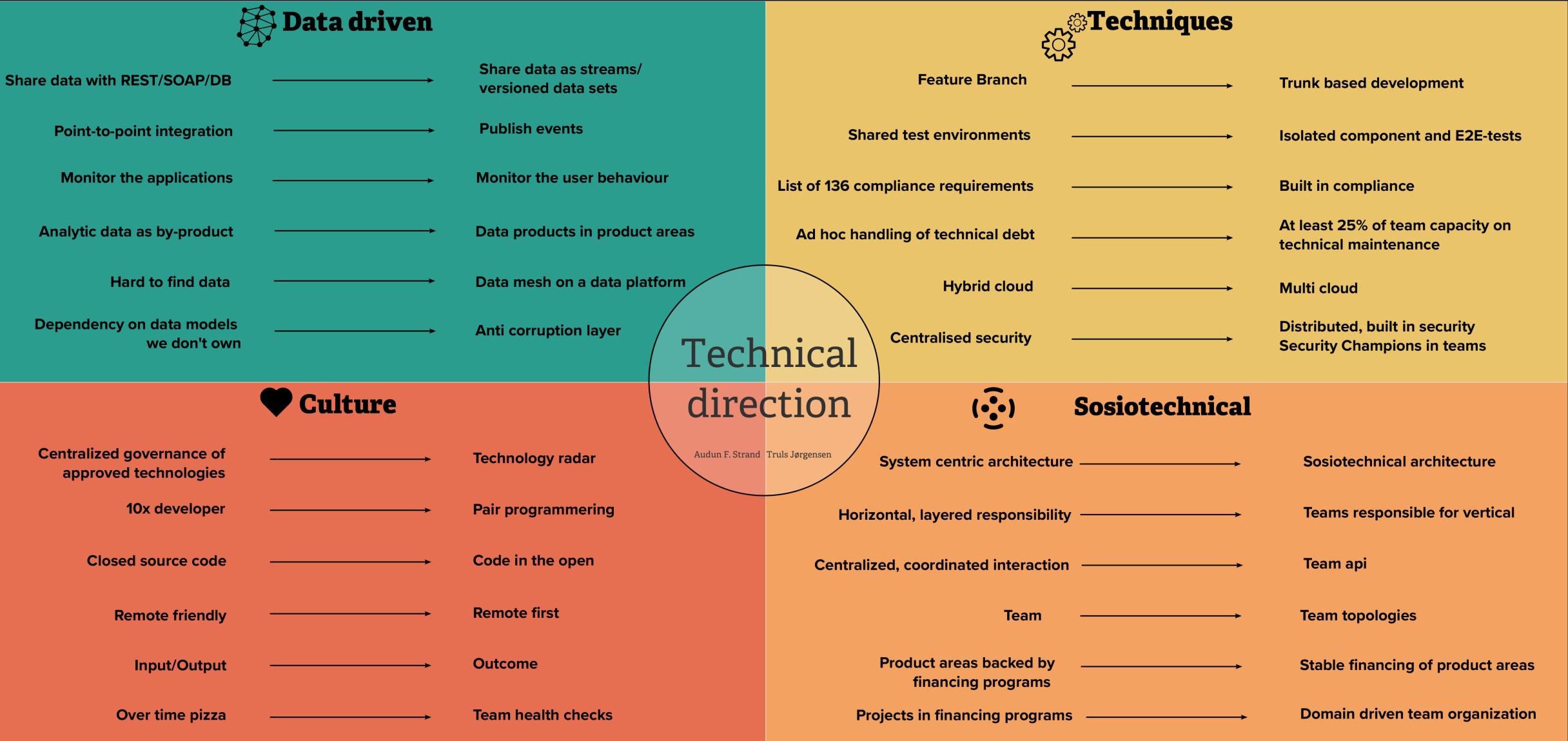
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#### Share data with REST/SOAP/DB

