

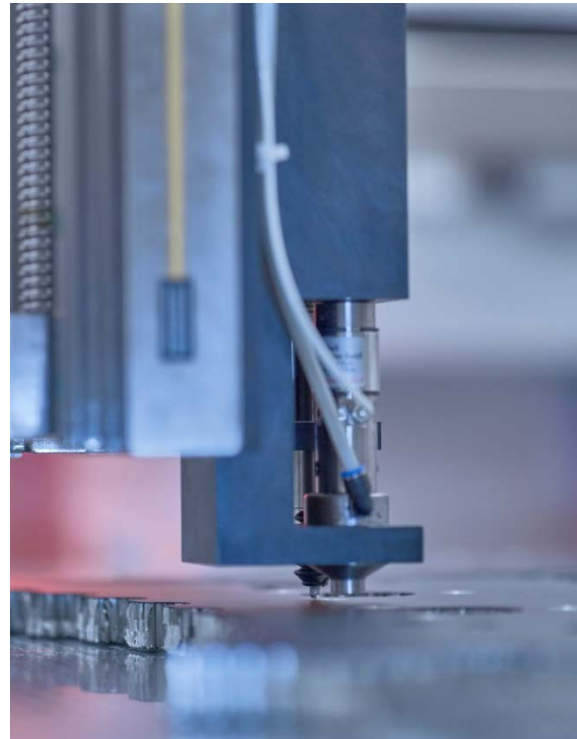
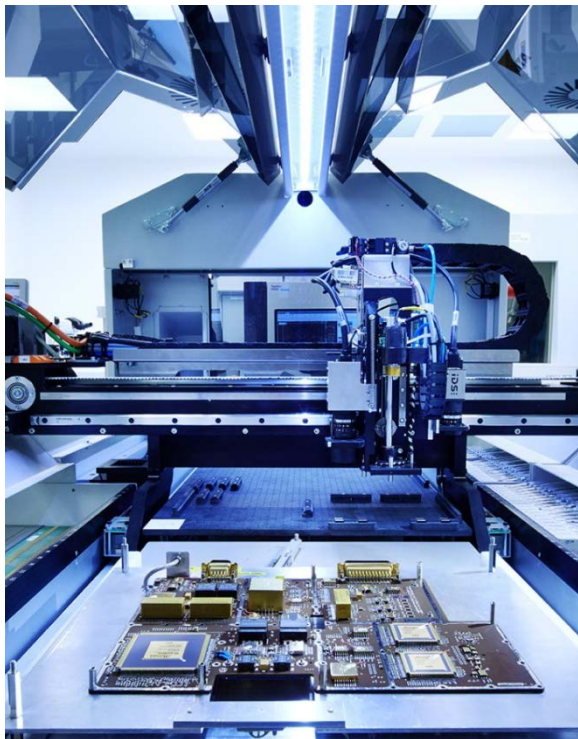
# Trends for High-Performing Satellites

## Trender inom Högpresterande Satelliter

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Chief Engineer Product Group Electronics

RUAG Space



Together  
ahead. **RUAG**

# Large satellites provide the highest performance



Very high resolution optical and radar images for Earth Observation



Global high-capacity connectivity at lowest cost per bit



High precision navigation  
Independent from superpowers



Global and continuous weather & climate monitoring to protect the environment



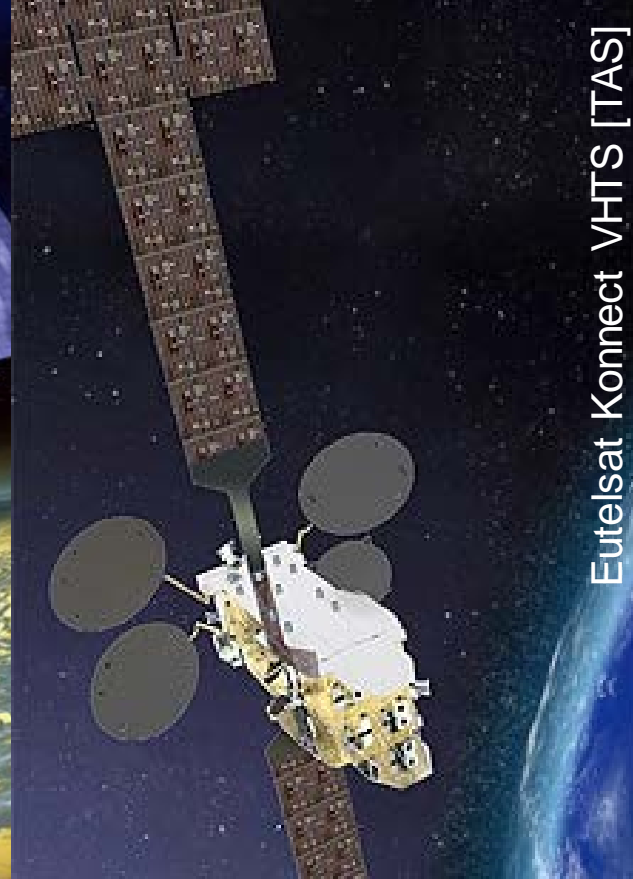
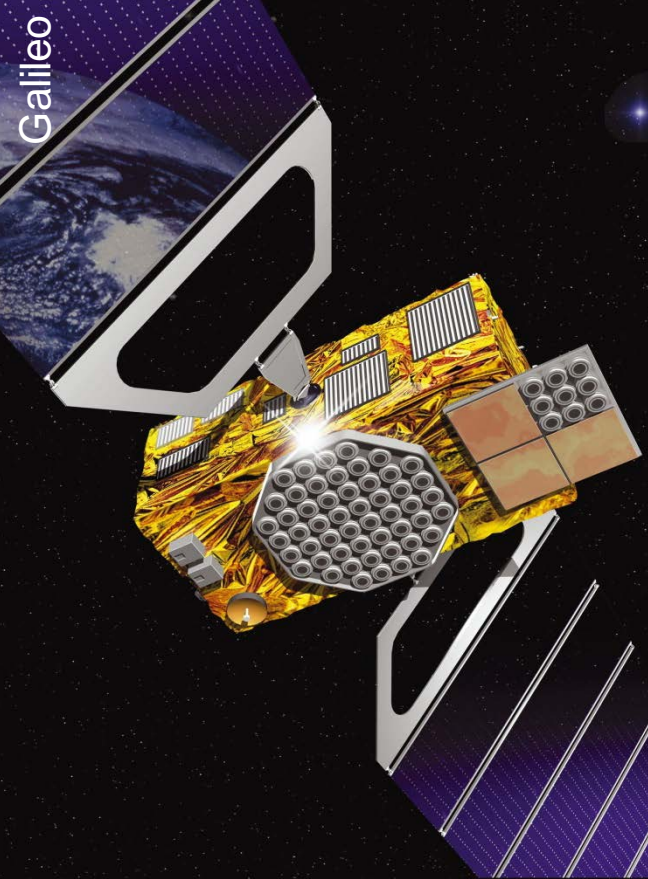
More TV channels than ever 😊



