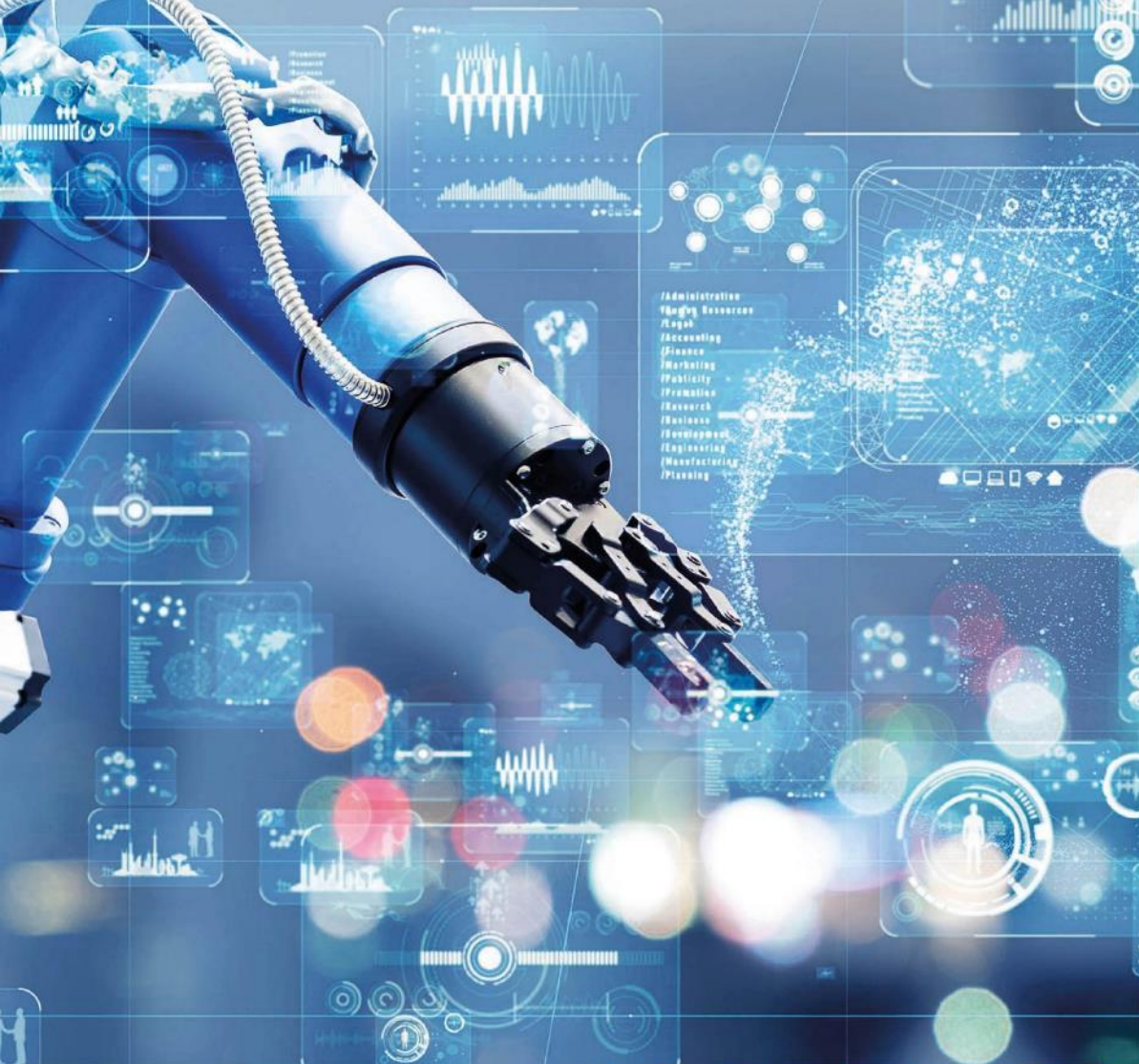




Model Based
Systems Engineering
VIRO @ FHI machinebouw,
12 december 2023



the performance of technology



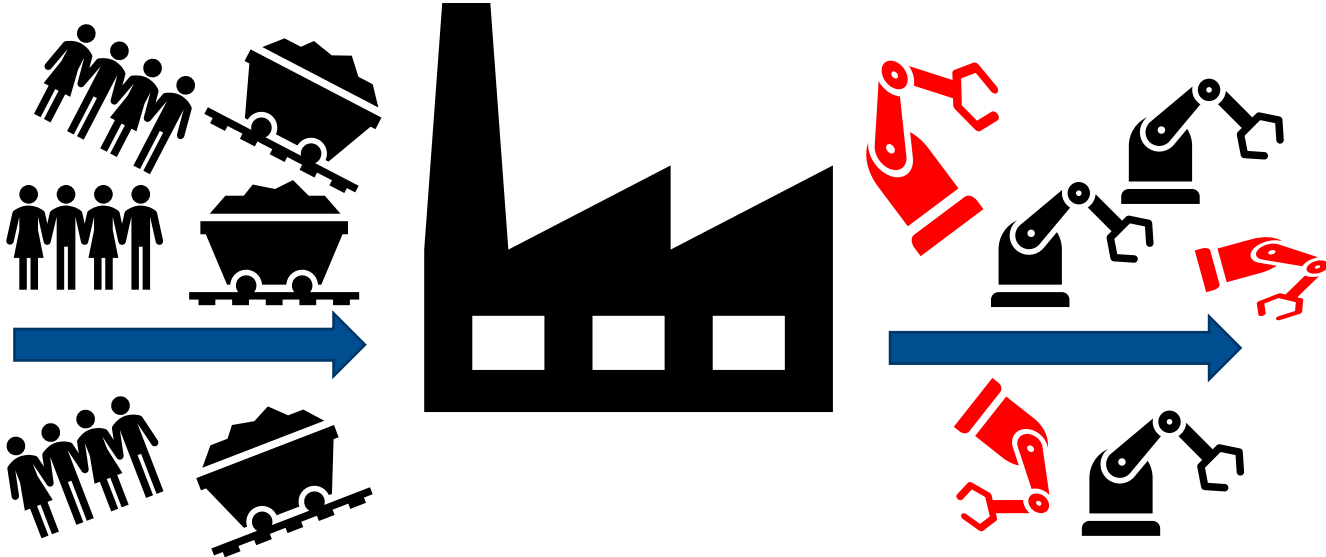
What if...

...you would have a technical business administration that gives you the opportunity to:

- be able to anticipate a disruptive market;
- do virtual commissioning;
- use Local to Local;
- work from 1 source;
- work on the same product with multiple engineers at the same time;
- have co-design becomes possible by involving suppliers in the design;
- have a Digital Twin;
- have a Digital Product Passport.



