Digitalisering og Industri 4.0

Hvad skal du høre om?

Hvordan kan de digitale værktøjer under betegnelsen ”Industri 4.0” hjælpe med at forøge produktivitet og kvalitet, samt reducere klimaaftryk?

- Baggrund – Digitalisering & Industri 4.0
- Gennemgang - Industri 4.0 værktøjer - med eksempler
- Hvordan kommer man i gang?

Digitalisering og Industri 4.0

Hvem skal du høre på?

Carsten G. Jensen
Administrerende Direktør
Au2mate A/S

Area of expertise:	Process automation & industrial IT
Target industry:	F&B industry
Founded:	2001
Locations:	Offices in Denmark, the UK, Dubai, Norway, Sweden, Australia & Germany
Number of employees:	130
References:	More than 2000 projects delivered worldwide
Examples of end users:	Arla, Tine, Lactalis, Nestle, Kraft, Almarai, Novozymes
Design philosophy:	Solutions based on open platforms & international standards

Au2mate ACADEMY

AU2MATE 24/7 HOTLINE SERVICE

Digitalisering og Industri 4.0

Hvad er/betyder digitalisering?

Digitalisation is:

The use of digital technologies (sensors, connected devices, network equipment and infrastructure) to reduce costs or to change the underlying business model by creating new sources of revenue. Digital technologies include new sources of data and communications; improved decision support, using new tools to analyse and visualise information and automation.

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Vil digitalisering forandre din forretning ?

LARGEST GLOBAL COMPANIES IN 2018 VS 2008:
SEVEN OUT OF TEN ARE NOW BASED ON PLATFORM BUSINESS MODELS

2018

RANK	COMPANY		FOUNDED	USBn
1.	Apple	*	1976	890
2.	Google	*	1998	768
3.	Microsoft	*	1975	680
4.	amazon	*	1994	592
5.	facebook	*	2004	545
6.	Tencent 腾讯	*	1998	526
7.	BERKSHIRE HATHAWAY		1955	496
8.	Alibaba.com	*	1999	488
9.	Johnson & Johnson		1886	380
10.	J.P.Morgan		1871	375

2008

RANK	COMPANY	FOUNDED	USBn
1.	PetroChina	1999	728
2.	EXXON	1870	492
3.	GE	1892	358
4.	中国移动 China Mobile	1997	344
5.	ICBC	1984	336
6.	GAZPROM	1989	332
7.	Microsoft	1975	313
8.	Shell	1907	266
9.	Sinopec	2000	257
10.	AT&T	1885	238

* Companies based on the platform model

Sources: Bloomberg, Google

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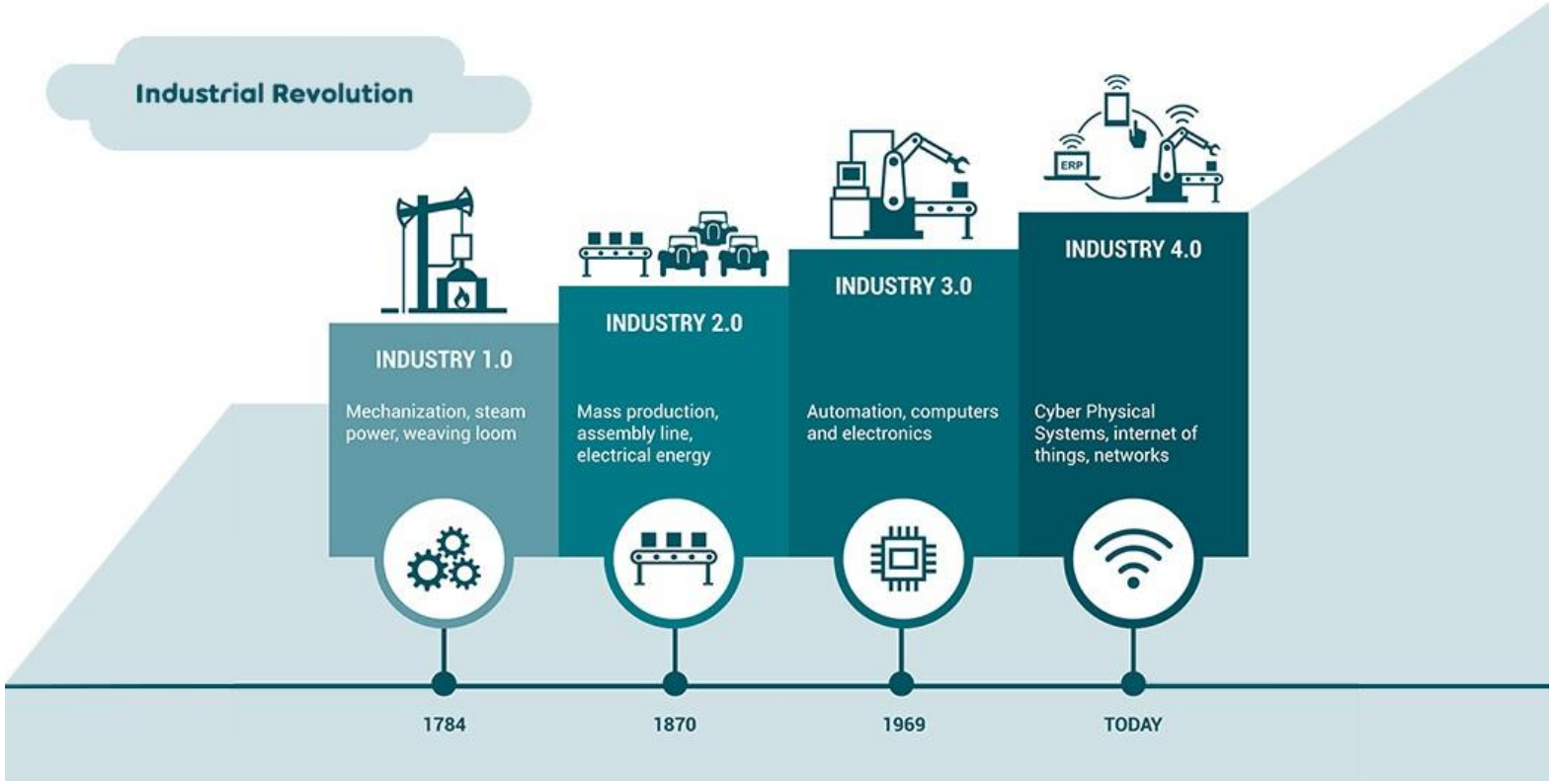
Hvad er Industri 4.0 ?

