NØK 2018

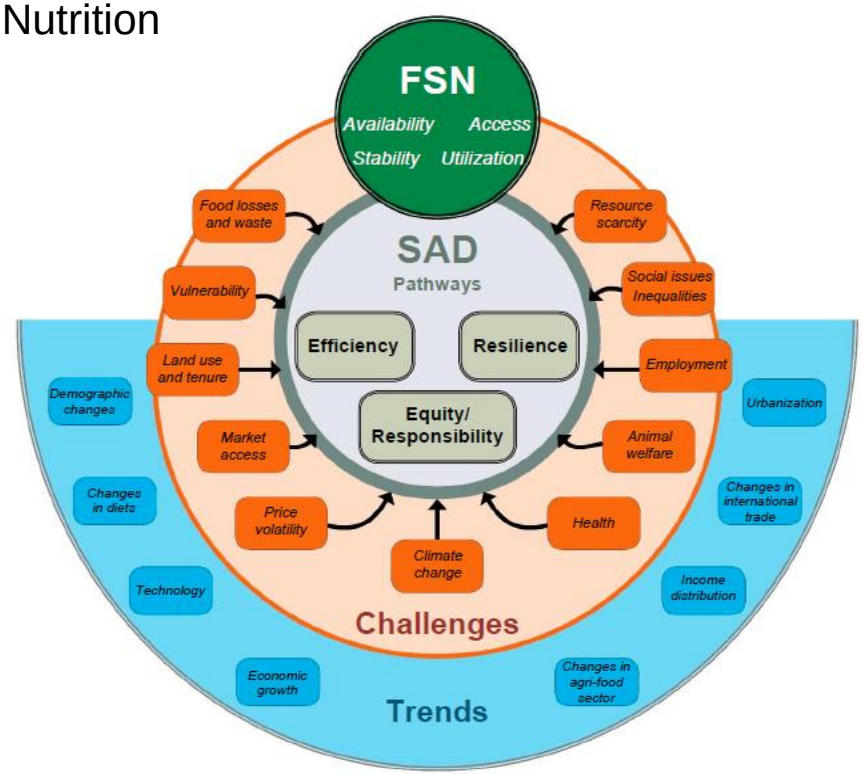
IT-systems in future dairy production

Farm of the future - farming and livestock business is digitizing

Harald Volden
R&D TINE Advisory service
Norwegian University of life Sciences

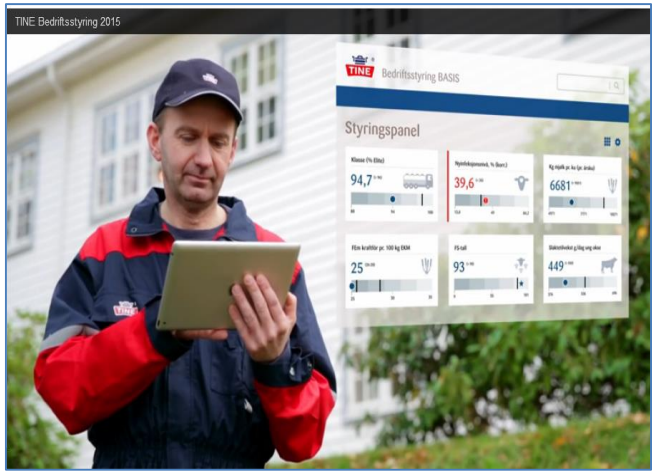
Future challenges

Food Security and Nutrition

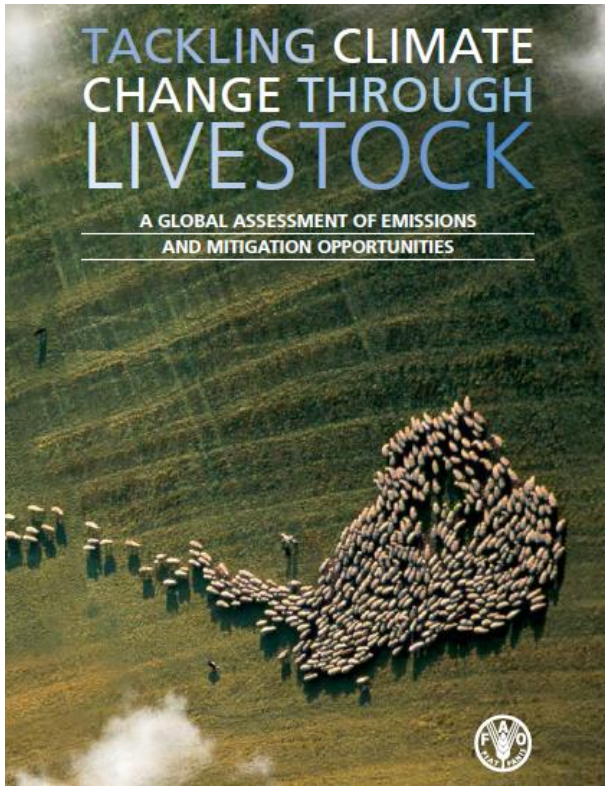


Food Security and Nutrition, 2016

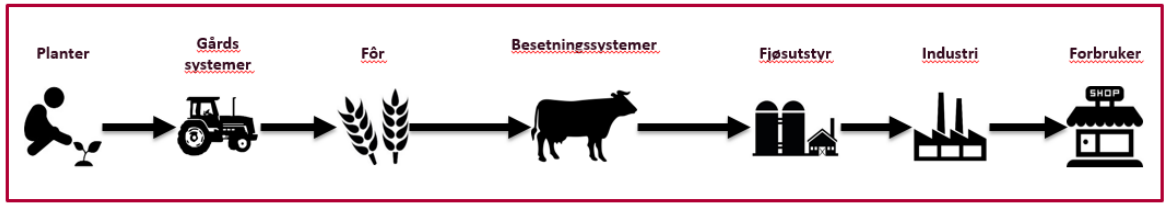
Efficient production and improved profitability



