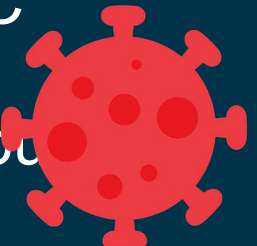


Space Cost Engineering Conference 2022

- SCE2019 ESA-ESTEC
- SCE2021 CNES-Toulouse  → *Online workshop*
- SCE2022 ESA-ESTEC
- SCE2024 CNES-Toulouse

Cost Engineering has come a long way....

2000; Cost engineering workshop in ESTEC:

Back to the Space business in the 90's, I have used cost models in Pre-phase A and Phase A studies for several missions.

Cost Engineering has to be inserted in our businesses and this means serving Programme Managers and Design Leaders

2006; David Greves, former Head of ESA's Cost Analysis Division:

WHY, (IN EUROPE AT LEAST), HAS COST ENGINEERING TENDED TO RECEIVE SO LITTLE SUPPORT FROM MANAGEMENT?

2003; ESA Bulletin:

problem was that whilst previously the Section was fully involved in assessing the cost of proposals submitted by industry it was not getting involved sufficiently early in programme life-cycles and its tools and databases were not being fully exploited



F-16: 50 JAAR FAST FORWARD

Dé tentoonstelling over het langst
gebruikte vliegtuig van de luchtmacht

 **NATIONAAL
MILITAIR
MUSEUM**
SOESTERBERG

'THE BIGGEST WIND TUNNEL IS UP THERE.
IT'S CALLED REALITY.'

John Boyd

'De grootste windtunnel is daarboven.
Die heet realiteit.'

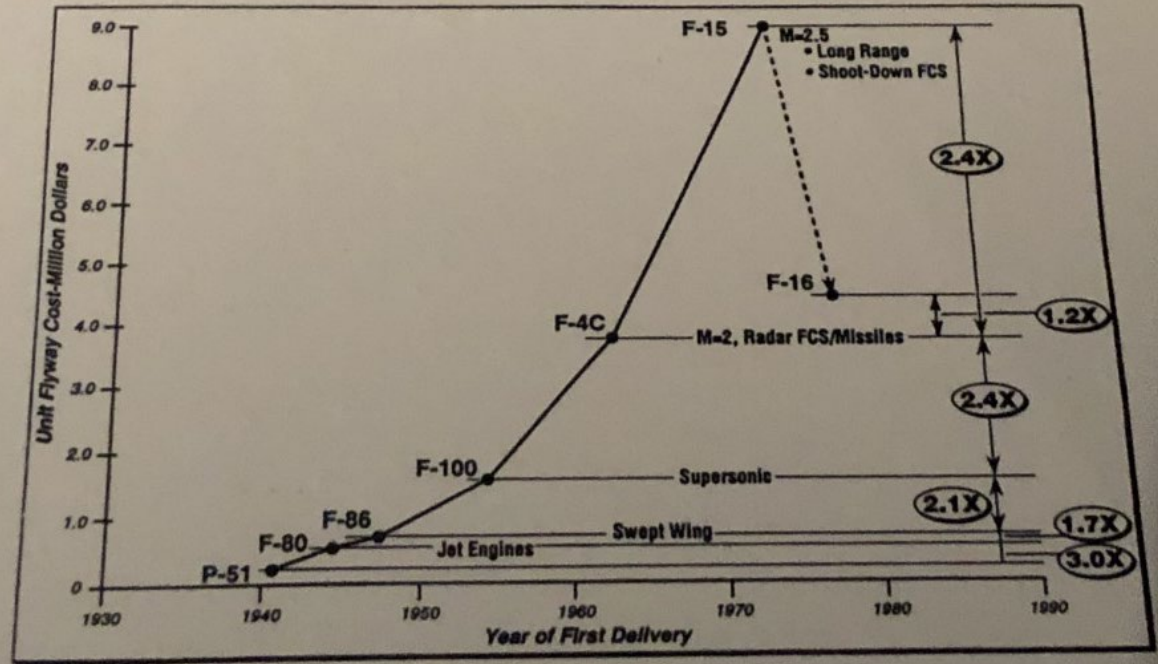
John Boyd



"You pay for airplanes just like you do for potatoes.
The heavier they are, the more expensive they are."

