



FROM NORTH SEA TO SPACE

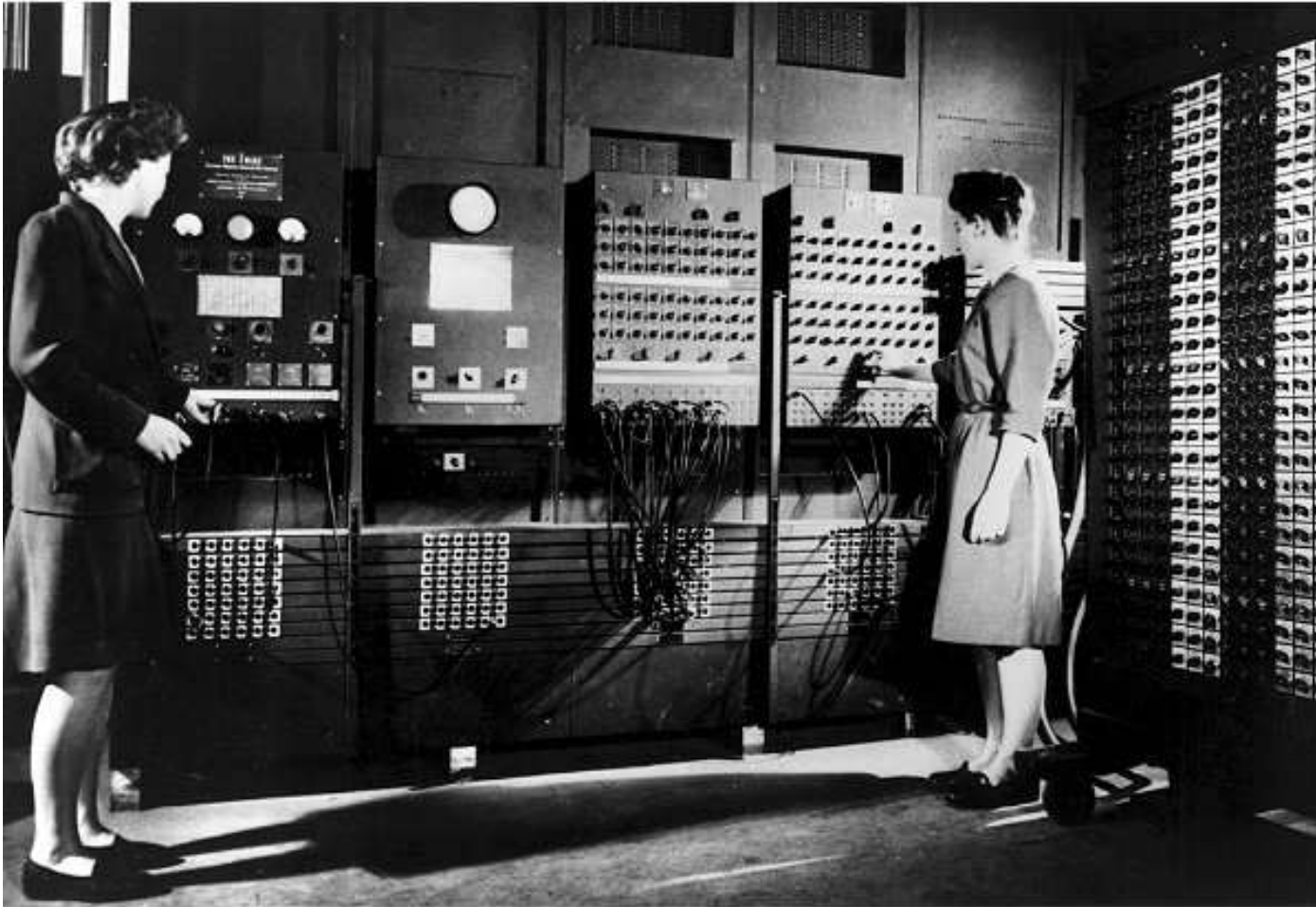
ONS 2016

Brage W. Johansen, CEO Zaptec

From the North Sea to the World... And beyond.