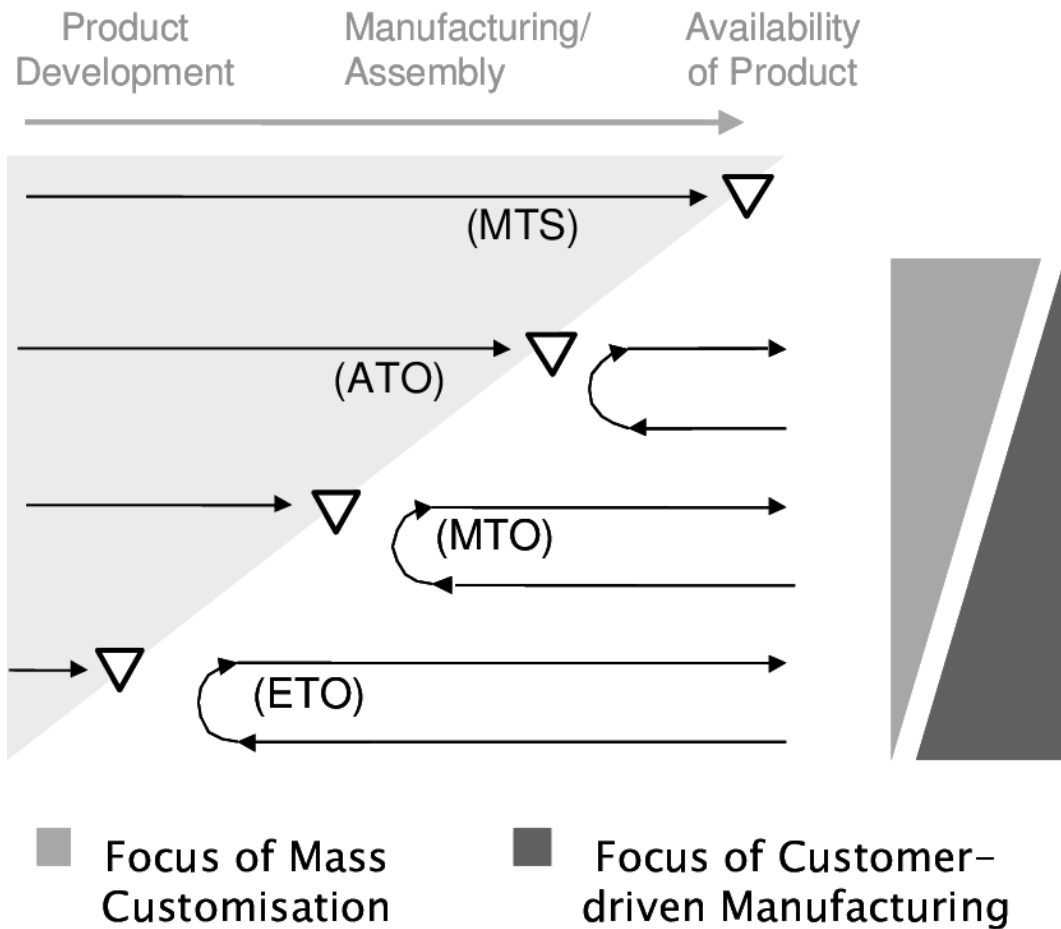
Current situation...



Current situation...



Customer order decoupling point



- In every primary process there is a point at which the customer no longer has any influence on the definition of the end product.
- This point is the 'customer order decoupling point'

Hidden money

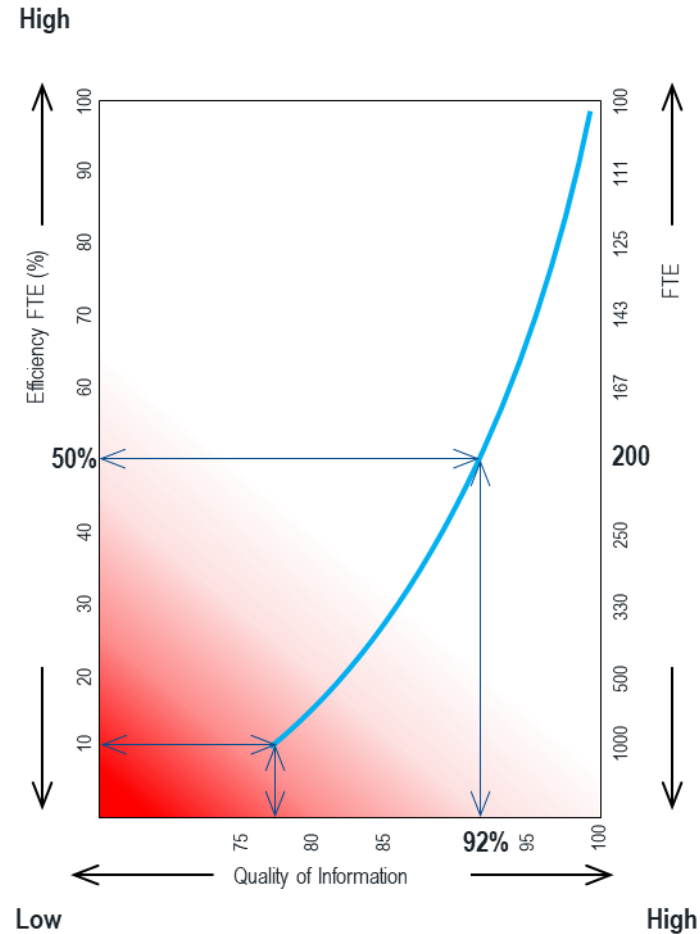


Hidden money

Quality of information

The quality of information decreases when unpredictable demand increases.