The term “Industry 4.0” (Industrie 4.0), originated in 2011 from a project in the high-tech strategy of the German government, which promotes the computerization of manufacturing



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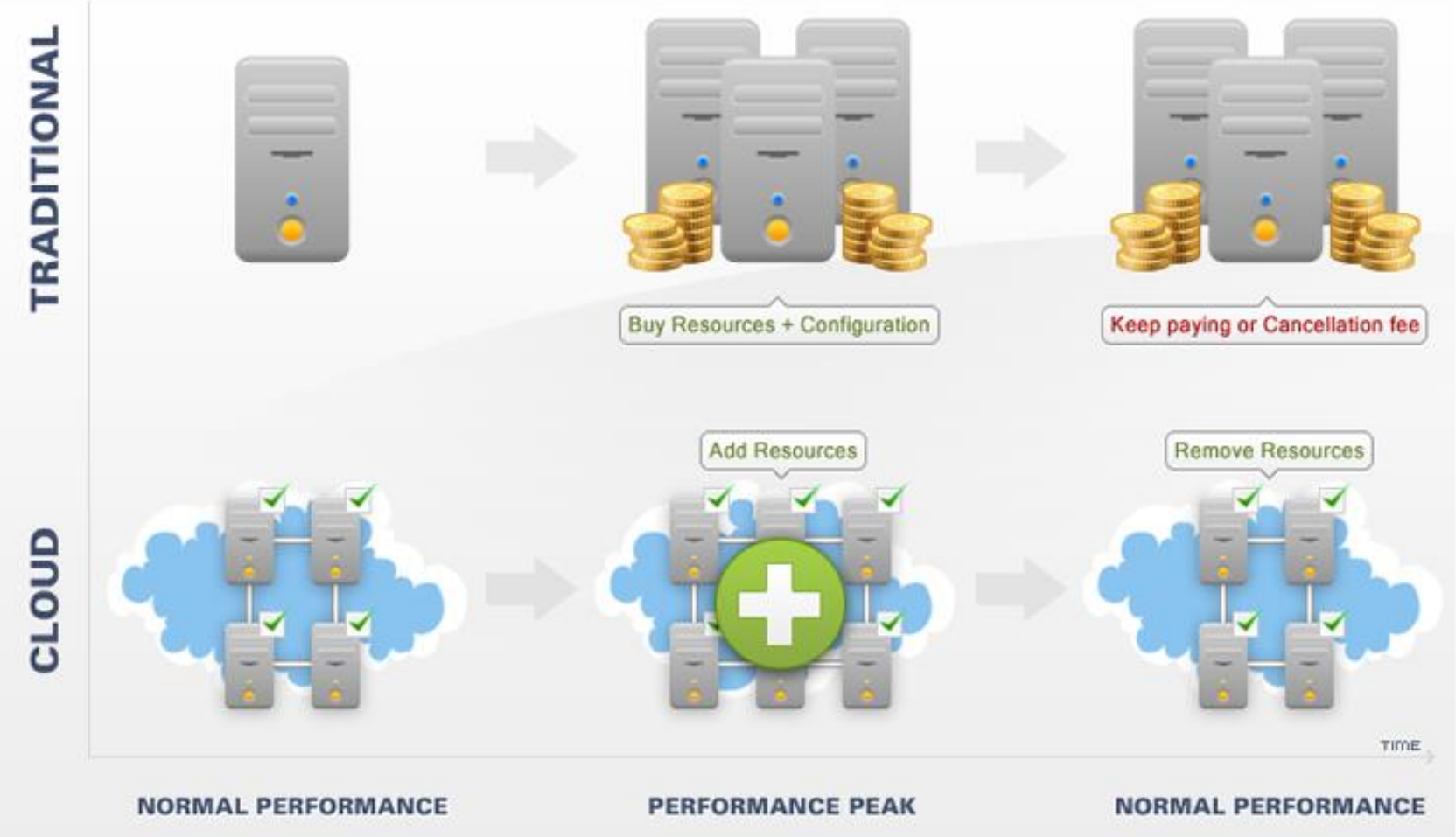
Industri 4.0 værktøjer

Digitalisering og Industri 4.0

Cloud computing & storage

Digitalisering og Industri 4.0

Cloud computing & storage



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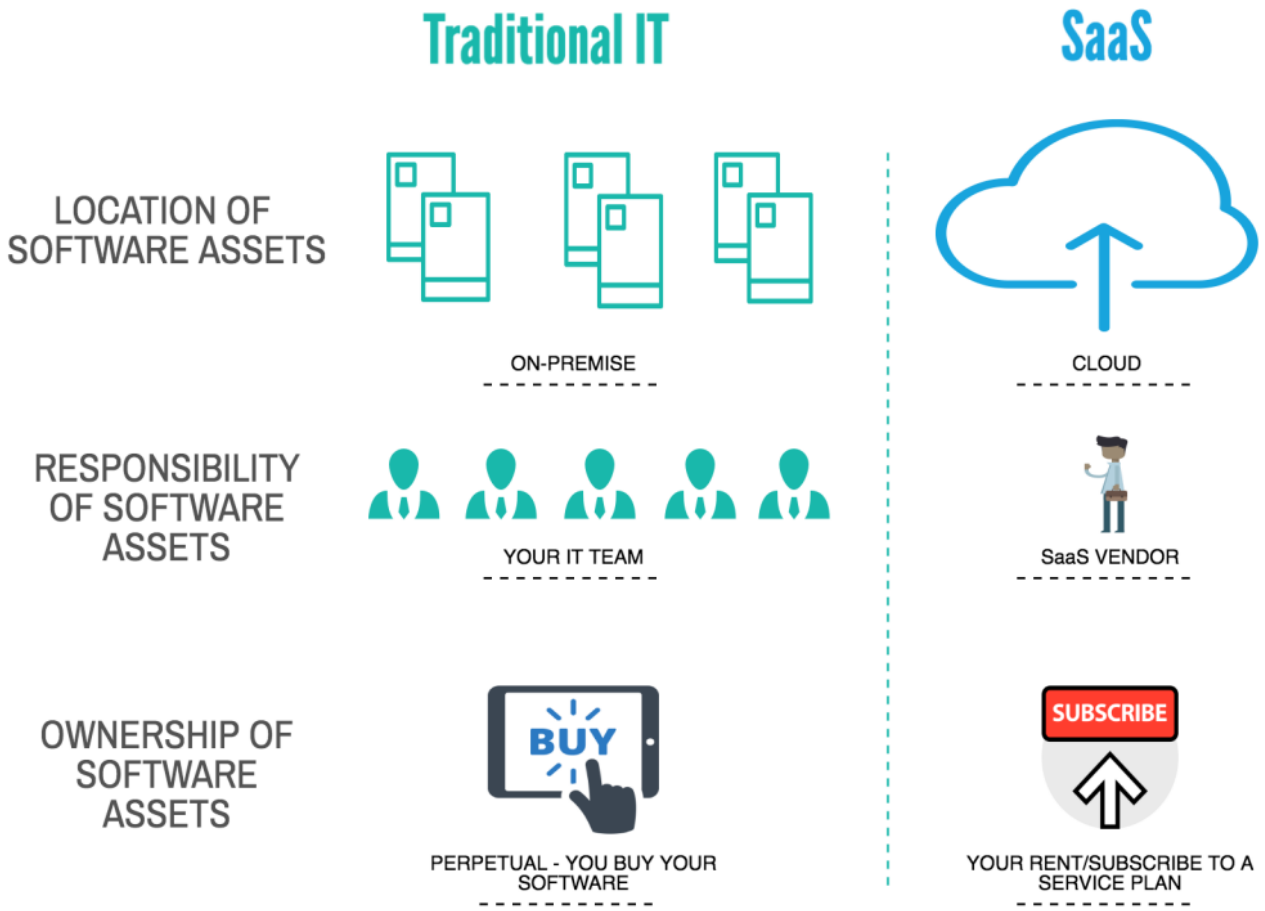
Cloud computing & storage



