

A 3D rendered scene of a modern building interior. In the foreground, a small robot with a blue arm and a white cart is positioned on a dark path. A person in a white uniform stands to the left, with red laser lines extending from their eyes towards the robot. The background features large windows with mannequins and posters, including one with the word 'SAL'. The overall scene is dimly lit, suggesting an indoor environment.

Drømmen om roboter:

Å bygge det neste "Kongsberg" fra $t=0$

Konrad Fagertun

nLINK

ITK 60 år! NTNU, 07.november 2014



Konrad Fagertun

Kyb + ES '08







A MICHAEL BAY FILM

TRANSFORMERS

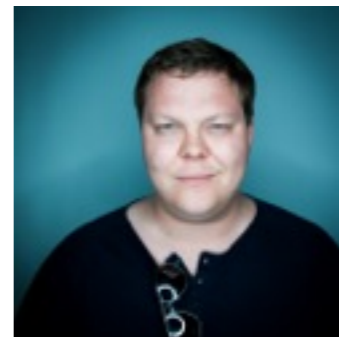
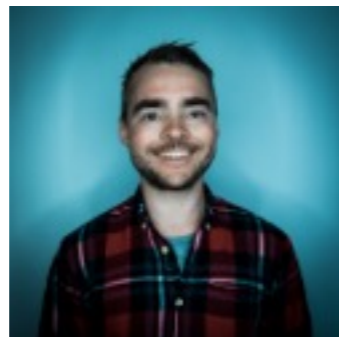
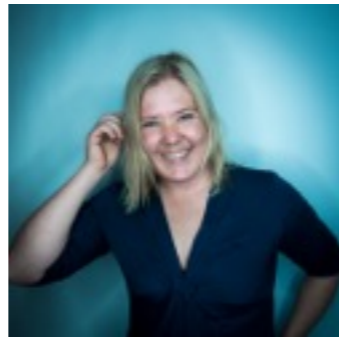
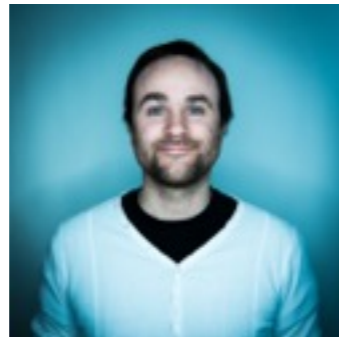
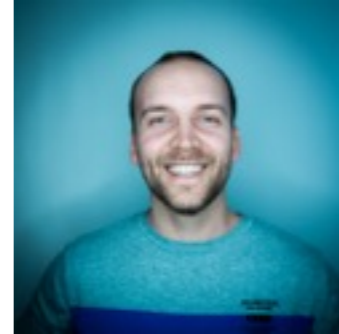
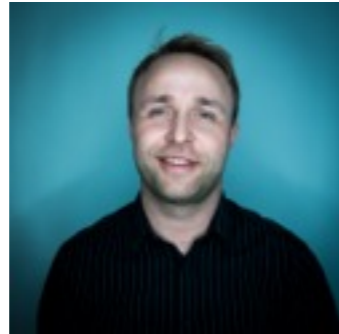
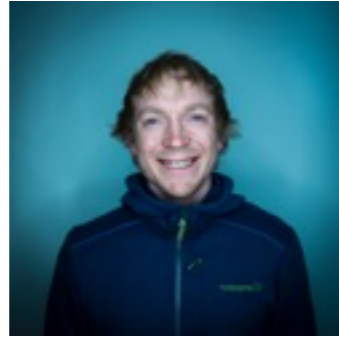
REVENGE OF THE FALLEN

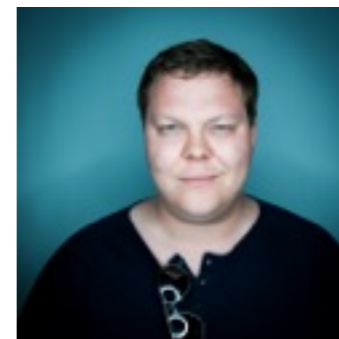
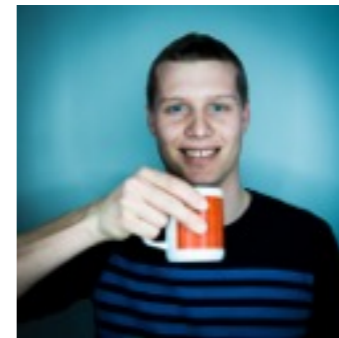
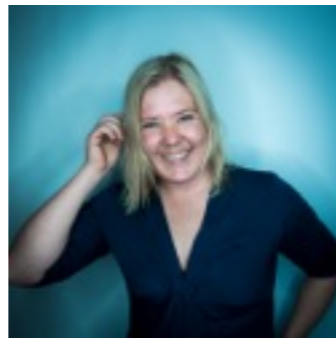
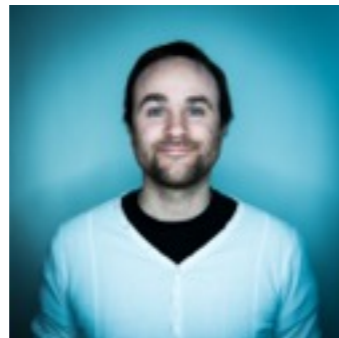
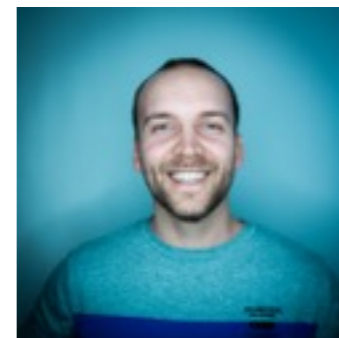
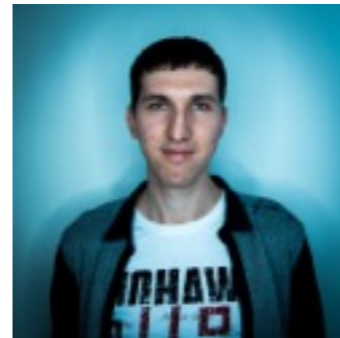
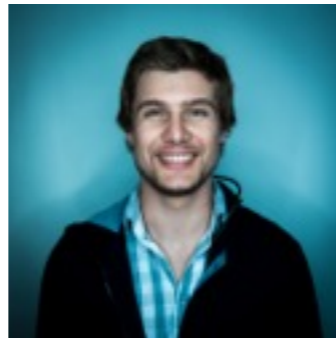
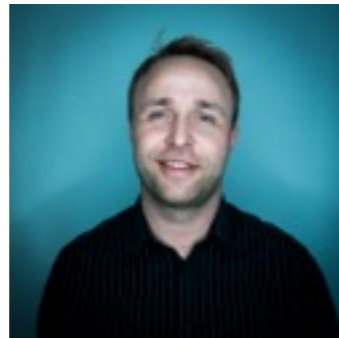
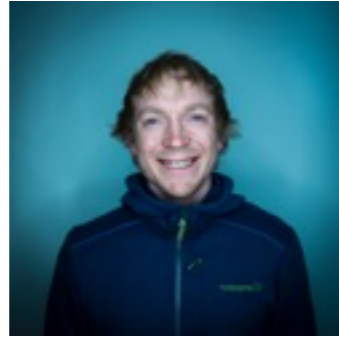
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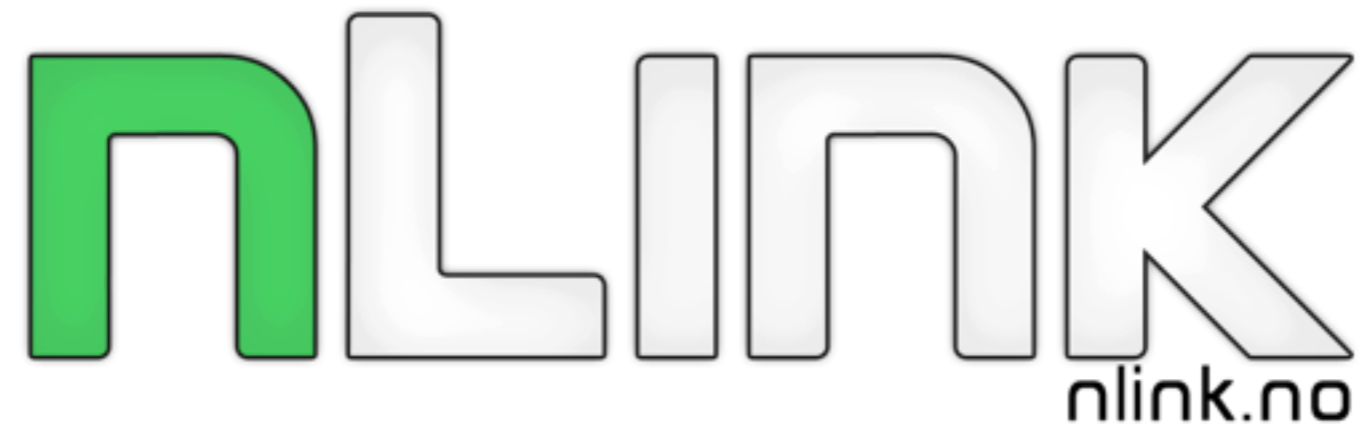


