

SCEC

SPACE COST ENGINEERING CONFERENCE

3-4 October 2024

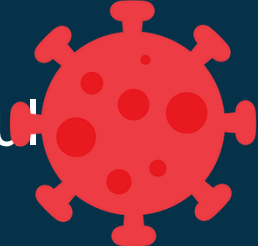
Toulouse
France



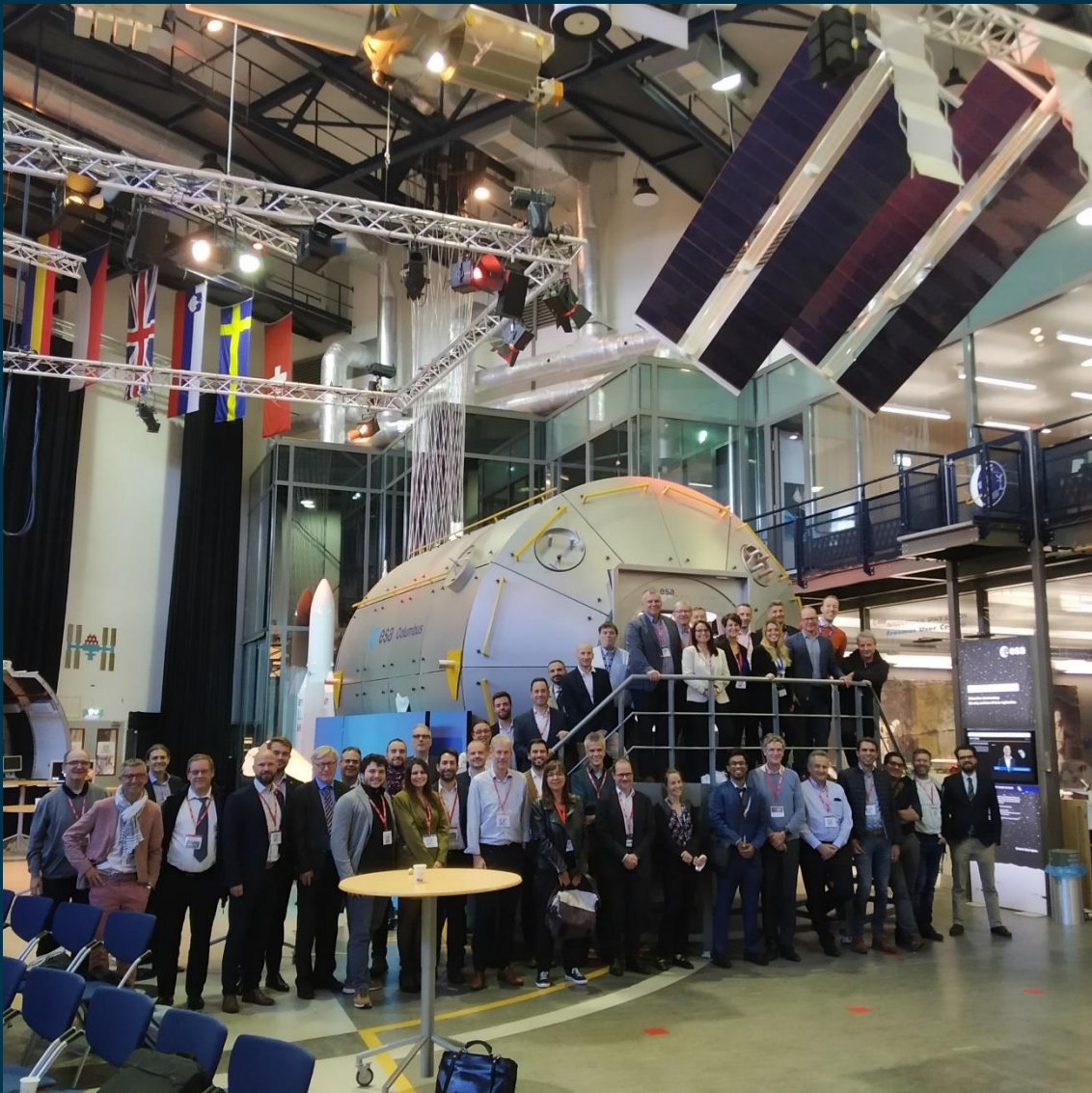
Studio Graphique CNES, 2023-1515

cnes
CENTRE NATIONAL
D'ÉTUDES SPATIALES

esa
European Space Agency
Agence spatiale européenne

- SCE2019 ESA-ESTEC
- SCE2021 CNES-Toulouse  → *Online workshop*
- SCE2022 ESA-ESTEC
- 2023 ESA/CNES Student Cost Estimating Challenge





Small launch worldwide

Vehicles in development, ≤1000kg to LEO

Adapted 2021 survey, Neiderstrasser

Small launch is dominated by the United States and China in terms of number of companies launching <1000kg to LEO

Organization	Vehicle Name	Country	First Launch
Northrop Grumman	Pegasus XL	USA	1990
Northrop Grumman	Minotaur I	USA	2000
China Aerospace	Chang Zheng 11	China	2015
ExPace	Kuaizhou-1A	China	2017
China Aerospace	Kailuozhe-2	China	2017
Science and Technology Corporation	Electron	USA/New Zealand	2017
Rocket Lab	Hyperbola-1	China	2018
ISpace	Jielong 1	China	2019
China Rocket Co., Ltd	Ceres-1	China	2019
Galactic Energy	LauncherOne	USA	2020
Virgin Orbit		USA	2021

Vehicles in operation, <1000kg to LEO

United Kingdom , 4 China , 9 USA , 22

France , 2 India , 4

Spain , 2

Germany , 2

Argentina , 2

Taiwan , 1

Italy , 1

Singapore , 1

Canada , 1

Russia , 1

Japan , 1

New Zealand , 1

Brazil , 1

Netherlands , 1

Australia , 1

Malaysia , 1

Cost Engineer is not a sexy job! Unlike Data Scientist.

The Work of a Cost Engineer is ...

Characteristic	Number of Responses
Challenging	20
Tedious	16
Monotonous	10
Rewarding	7
Boring	7
Interesting	4
Sexy	2
Old-fashioned	2

Devastating!

→ Only 2 out of 25 find the work of a cost engineer 'sexy'

unison

Data Scientist: The Sexiest Job of the 21st Century

Dale Shermon



2023 ESA/CNES Student Cost Estimating Challenge



-> 2 winning students in Sept. 2024 ESA Academy Concurrent Engineering Course





Let's get started!