JOHN BOYD

Unit Flyaway Cost Growth • 1975 DOLLARS • 500 AIRCRAFT



Kostprijstoeename jachtvliegtuigen. In dollars (1975)
Unit Fly away cost growth. In dollars (1975)
Bron / Source: USAF engineering files



EUROPE'S GATEWAY TO SPACE



WHAT

22 Member States, 9 associated members or cooperating states, 5000 employees

WHY

Exploration and use of space for exclusively peaceful purposes

WHERE

HQ in Paris, 7 sites across Europe and a spaceport in French Guiana

HOW MUCH

€12 per European per year

What Does ESA Do?



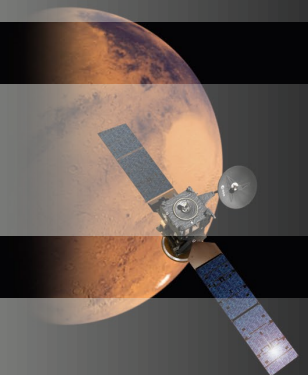
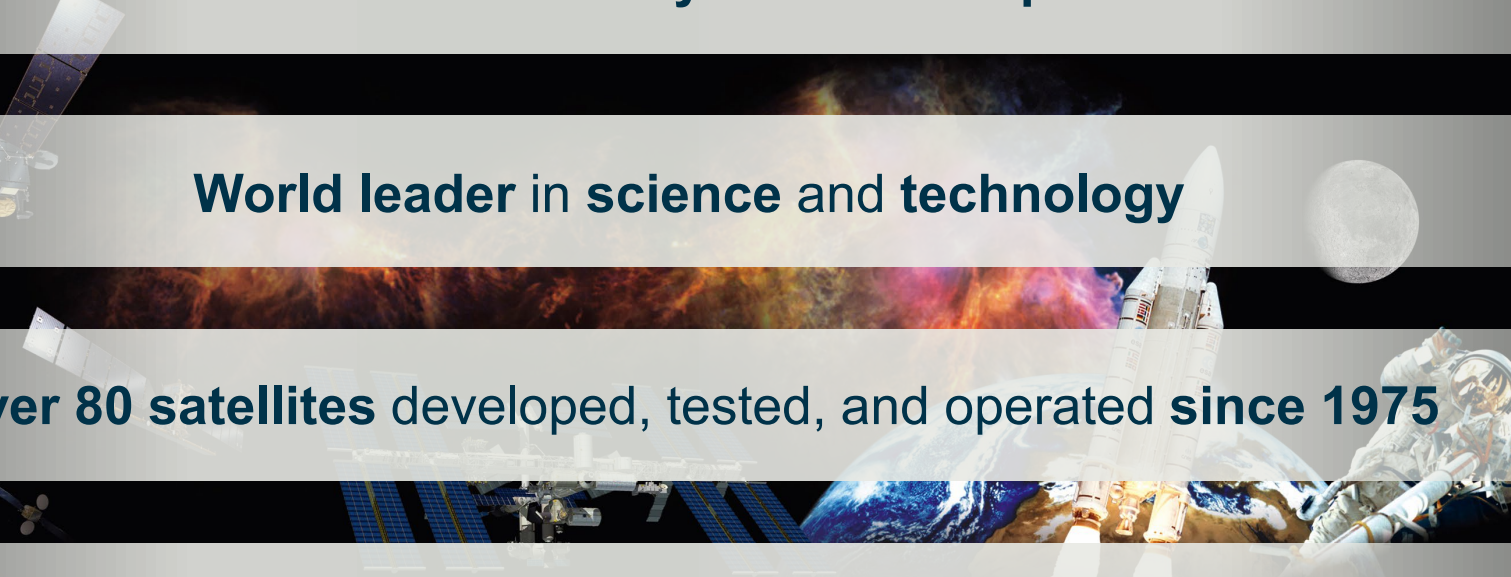
ALL OF THIS IS POSSIBLE THANKS TO THE COLLABORATION OF MEMBER STATES

