

NITs Digitaliseringslab nr. 1

Hva er digitalisering og hvilke trender ser vi?

Stein Vorum
Lars Iversen



NÆRINGSFORENINGEN | TRONDHEIMSREGIONEN

ATEA

Dato for de neste lab'ene

Lab 2 - Onsdag 15. mai

Lab 3 - Torsdag 5. september

Lab 4 - Onsdag 9. oktober

Lab 5 - Onsdag 6. november

Utvikling av digitale forretningsmodeller og verdikjeder

Dypdykk i forvaltning av virksomhetens data

Hvordan lykkes med implementeringen av en digital strategi

10 gode råd for å lykkes med vedvarende digitalisering

Deltakerne

Gruppe 1

Ketil	Kjeldsberg	Adecco Norge AS
Elena	Selbekk	Atea AS
Terje	Dalheim	COWI AS Avd Trondheim
Nina Margrethe	Pedersen	Helse Midt-Norge RHF
John	Wormdahl	IKEA AS avd Leangen
Anders	Krigsvoll	Krigsvoll Holding AS
Kristian	Waldal	SINTEF AS
Venke	Schei	Treider Fagskoler AS
Roger	Stokke	Trondheim Spektrum AS

Gruppe 2

Kjersti	Kleven	Agenda HMS
Åslaug	Mostad	Artsdatabanken
Geir	Johansen	Atea AS
Atle S.	Ruud	Enova SF
Jørn Erik	Norangshol	Fugro Norway avd. Trondheim
Randi Balstad	Schjetne	IKEA AS avd Leangen
Jøran	Nilsstad	Treider Fagskoler AS
Terje	Meisler	Trondheim Havn IKS
Lars-Tore	Finnanger	Utbrudd Performance Marketing AS

Gruppe 3

Christer	Mohn	Aleris Helse AS Avd Trondheim
John Terje	Presthus	Atea AS
Svein Olav	Tinmannsvik	Certes Norge AS
Kjersti	Kaasbøll	Enova SF
Stig	Gåsvik	IKEA AS avd Leangen
Roger	Bonaunet	PwC AS
Morten	Kvarberg	SINTEF AS
Thia	Simonsen	Teekay Petrojarl Production AS



Why Every Business is Digital

“The goal of the future is to create full unemployment”

ATEA
Lars Iversen

Hyper Personalization

Amazon, is leveraging big data on its 200 million customer accounts by hosting their 1,000,000,000 GB of data on more than 1,400,000 servers to increase sales through **predictive analytics**

Data is the lifeblood of Amazon

- personalized recommendations
- price optimization
- targeted marketing
- forms loyal customer relationships by leveraging personal data

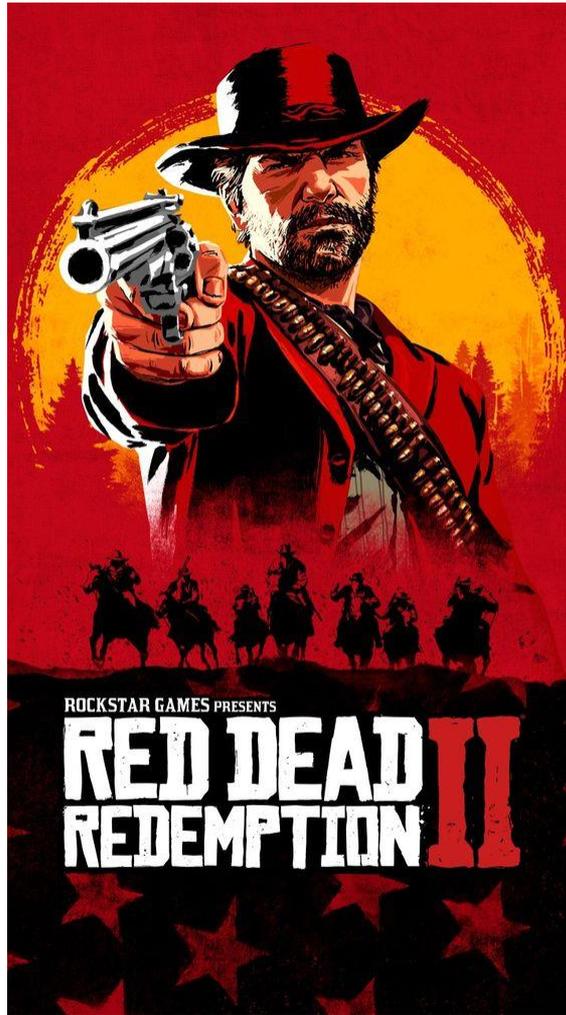


Your personal movie

The game is a mix of stunning artwork, smart writing, and crafty artificial intelligence

Unlike with most current games, there's no waiting for a scene to load; you move without interruption from game play to movie-like cut scenes.

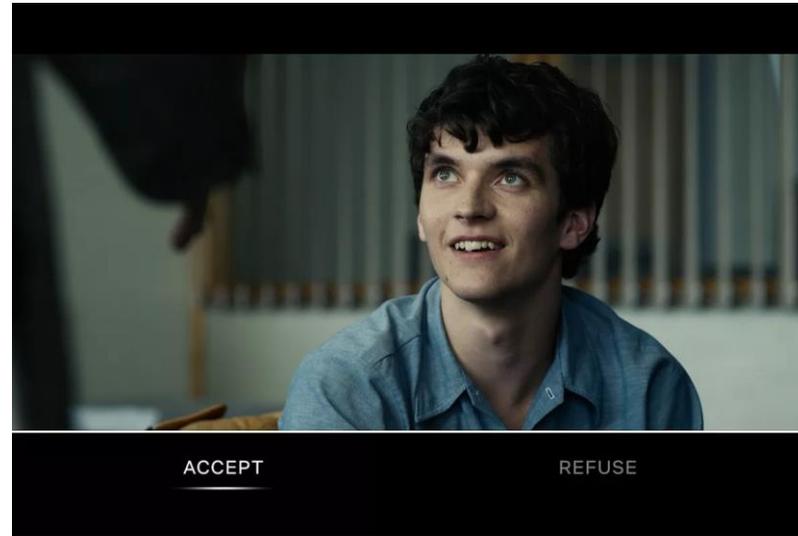
Its world feels fully realized, as if players could live in it and put down virtual roots.



