

FREE TECH[®]

THE VACUUM CAPACITOR

THE ULTIMATE ENERGY STORAGE TECHNOLOGY



CLEAN ENERGY NEEDS HUGE STORAGE CAPACITIES

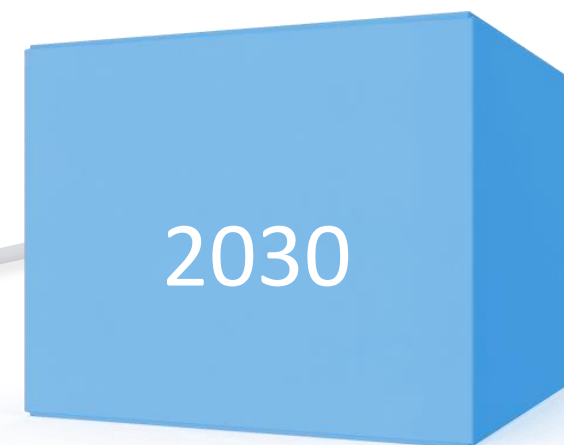
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CURRENT TECHNOLOGIES AREN'T ABLE TO MEET THESE
REQUIREMENTS



2019

5 TWh



2030

12 – 17 TWh



GLOBAL NEEDS
BY 2050

TENS, HUNDREDS OF TWh

AN APPROPRIATE ENERGY STORAGE SOLUTION IS CRUCIAL FOR A CLEAN ENERGY TRANSITION.