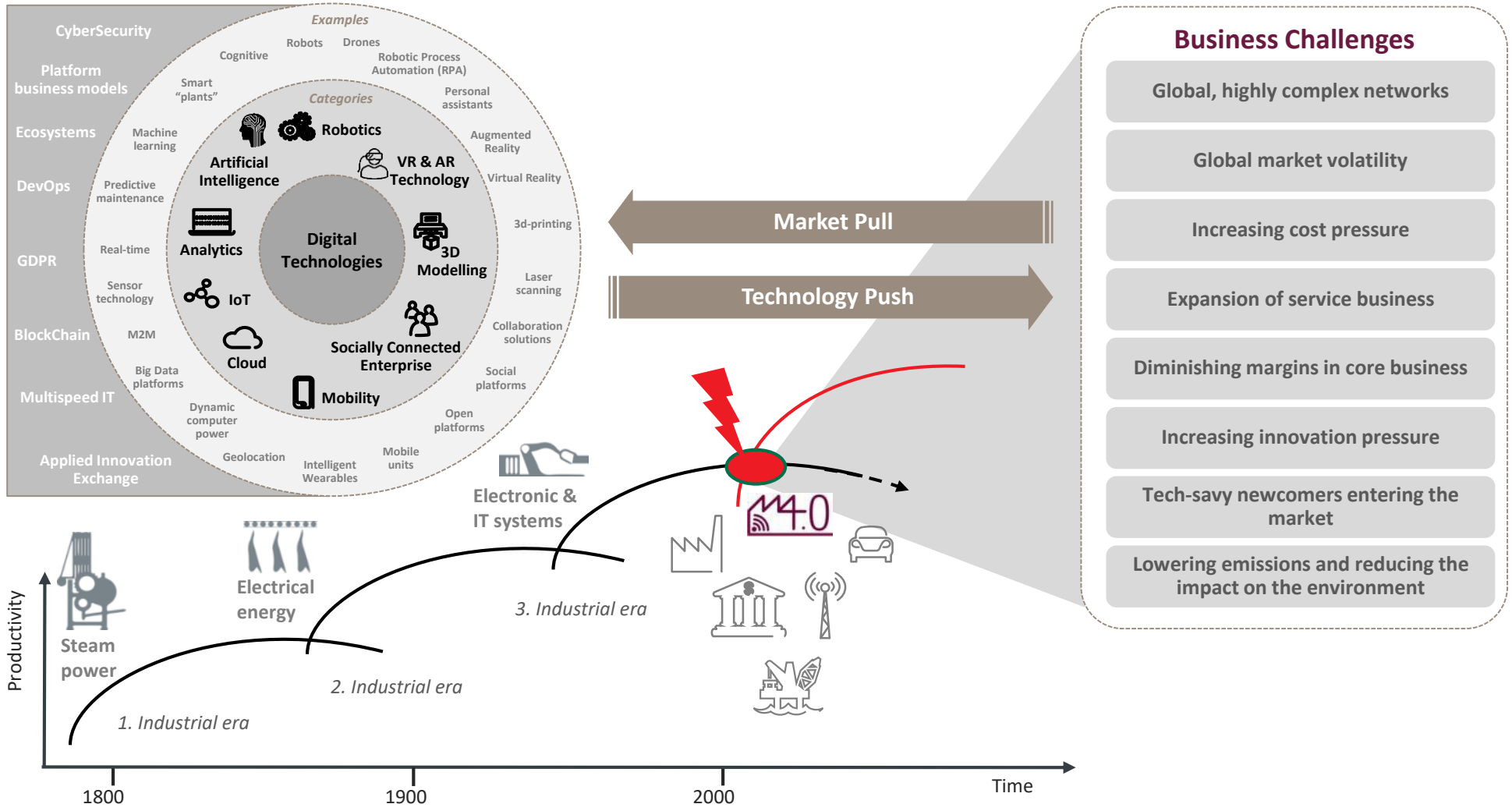
Sustainable agricultural production



Transparent and traceable value chain



Today´s digital technologies will drive fundamental business changes, which will create major opportunities for the right players



Farm of the future: Farming and livestock business is digitizing – enhancing forecasts, automating production, maximizing yields and increasing health and welfare of livestock

Drone / Satellite Field Monitor

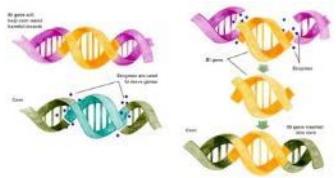
- Picture analysis from drone or satellite footages
- Information is fed into the Farm Management System

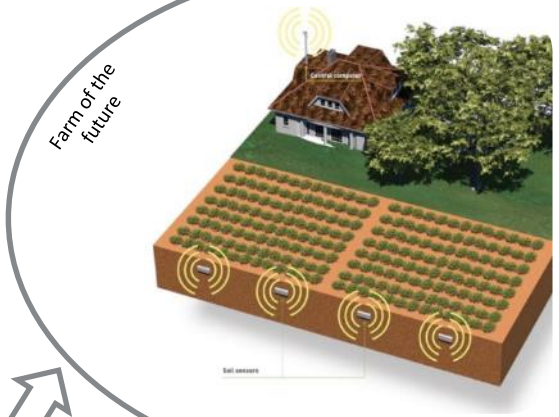
Integrated Farm Management

- All data is being gathered and analysed
- Internal data from sensors, etc. as well as external data like weather reports, news (Big Data)
- Alarms directly on Grower's mobile device with all required information
- Automated action initiation possible

Genetically optimized crops

- More yield shorter growth periods and higher resistance
- Specific features, like blossoming at a specific time





Automatic Precision Farm Machinery

- Farm machines without drivers, networked for maximized efficiency
- Cultivating, seeding, fertilizing, using pesticides automatically with absolute precision and minimal waste

