

Luxembourg

Innovation Landscape

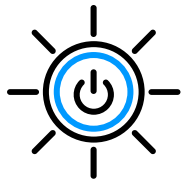


LUXINNOVATION

TRUSTED PARTNER FOR BUSINESS

LuxInnovation, Our mission

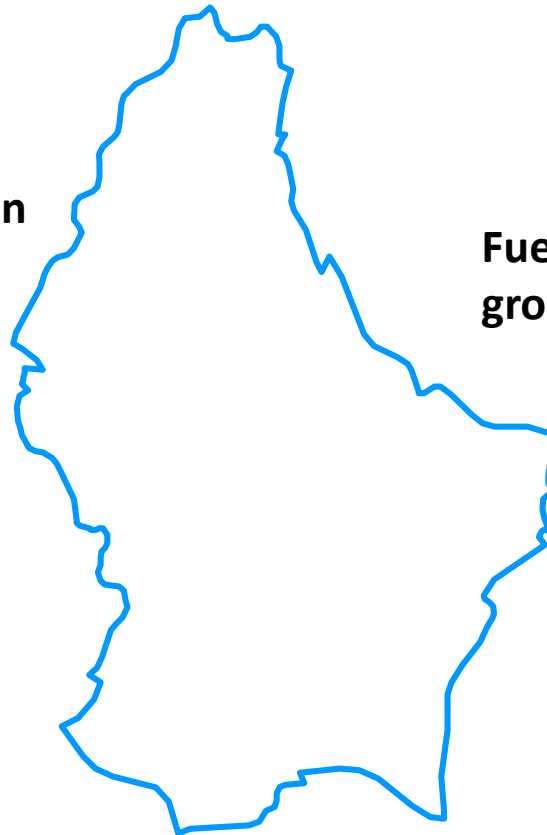
Contribute to Luxembourg's economic development by:



Fostering innovation



Attracting foreign direct investment



Fuelling international growth

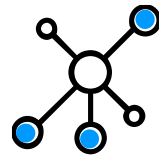


LuxInnovation, Our services



Funding opportunities

- National
- European



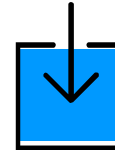
Luxembourg Cluster Initiative

- Innovation
- Business development
- Cross-sector cooperation



Entrepreneurship support

- Start-up creation
- Business acceleration



Invest in Luxembourg

- Business Development
- Promotion & Prospection
- Marketing & Communication

The Grand Duchy of Luxembourg

- The only Grand Duchy in the world
- Constitutional Monarchy (Head of State Grand Duke Henri, Prime Minister Xavier Bettel)



A century of innovation



RADIO

Radio Luxembourg

1920

1940

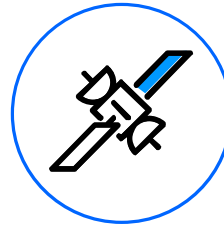
1960



TV

RTL Television

1980



SATELLITE

SES

2000



INTERNET

PayPal, Skype,
Amazon, eBay...