Choose your own adventure

Interactive content is a new and fun way to experience Netflix. You can choose what the characters will do and how the story will continue!

Each choice leads to a new adventure, so you can look at the content again and again and see a new story each time.



Hyper Localization - one store for each customer..



All stores are 100 %
adjusted to the
neighborhood and
perfectly unique

NORDSTROM

ATEA

Medicine as unique as you!



BioNTech – Medicines as Unique as You

We are developing the next generation of personalized immunotherapies to help revolutionize the treatment of people with cancer and other debilitating diseases.



BioNTech in the News

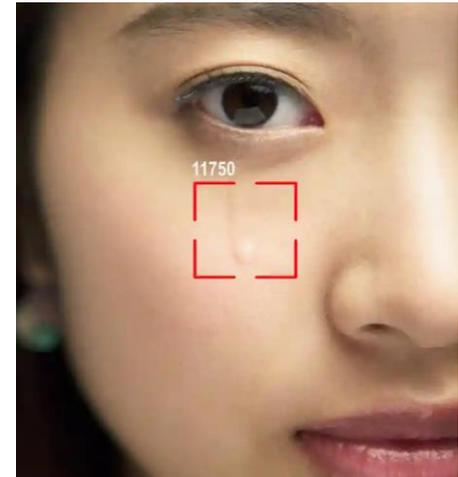
23rd January 2019
BioNTech to Acquire Antibody Generation
Unit of MAB Discovery

Meet the Emphatic Building

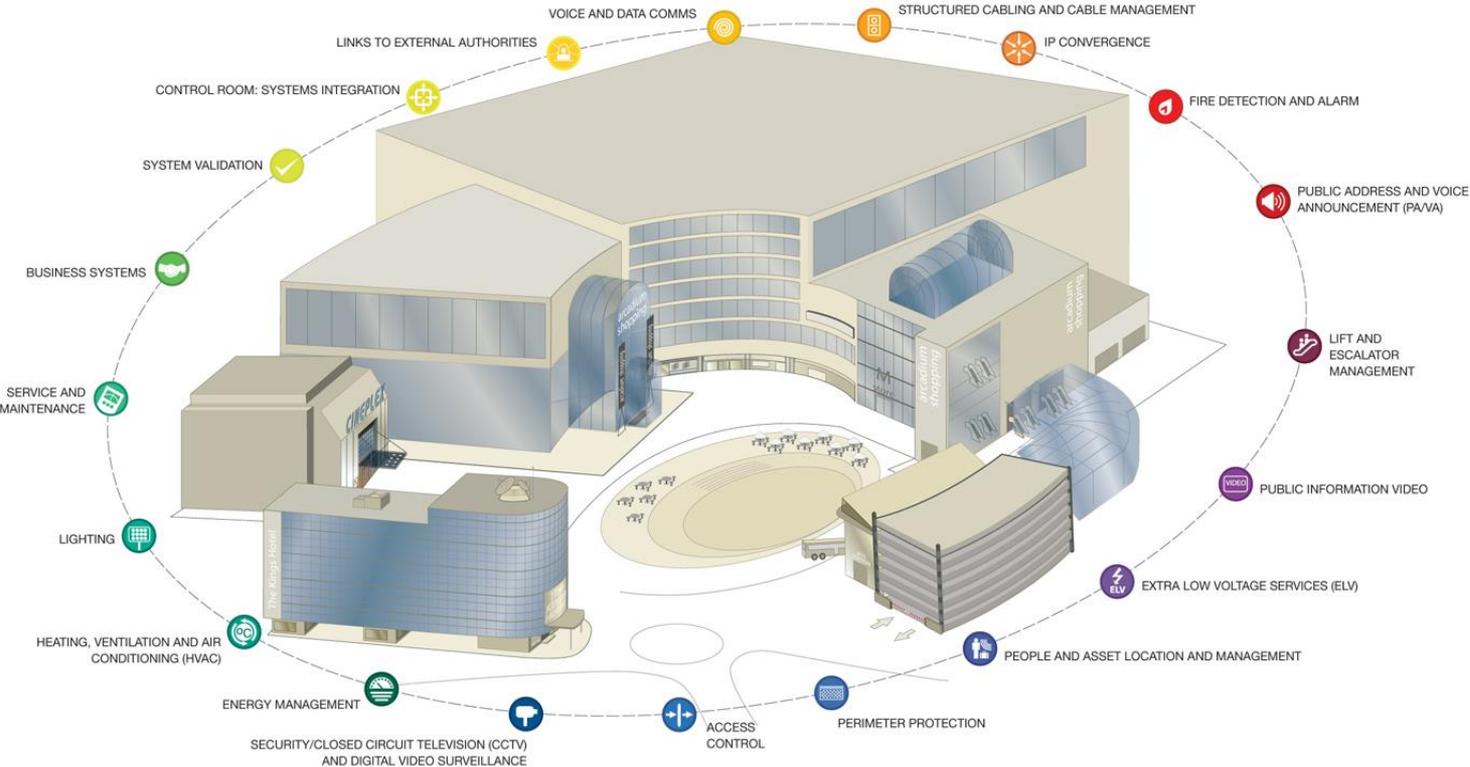


Knows who you are, what you are working on, when you will leave and to where.