Sensors in the field

- Measuring soil irrigation, fertilization, humidity

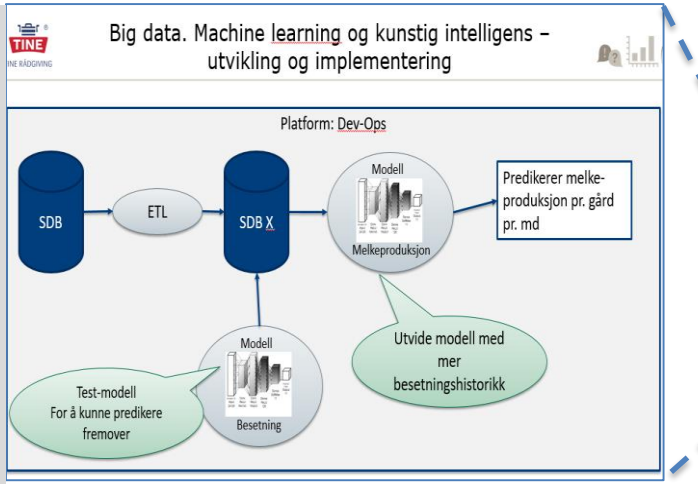
Real time management of livestock

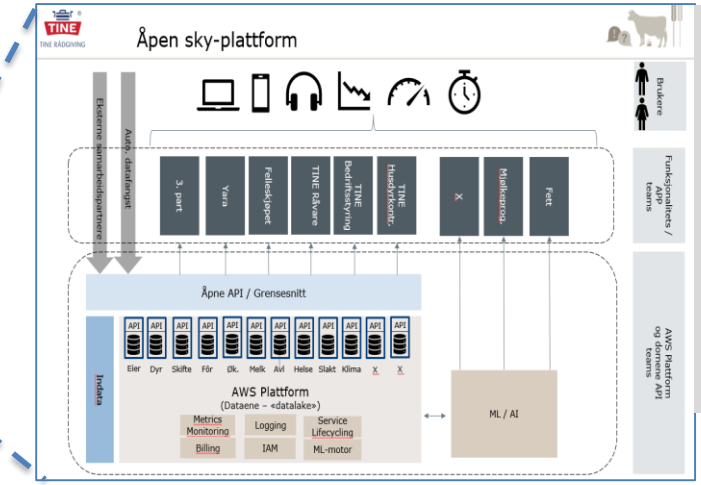
- Sensors, trackers, GPS etc
- Automated herd and livestock by autonomous robots (milking, health, position etc)
- Increased animal welfare, sustainability and higher yields
- The economic model vs Animal model