Sogndal

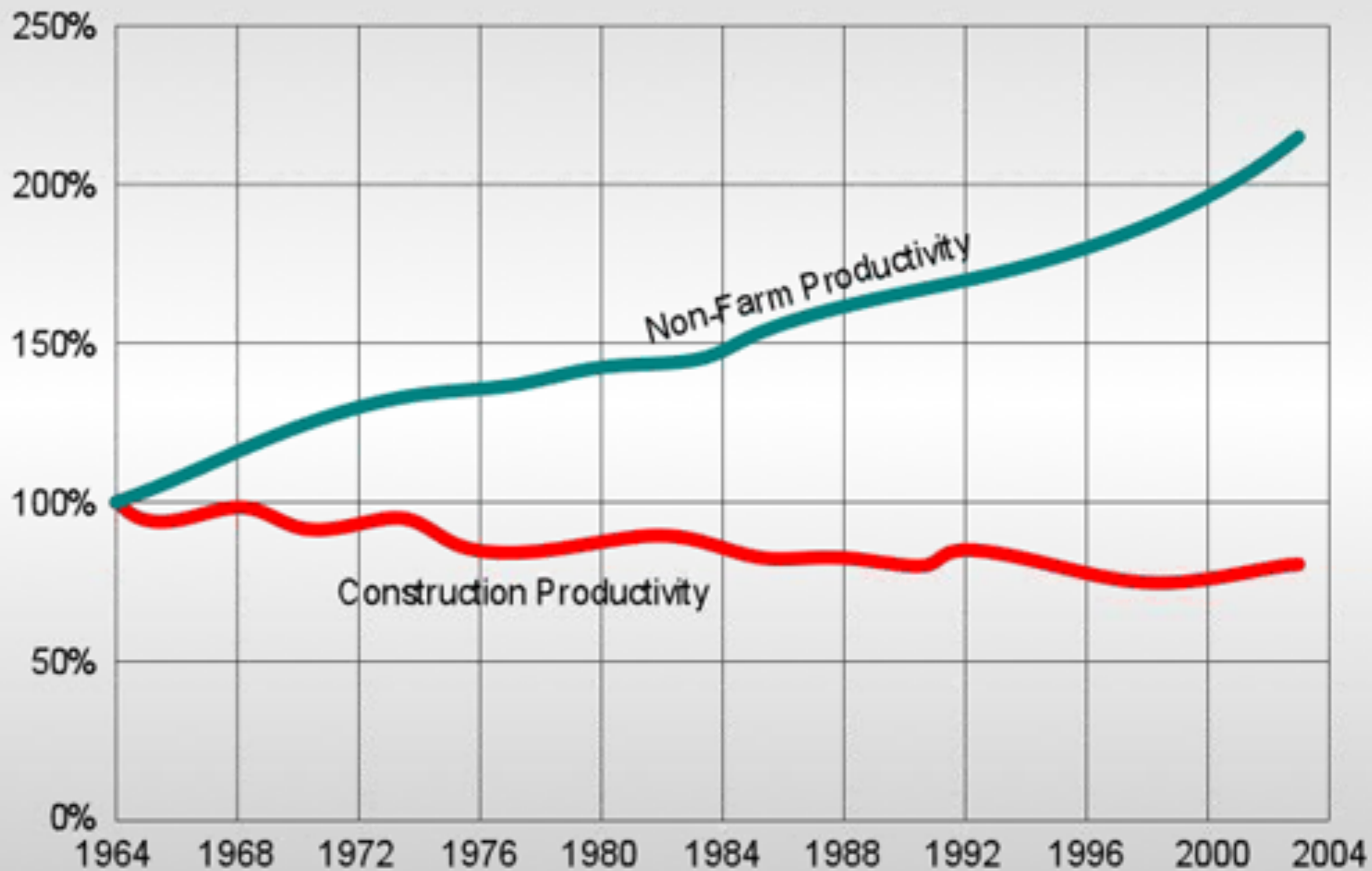




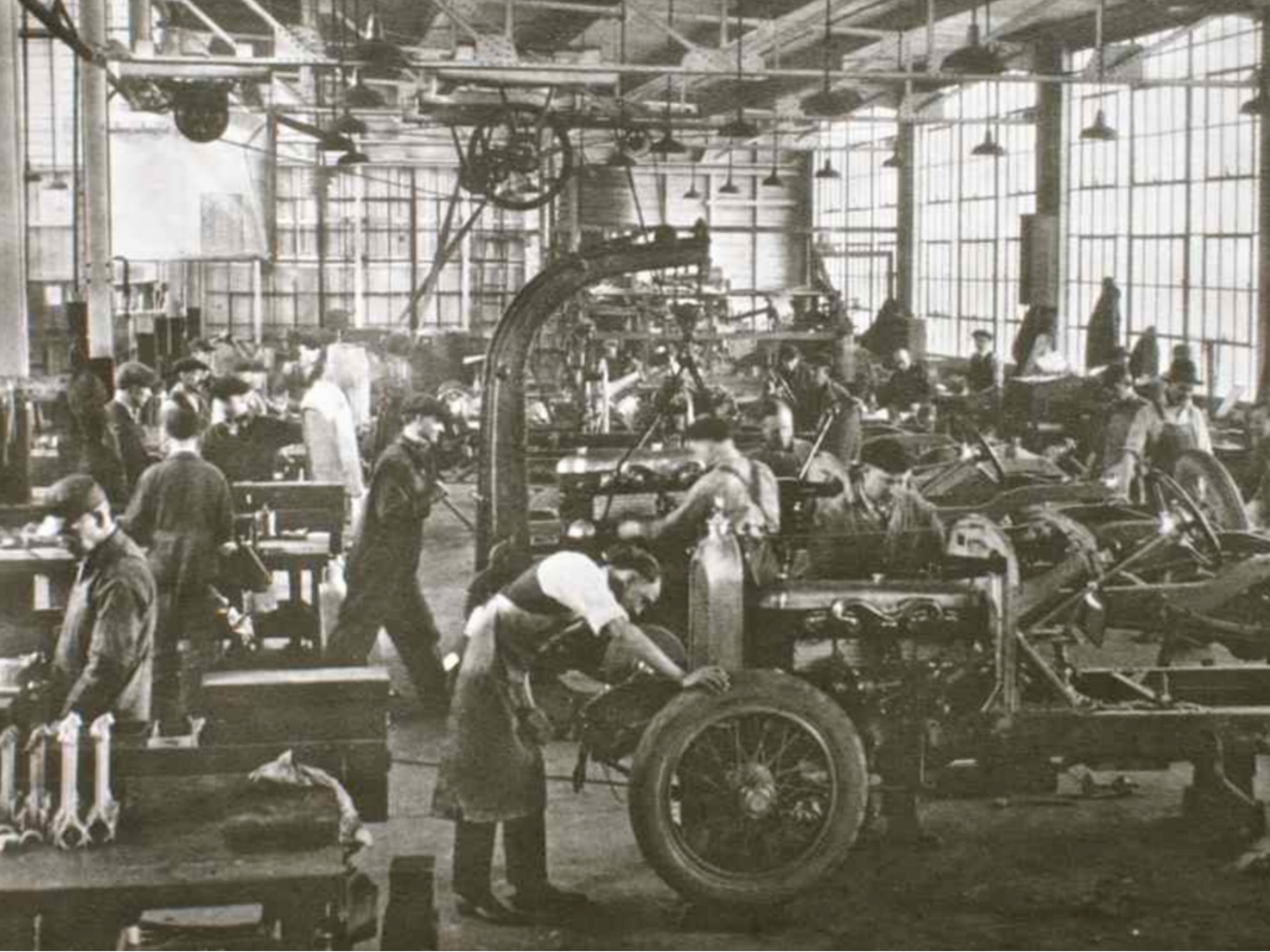


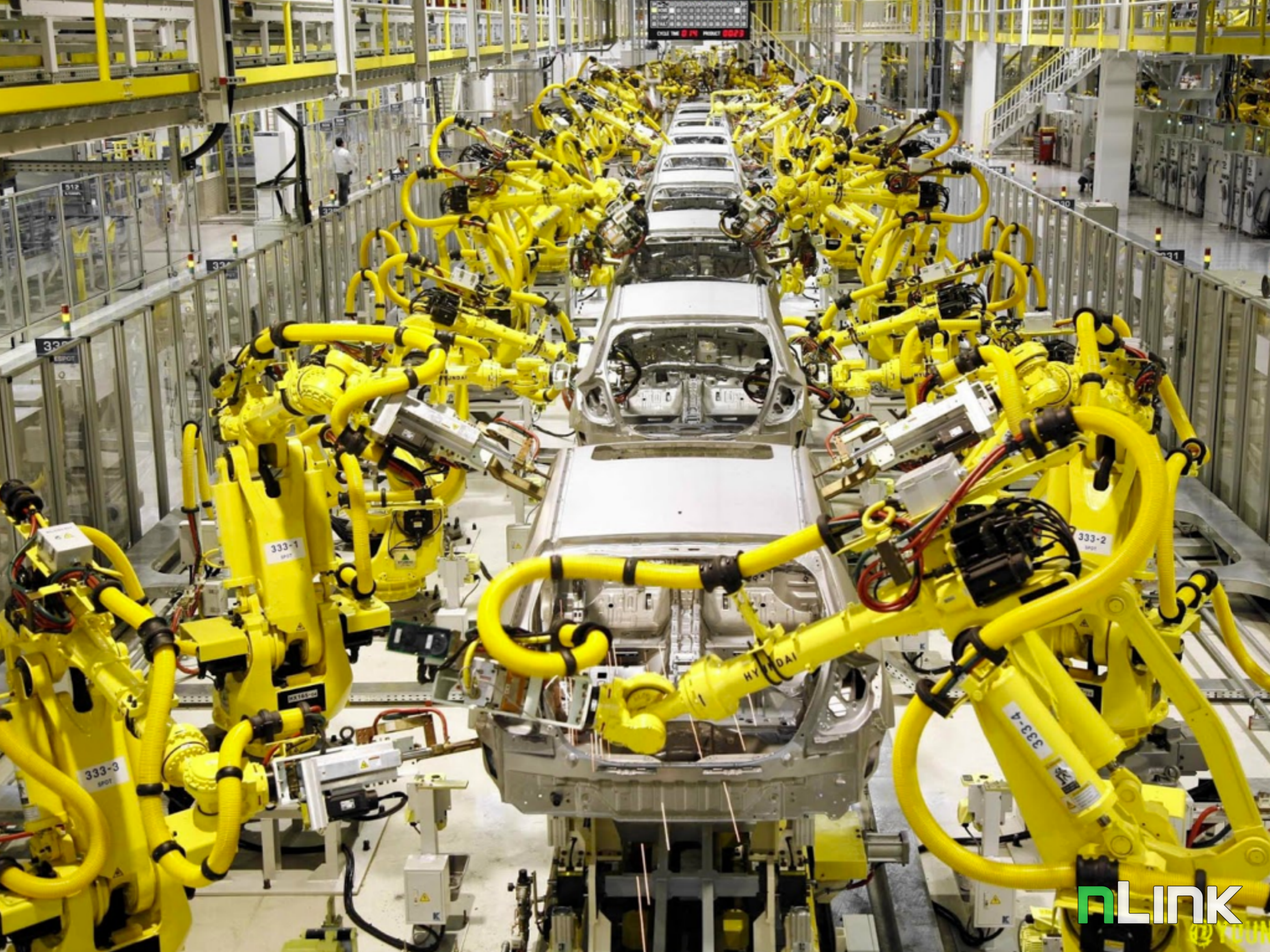


Roboter for byggebransjen



Construction and Non-Farm Labor Productivity Index (1964 = 100%)
US Department of Commerce Bureau of Labor Statistics















