

Frank P. Meiboom 27 Maart 2018







Changing business fundamentals

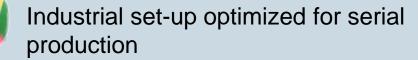
'Current space' business fundamentals

- Heavy governmental subvention
- Low rate of production, which triggers a high cost per unit
- Industrial set-up largely driven by political reasons
- High reliability
- Main focus B2B and B2G markets



'New space' business fundamentals

- Venture capitalist and private funding
- High rate of production, which triggers a low cost per unit



Lower reliability for sat constellations

Main focus B2C markets



Incremental vs Disruptive innovation

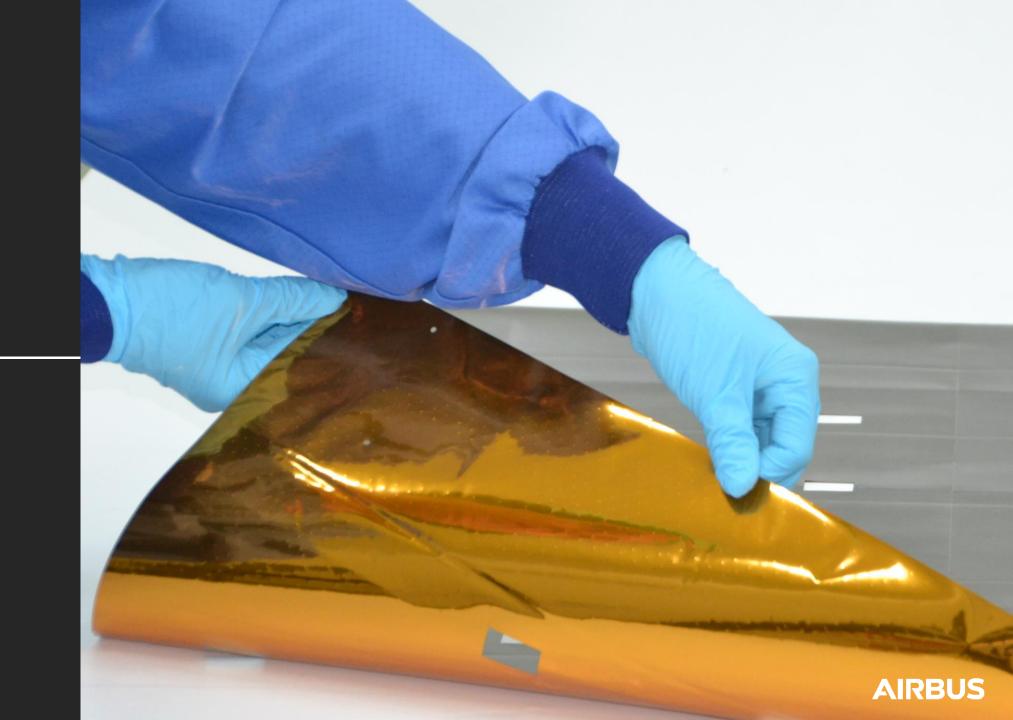


Incremental innovation.