= Software as a Service

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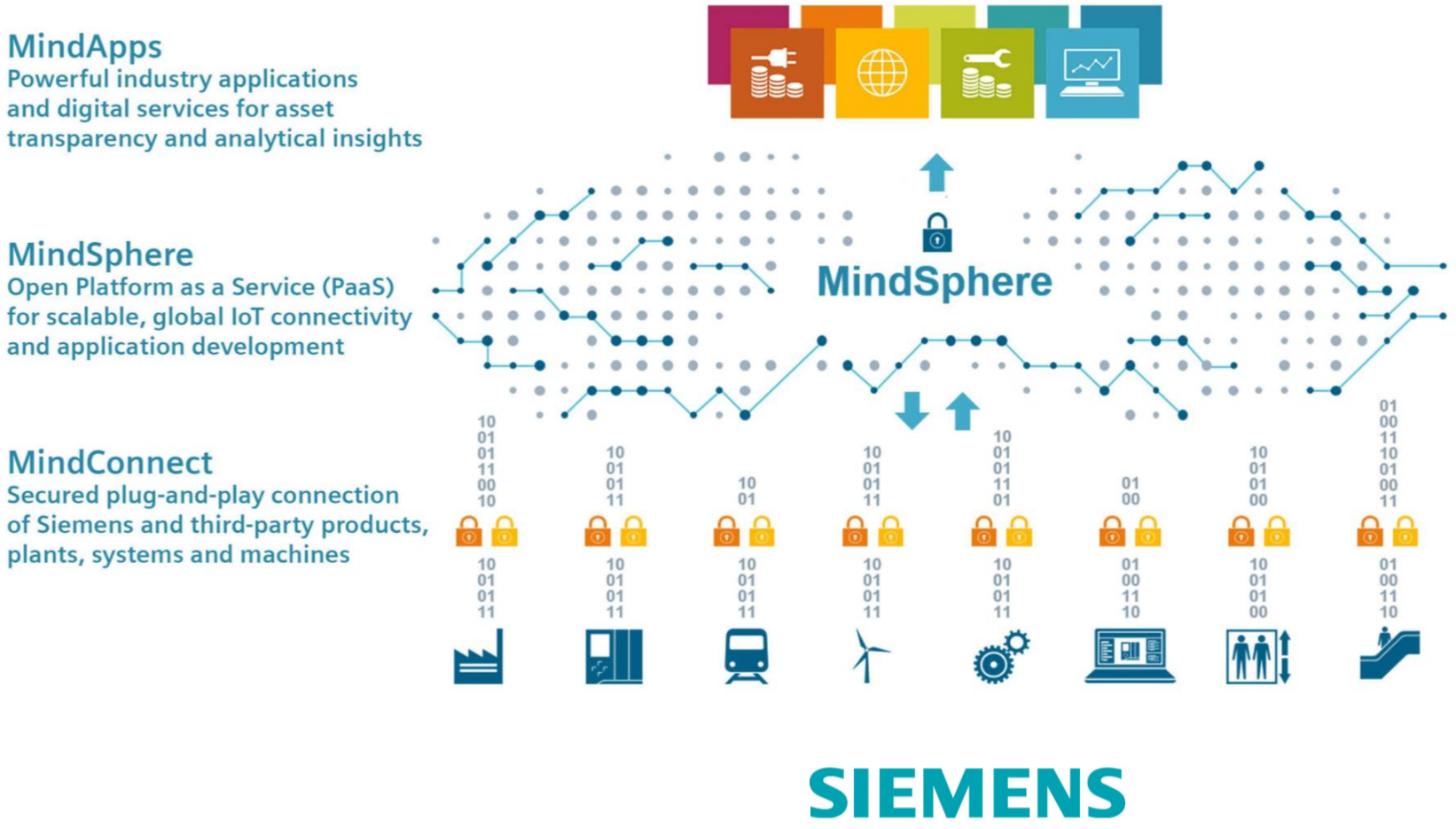
Cloud computing & storage



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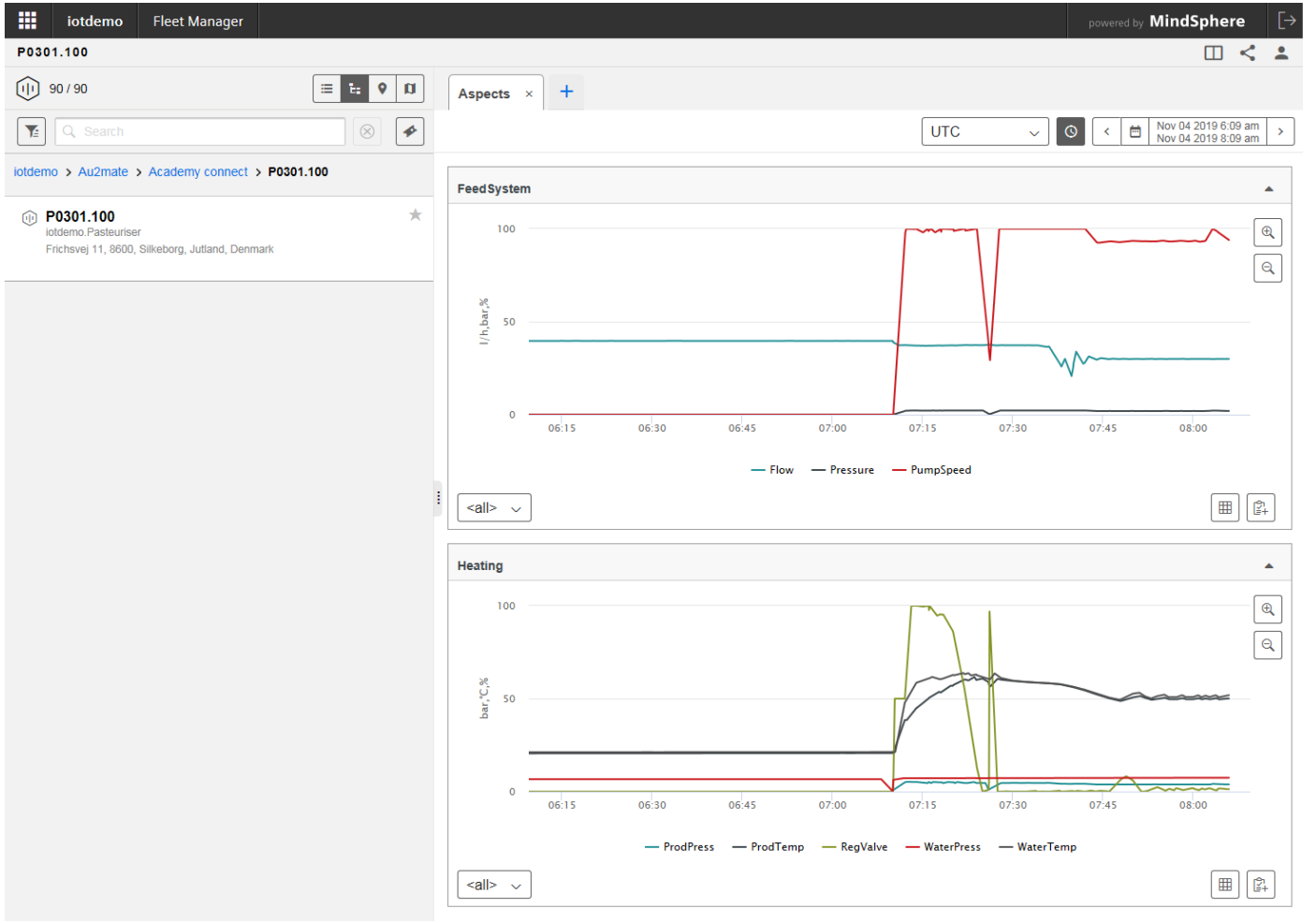
Cloud computing & storage (Eksempel)