Today

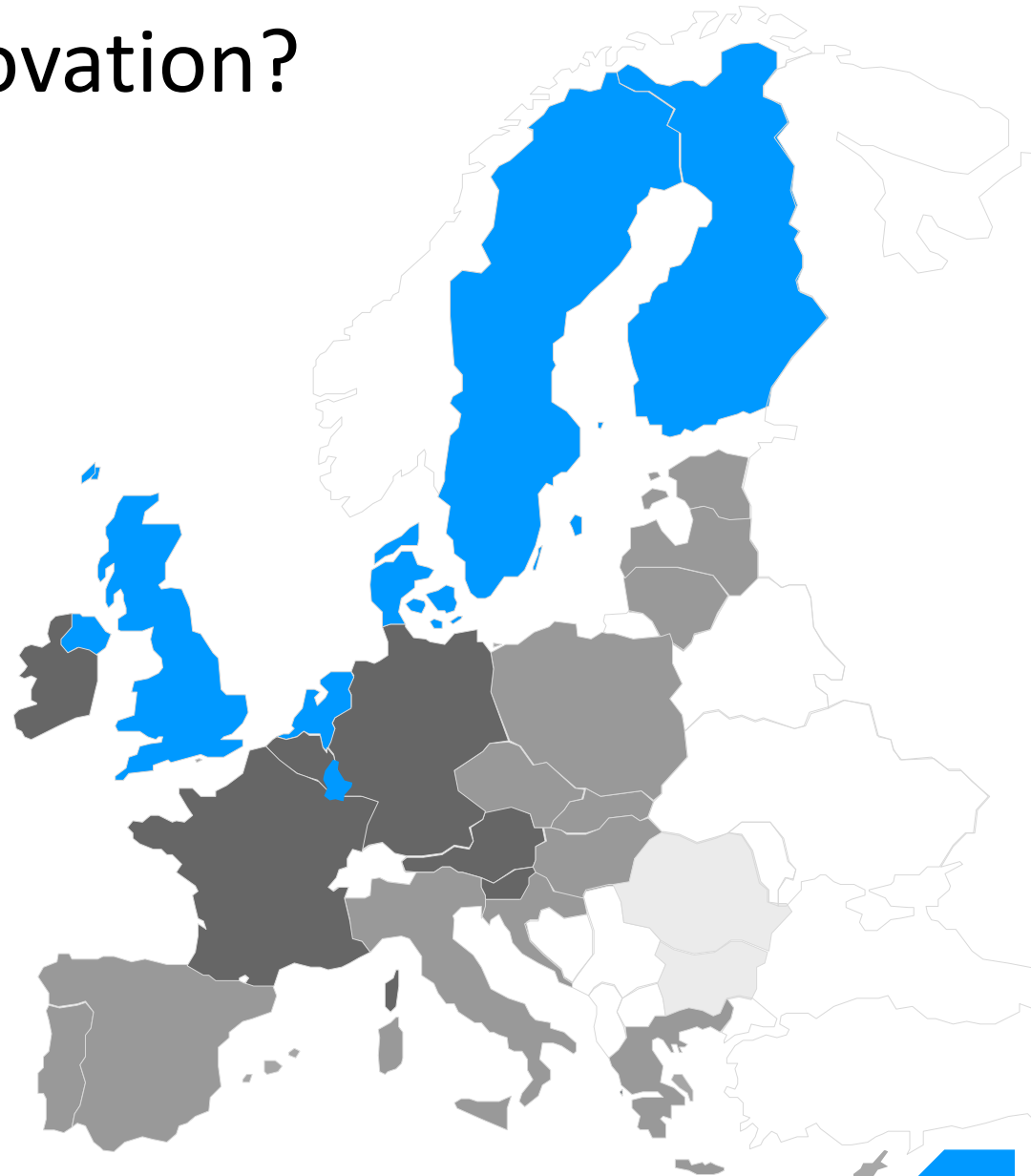
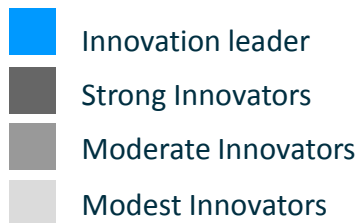
DIGITAL ECONOMY

Internet of Things
Artificial intelligence
Robotics
3D printing
Biotechnologies
Blockchain
Space resources

How do others evaluate us in terms of innovation?

European Commission

2018
European Innovation
Scoreboard



How do others evaluate us in terms of innovation?