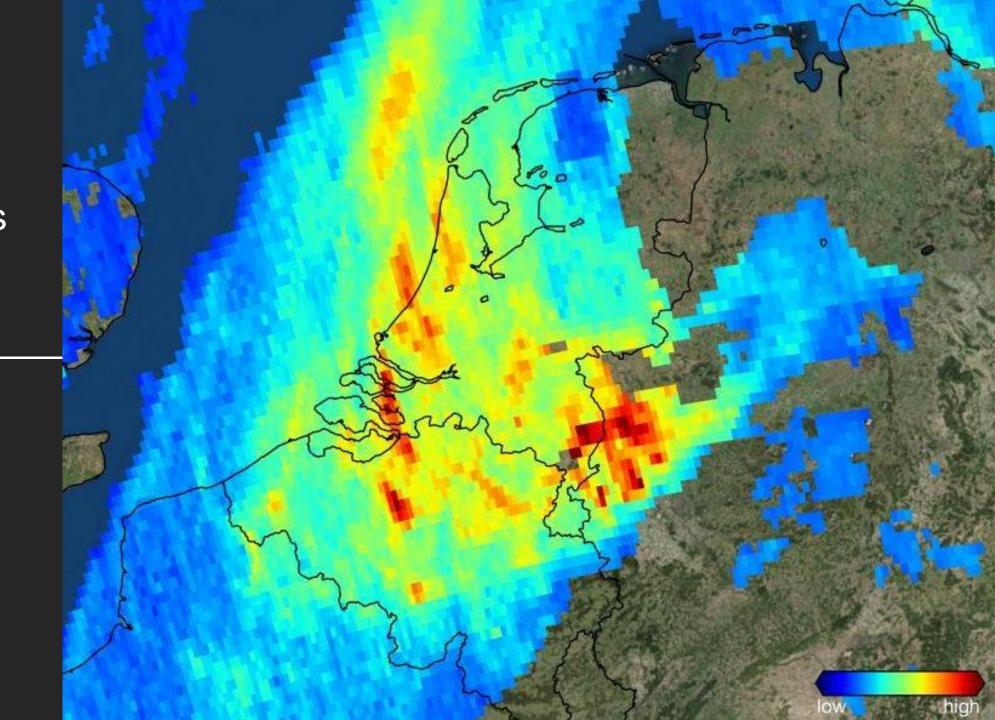
ARA mK4.



Disruptive innovation. **HiPeR.**

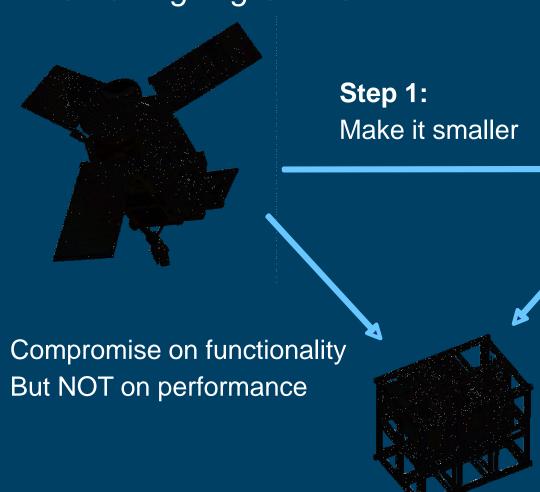


From Products to Services...



