optimising for

FAST FLOW

in Norway's largest bureaucracy

Audun F. Strand  Truls Jørgensen
TL;DR: Norwegain Labour and Welfare Administration assist people into work, child benefits, sickness benefits, unemployment benefits, pensions and more. 1/3 of state budget.

103,000 dev hours in a single release.

EST. 2006 2016
**TL;DR:**

- Assist people into work
- Child benefits
- Sickness benefits
- Unemployment benefits
- Pensions and more

1/3 of state budget

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**Norwegian Labour and Welfare Administration**

**Avg (#Deploys to Production/Week) Pr Year**

![Graph showing the average number of deploys to production per week from 2006 to 2022, with a significant increase from 2016 onwards.](image)
TL;DR:

Norwegian Labour and Welfare Administration unemploymen benefits, pensions, child benefits... 1/3 of state budget.
TL;DR: Unemployment benefits, pensions, child benefits... 1/3 of state budget

Norwegian Labour and Welfare Administration
FAST FLOW
what we left behind
FAST FLOW
what we adopt and prefer
what we adopt and prefer
sickness benefit

cross functional team
sickness benefit

- sustainable system, adaptive to change
- efficient case handling
- more user friendly service
- better compliance
sickness benefit

human practice

machine theory
sickness benefit

sustainable system, adaptive to change

efficient case handling

more user friendly service

better compliance
software development is a LEARNING PROCESS
working code is a side effect

-Alberto Brandolini
everybody wants to go to heaven
nobody wants to die
what could these do to set the teams up for success?
what could these do to set the teams up for success?
ALIGNMENT in the age of autonomy
Alignment enables Autonomy

- High Alignment
  - Authoritative organization
  - Innovative organization
  - Micromanaging organization
  - Entrepreneurial organization

- Low Alignment
  - Conformist culture
  - Collaborative culture
  - Indifferent culture
  - Chaotic culture

Aligned Autonomy!

We need to cross the river
Build a bridge!

We need to cross the river
Figure out how!

Hope someone is working on the river problem...

Henrik Kniberg
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
technical DIRECTION
Technical direction

Audun F. Strand  Truls Jørgensen
Deploys to production per week
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 / background material for each topic
- provide subject matter experts to help on a specific topic

If you want.
How to read this presentation:

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

Analytic data as by-product  →  Data products in product areas

Hard to find data  →  Data mesh on a data platform

Dependency on data models we don't own  →  Anti corruption layer
Culture

Centralized governance of approved technologies

10x developer

Closed source code

Remote friendly

Input/Output

Over time pizza

BE OPEN AND USE OPEN SOURCE
Techniques

- Feature Branch → Trunk based development
- Shared test environments → Isolated component and E2E-tests
- List of 136 compliance requirements → Built in compliance
- Ad hoc handling of technical debt → At least 25% of team capacity on technical maintenance
- Hybrid cloud → Multi cloud
- Centralised security → Distributed, built in security Security Champions in teams
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<th>System centric architecture</th>
<th>Sosiotechnical architecture</th>
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<td>Teams responsible for vertical</td>
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<td>Team api</td>
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<td>Product areas backed by financing programs</td>
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<td>Projects in financing programs</td>
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### Data driven
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- Point-to-point integration
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### Techniques
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### Sosiotechnical
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- Product areas backed by financing programs
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### Technical direction
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- Distributed, built in security Security Champions in teams

### Author
- E. Strand
- T. Jepsen
short FEEDBACK loop
CAKE driven development
CAKE driven development
CAKE driven development
CAKE driven development
CAKE driven development
SPEED AND FAST FLOW in Norway’s largest bureaucracy

what we adopt and prefer when optimising for
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**
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.
optimising for FAST FLOW in Norway's largest bureaucracy
THANK YOU!

@audunstrand  @trulsjor

Technical direction

nais.io