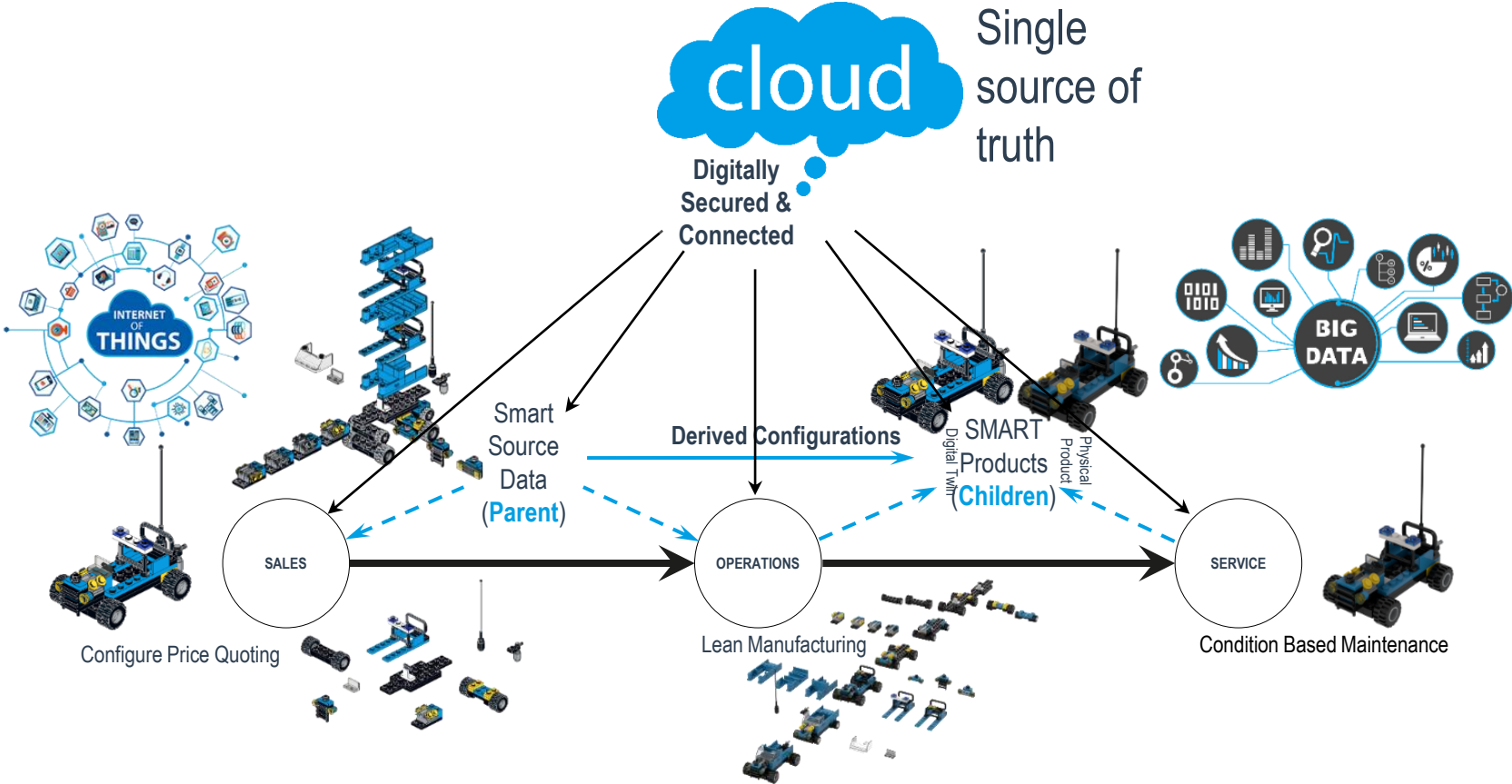
→ This is **the** reason for hidden costs.



Bron: prof. F. Guess



Another value stream



Case: MAAN group



Case: MAAN group

The challenge:

“How can we outsource parts of our production without loss of quality?”