European Commission



Denmark

human resources and innovation-friendly environment



Luxembourg

attractive research system



France

finance & support



Ireland

innovation in SMEs, employment impacts & sales impacts



Belgium

innovation linkages & collaboration

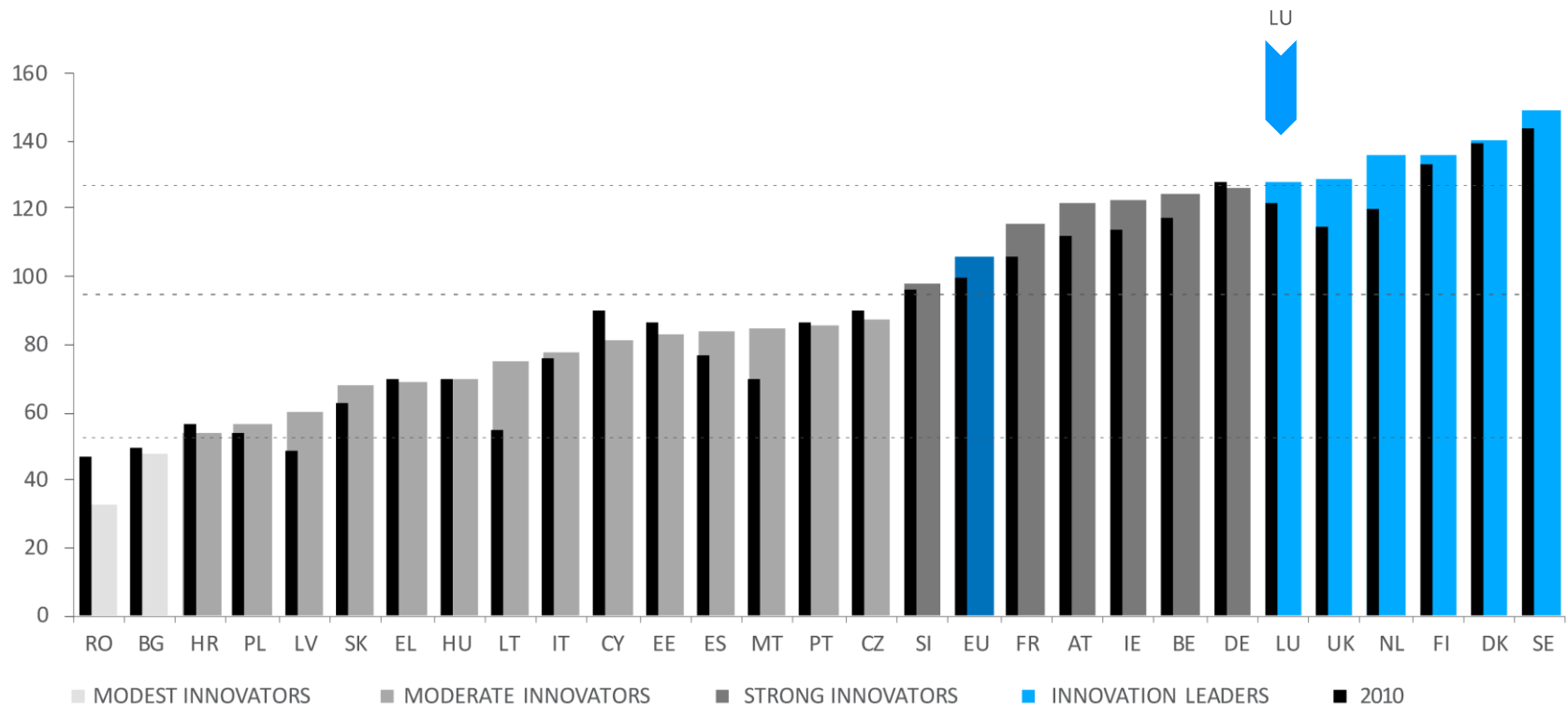
Sweden

Innovation Leader Score :



How do others evaluate us in terms of innovation?

European Commission



How do we rate in terms of innovation?

Global Innovation Index *

15

Number of researchers per million inhabitants**

5,058

*Cornell University, INSEAD & World Intellectual Property Organisation (WIPO)

**World Bank

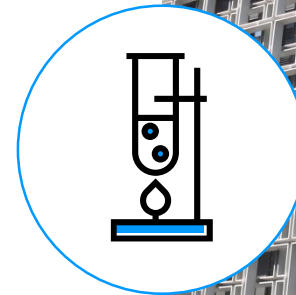


Who are the Main Actors?

University of Luxembourg:

- Founded in 2003
- Multilingual, international and research-oriented
- 850 Scientific and research staff + 242 Professors
- 6,500 Students from 110 different countries

Role is to foster innovation that will drive sustainable socio-economic growth



Who are the Main Actors?

University of Luxembourg:

Pillars of Excellence:



Materials
Science



Computer Science
& ICT Security



European &
International Law



Finance & Financial
Innovation

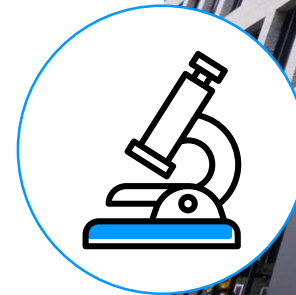
Who are the Main Actors?