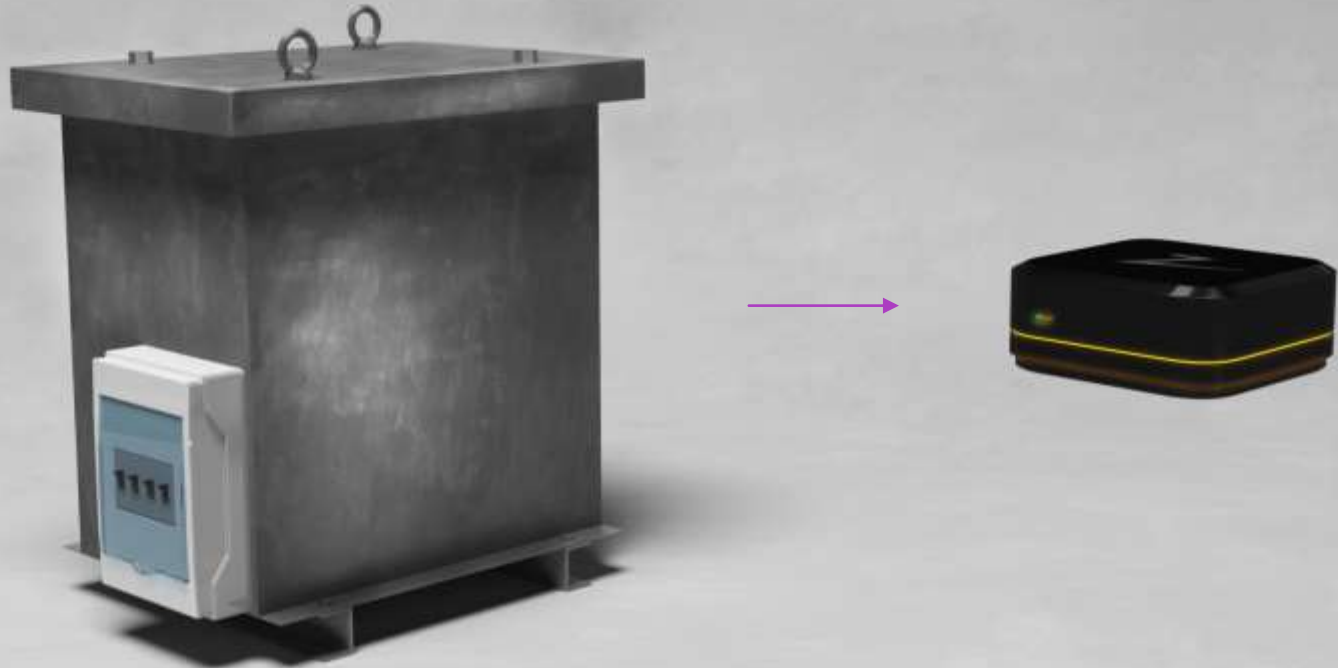
Historic parallel: Technology step from radiotubes to transistors