High quality science data from large sensors and advanced instruments



Credits NASA



## Large satellites grow in performance and capacity

- Larger Solar Panels gives more power to the users – small user antennas, signal everywhere
- Large optical sensors and radar antennas provide ever-increasing image resolution
- Large “routers-in-the-sky“ for Multi Tera-bps giving more bits for the same cost
- Large and small satellites will form systems combining their benefits

# Large satellites learning from small satellites

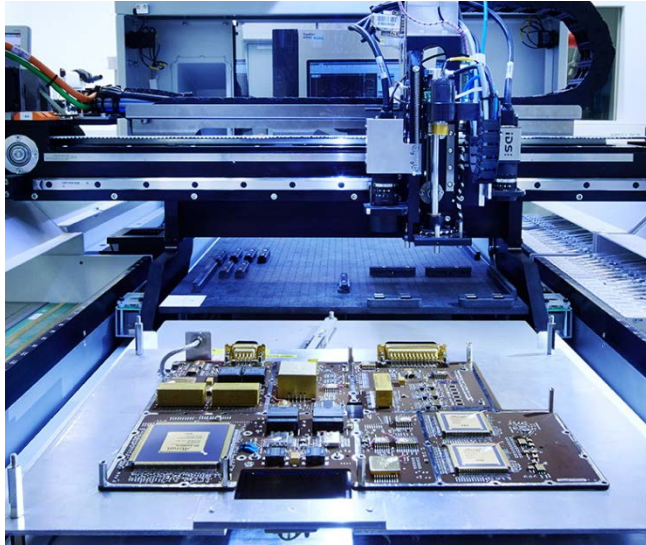
- Large series of small satellites require industrial approach to be affordable
- Large satellites inherit industrial approach for manufacture instead of custom one-off design
- Industry 4.0 also for space
- Programmable functions instead of specific fixed solutions – upgrade your satellite in orbit!
- High-performance commercial components also for large satellites reaping the benefits demonstrated by small satellites

High-performing satellites need high-performing launchers



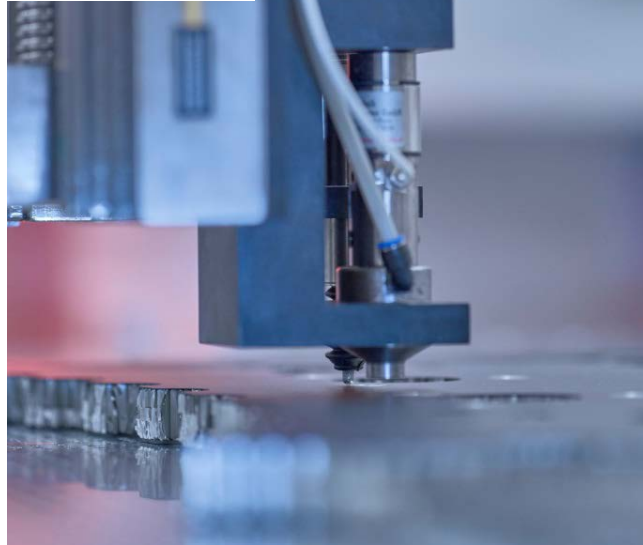
# Market leading portfolio

## Covering all parts of space



### Electronics

- Satellite&Launcher Computers
- Navigation Receivers
- Power & Drive Electronics
- Microwave for Telecom
- Antennas



### Spacecraft

- Satellite Structures
- Satellite Mechanisms
- Mechanical Ground Support Equipment
- Thermal Systems
- Slip rings



### Launchers

- Launcher Fairings and Structures
- Adapters, Separation Systems, Dispensers
- Sounding Rocket Guidance Systems