Knows how you like your air/temperature, lighting, coffee **and if you are sad.**



Everyone will have their own version of.....



Your own school, your own hospital, your own city



We will stop adjusting to schools, hospitals and cities, they will adjust to us...



Within the next years, we will be able to 100% tailor-made services all the way down to the fingertips of each customer, at a lower cost than what we currently use in "Old School ICT".

The time when customers had to adapt to unmatched "one size fit all" solutions is over

One size does
not fit all

One family.
Different Unlimited plans.
Now go mix and match.

verizon

Regional Rail
Suburban Station

“The Iversen Flip”

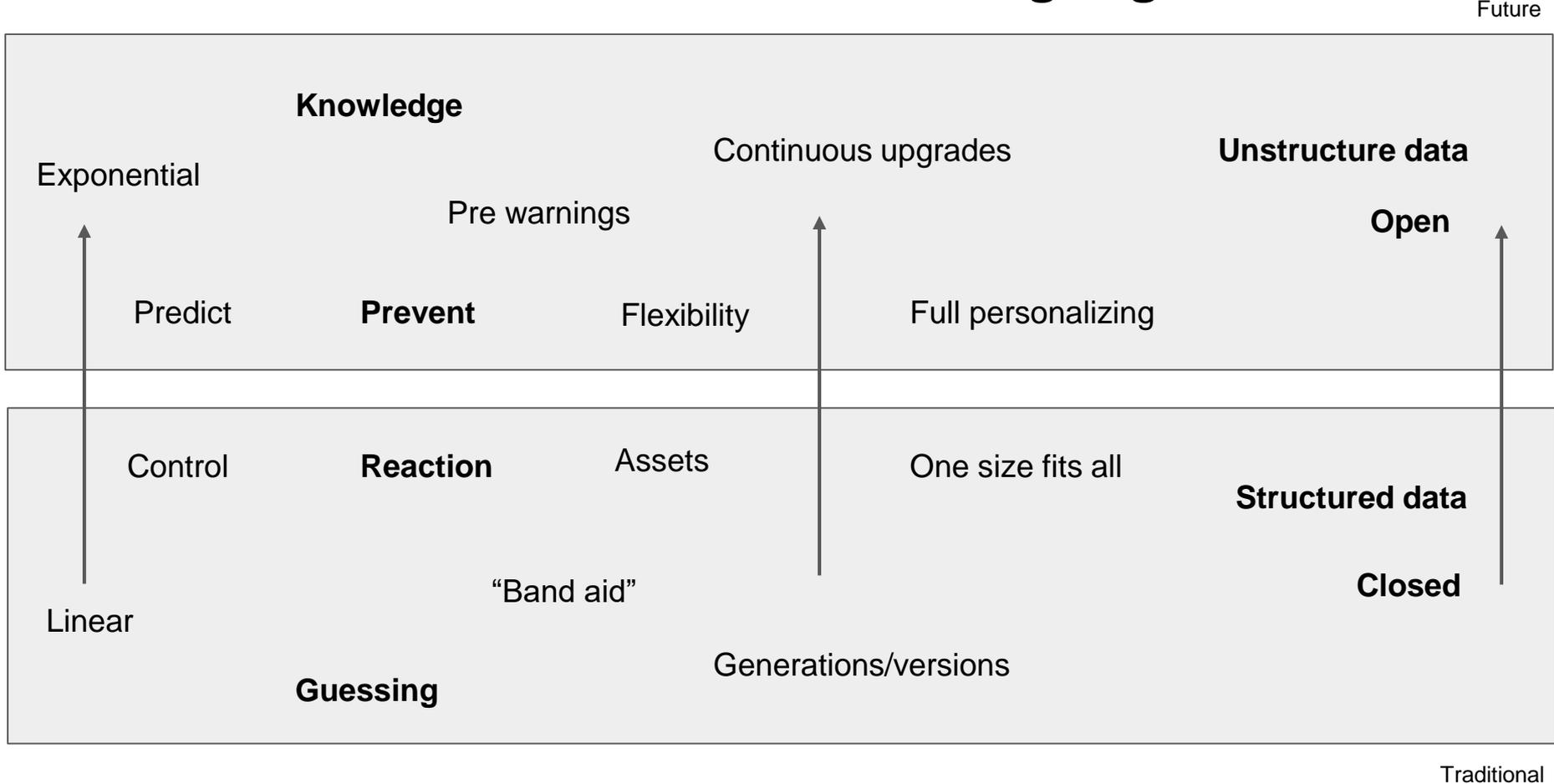
80/20

“80% of all resources and energy spent fixing stuff - only 20% spent on preventing *fuck ups*”



ATERA

From cost effective ITC to value creating Digitalization





Focus on the transformation

The Digital Gap

Everything that can be digitized will be digitized

All information (digital) will hit the exponential development curve

Anything that can be connected will be connected

Digital First - AI First

Now it is no longer the digitization that will follow the strategy but the strategy that will follow digitization



8 areas that drive digitalization

1. Becoming

From products to services (everything as-a-service...)