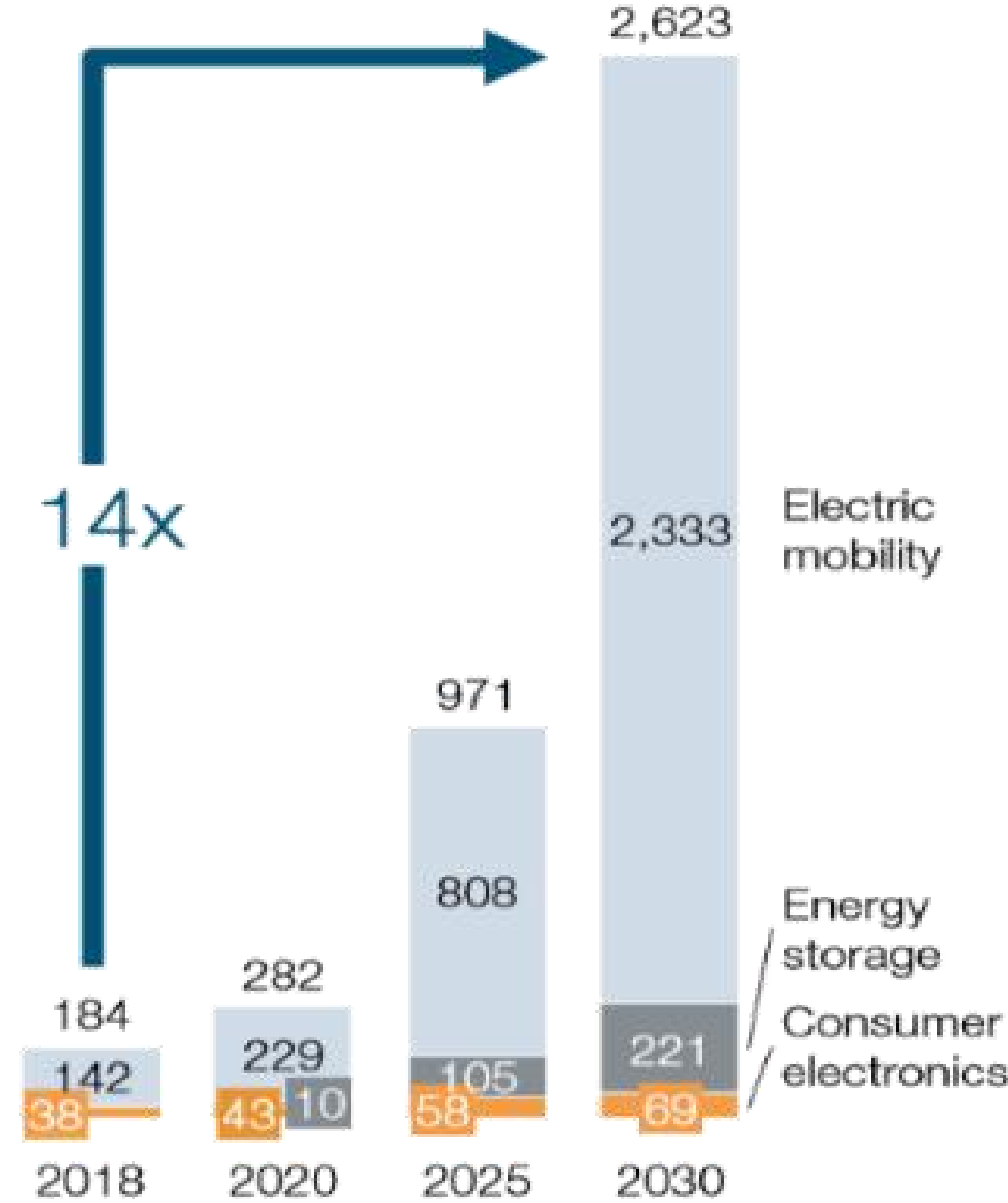
ENERGY STORAGE GLOBAL DEMAND

- ALL APPLICATIONS
→ 2,600 GWH EXPECTED BY 2030
- SUSTAINABLE DEVELOPMENT
→ UP TO 17,000 GWH BY 2040
- STATIONARY STORAGE (w/o PHS)
→ MORE THAN 2,800 GWH BY 2040

Source : BNEF 2019

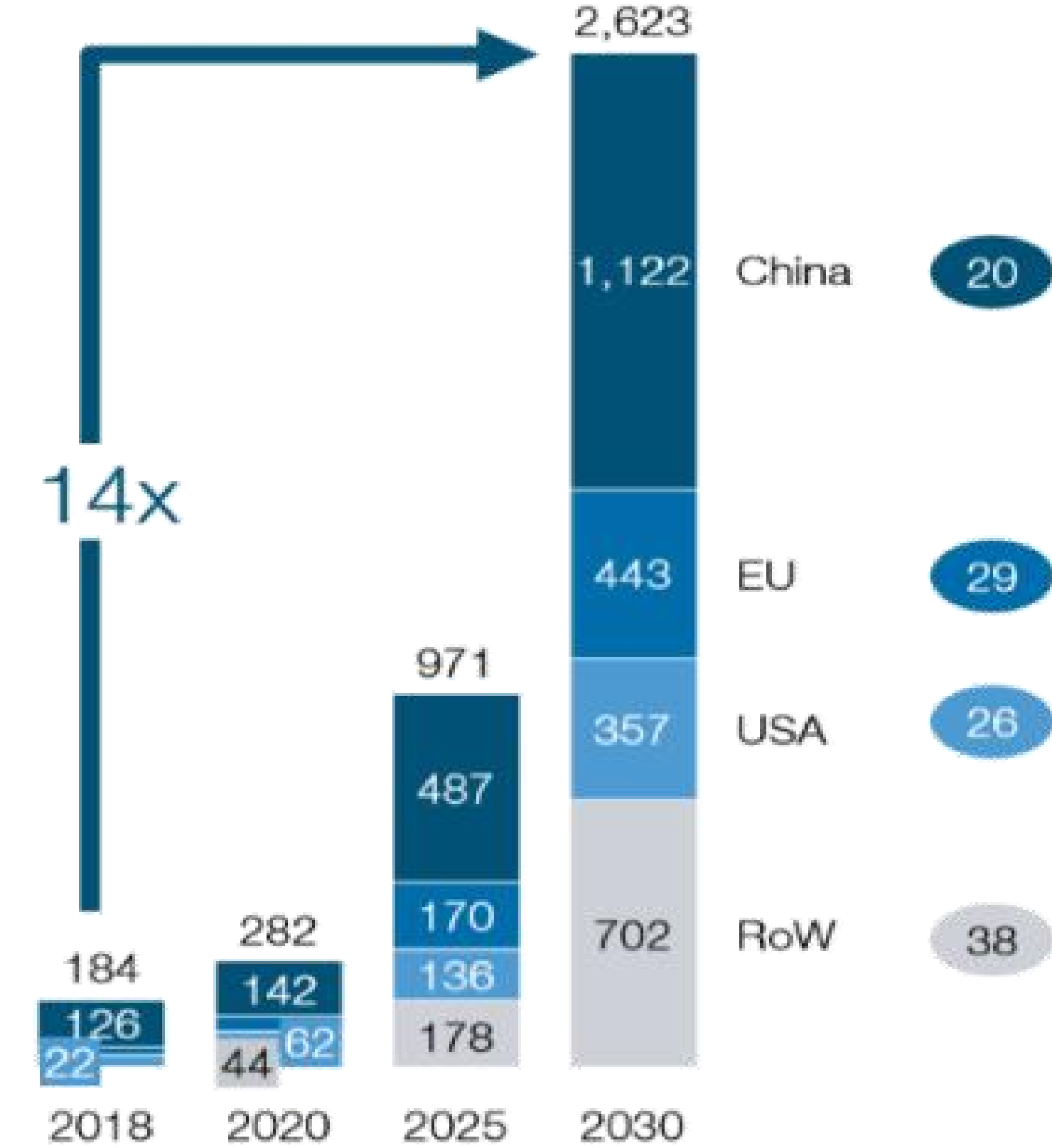
Global battery demand by application
GWh in 2030, base case