**Point-to-point integration** 

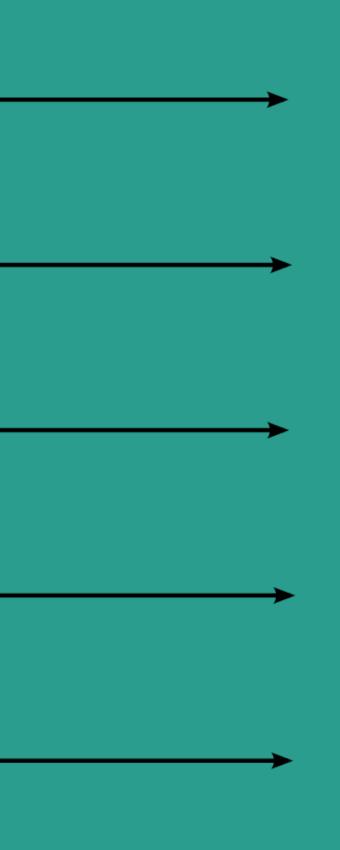
**Monitor the applications** 

**Analytic data as by-product** 

Hard to find data

Dependency on data models we don't own

## Data driven



Share data as streams/ versioned data sets

**Publish events** 

Monitor the user behaviour

Data products in product areas

Data mesh on a data platform

**Anti corruption layer** 





Tech



Centralized governance of approved technologies

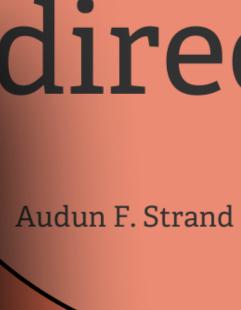
**10x developer** 

**Closed source code** 

**Remote friendly** 

Input/Output

**Over time pizza** 





#### **Feature Branch**

#### **Shared test environments**

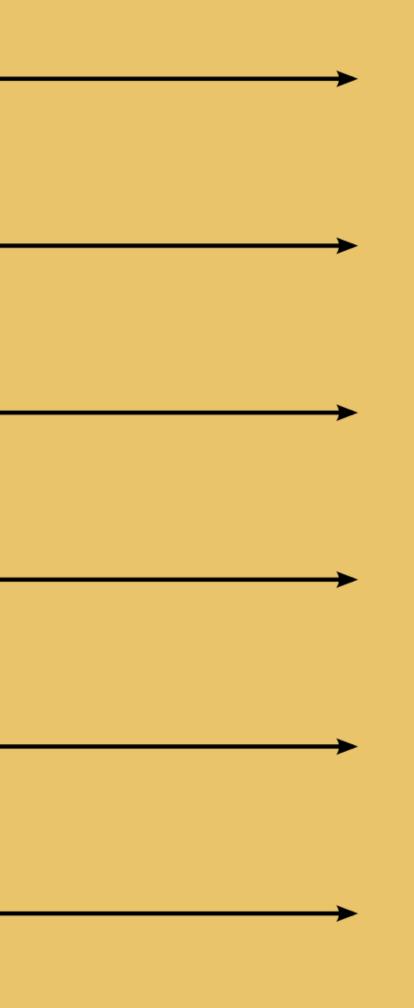
List of 136 compliance requirements

Ad hoc handling of technical debt

Hybrid cloud

nical

**Centralised security** 



#### **Trunk based development**

**Isolated component and E2E-tests** 

**Built in compliance** 

At least 25% of team capacity on technical maintenance

Multi cloud

**Distributed, built in security Security Champions in teams** 











Truls Jørgensen

System centric architecture —

Horizontal, layered responsibility –

Centralized, coordinated interaction

Team

**Product areas backed by** financing programs

**Projects in financing programs** 

## Sosiotechnical



**Teams responsible for vertical** 

Team api

