

Ariane 1

A fiery metal giant

Maiden flight
on 24 December

1979

1.6 t

Lift-off weight of **CAT-1**
satellite launched on the
maiden flight

210 t

the weight of 20 buses

Total weight at
lift-off, of which
90% is fuel



47 m

the height of
the Arc de
Triomphe



over 2.5
times the
thrust of
an A380



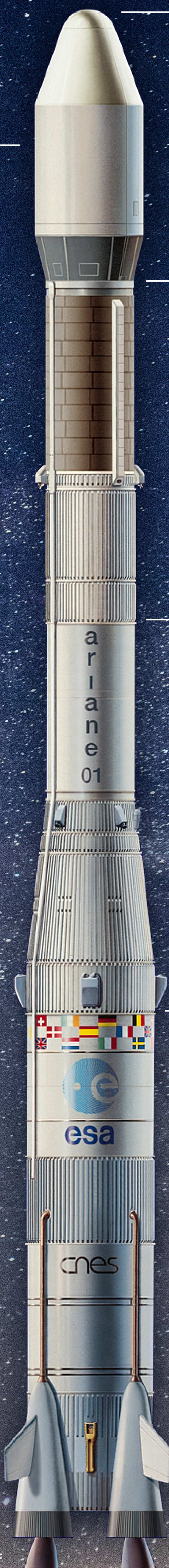
Ø 4 m

the diameter of a
2500-year-old cedar



VIKING ENGINES

4 x 900 kg rocket engines
3 m high, each delivering 80 tonnes
of thrust (2.5 million HP).



Fairing

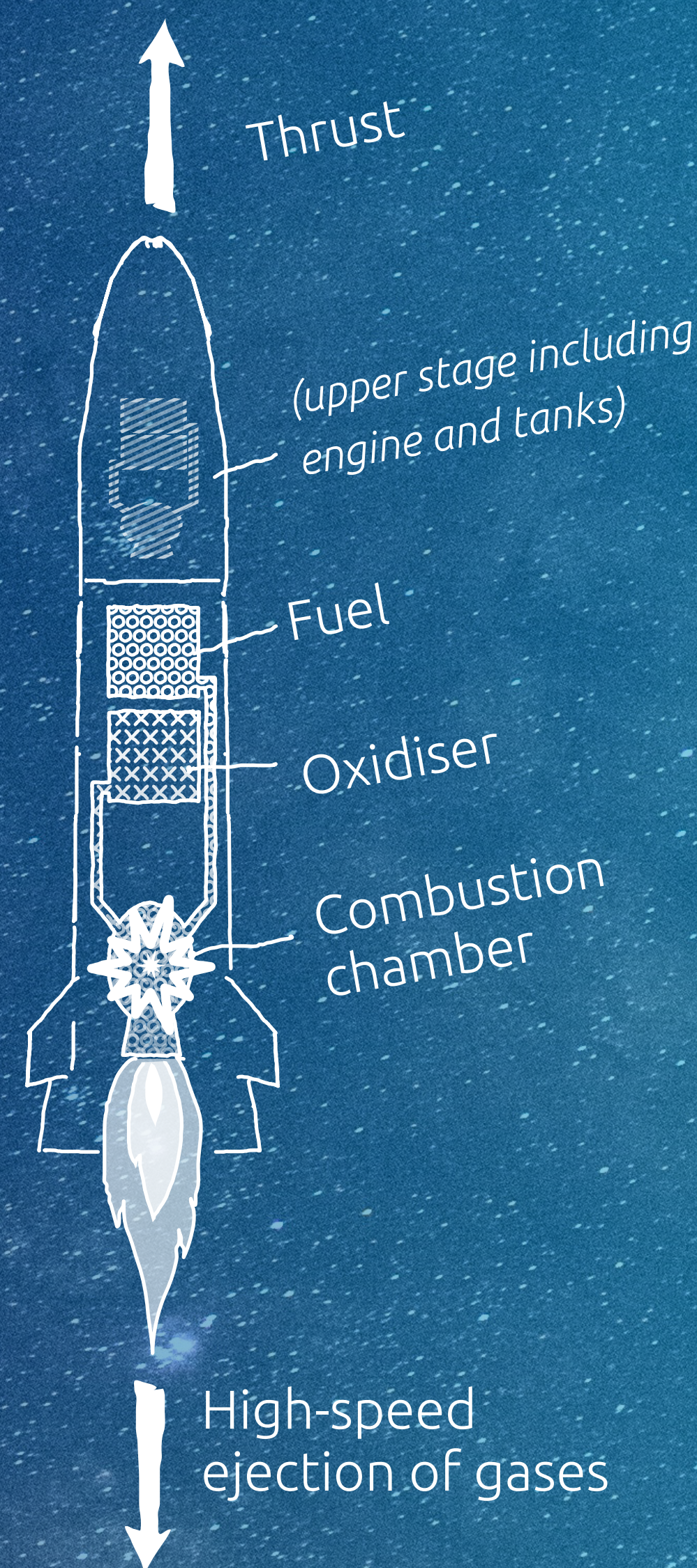
3rd stage

2nd stage

1st stage

Why design staged rockets?

The advantage of separation into several stages is that the rocket can lighten its load during the flight by jettisoning the propellant-empty stages.



How a rocket engine works

A rocket is propelled by the ejection of accelerated gases, in accordance with the law that for every action, there is an equal and opposite reaction. These gases result from the controlled explosion of fuel and oxidiser, known as propellants. The greater the flow of ejected gases, the greater the propulsion power, or thrust.