CAGR,
% p.a.



Global battery demand by region
GWh in 2030, base case

CAGR,
% p.a.



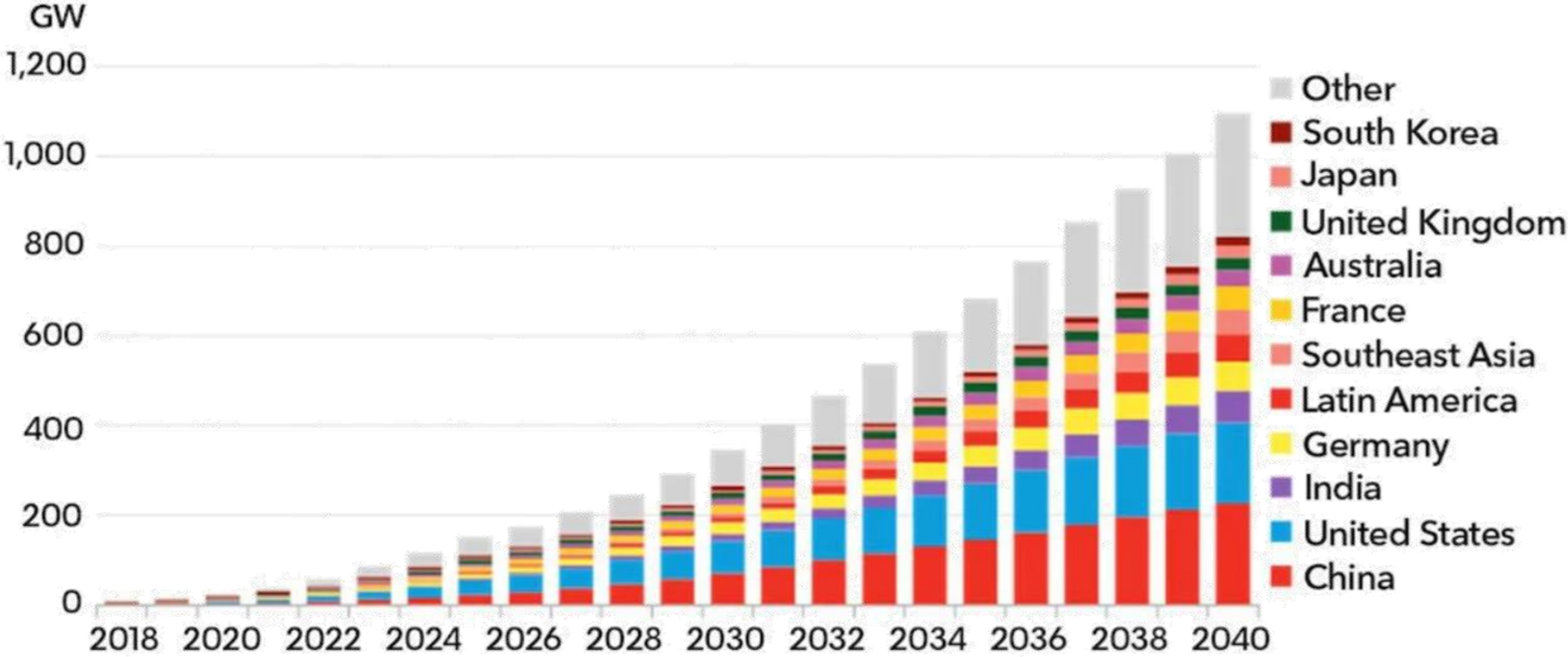
Source : Battery 2030+ Roadmap – March 2020