2014



Marked robotteknologi





Marked robotteknologi

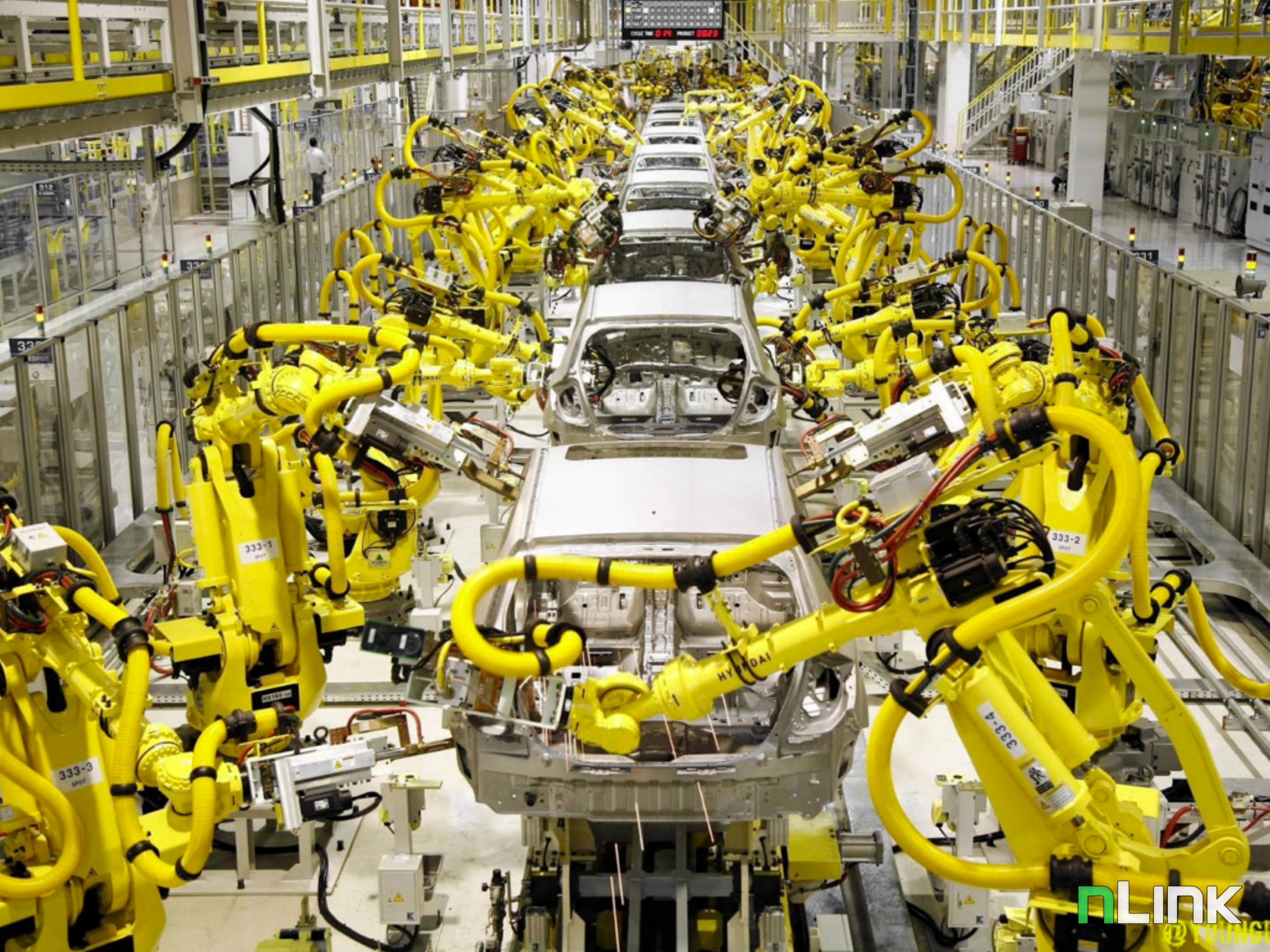
Oppgavekompleksitet



Stasjonær

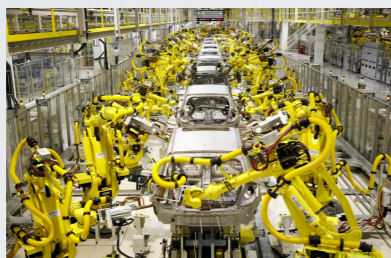
Mobil

Mobilitet



Marked robotteknologi

Oppgavekompleksitet