Prototyping and testing will be the new normal (Welcome to Prototypia)

“Technological life in the future will be a series of endless upgrades”



2. Cognifying (kognitiv)

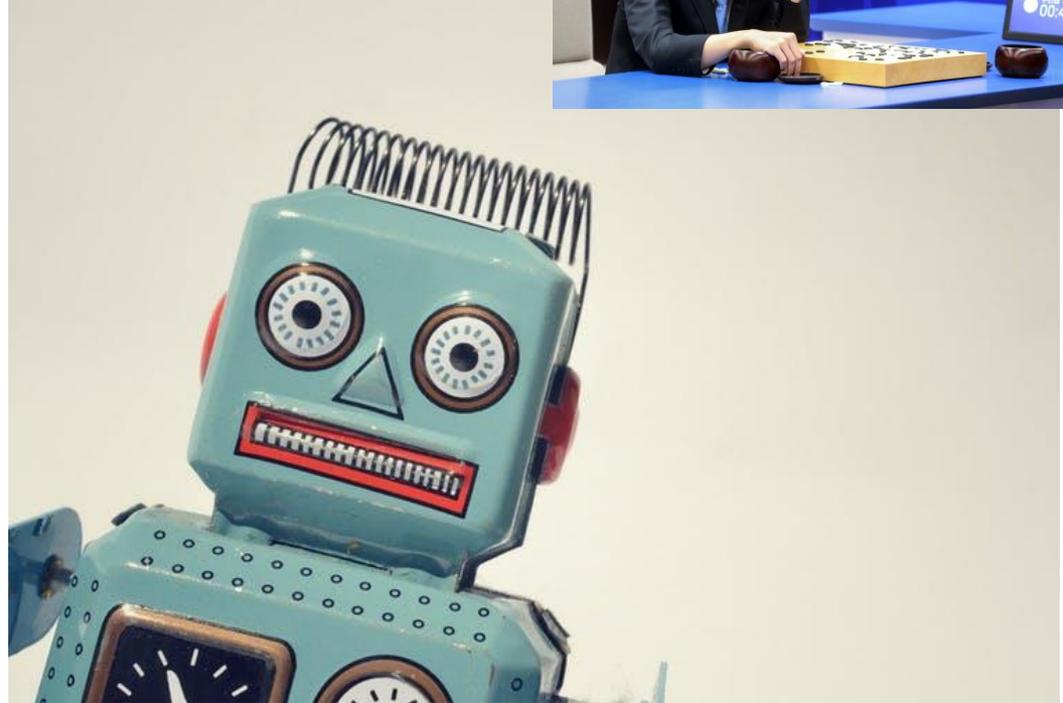
AI and self learning algorithms

100% data driven processes

Robots gets the job done better

Machines are teaching each other

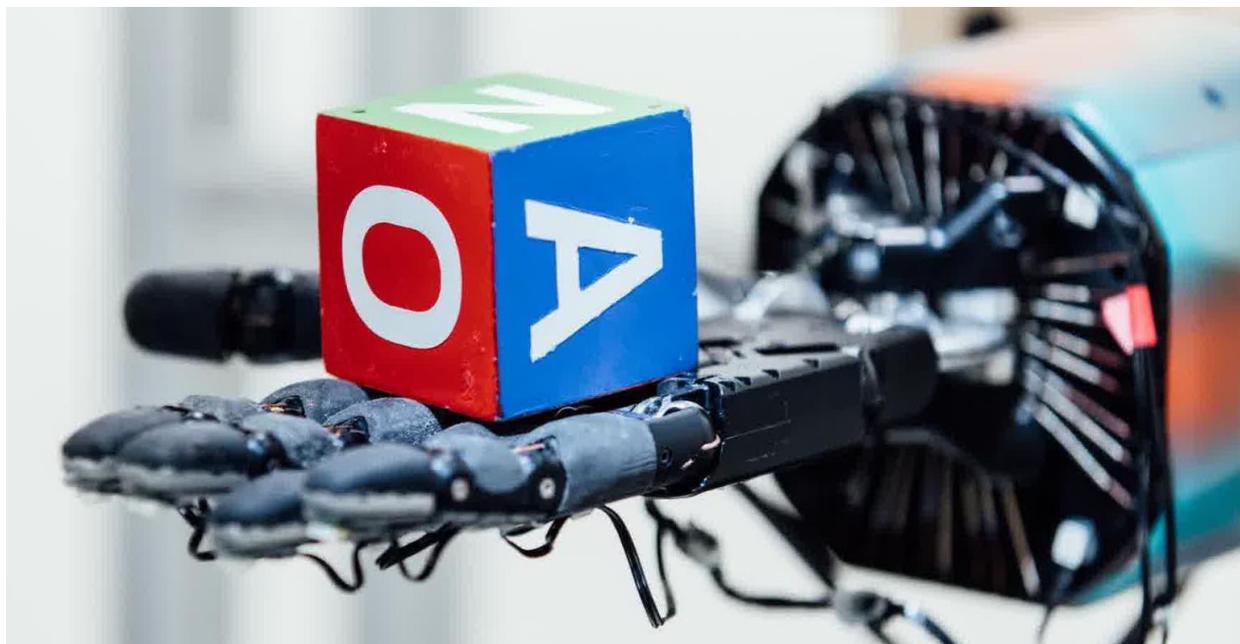
Human rights for robots?



2. Automation - unprecedented dexterity (self learning)

Dactyl learns to solve the object reorientation task entirely in simulation without any human input.

After this training phase, the learned policy works on the real robot without any fine-tuning.



2. Autonomous cars, busses, boats, planes...

The Uber Crash Won't Be the Last Shocking Self-Driving Death



KIEN HONG LE/BLOOMBERG/GETTY IMAGES

EVERYONE WORKING IN the autonomous vehicle space said it was inevitable. In America—and in the rest of the world—cars kill people, around 40,000 in the US and 1.25 million in the globe each year. High speeds, metal boxes. Self-driving cars would be better. But no one promised perfection. Eventually, they'd hurt someone.