...and vice versa

TROPOMI going CubeSat



SPECTROLITE

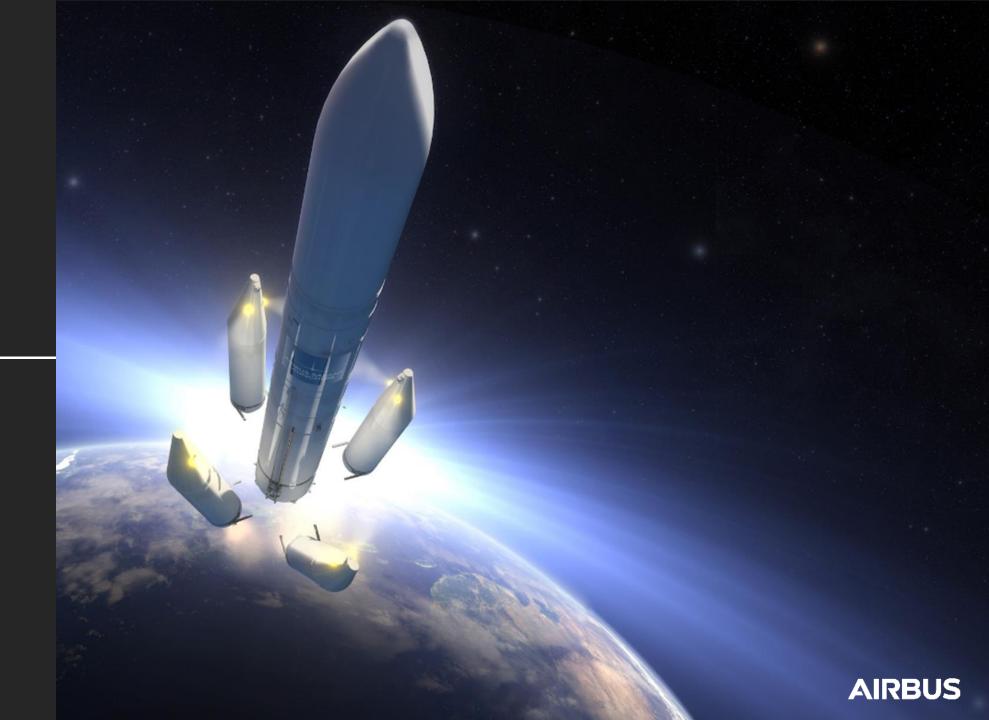
TROPOLITE BB



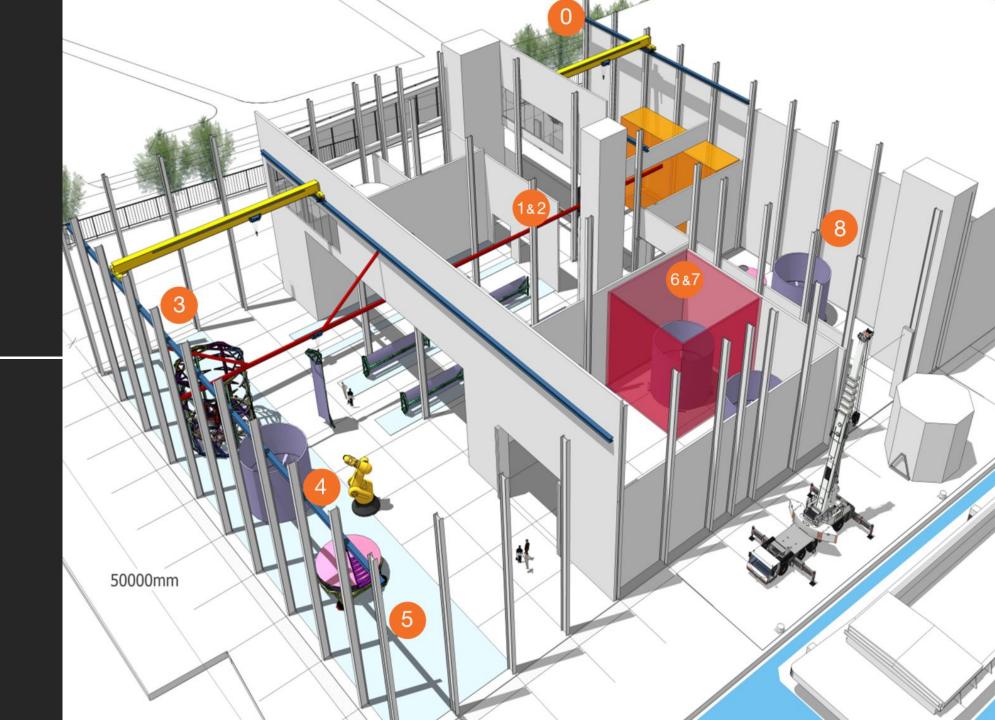
Step 2:
Make it work

AIRBUS

Process innovation.



Process innovation.



Current **trends** & **developments**.

- Internet of Thing → 20.8 billion connected things by 2020
- Migration
- Industry 4.0 → Robotising
- Miniaturisation
- Climate change
- Labour trends → e.g. aging, generation Y
- Terrorism & insecurity
- Sustainability & scarcity → energy, raw materials

Questions