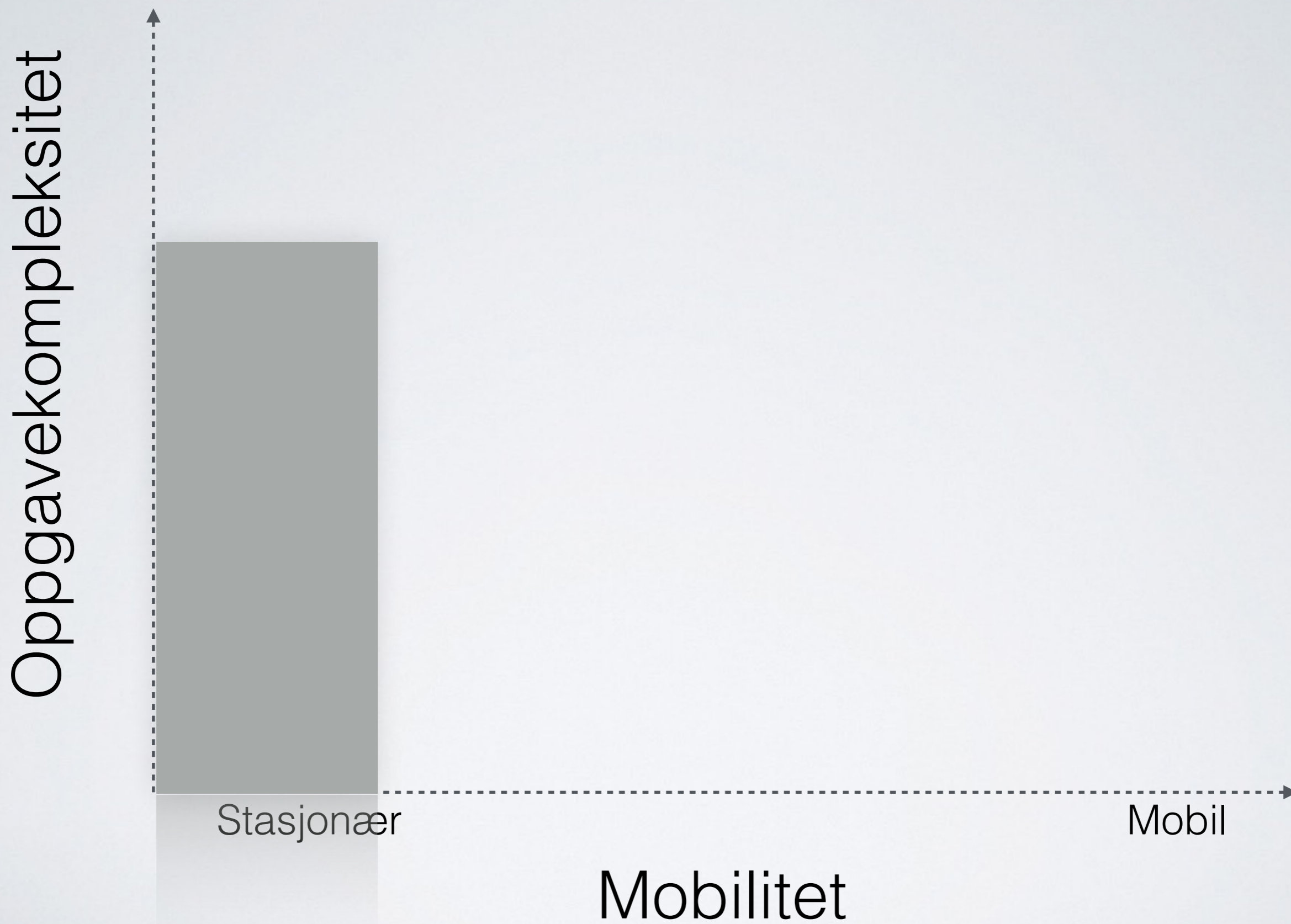


Stasjonær

Mobil

Mobilitet

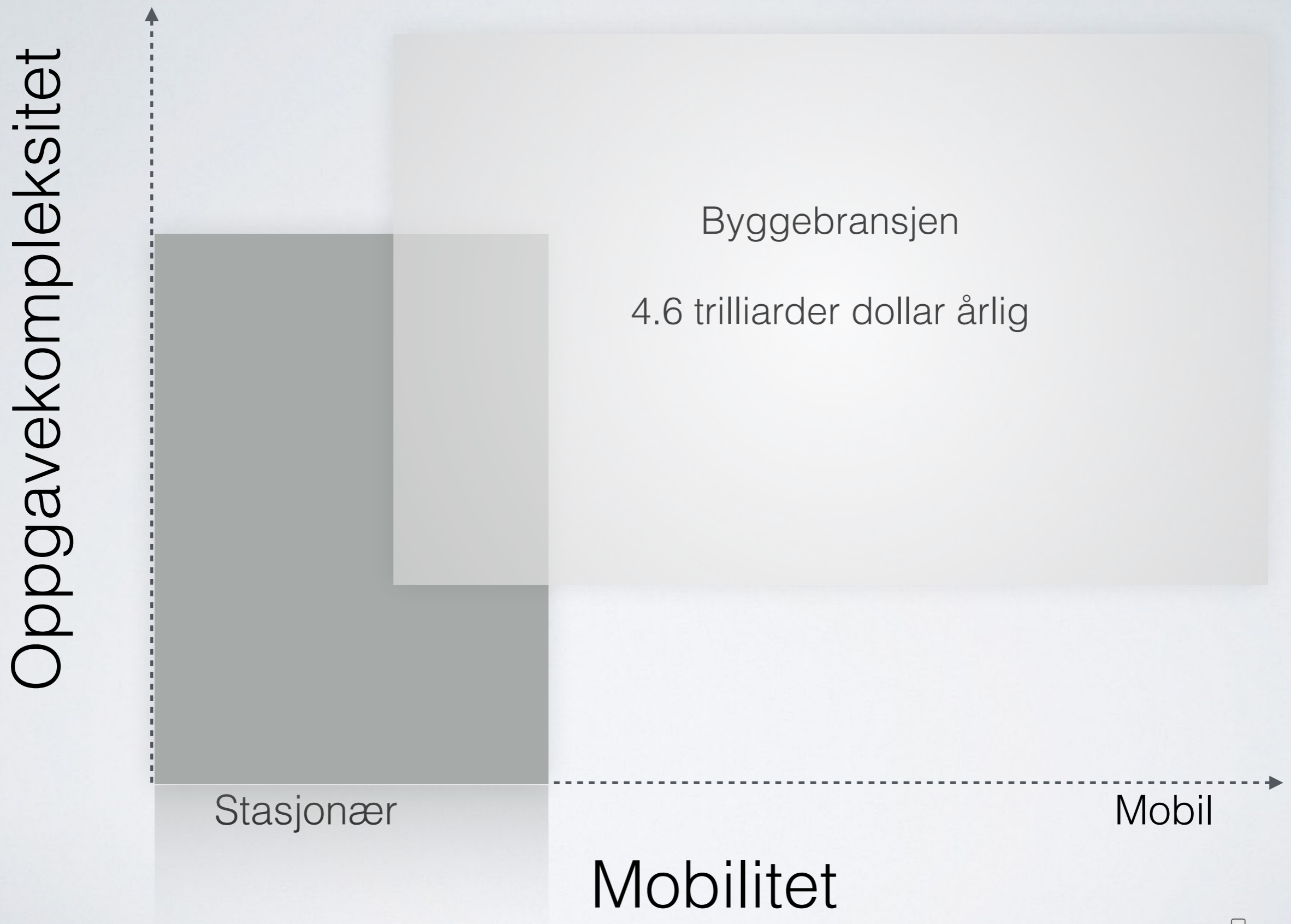
Marked robotteknologi



Marked robotteknologi



Marked robotteknologi



NO PROGRAMMING
EXPERIENCE NEEDED

Yeah right!