ESA is active across every area of the space sector

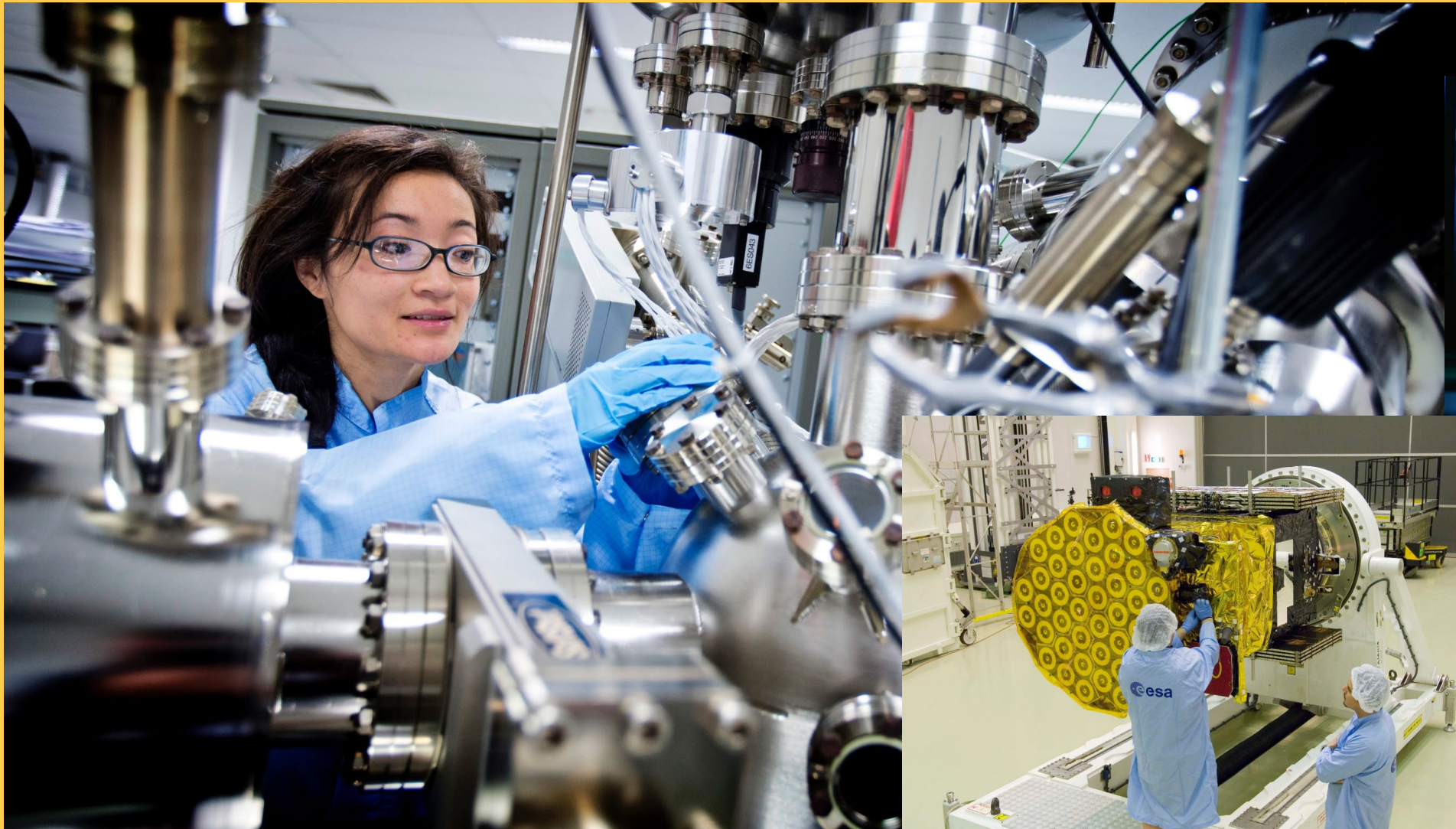
World leader in science and technology

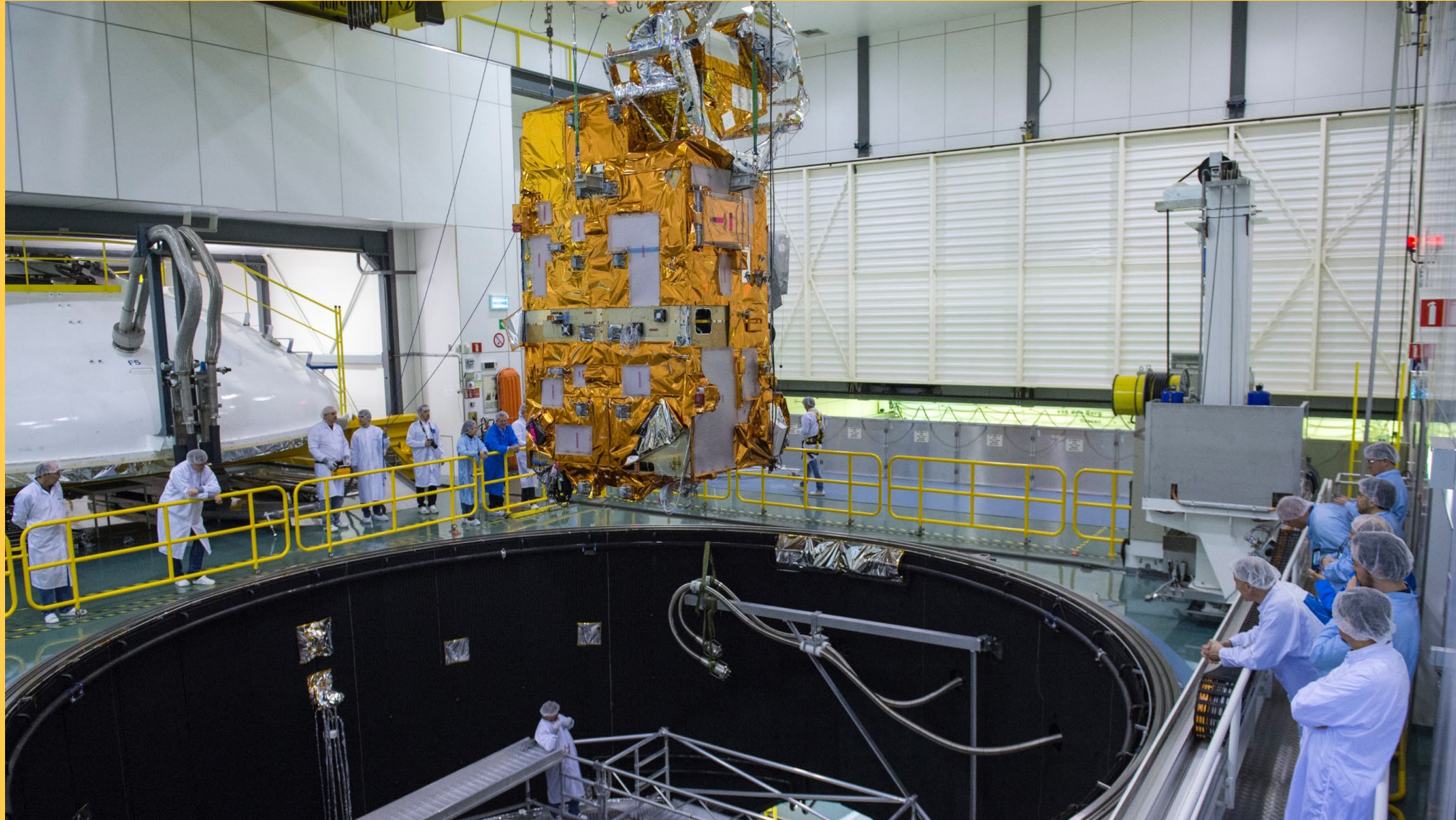
Over 80 satellites developed, tested, and operated since 1975

More than 220 launches from Europe's Spaceport in Kourou



ESTEC: ESA's Technical Heart





Concurrent Design Facility



- Many new industrial players;
- New small, low-cost launcher projects;
- Not always following traditional standards, schedules and financial reporting practices;
- Large series production, far larger than in conventional constellations (Starlink...);
- Digitalisation
- Design to cost
- For same budget envelope more, smaller, projects – but not necessarily more government/prime (cost) engineers.

WELCOME!

