

AVL



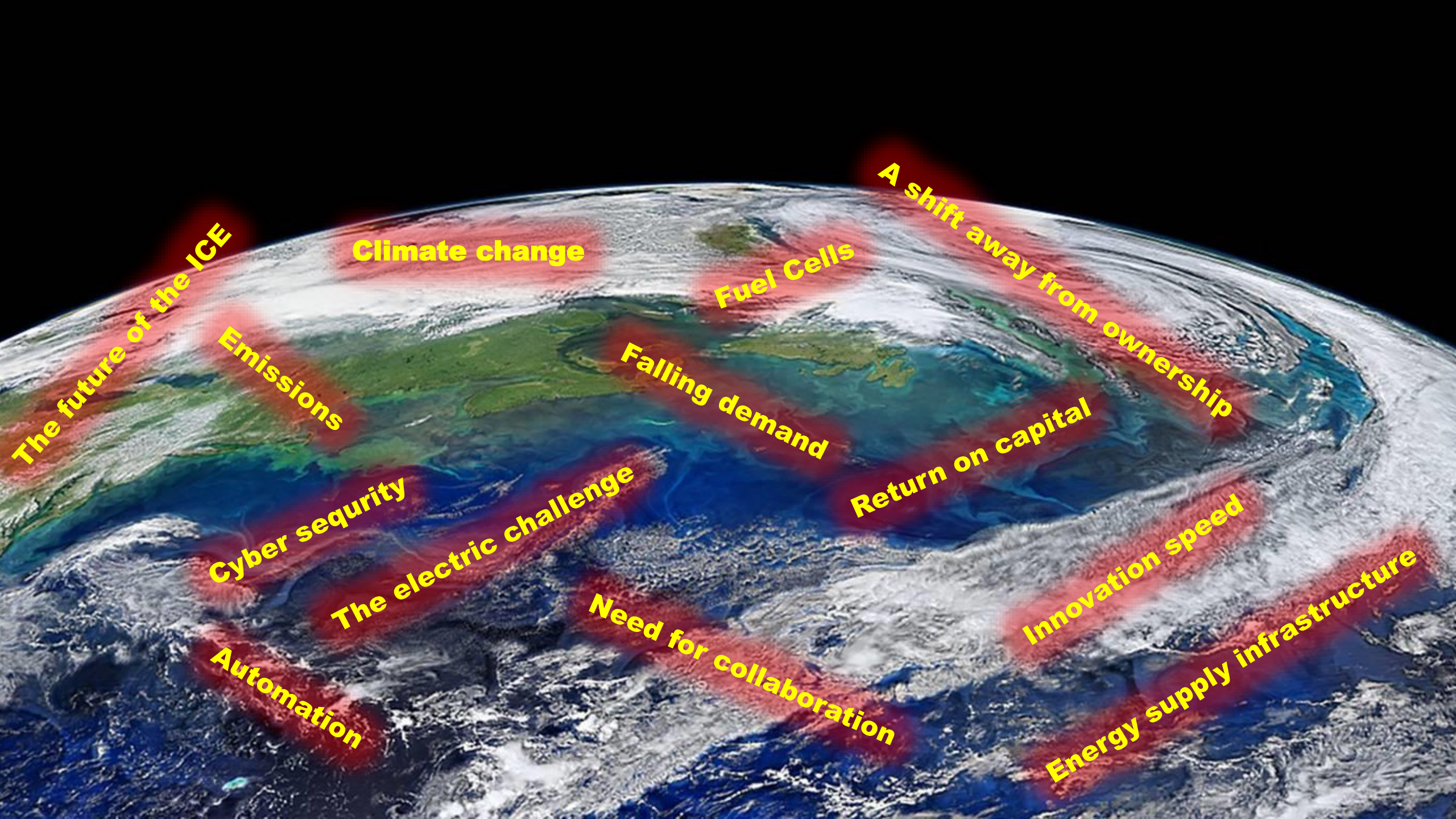
Welcome to the 6th Product Development in Motion

Speakers, Presenters - Thank You

The success of the event is created by Speakers, Presenters and Interaction - Thank You!