SEGWAY®

Robotics

nLINK

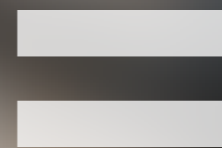
Presisjon



Mobilitet



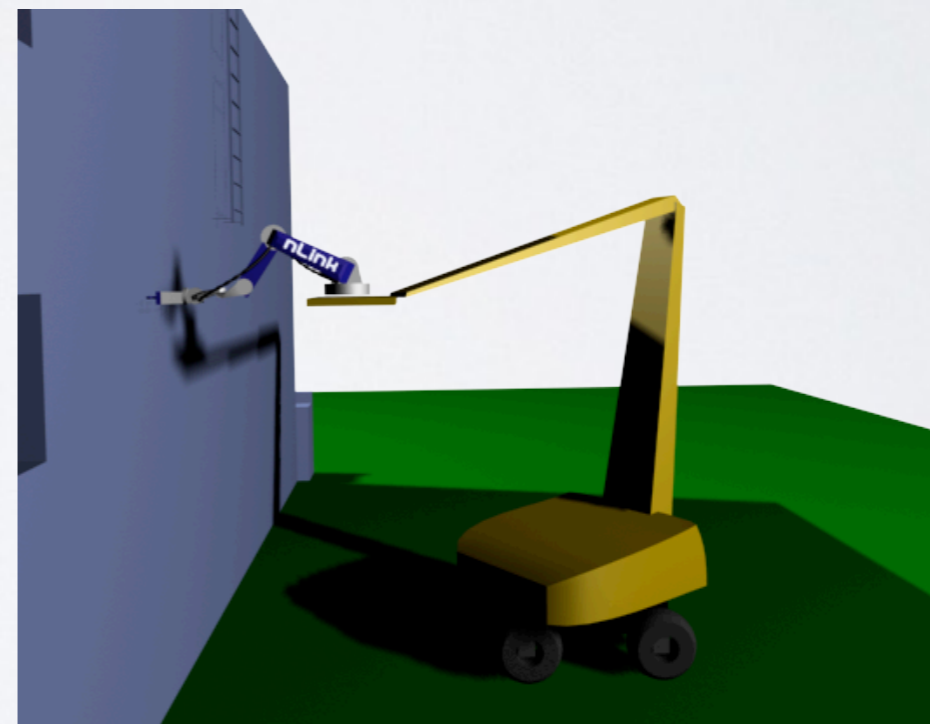
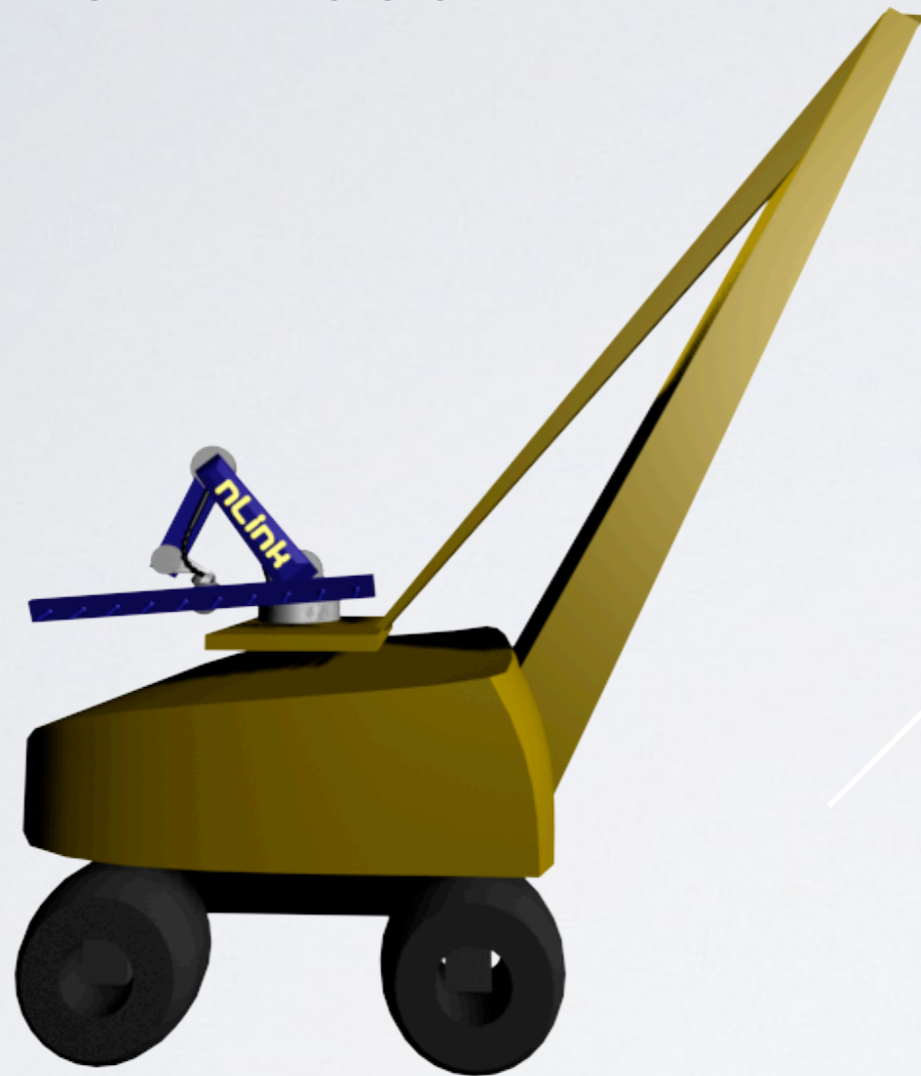
nLINK



Mange nye marked

nLINK

Take 1: 2008



Take 2: 2010



VINTERVOLL
www.vintervoll.no



nLINK



250 000 hull

Verdens første
robot for boring i
betongtak





</>
E-BED

→
LINK

STREKK
ERÅV



II PAUSE

03:00 / 03:10



FULLSKJERM

nLINK





2. Bestem første hull

3. Bestem hullmønster

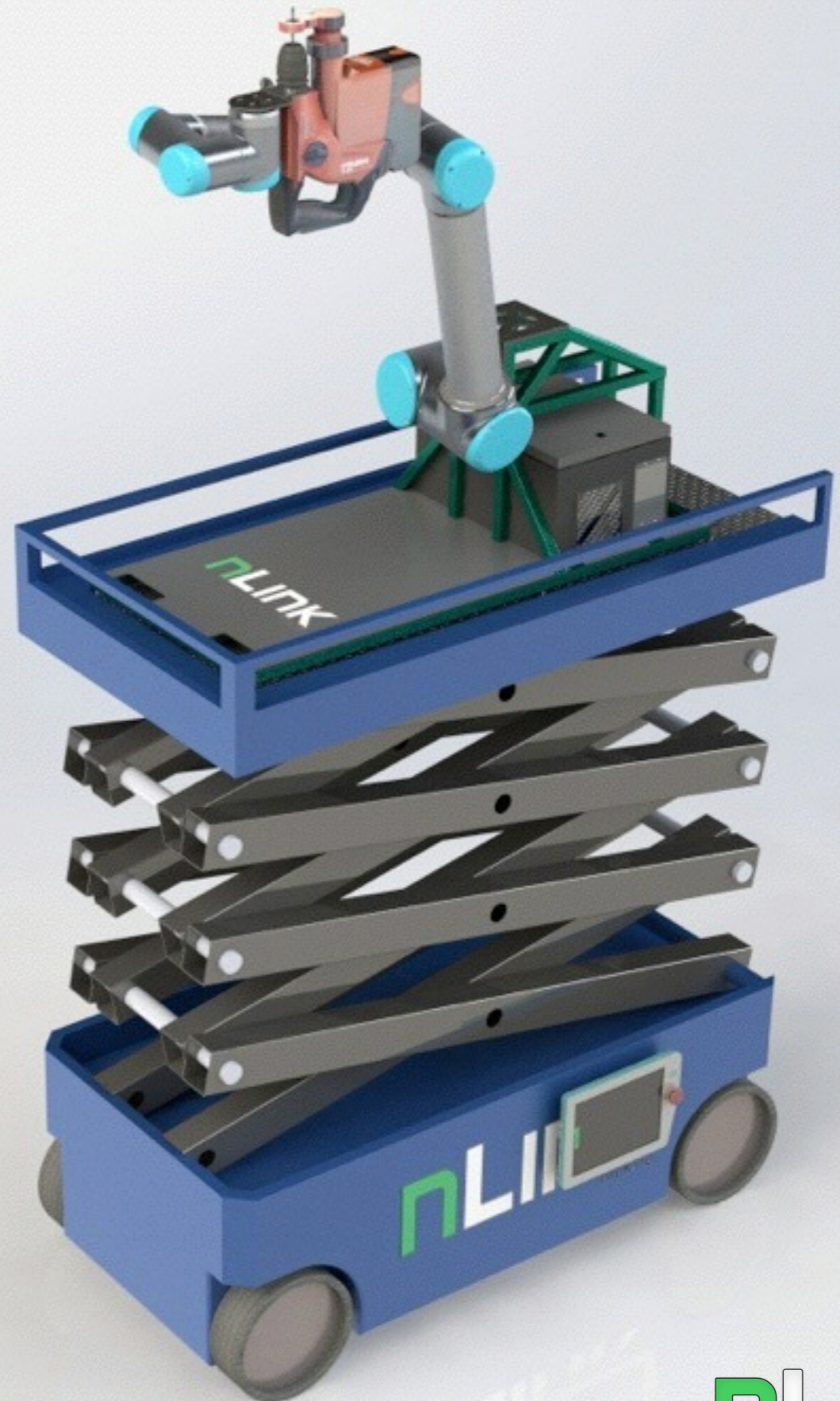
4. Start boring for hull innen rekkevidde