Still, the death of Elaine Herzberg, struck by a self-driving Uber in Tempe, Arizona, two weeks ago, felt like a shock. Even more so after the Tempe Police Department released a video of the incident, showing both the exterior view—a low-quality dash cam captured the victim suddenly



Apollo Open Platform



Promote Open Capability

Apollo provides an open, reliable and secure software platform for its partners to develop their own autonomous driving systems through on-vehicle and hardware platforms.



Share Resources - Accelerate Innovation

With Apollo, you get:
• A world leading HD map service
• The only open Autonomous Driving simulation engine
• End-to-End, a deep learning algorithm.



Sustain Mutual Benefit

Apollo accelerates the development, testing, and deployment of Autonomous Vehicles. As participation grows, more accumulated data becomes available. Compared to a closed ecosystem, Apollo can evolve faster, bring greater benefits to members, and continually grow.



2. Bot's are better at customer service all ready



More than 2 billion messages are being sent between bots and customer on Facebook Messenger each month

Currently used by about 600,000 merchants on Alibaba's e-commerce sites, the tool has been critical for virtual store owners that need to deal with an overwhelming volume of customer inquiries during major sales campaigns, such as Alibaba's annual 11.11 Global Shopping Festival. **Last year, during the one-day mega-sale, Alime Shop Assistants had 100 million conversations with customers, leading to sales that made up 15% of the event's record-shattering gross merchandise volume, Alibaba said.**



Figure 6: A demonstration of Alime Assist

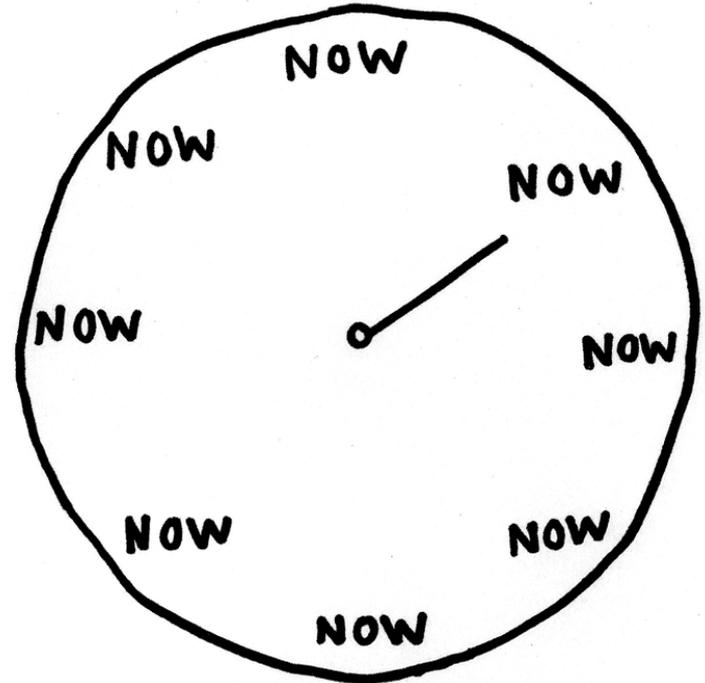


Billions and billions of conversation in real time

3. The Big Now

The copy eats the world, frictionless - products and services have become like running water - always available

Now we live in a "digital river" - from controlled processes and products to everything (becoming) - nothing is or will be done

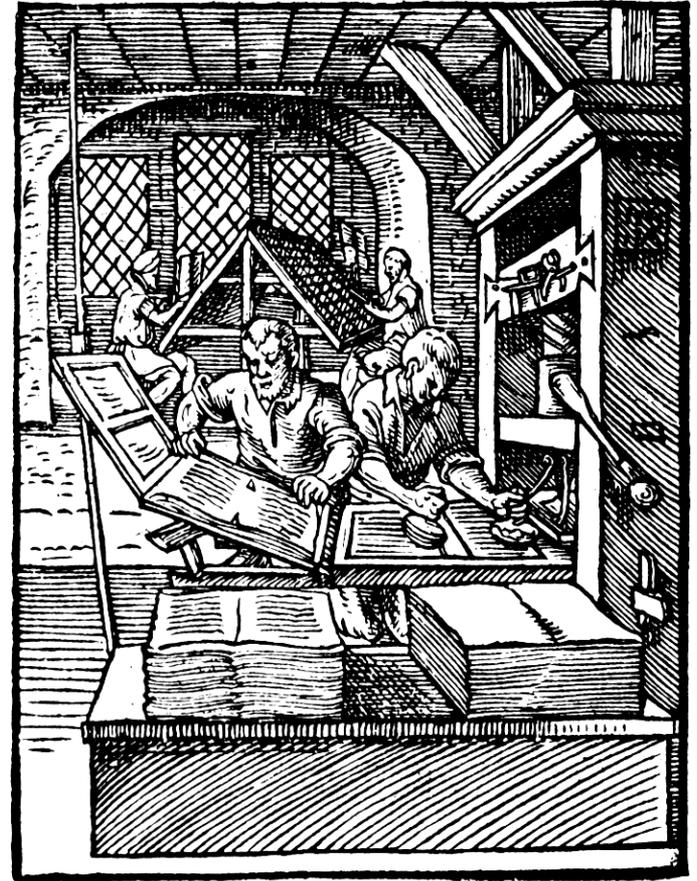


4. Screens

Gutenberg changed everything with new technology long time ago..