Transformers are the hearts and brains of the electric infrastructure

Old Analog
Iron and Copper

New Digital
Silicon Carbide



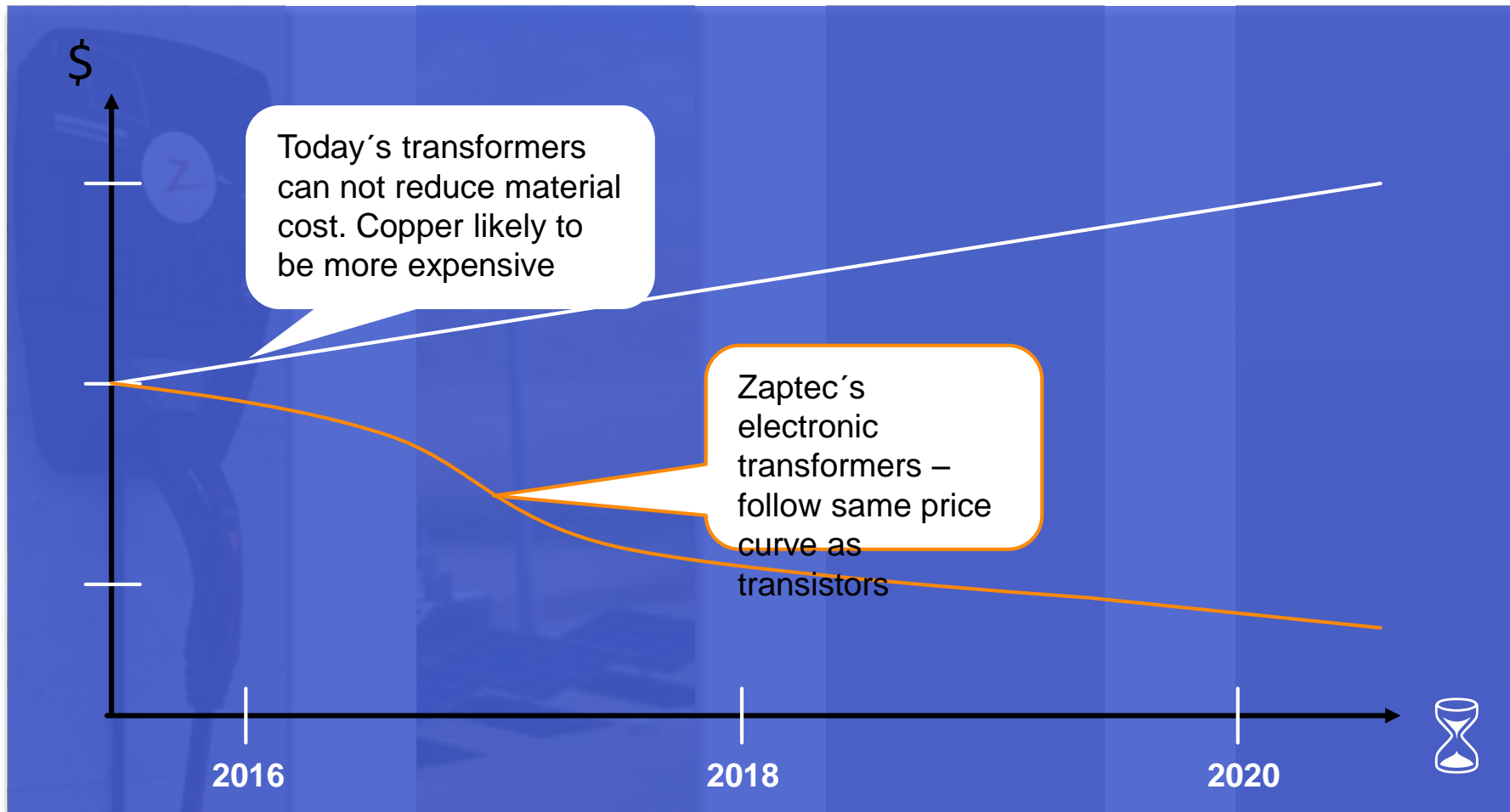
- 10% size and weight
- 1% copper
- Power correction
- No idle power loss
- 50% less operational loss

- A new standard of Safety
= Thin Cables

- Managing electricity as
bits & bytes : Brains added



THE NEW TRANSFORMERS COST LESS



How about reducing the weight of the electric system
in a ship, an airplane or rocket with 30-50%?
And introducing a new standard of Safety?

Boeing: Good idea!

SpaceX: Not invented here, is it?

Shipping: Huh?

Offshore installations: Norsok?

FIRST PRODUCTS

A new standard of Safety



FIRST PRODUCTS

A new standard of Safety



Zaptec Power & Charger : Not only a business, a worldview.



Z



The Crazy Ones

”I will personally drink all the oil that comes out of the North Sea.”

- Oil&Gas director, mid 1960s

”We will mine for metals and water on asteroids.”

- Business directors, US, 2012



RICHARD BRANSON



ELON MUSK



JEFF BEZOS



SERGEY BRIN



ROBERT BIGELOW



PAUL ALLEN




DENNIS TITO



Launched Planetary Resources in 2012:
"Look at what Norway has done in the North Sea in 30 years.
What cannot be done in Space in the next 30?"



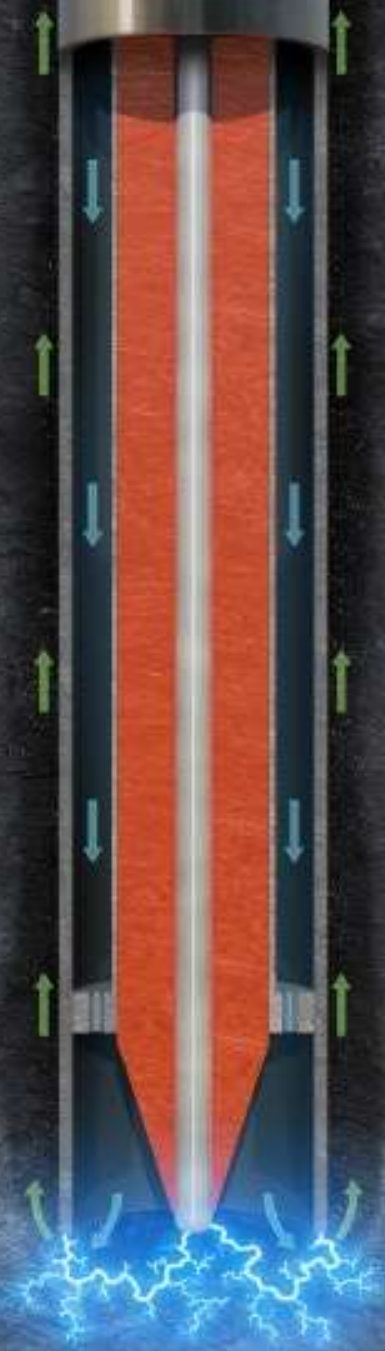
The image is a composite background. The top half shows a starry night sky with a satellite in the upper left and a larger satellite with solar panels in the upper right. The bottom half shows a dark blue ocean with an oil rig on the right and a yellow, tent-like structure on a sandy beach in the bottom left. The text is centered in the upper half of the image.