Technology and Digital Development – data farmers new gold

Analysis and models

- Machine learning
- Artificial intelligence





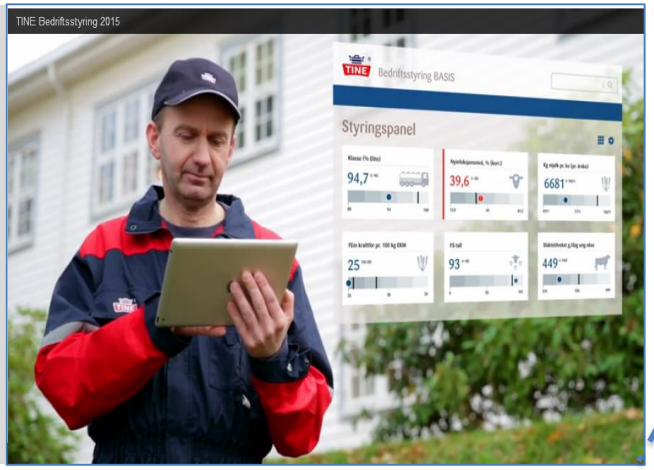
Data storage in a cloud platform

- Unlimited storage capacity
- Effective transactions of data

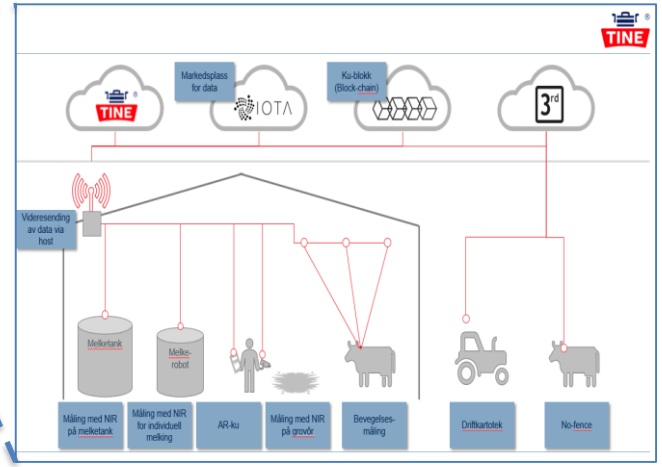
Future farm

Farmers competency

- Biology
- Digital maturity



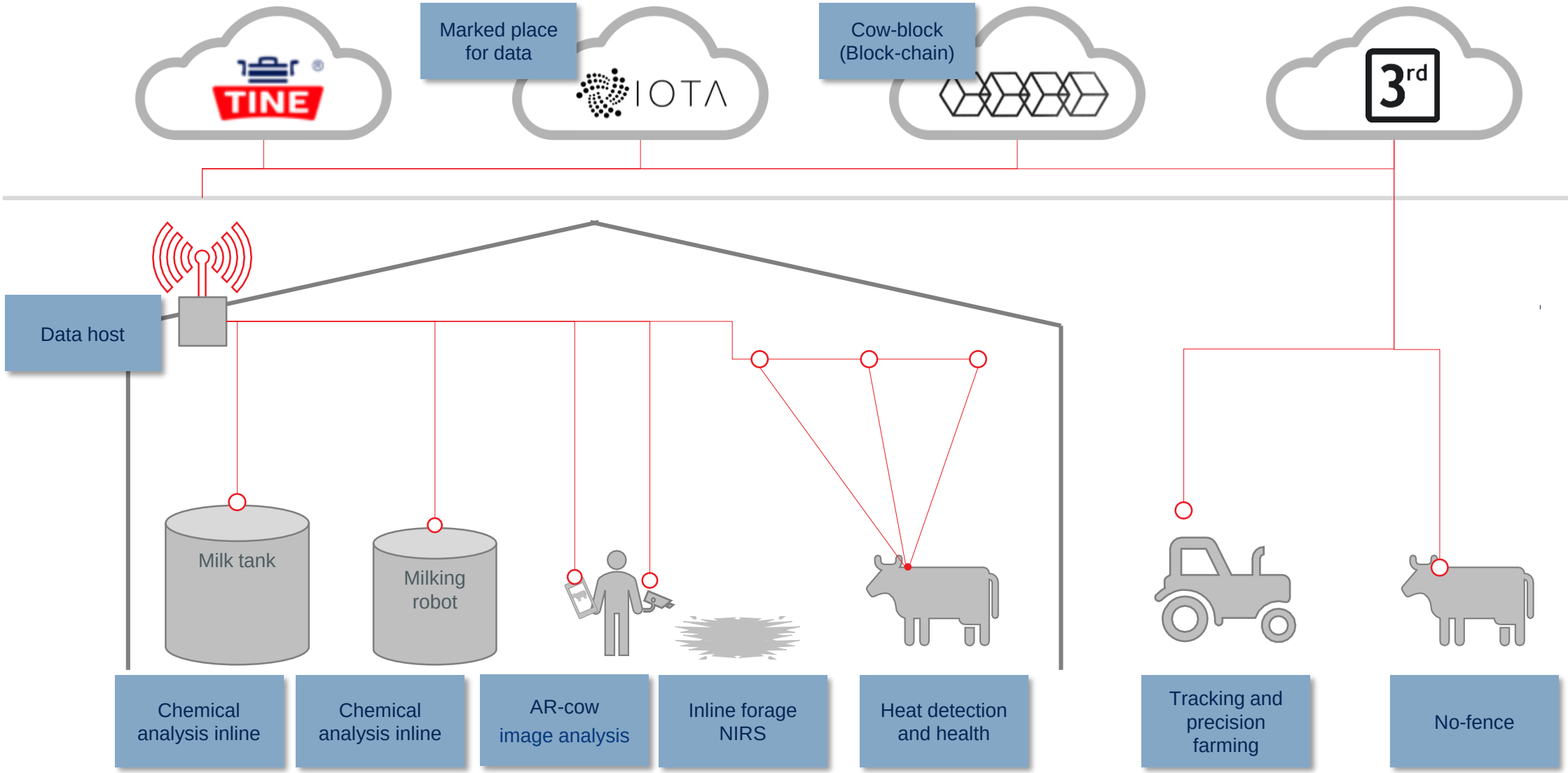
The farmer owns the data and controls the data flow