Mindconnect NANO



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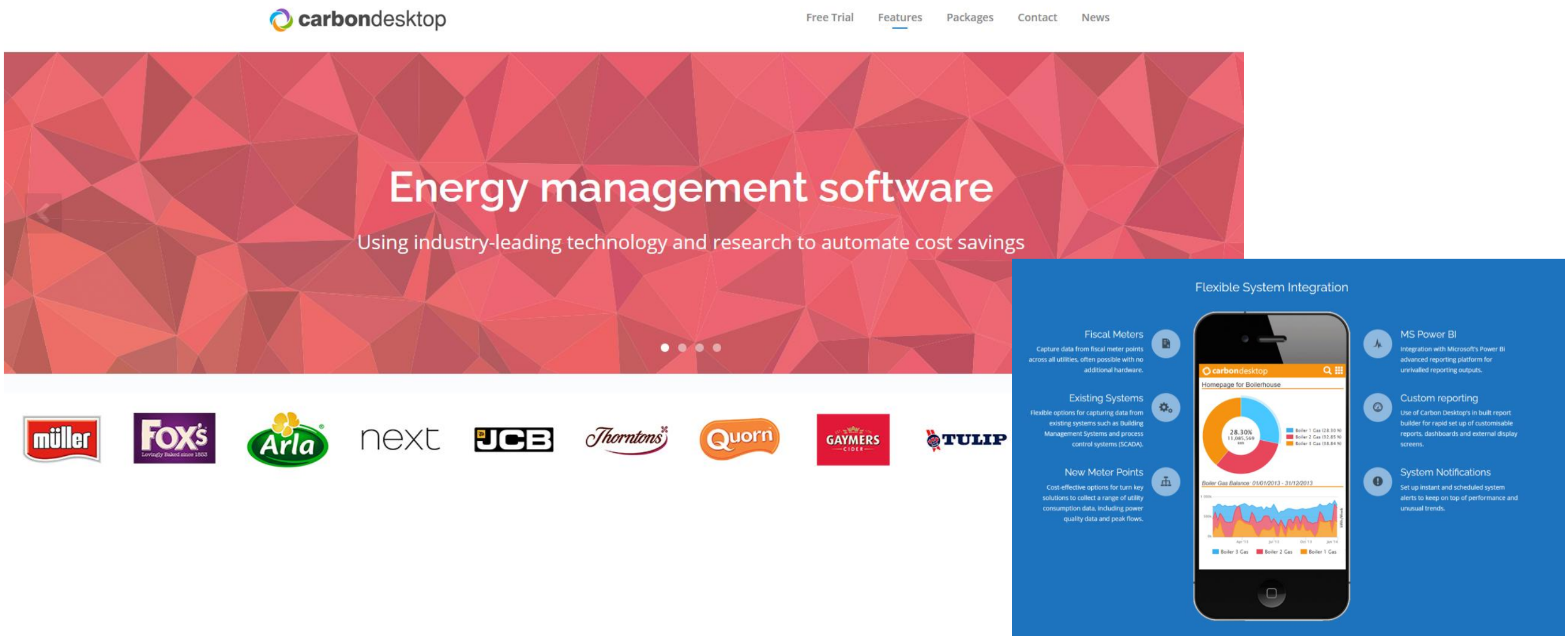
Cloud computing & storage (Eksempel)



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Cloud computing & storage (Eksempel)

"Carbon Desktop has led to sustainable reductions in carbon emissions and multi-million pound costs savings over the last seven years."

Arla Foods
Global Sustainability Manager

"We have been using Carbon Desktop for almost 7 years and it really is the heart of our efforts on reducing our environmental footprint. It is very difficult to imagine collating the data across our operating sites without it and the investment has paid for itself many times over."

PZ Cussons
Group Supply Chain Lead Process Engineer

"We have delivered substantial carbon and cost savings and we are currently exceeding our corporate environmental targets."

Tulip
Group Environment Manager

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Cloud computing & storage (Eksempel)

Quick & easy accesss via QR codes to your complete plant documentation - always updated, always at hand

The Au2mate Smart Documentation module features:

- Easy access to documentation via mobile phone/tablet by scan of QR codes
- Documentation database structured according to ISA 88
- Handles text files, PDF-files, pictures and videos
- QR label printer included