Combustion Engine - The Third Century	Lucien Koopmans Chalmers
How to accelerate and broaden Innovation	Helene Niklasson CampX of Volvo AB
The Way Forward in Propulsion System Engineering	Mats Andersson Volvo Cars
Electric Vehicles - How Charging Times Drive Voltage Choices	Börje Grandin Lotus Engineering
Autonomous Marine Transportation - "Not in my Lifetime"	Jörgen Strandberg Wärtsilä
ADAS Validation Capabilities In Cutting Edge Proving Grounds	Peter Janevik Asta Zero
Making Autonomous Drive Safe	Emil Tisell Qamcom
From Automotive to Compu-Motive. Evolution of Testing in Powertrain and Vehicle Development	Giuseppe Corcione AVL
The ADAS Experience and Roadmap	Bernhard Schick, Seda Aydogdu University of Kempten
Why the best Batteries are made of Scrap	Artiom LaMadrid Northvolt

Compressed Agenda 2019



The future of the ICE

Climate change

Fuel Cells

A shift away from ownership

Emissions

Falling demand

Return on capital

Cyber security

The electric challenge

Innovation speed

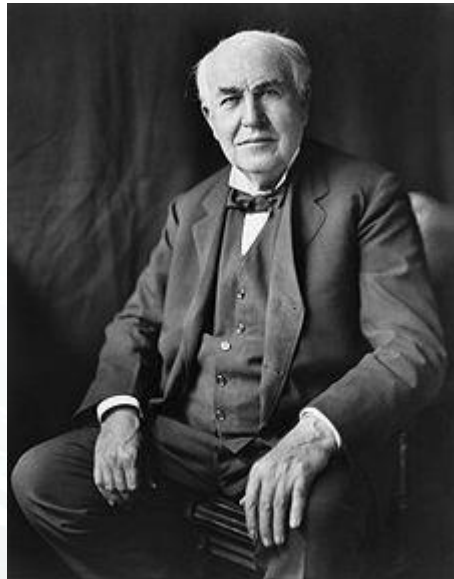
Automation

Need for collaboration

Energy supply infrastructure



In 1882 the world's first coal-fired public power station, the Edison Electric Light Station, was built in London.
A Babcock & Wilcox boiler powered a 125-horsepower steam engine that drove a 27-ton generator.



We tend to over-estimate what we can do in short term

And

We tend to under-estimate what we can do in the long term

New York, 5th Avenue 1900

Where is the car?



5 TH. AVE. EASTER '13

Alterations are Completed
The Building will be Occupied by
SPALDING & BROS.
at 25 West 42nd St.



New York, 5th Avenue 1913

Where is the horse?

“Innovation is seeing what everybody has seen
and thinking what nobody has thought.”

Dr. Albert, Szent- Györgyi

Nothing can stop a better technology



SO IN THE FACE OF OVERWHELMING
ODDS, I'M LEFT WITH ONLY ONE
OPTION. I'M GONNA HAVE TO
SCIENCE THE SHIT OUT OF THIS.