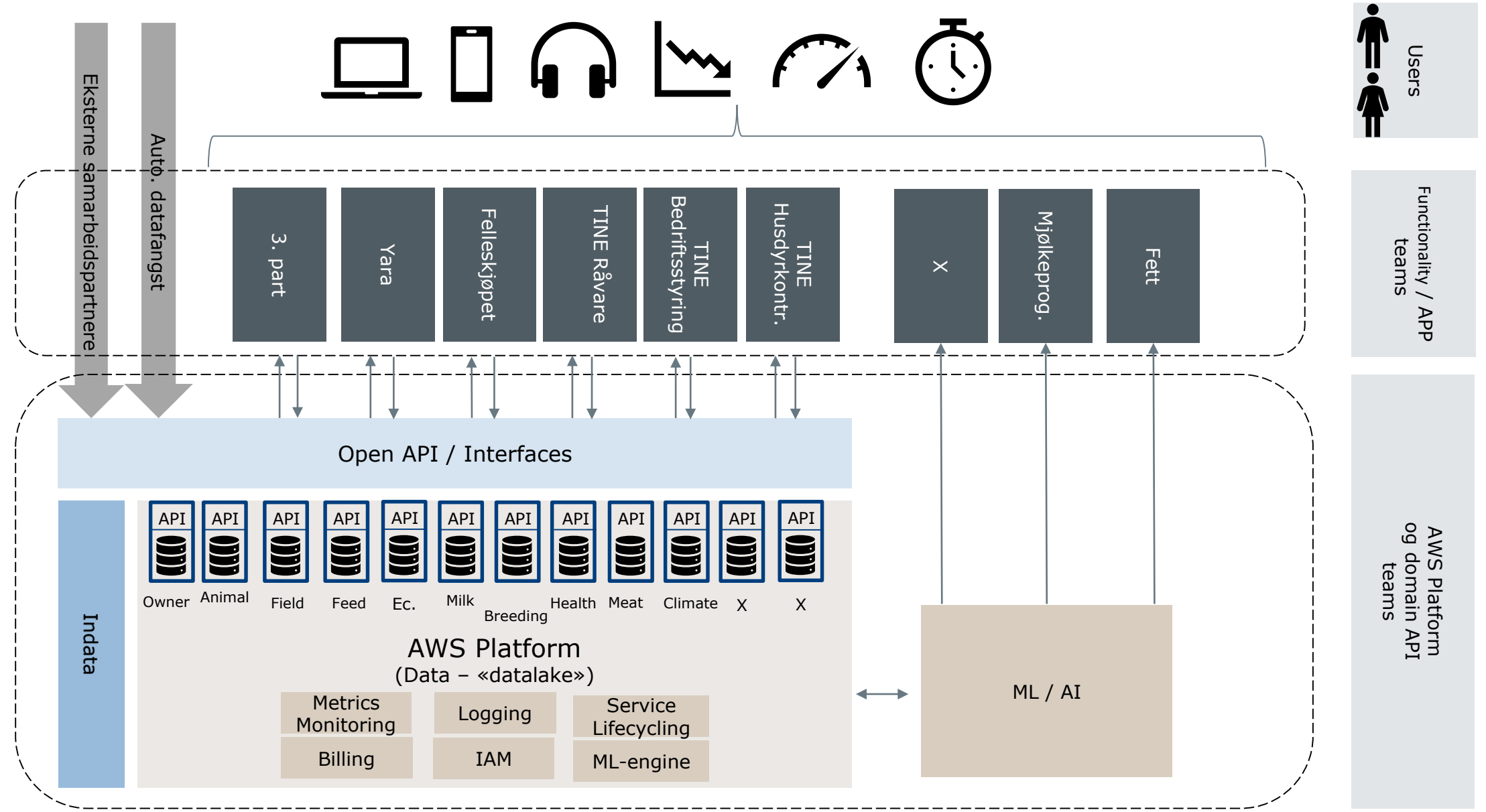
Automated data capture

- Sensors
- Integrated data between livestock and plant production

Technology under review and evaluation



TINEs open platform (launched in March 2018)