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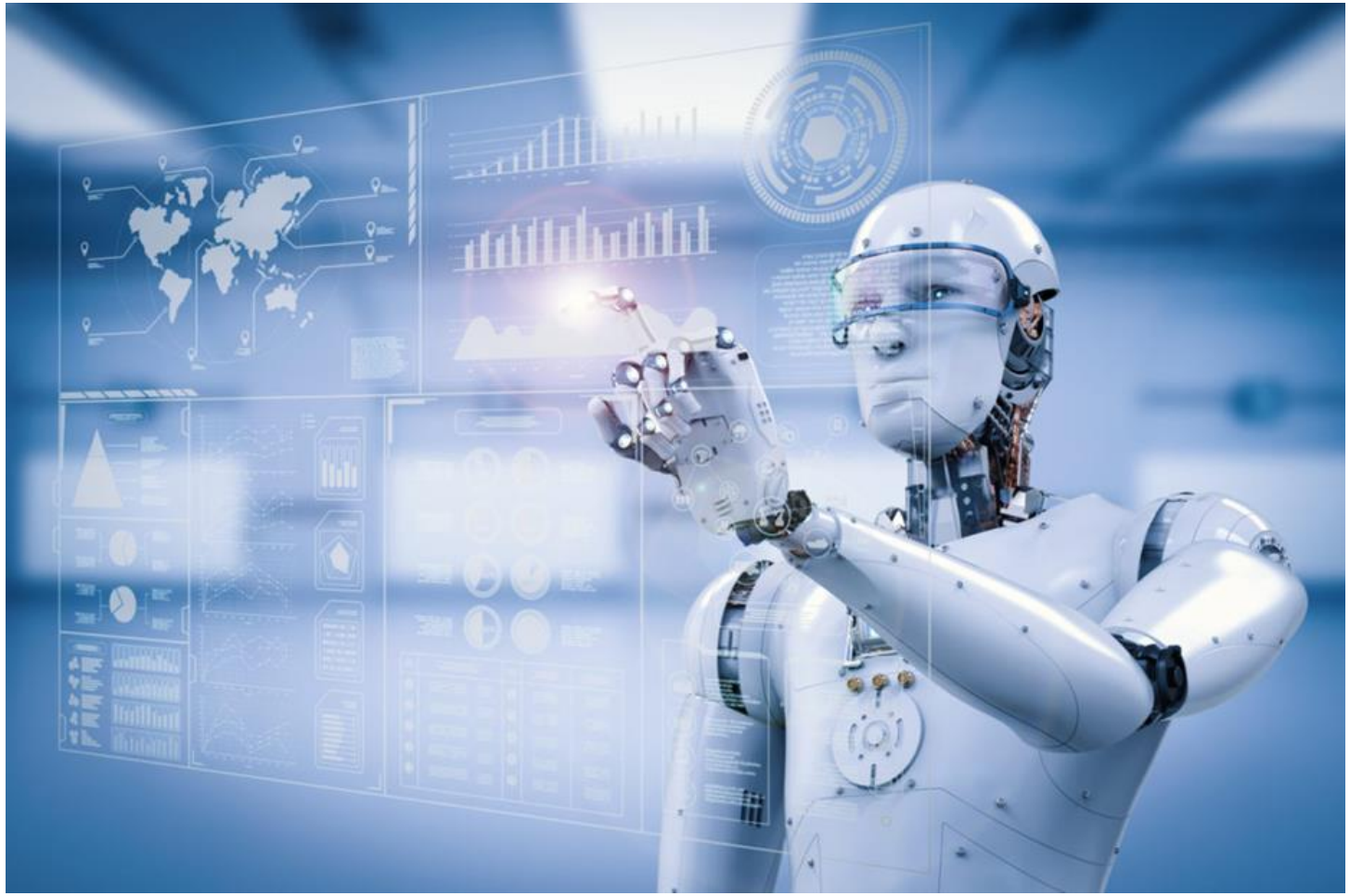
Machine Learning / Artificial Intelligence



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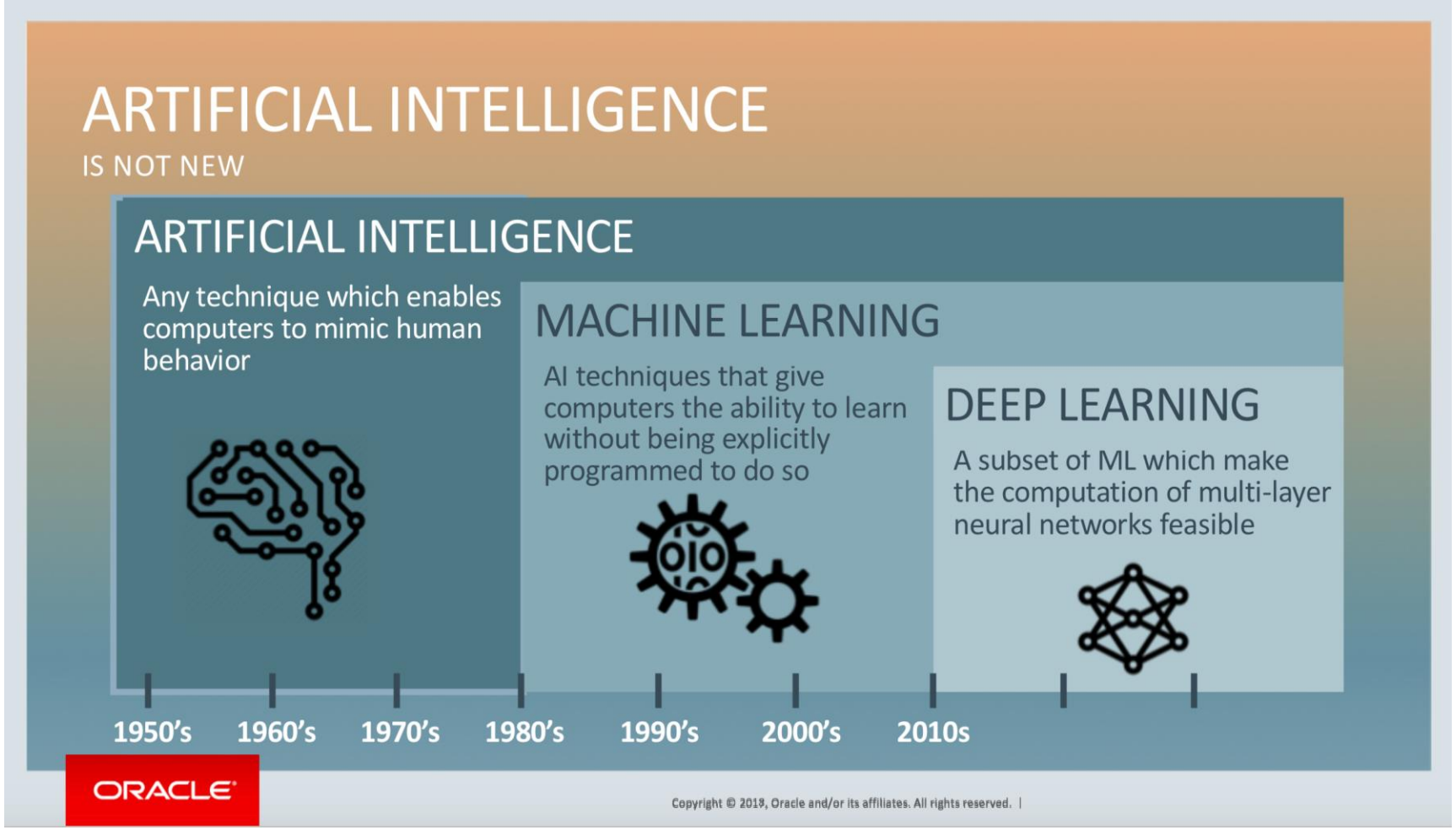
Machine Learning / Artificial Intelligence