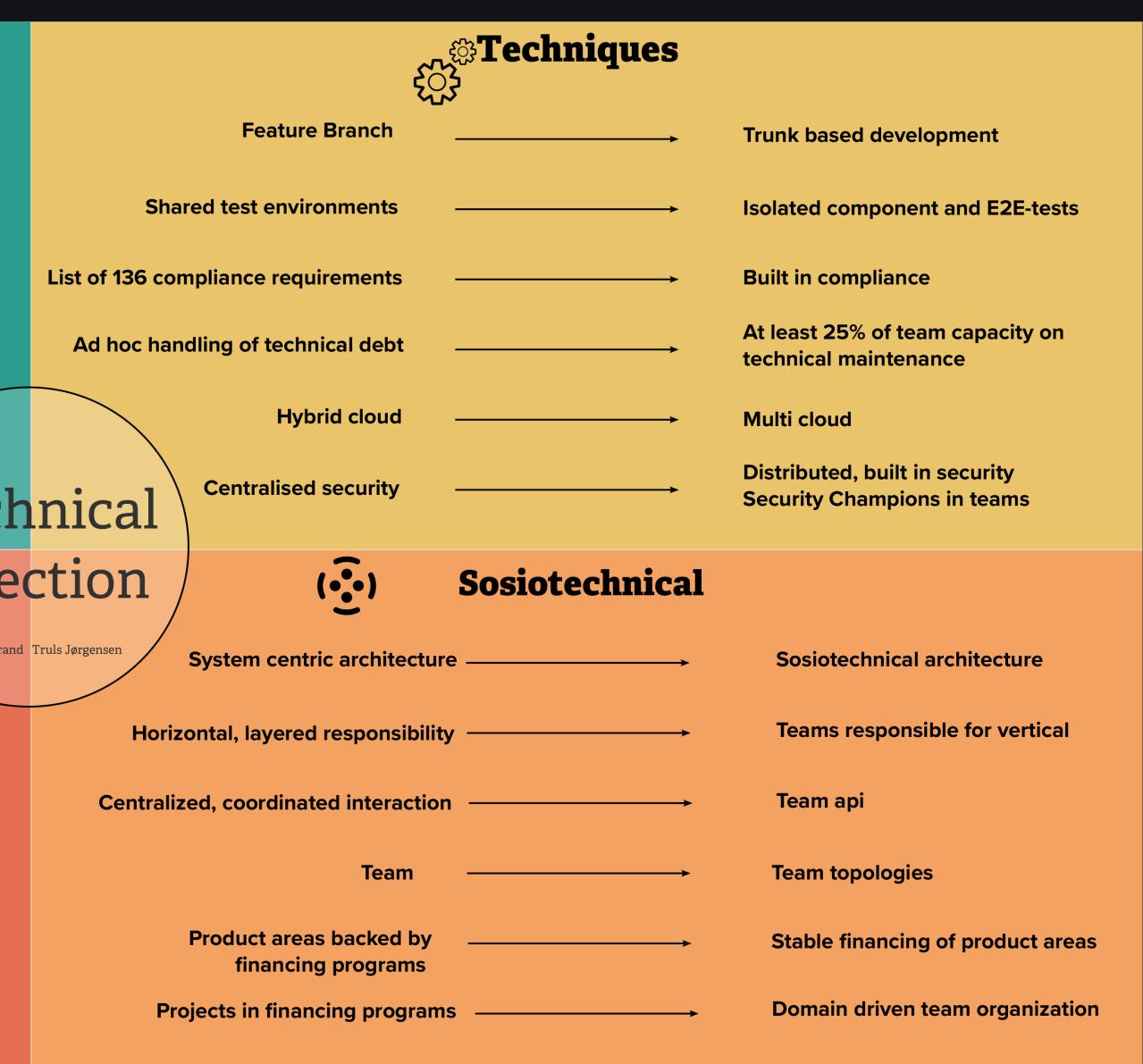
**Team topologies** 

**Stable financing of product areas** 

**Domain driven team organization** 



Į.	Data driven	
Share data with REST/SOAP/DB		Share data as streams/ versioned data sets
Point-to-point integration		Publish events
Monitor the applications		Monitor the user behaviour
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	<b>Culture</b>	dire
Centralized governance of approved technologies		Technology radar
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Over time pizza		Team health checks



Hard to find data	<b>&gt;</b>	Data mesh on a data pla	otform
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	Pro	jects in financing programs		Domain driven team organiza





# GOLDEN PATH platform















#### nais.io







# what we adopt and prefer when optimising for SPEED AND FAST FLOW in Norway's largest bureaucracy





## with **RESPECT** for the team autonomy

make the team WANT to do it

and provide HELPFUL GUIDANCE adapted to their **CONTEXT** and **ABILITIES** without exceeding their COGNITIVE CAPACITY

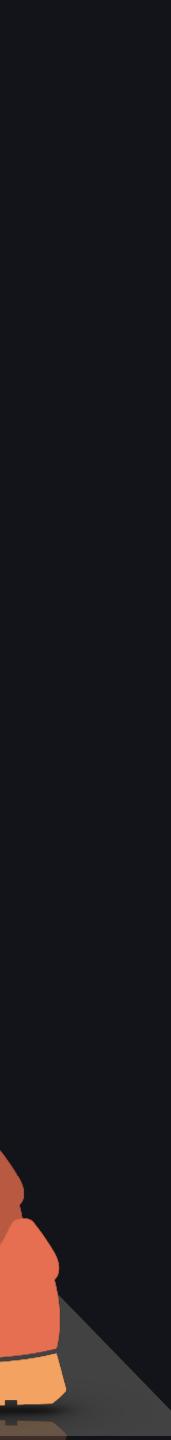






### Technical direction

Audun F. Strand Truls Jørgensen





### Technical direction

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Audun F. Strand Truls Jørgensen