Luxembourg Institute of Science & Technology (LIST):

R&D Infrastructures:

- National Composites Centre
- Materials Characterisation & Testing Centre
- Environmental Research & technology Centre
- Connected Objects

LIST 



Who are the Main Actors?

Others:

- Luxembourg Institute of Health
- IBBL (Integrated BioBank of Luxembourg)
- Luxembourg Institute of Socio-Economic Research (LISER)
- Max Planck Institute Luxembourg for International, European & Regulatory Procedural Law
- European Centre for Geodynamics & Seismology

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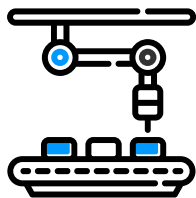
What about the Private Sector?

Innovative sectors:

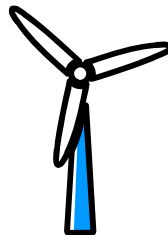
Automotive
Components



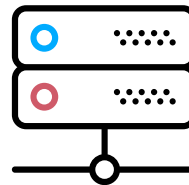
Creative
Industries



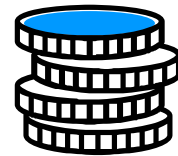
Cleantech



Digital
Technologies



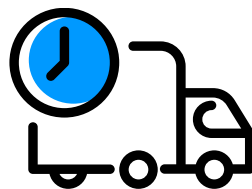
Finance



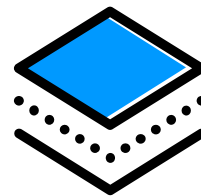
Health Sciences &
Technologies



Logistics



Materials and
Manufacturing



Space
Technologies



What about the Private Sector?

Support schemes:

- National funding programmes
- European funding programmes
- European Space Agency funding programmes
- Company performance programmes
- Luxembourg Cluster Initiative

...



Innovation made in Luxembourg

Some examples:



Putting the ball in ballpoint pens

If you write with a ballpoint pen, there is a very good chance that the ball at its tip was made in Luxembourg, where hard materials

Manufacturer **Ceratizit** turns out 12 billion such balls every year. This represents 40 to 45 % of the global production.

Innovation made in Luxembourg

Some examples:



Burj Khalifa Tower:
the world's tallest tower

Guardian Luxguard S.A., based in Luxembourg, developed and supplied 600,000m² of low-emissivity glass for the 206-storey Burj Khalifa Tower. Located in the United Arab Emirates, the tower reaches a height of 828m.

Innovation made in Luxembourg

Some examples:



Satellite pioneers from Luxembourg

SES S.A., created in Luxembourg in 1985, is one of the world's leading providers of satellite communications and broadcasting services. SES operates a fleet of more than 50 geo-stationary reaching 99% of the world's population and transmits vital services to keep billions of people connected around the globe.

How is Innovation Shaping our Future?