5. Flytt lift ca 2 meter, la systemet bore nye hull.

6. Gjenta til ferdig.

- Lokalt posisjonssystem
- Eksternt posisjonssystem
- Brukervennlig iPad-app
- Samkjøring posisjonering, robotstyring, vakuum..
- Patentsøkt kombinasjon og vibrasjonsdemper

2015: autonom plattform
+ integrasjon mot BIM



- Raskere gjennomføring
- Mindre sykefravær
- Større forutsigbarhet

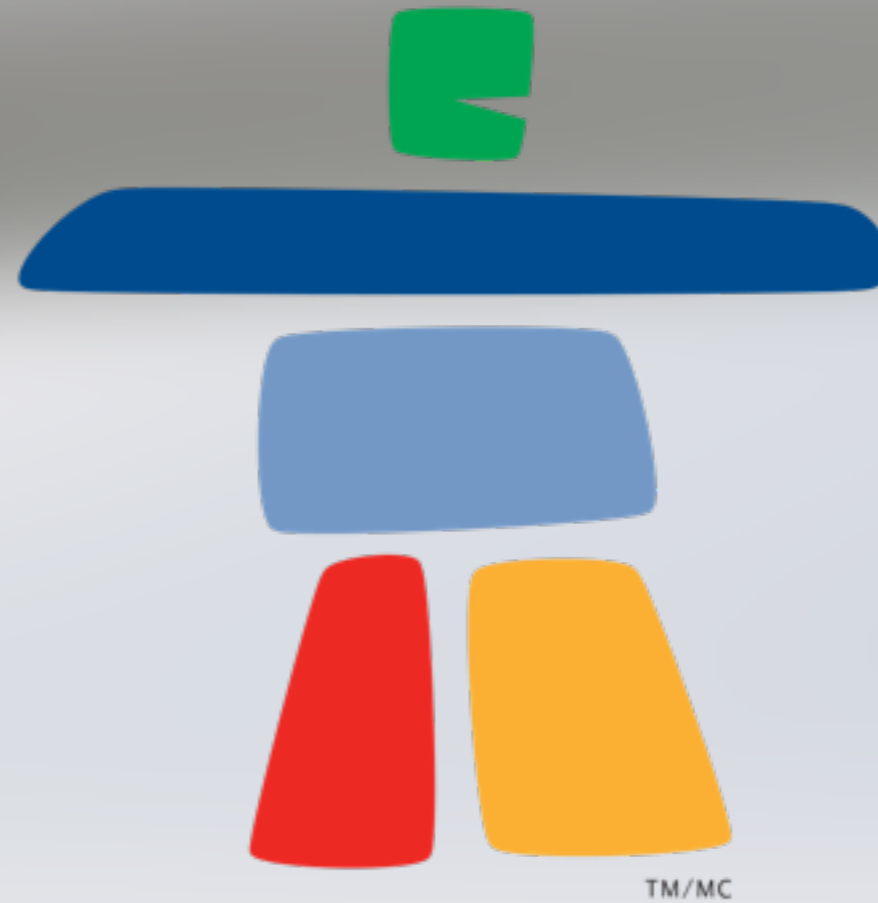
Sett strek mellom person og salgsargument!

- Raskere gjennomføring
- Mindre sykefravær
- Større forutsigbarhet,

høy automasjonsgrad og effektive algoritmer..