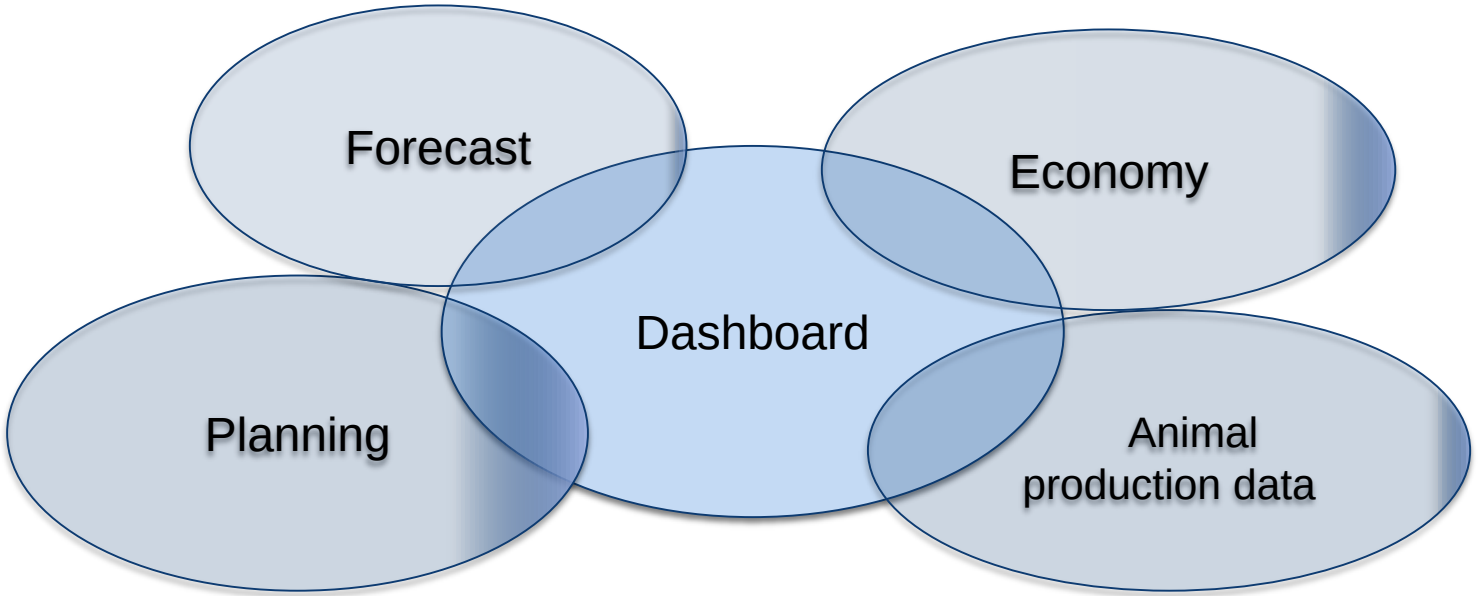


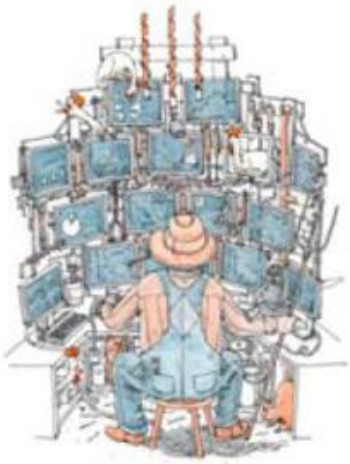
Machine learning. Milk forecasting model

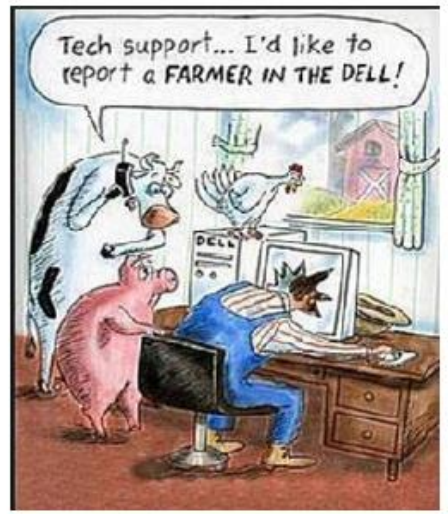
inMeta analyse

TINE Business Management tool (TBS)

A digital intelligence dashboard system,
which includes several modules of planning, decision and forecasting tools







Main objective
A new generation digital management tool for efficient and sustainable dairy production

Digital technologies and business models

DN Dagens Næringsliv – Årets avis på nett og papir!

Norske data om landbruket kan bli eksportvare, og prises til 300 millioner kroner. Her er divisjonsdirektør Trond Fidje (til venstre) i Felleskjøpet Agri og Johnny Ødegård, konserndirektør med ansvar for rådgivning på besøk ved NMBU på Ås. Foto: Elin Høyland

Morgendagens næringsliv Teknologi

Tine og Felleskjøpet satser på kunstig landbruksintelligens

- Hittil har vi erstattet arbeidskraft, nå erstatter vi tankekraft, sier Johnny Ødegård i Tine. Sammen med Felleskjøpet vil meierikjempen eksportere norsk kunstig landbruksintelligens.