THE MARTIAN

HoopoeQuotes.com

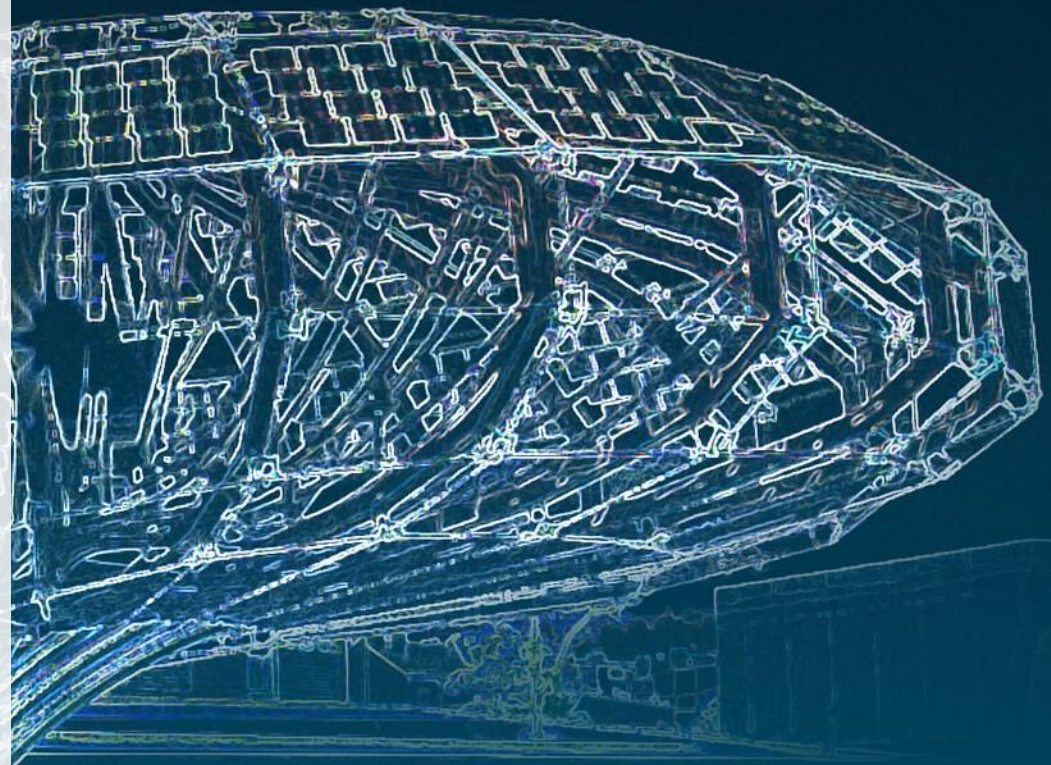
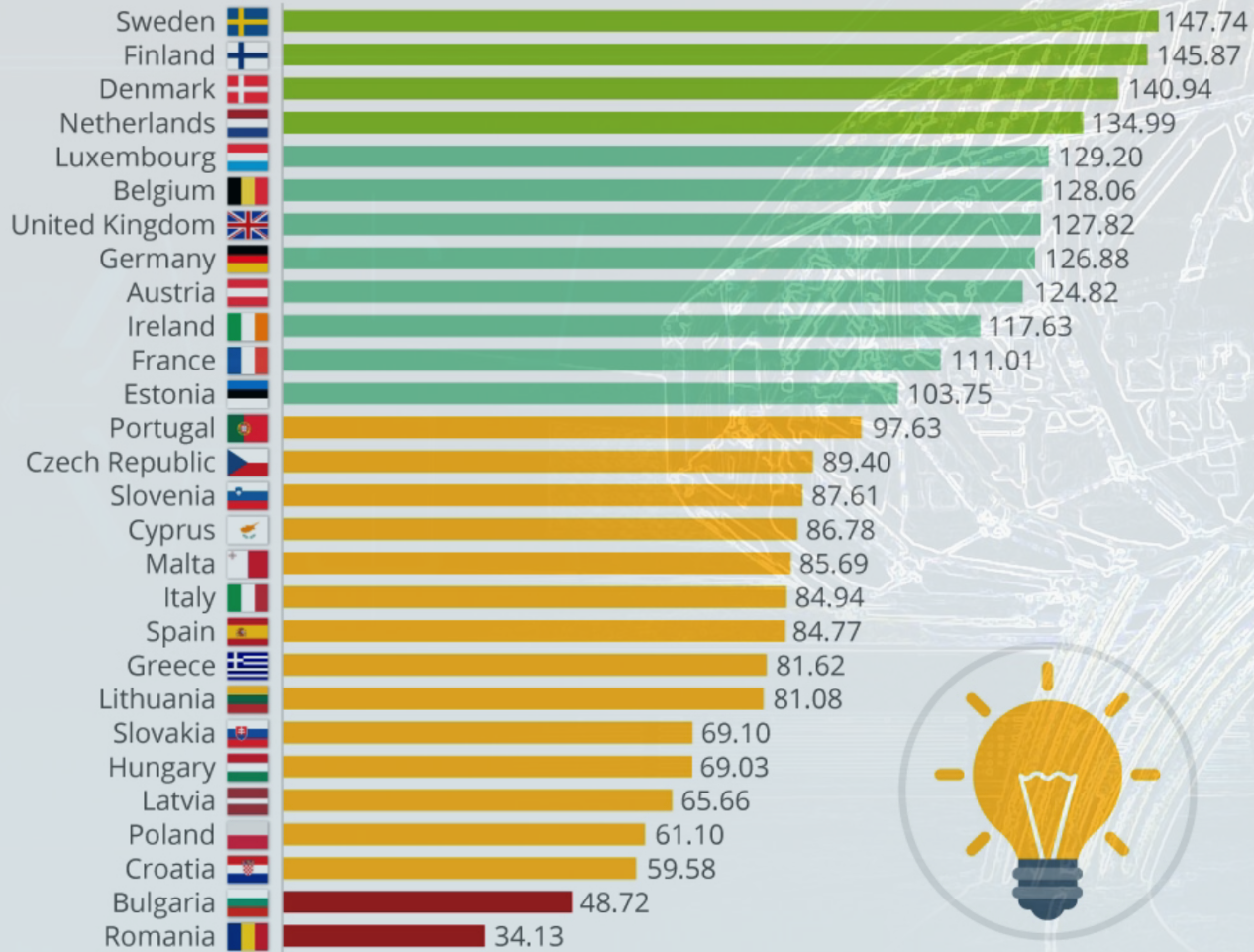
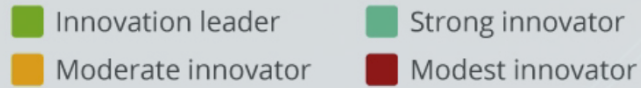