- Religion
- Politics
- Science

But we're just in the midst of this change - soon, all books, videos, music, letters, newspaper articles, and comments will be a huge giant book - owned by everyone

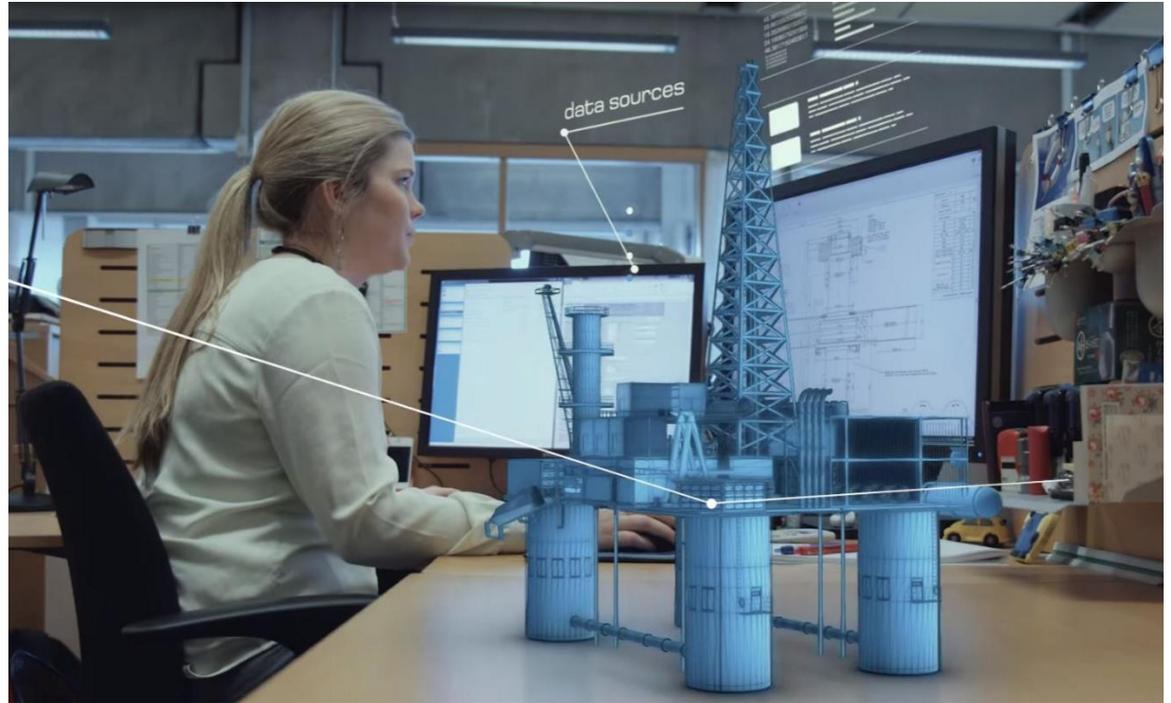


4. Screens

The potential of the books will be really with the screens

The screens will be everywhere

We will interact with digital versions of the physical world



4. Screens (interaction)



Monitors are about interaction, but are monitors best for it?

The future of interaction may be what we hear and say, not what we see

The machines are moving into our bodies/ears



5. Interaction

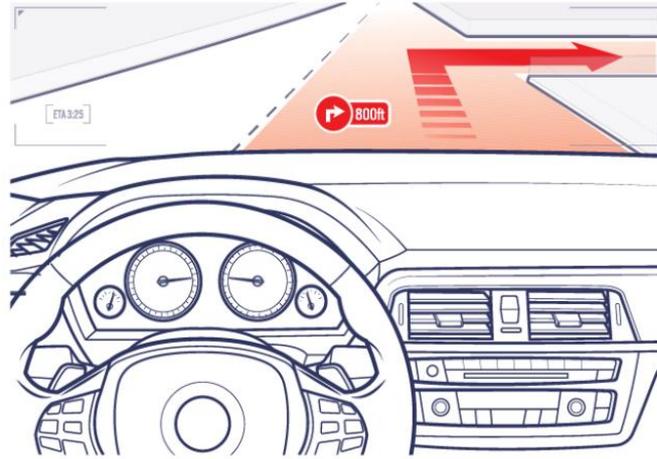
VR

AR

MR



Mentally transposing GPS images onto the road ahead is demanding and prone to errors.