- Kybernetiker
- Økonomisjef
- Verneombud

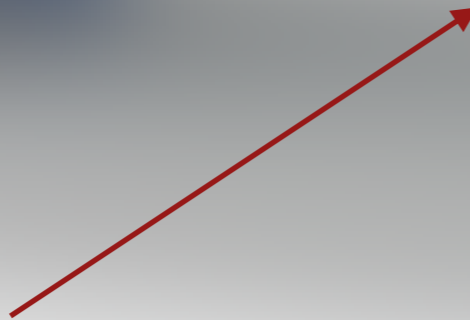


TM/MC

vancouver 2010



John Aalberg



Jan Westerhüs



BOSCH

Invented for life

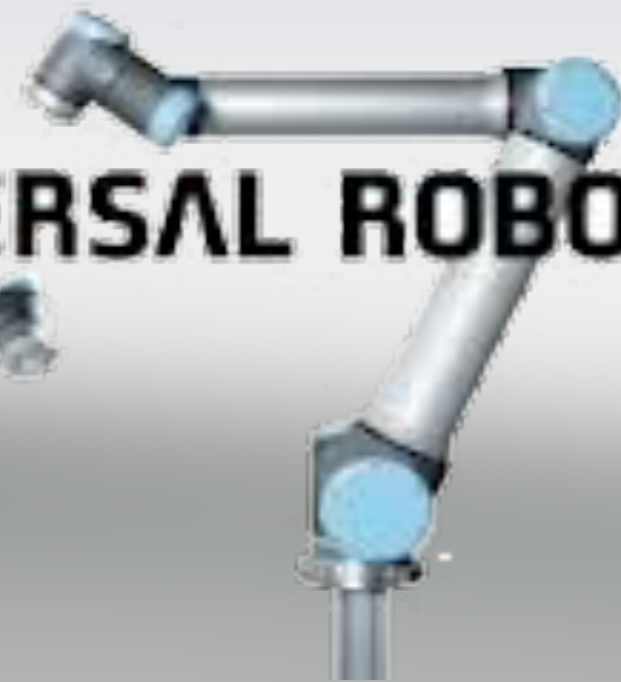


Anders Tomren

Esben Østergaard



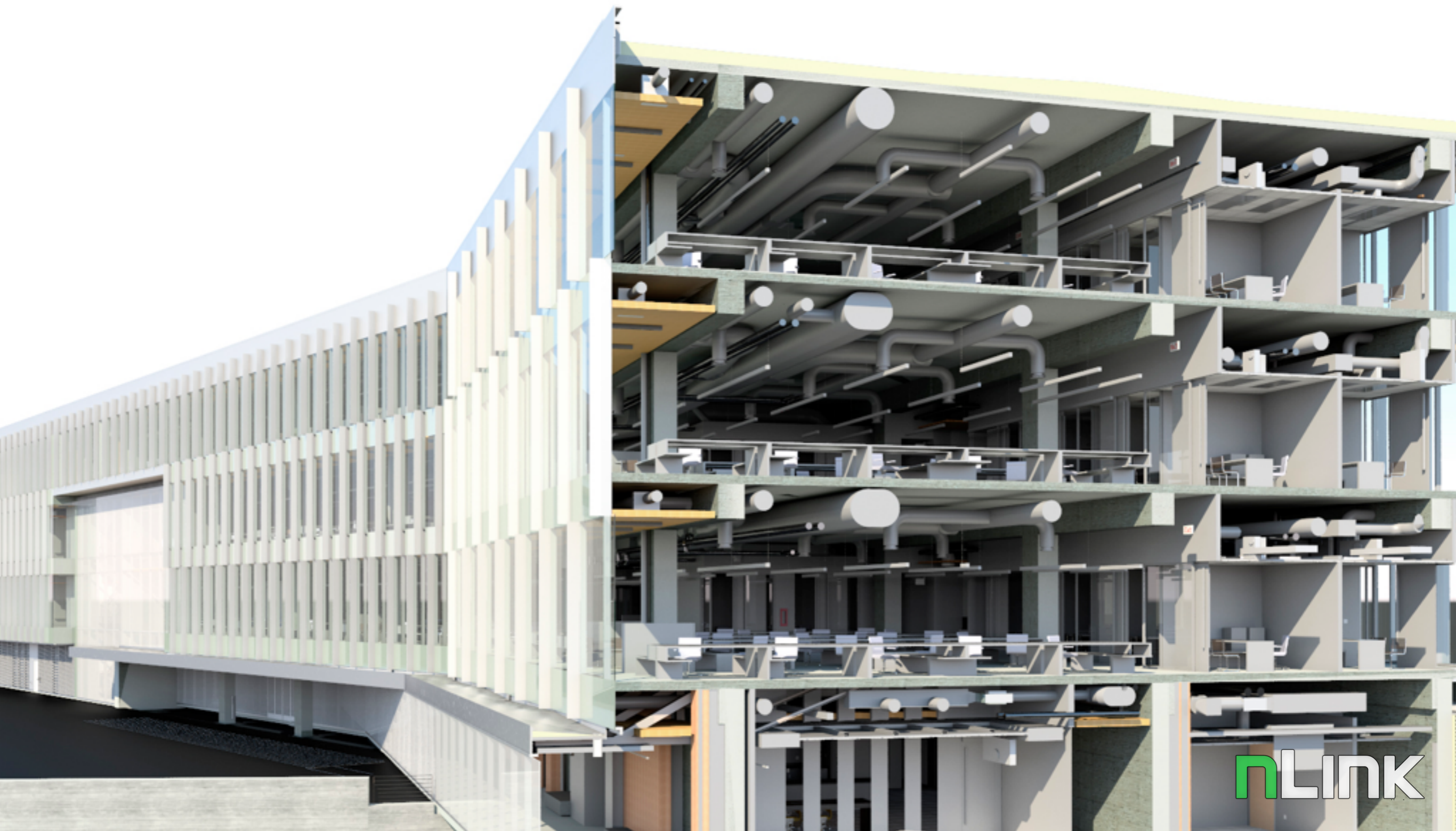
UNIVERSAL ROBOTS



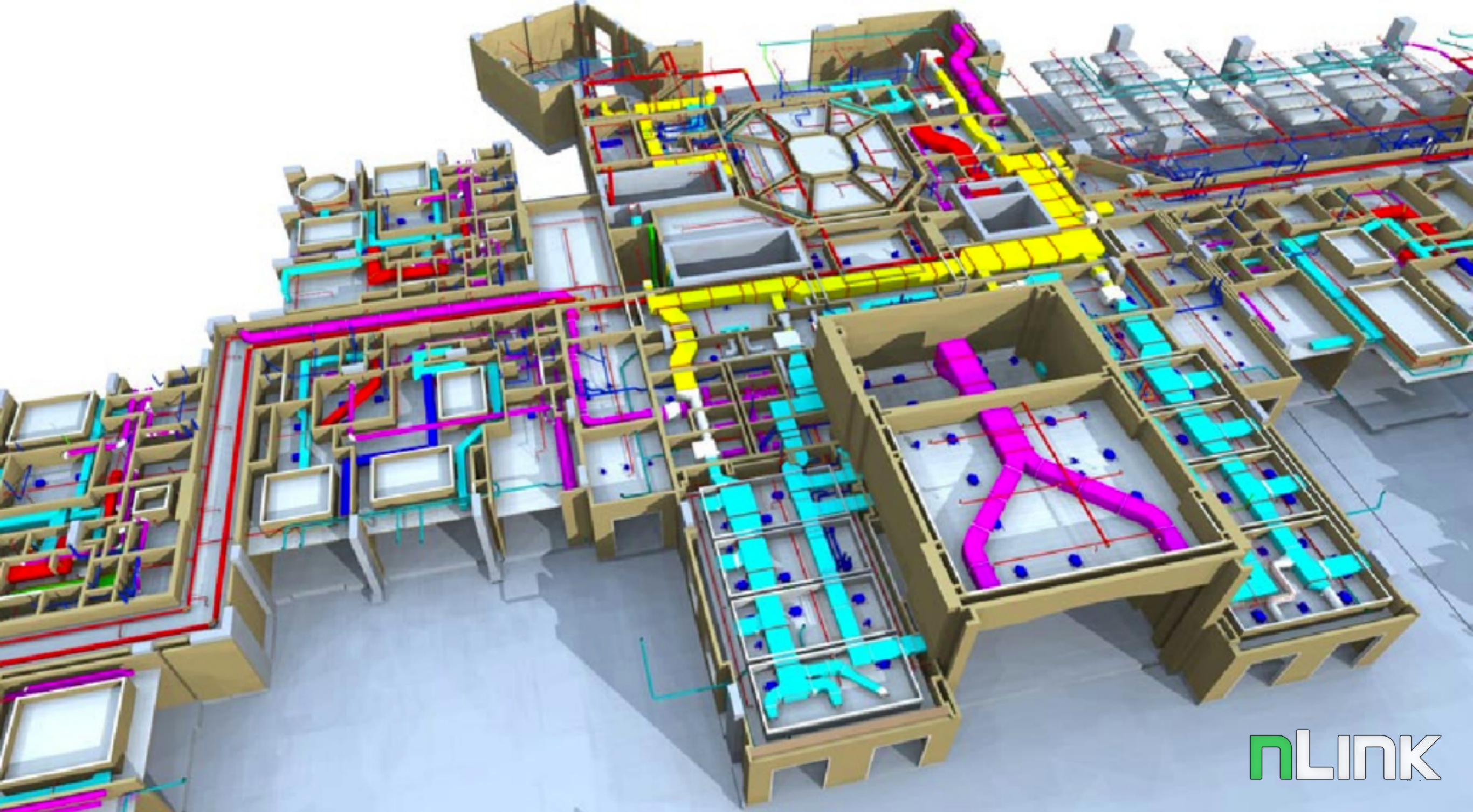


BIM

Bygningsinformasjonsmodellering



BIM - Building information modeling





Leica
Geosystems

nLINK



+





nLINK



ROCKETFARM

Roboter i byggebransjen
Usexy men potensielt lønnsomt?!



Roboter i byggebransjen

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