Over \$900 billion has been spent attempting to bring Matt Damon back from distant places.

- *Courage Under Fire* (Gulf War 1 helicopter rescue): \$300k
- *Saving Private Ryan* (WW2 Europe search party): \$100k
- *Titan A.E.* (Earth evacuation spaceship): \$200B
- *Syriana* (Middle East private security return flight): \$50k
- *Green Zone* (US Army transport from Middle East): \$50k
- *Elysium* (Space station security deployment and damages): \$100m
- *Interstellar* (Interstellar spaceship): \$500B
- *The Martian* (Mars mission): \$200B

Sweden Ranked The EU's Most Innovative Nation

European Innovation Scoreboard rankings in 2019 (150 = most innovative)





Towards zero emissions

PowerCell creates electrical power solutions - with minimal environmental impact

The PowerCell logo, featuring a stylized green leaf-like symbol to the left of the word 'POWERCELL' in a bold, black, sans-serif font.

ZENUITY

Make it real.

The CampX logo, with 'CampX' in large, white, 3D block letters on a background of textured, metallic-looking panels.

BY VOLVO GROUP

CampX by Volvo Group is our global innovation arena for technology and business transformation.



A VEHICLE LIKE NO OTHER



A background image of a mountain range under a blue sky, used for the Northvolt advertisement.