OIL and GAS Technologies have many parallels to Space:

- Remote operations
- Extreme environments
- Material science
- Communication challenges
- BIG projects
- Sophisticated solutions

Zaptec Space



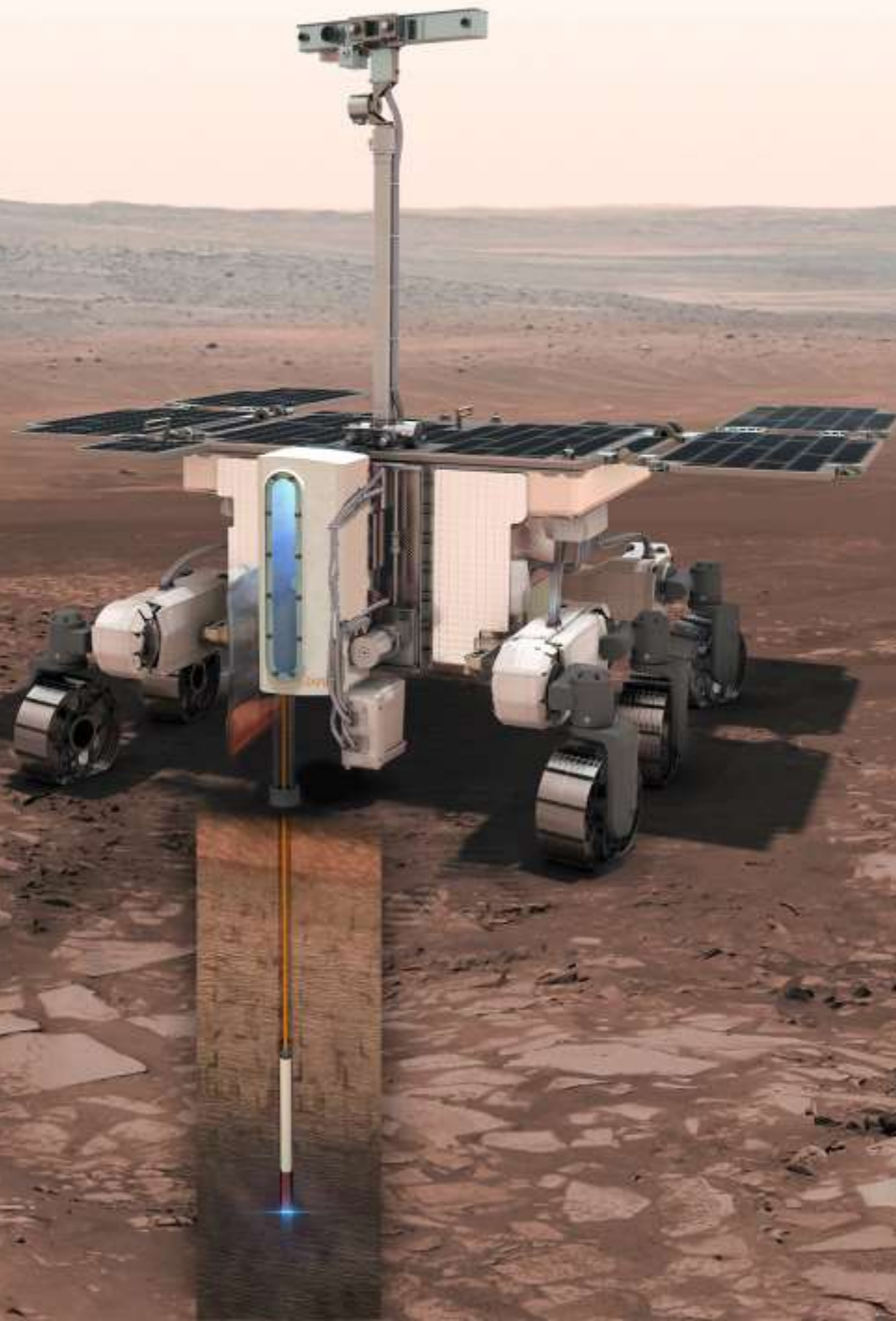


Zaptec transformers + plasma physics

= new opportunities



Goal:
Drill 10 meters, map
geology and search
for water & sign of life.