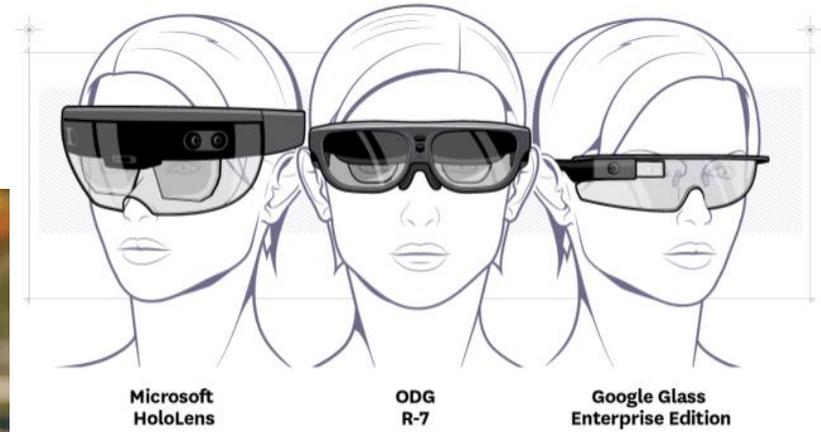
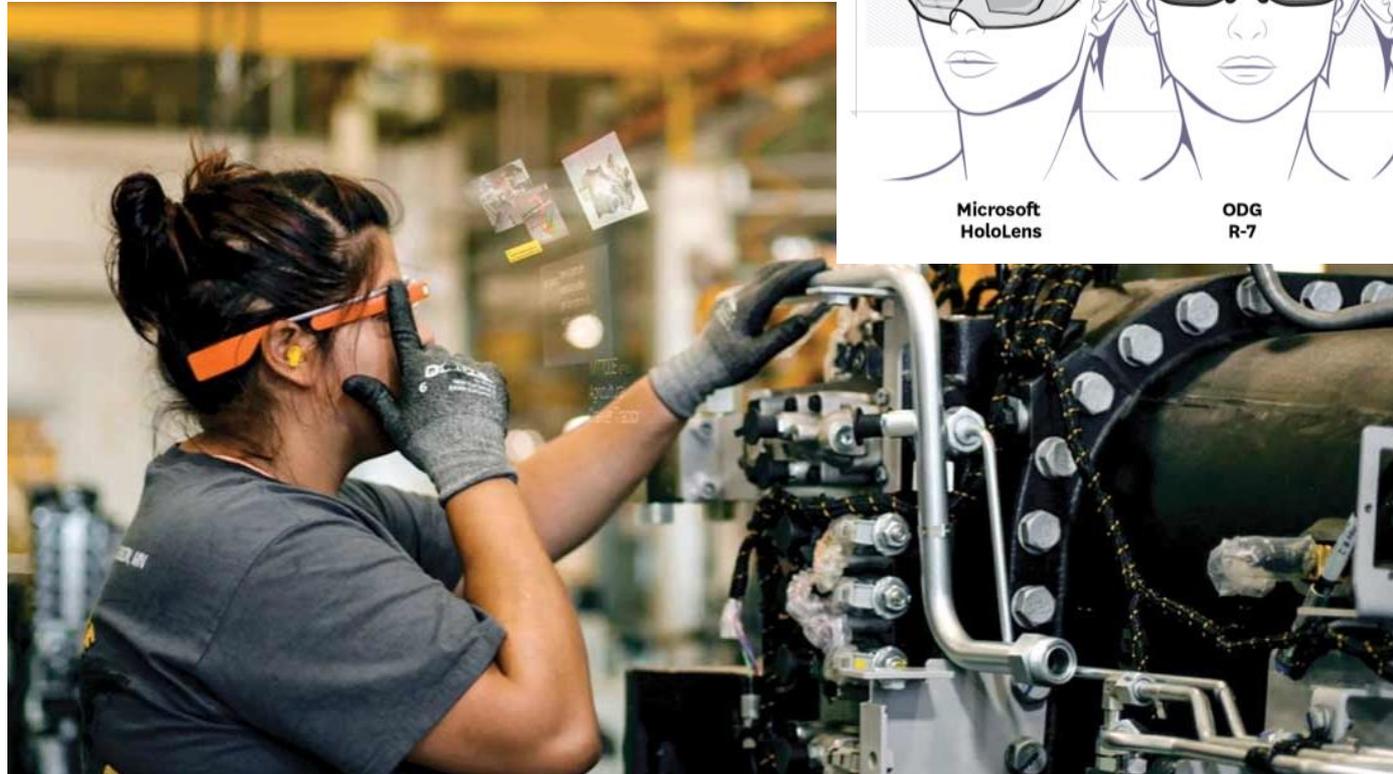
AR superimposes digital data directly on the real world.

5. Interaction

VR

AR

MR



5. Interaction



5. While in Korea...



Voice-controlled and check-out as well as voice-guided lights, TV, sound, room service and tourist information.

In China, one can also check in with face detection.

6. Access

We only own access to services and products in real time

- dematerialization
- decentralization

New Platforms and Ecosystems (Spotify, Amazon ..)

The Cloud (and on the edge of the cloud)



7. Sharing

71 billion pictures where shared on Facebook in 2017



Messenger platform evolution

2.0 APR 2017

Discovery and Chat Extensions

2.1 JUL 2017

Handover Protocol and Built-in NLP

2.2 NOV 2017

Customer Chat and Media Template

2.3 FEB 2018

New Quick Replies and Messaging Insights

Messenger by the numbers

More than

1.3 billion
people use Messenger each month

400 million
people use voice and video chat every month

200,000
developers on the Platform

10 billion
messages sent between people and businesses on Messenger each month

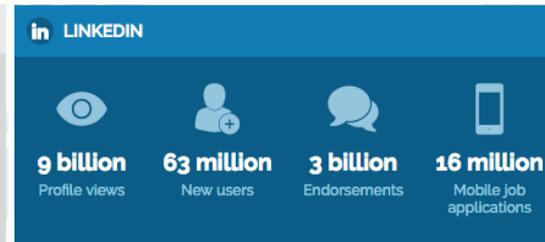
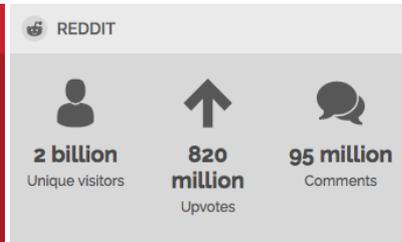
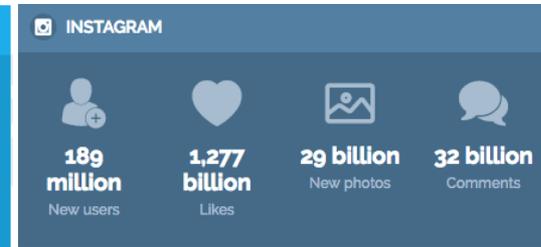
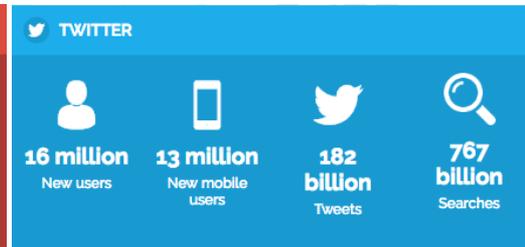
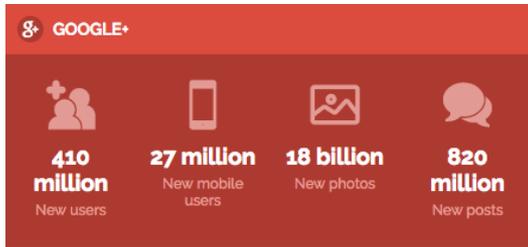
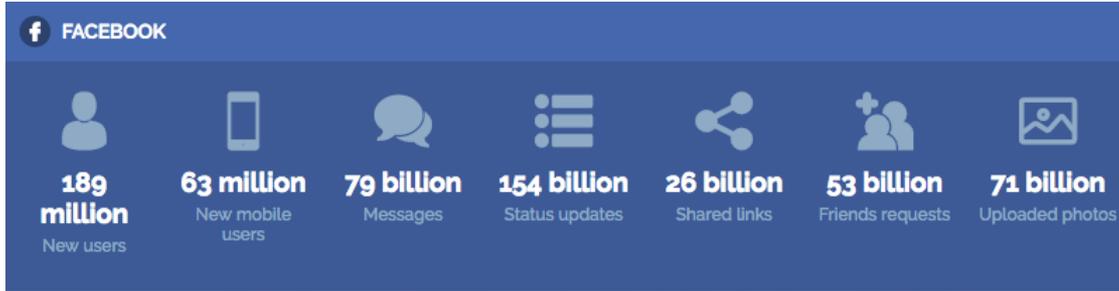
300,000
active bots on Messenger