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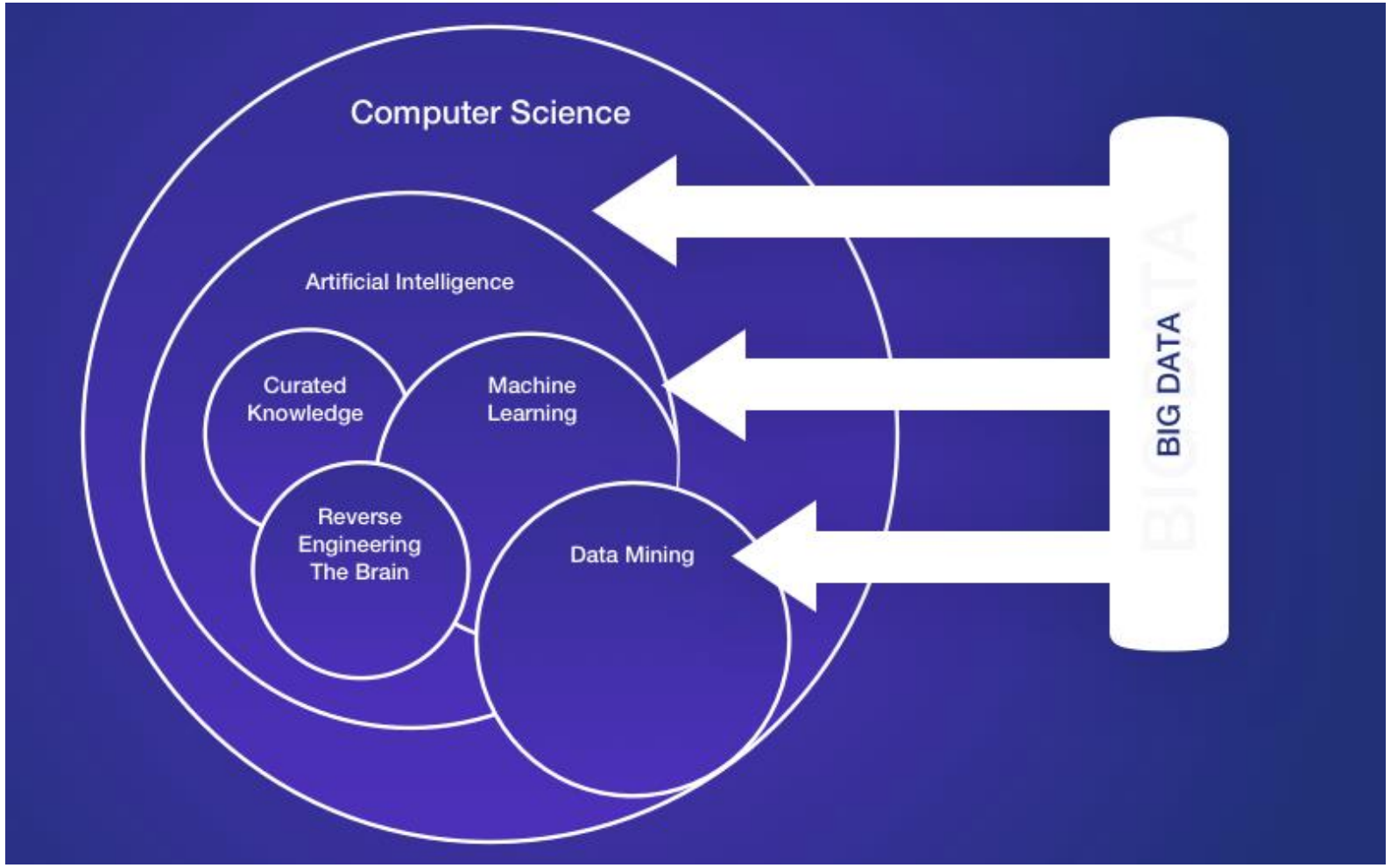
Machine Learning / Artificial Intelligence



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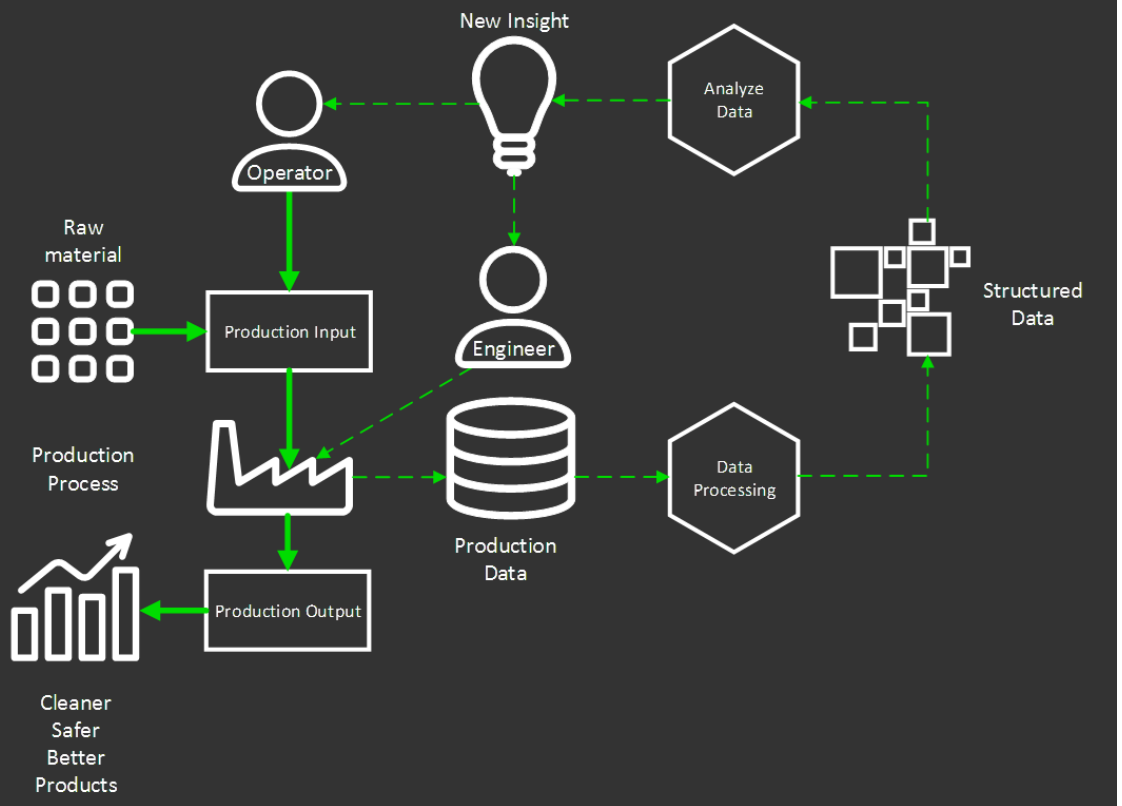
Machine Learning / Artificial Intelligence (Eksempel)