December 2015:

SpaceX successfully
launched and landed
their rocket,
in principle reducing
the Earth-To-Orbit
payload cost
dramatically!

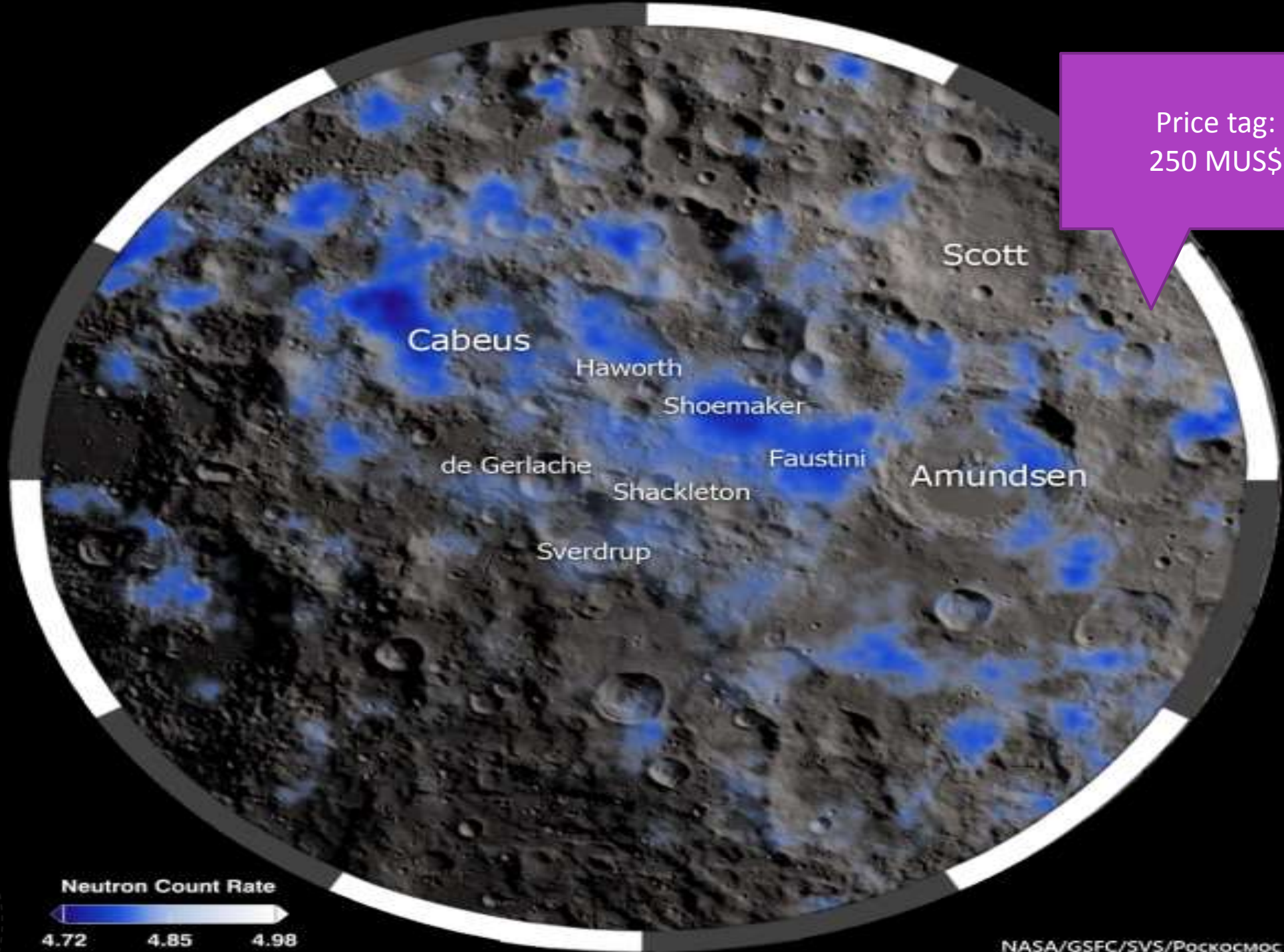
ALL companies
should have
a space program!