High Performance Computing for Big Data Enabled Applications

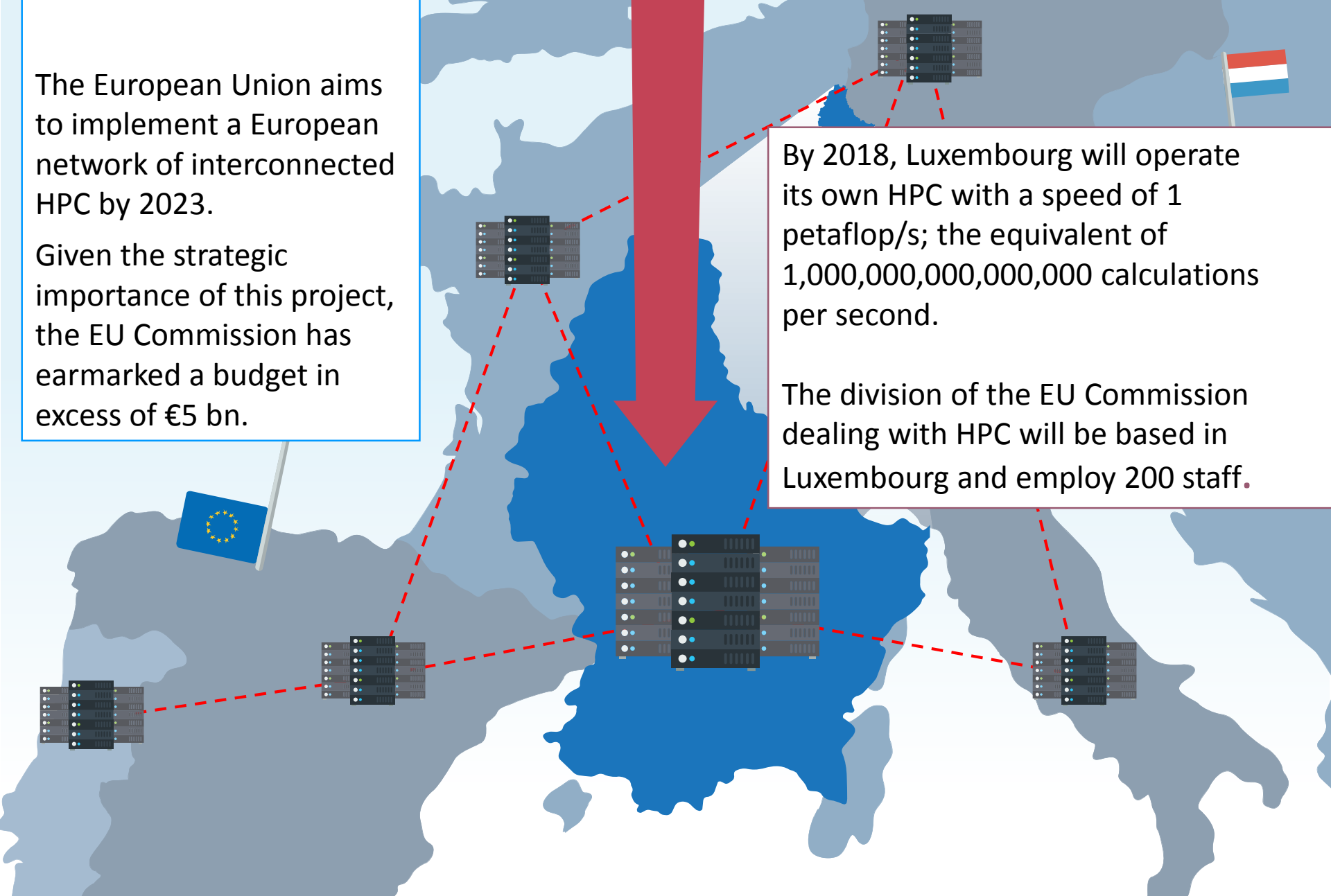


The European Union aims to implement a European network of interconnected HPC by 2023.

Given the strategic importance of this project, the EU Commission has earmarked a budget in excess of €5 bn.

By 2018, Luxembourg will operate its own HPC with a speed of 1 petaflop/s; the equivalent of 1,000,000,000,000,000 calculations per second.

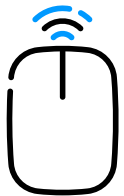
The division of the EU Commission dealing with HPC will be based in Luxembourg and employ 200 staff.



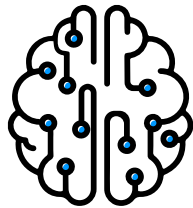
At the centre of a European network of supercomputers