17 billion
photos shared in Messenger each month

Messenger is the second **most popular** iOS app of all time, behind Facebook*



6. Sharing



7. Sharing : Collaboration & Cooperation

Open source (Android, Linux, Raspberry Pie,)

Wikipedia



WIKIPEDIA
The Free Encyclopedia

P2P

LendingClub

kiva



kooperasjon

[Store norske leksikon](#) → [Ordforklaringer](#) → [Fremmedord](#)

Kooperasjon, samarbeid, organisert [samvirke](#).

UTTALE kooperasjon
ETYMOLOGI av ko- og operere

Videre lesning

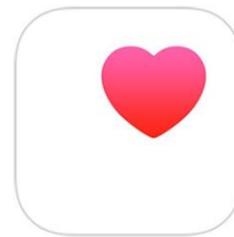
- ▶ [kooperativ](#)
- ▶ [kooperere](#)

8. Tracking (health)

Apple Health app

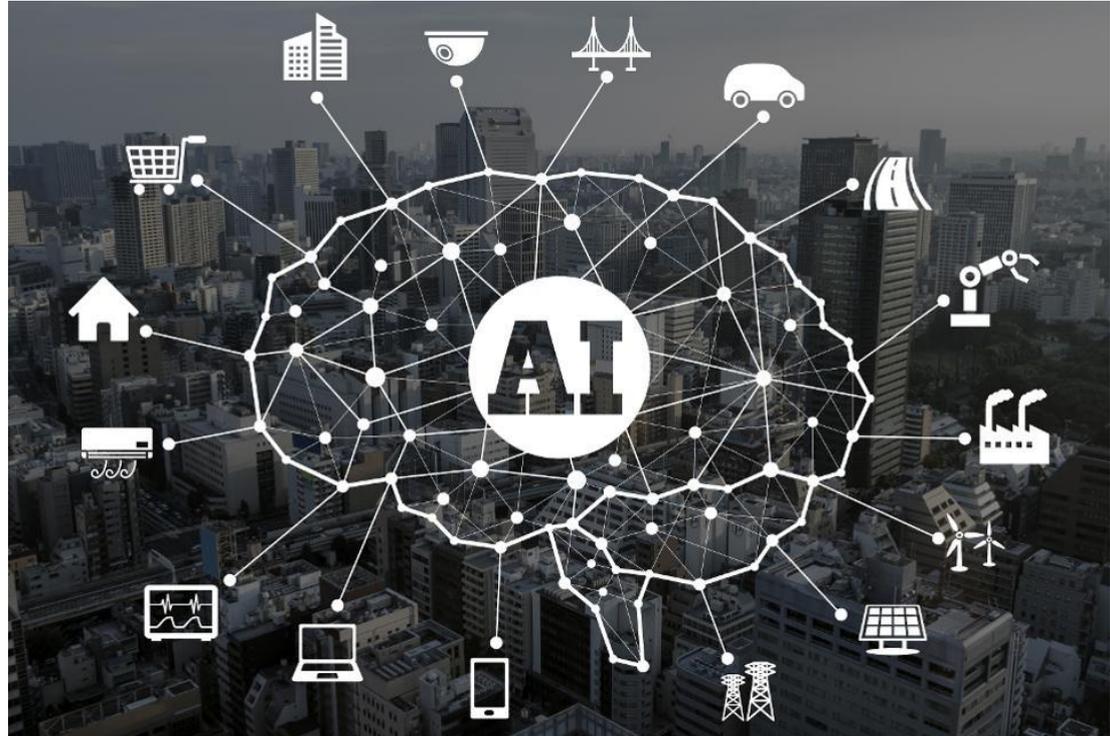
Verily (Google)

Quantified self projects



8. Tracking - IoT

Cars and traffic
Track and Trace
Taxi and car sharing
Flight and train
Power consumption
Surveillance
Loyalty Program
E-commerce
IRS
Credit
Photo Recognition
Social media
Browser history
What you have read
What you've seen and heard
Etc.....



What will happen to everything in the end?

- Personalization - Precision
- Computer-driven processes and companies
- Automation - from bot`s to autonomy
- (full) Insight
- A new industrial revolution
- Smart products, IoT products

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