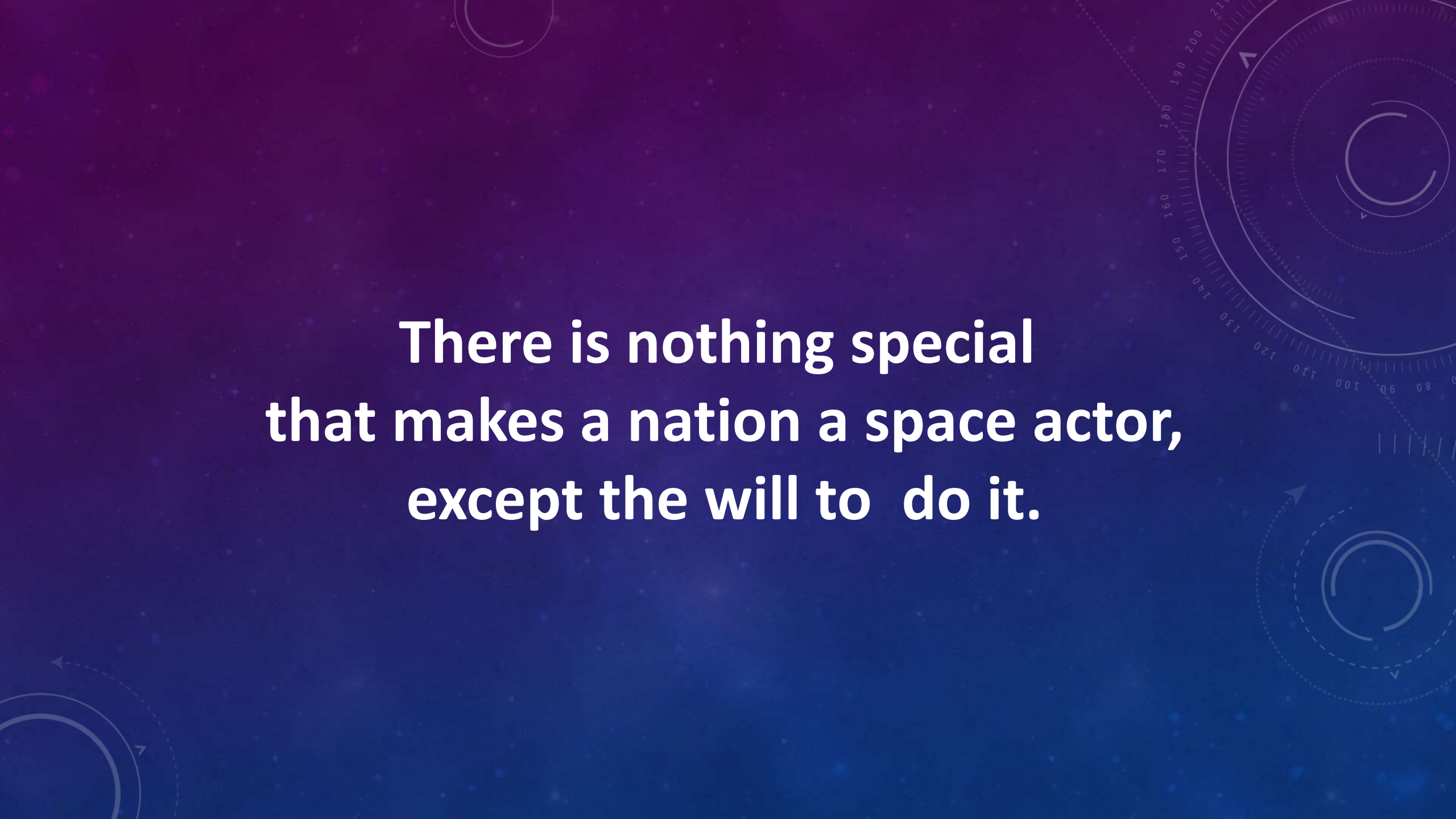




What would
Amundsen and
Nansen have done
today with cheap
access to Space?

South Pole





**There is nothing special
that makes a nation a space actor,
except the will to do it.**



SPACEPORT NORWAY

17-25 JUNE 2017

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