High-Performance Computing

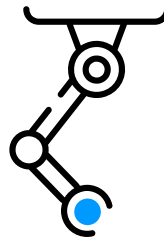
Growing need for computing power



Internet of Things



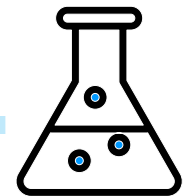
Artificial intelligence



Robotics



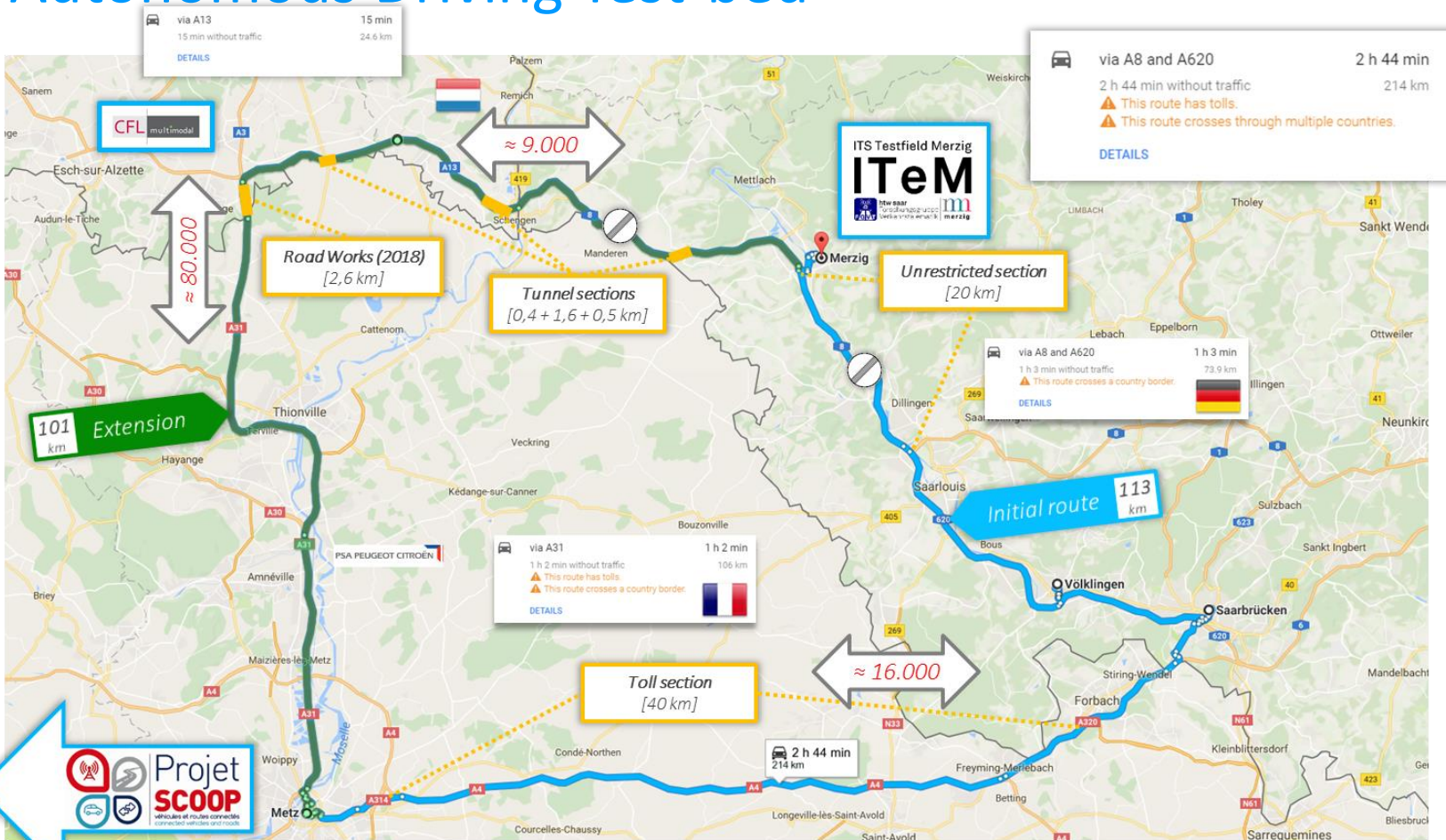
Autonomous driving



Digital health

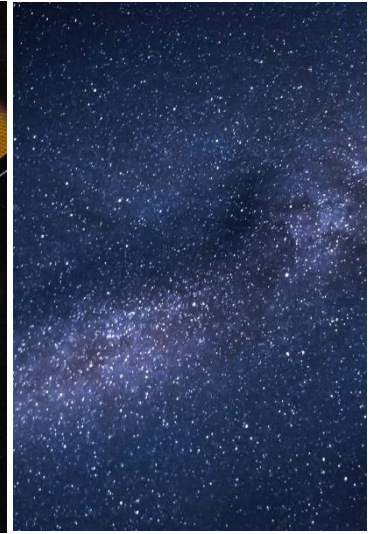
How is Innovation Shaping our Future?

Autonomous Driving Test-bed



How is Innovation Shaping our Future?

Space Resources



Thank you!

■ **David Foy**

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