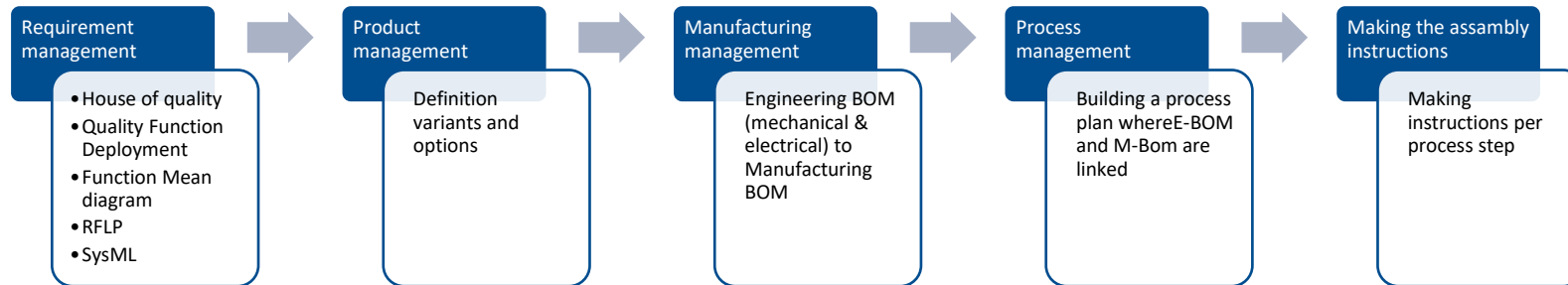
The solution:

- Build a model that contains all the information needed to build the product;
- Make sure the product is configurable;
- And that there will be 'IKEA'-like work instructions based on the chosen configuration.



Case: MAAN group

Way of work:



How to start?

SMART

The word 'SMART' is rendered in large, white, cut-out letters against a blue background. Each letter contains a different illustration related to smart manufacturing:

- S**: A line graph with a rising trend and a Wi-Fi symbol.
- M**: A person in a hard hat looking at a tablet, with the text 'Product, Process' and 'Organisatie'.
- A**: A 3D model of a factory floor with a robot arm, labeled 'Virtual Comm', 'Value Engine', and 'Data Driven'.
- R**: A person in a hard hat standing on a curved surface, with 'Digital Twinning' and 'Simulation'.
- T**: A futuristic cityscape with skyscrapers and Wi-Fi symbols.

INDUSTRIALISATION

The word 'INDUSTRIALISATION' is rendered in large, white, cut-out letters against a blue background. Each letter contains a different illustration related to industrial processes:

- I**: A factory interior with machinery.
- N**: A person in a hard hat looking at a tablet.
- D**: A person in a hard hat looking at a tablet.
- S**: A person in a hard hat looking at a tablet.
- T**: A person in a hard hat looking at a tablet.
- R**: A person in a hard hat looking at a tablet.
- I**: A person in a hard hat looking at a tablet.
- A**: A person in a hard hat looking at a tablet.
- L**: A person in a hard hat looking at a tablet.
- I**: A person in a hard hat looking at a tablet.
- S**: A person in a hard hat looking at a tablet.
- A**: A person in a hard hat looking at a tablet.
- T**: A person in a hard hat looking at a tablet.
- I**: A person in a hard hat looking at a tablet.
- O**: A person in a hard hat looking at a tablet.
- N**: A person in a hard hat looking at a tablet.

Klaar voor de wereld van morgen

Product, Proces & Organisatie

- Hogere kwaliteit
- Lagere kostprijs
- Toekomstbestendig productieproces
- Klantspecifiek
- Kortere doorlooptijd

Virtual Commissioning

Digital Twinning

Smart Servitization

Value Engineering

Data Driven Manufacturing

VIRO Business Program

- Analyse waardestream
- Visie ontwikkelen
- Roadmap opstellen
- Business Case

Op weg naar slimmer produceren

Voldoet het proces van vandaag aan de vraag van MORGEN?

Meer moeten doen met minder mensen?

Vraag groter dan productiecapaciteit?

Veel kennis niet geborgd?

Stijgende productiekosten?

Stoet productontwikkeling op de agenda?

Groepijnen?

Stoet kleinere marges?

If you recogniseand need help:

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