DN Dagens Næringsliv – Årets avis på nett og papir!

Etterbørs Teknologi

Nå skal kua tjene kryptovaluta på data

Tine vil gjøre data som samles inn fra kyrne til en ny inntektskilde for bøndene. Det er slett ikke så sprøtt som det høres ut.

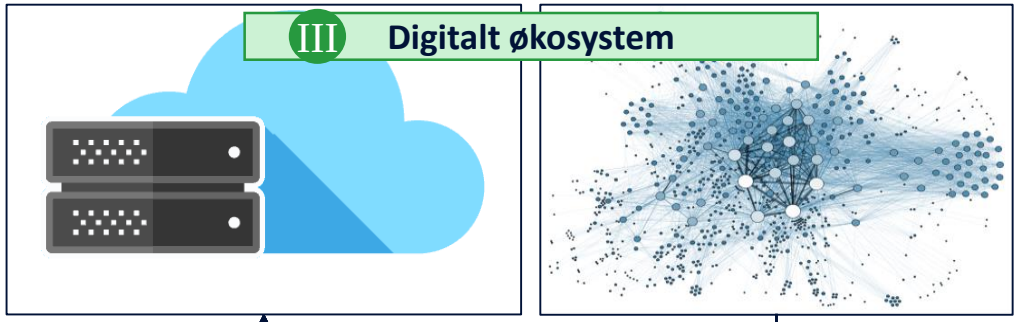
Research project Future Farm

Digitalt økosystem III

Bruk av nettskyplattform for å skape et laboratorium basert på data fra flere brukere og relevante eksterne datakilder

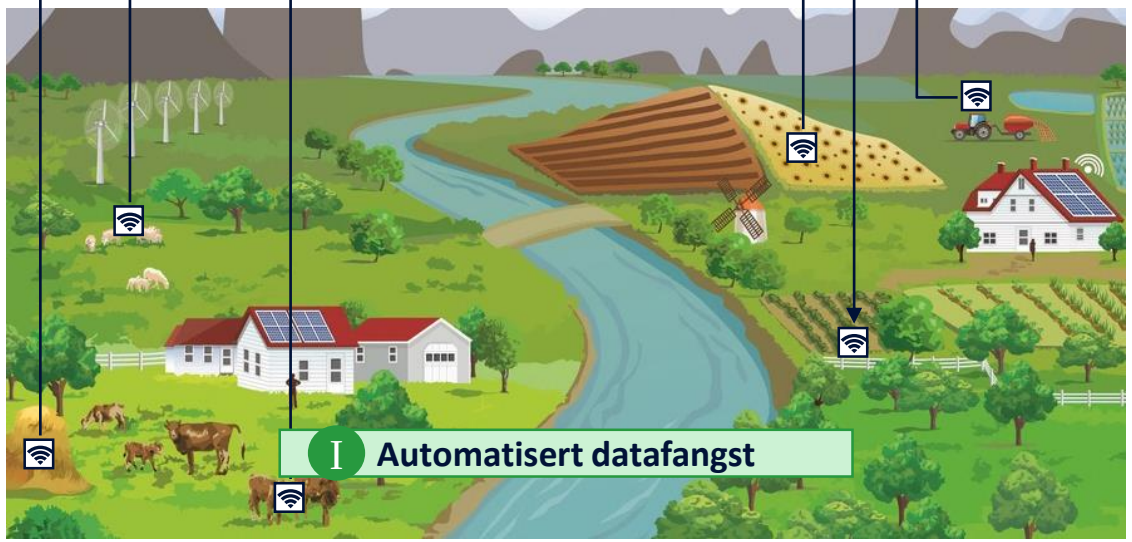
Automatisert datafangst I

Bruk av sensorer som fanger produksjonsrelatert data gjennom hele bondens verdikjede



Maskinlæring gir råd II

Bruk av selvlærende algoritmer for å gi styrings- og beslutningsråd basert på innhentet data




FIIN
ÅARGANG
FLESJA