Intelecy

TINE

Concept

«Off-the-shelf»
Advanced analytics for manufacturing



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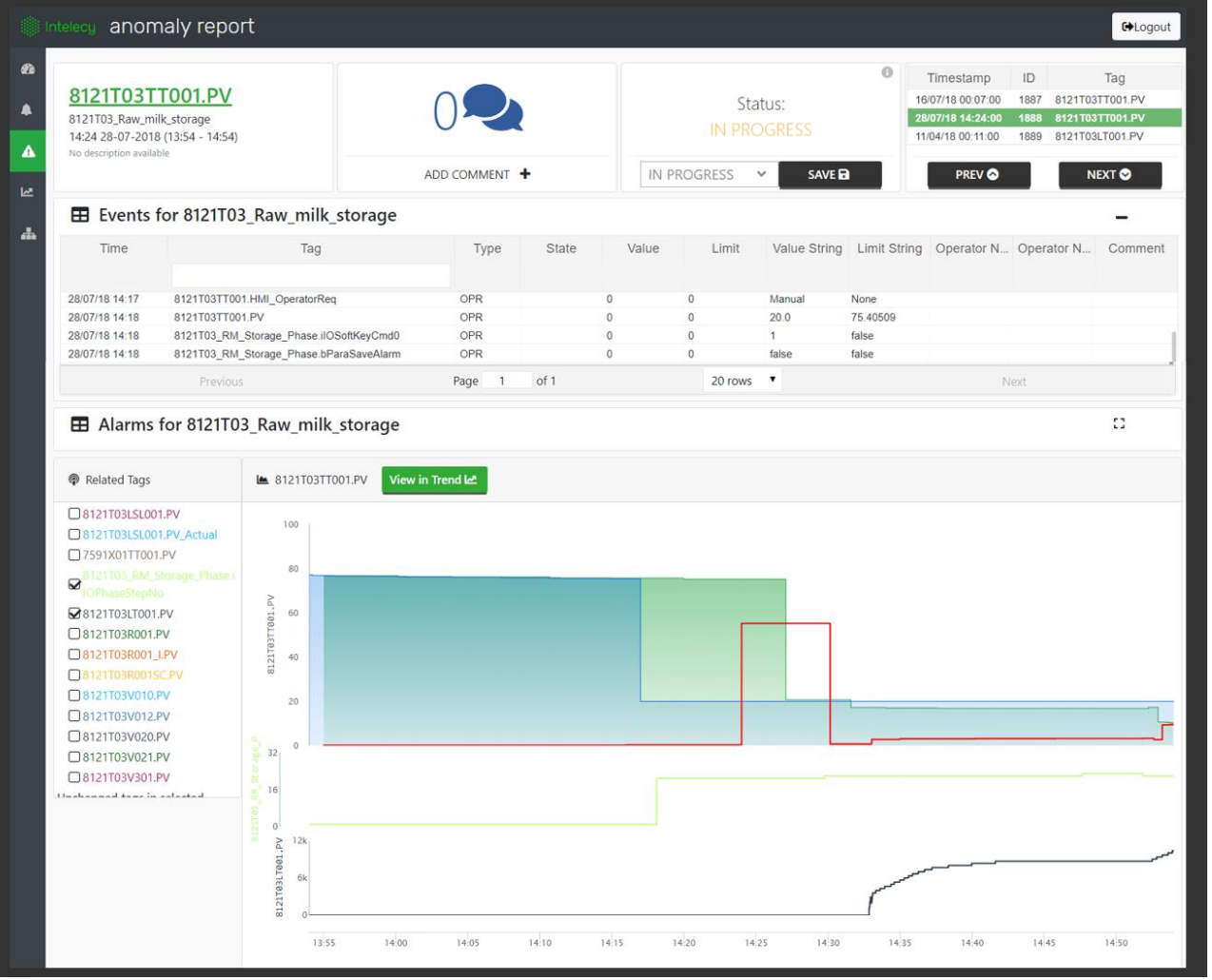
Machine Learning / Artificial Intelligence (Eksempel)

New Insight

→ Understand what have happened



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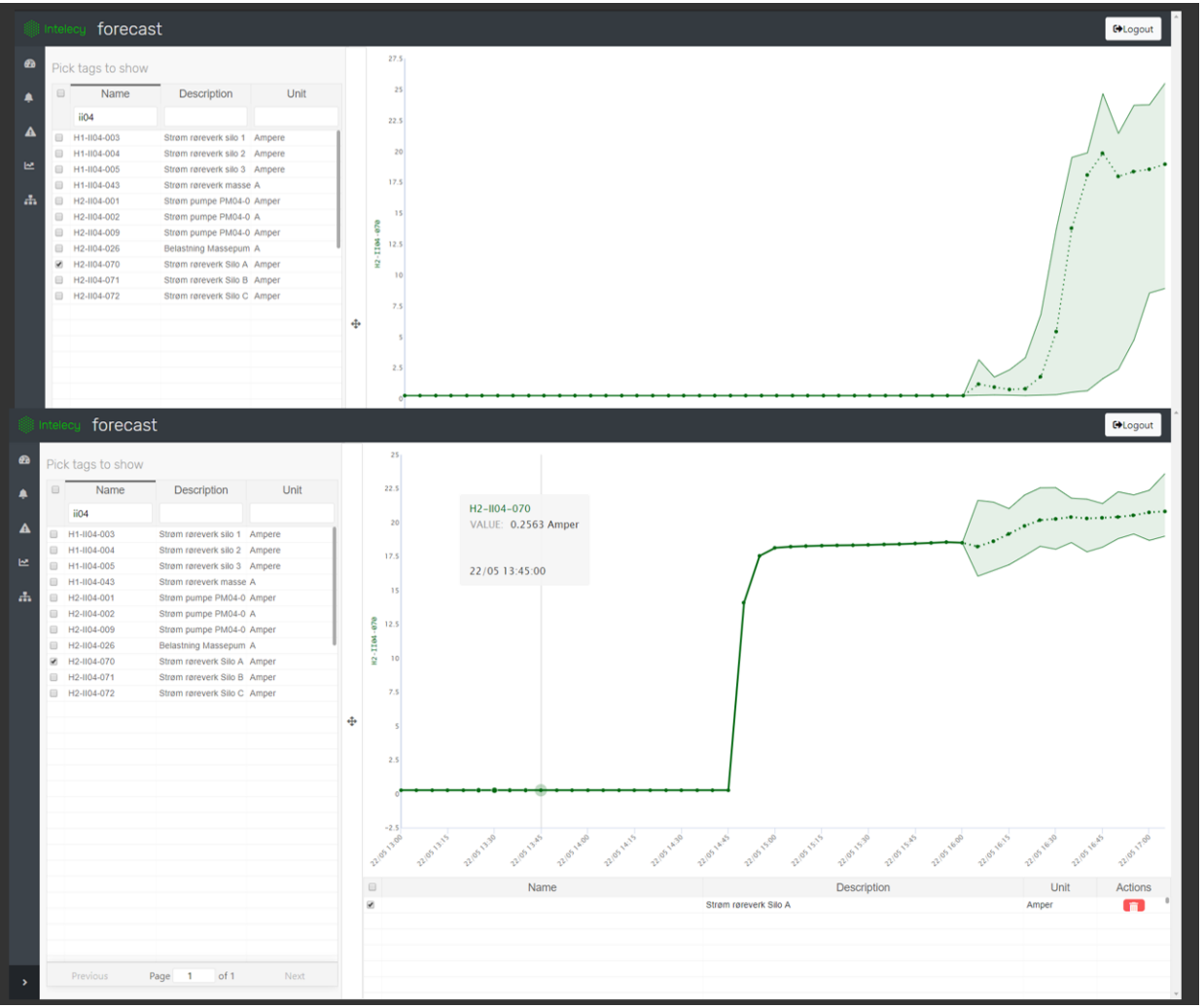
Machine Learning / Artificial Intelligence (Eksempel)