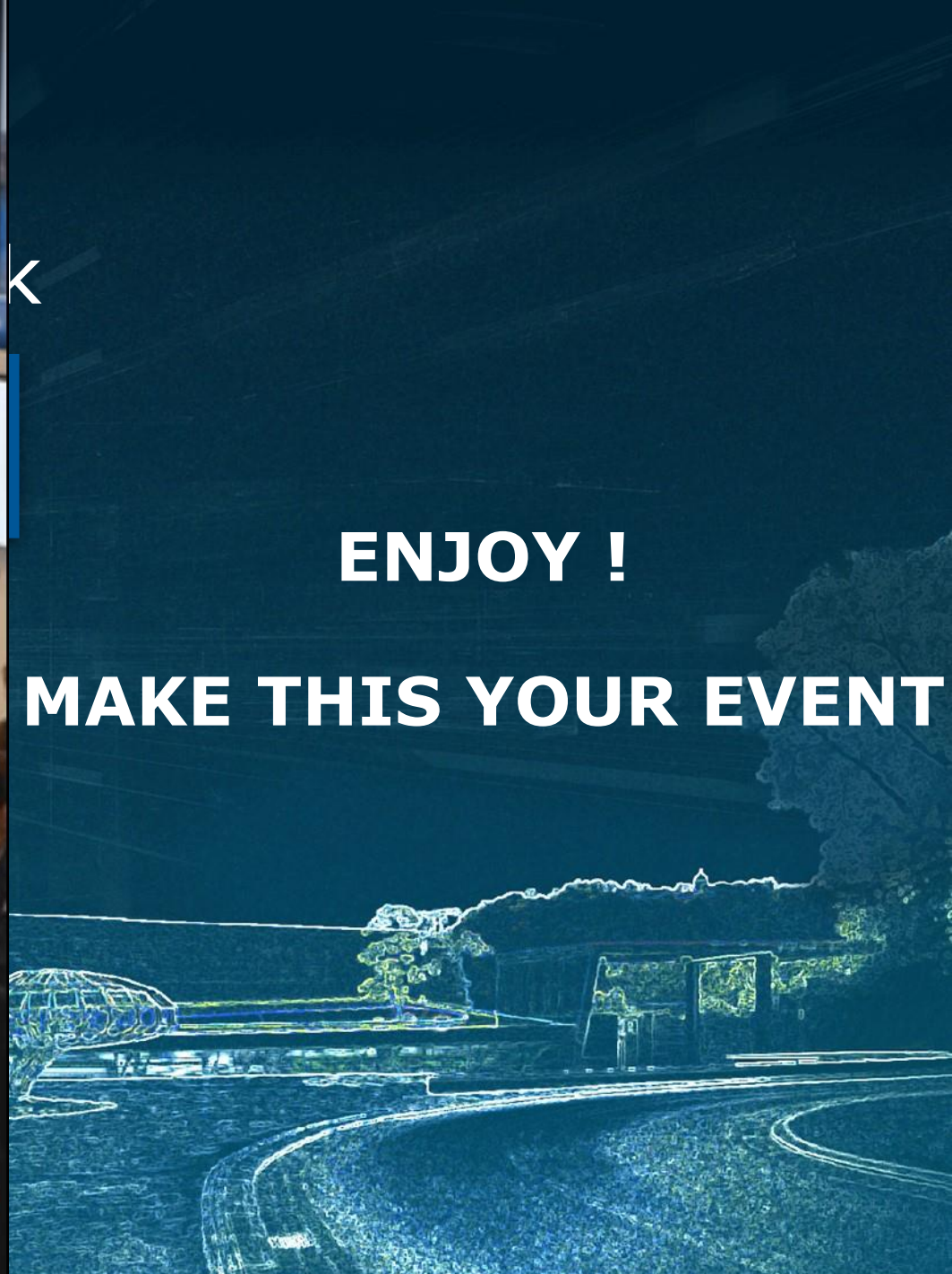
northvolt

The future needs high-quality, green batteries. And it needs lots of them.



GEELY





ENJOY !

MAKE THIS YOUR EVENT