New Insight

→ Predict what is going to happen



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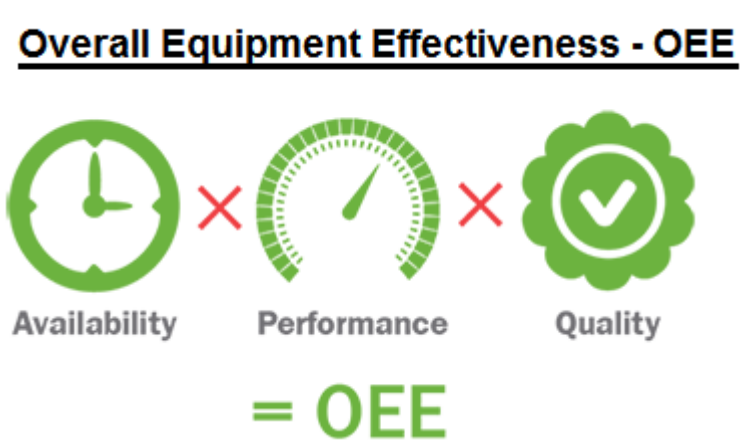
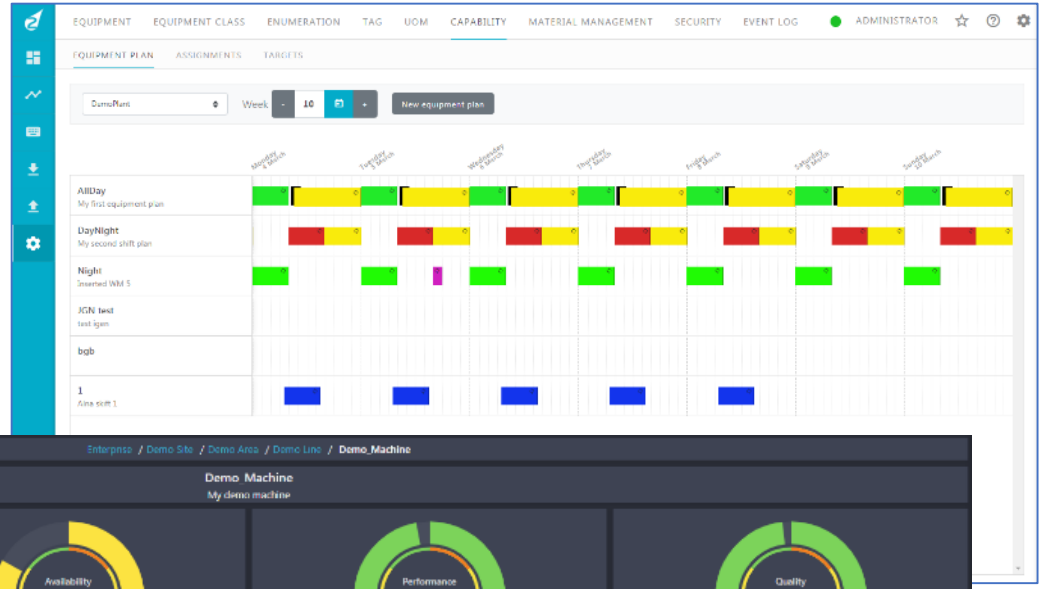
Data-analyse / OEE





The Au2mate OEE software module offers a unique tool for identifying:

- OEE Score - Key indicator of the effectiveness of your equipment/line/factory
- Top 10 stop reasons – What to fix to get the greatest improvement
- Here and now status of your production line –
  Is production on schedule / where is support needed?

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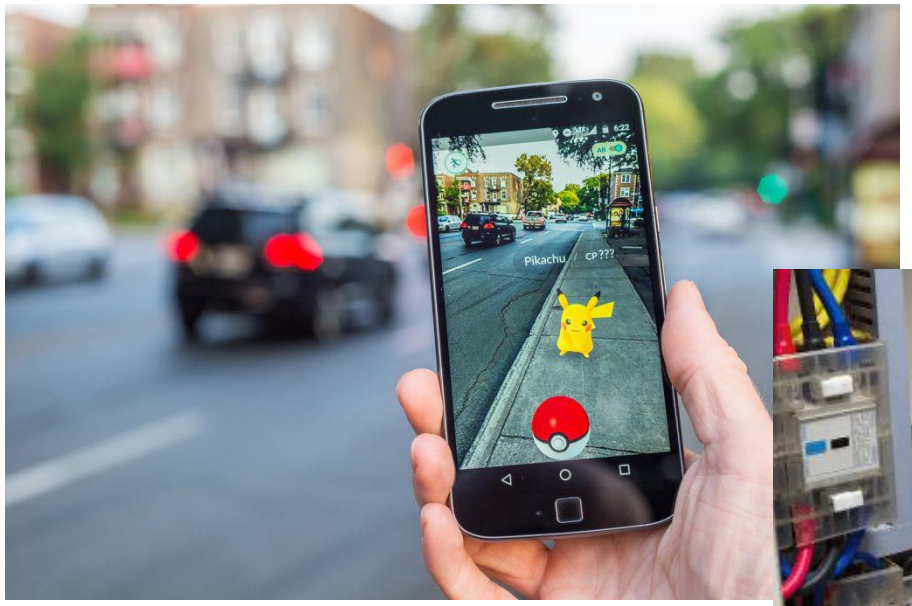
Augmented Reality (AR)

Augmented reality, commonly abbreviated "AR," is computer-generated content overlaid on a real-world environment.



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Augmented Reality – AR (Eksempel)

EMPLOYEE EXPERIENCE

Virsabi og NNIT vil løfte dansk produktion gennem virtual og augmented reality

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Augmented Reality – AR (Eksempel)

Quick & intuitive accesss to live plant status & data

The Au2mate AR module features:

- Intuitive access to live plant status & data by use of your mobile phone/tablet.
- Can display all data available from your control system
- Easy to configure

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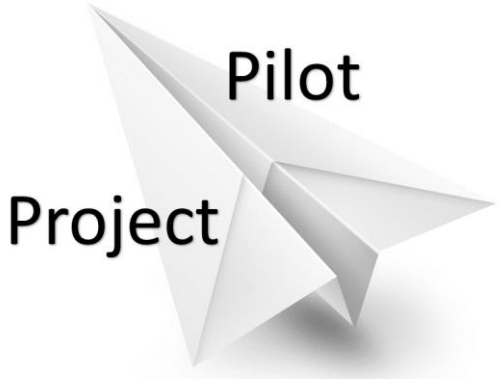
Hvordan kommer jeg i gang?

1.

2.

3.



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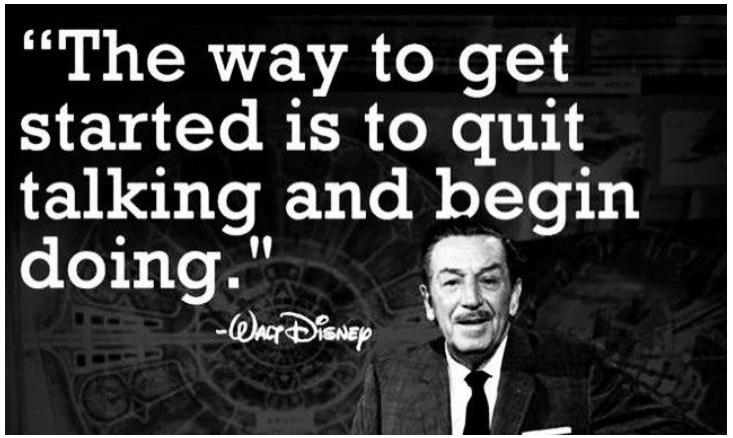

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Spørgsmål ?