GENERAL FIGURES & TRENDS



LI-ION REPRESENTS A GROWING SHARE
OVER THE LAST FEW YEARS (> 90 %)

Global cumulative power storage installations



Source: BloombergNEF

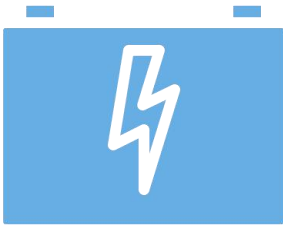
\$60 BN
VALUE OF THE LI-ION MARKET
IN 2024

7 %
SHARE OF ENERGY STORAGE
IN GLOBAL POWER CAPACITY
BY 2040

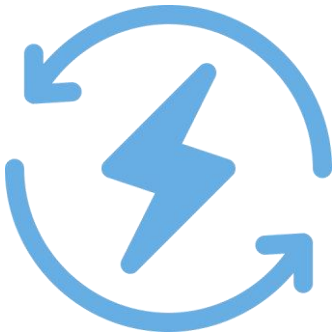
\$600-1,000 BN
INVESTMENTS IN
ENERGY STORAGE
BY 2040

A DISRUPTIVE SOLUTION

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VERY HIGH DENSITY



**PURE ELECTRICITY
HIGH ROUND-CYCLE EFFICIENCY**



LIGHT



**CHEAPEST
TECHNOLOGY**



**ALL TYPES OF
APPLICATIONS**



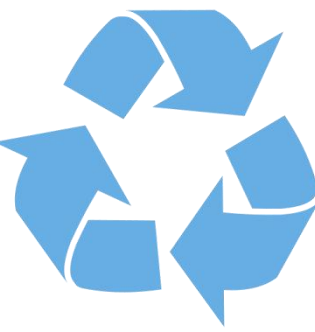
SAFE



**NO RELIANCE ON RARE,
EXPENSIVE OR 'ECO-DAMAGING'
RESOURCES**



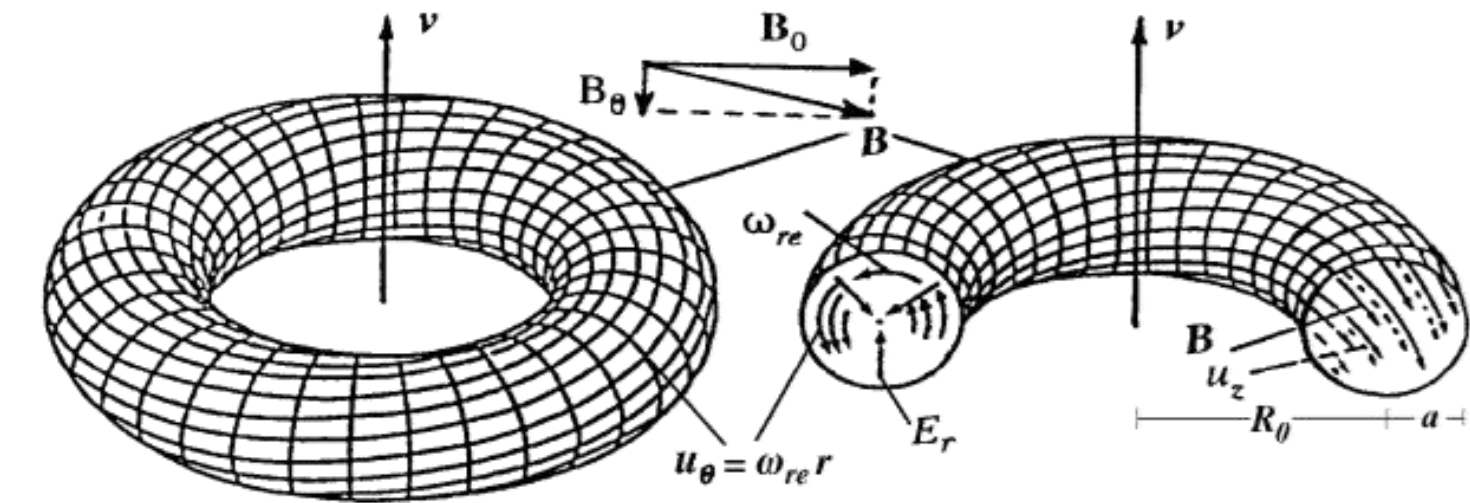
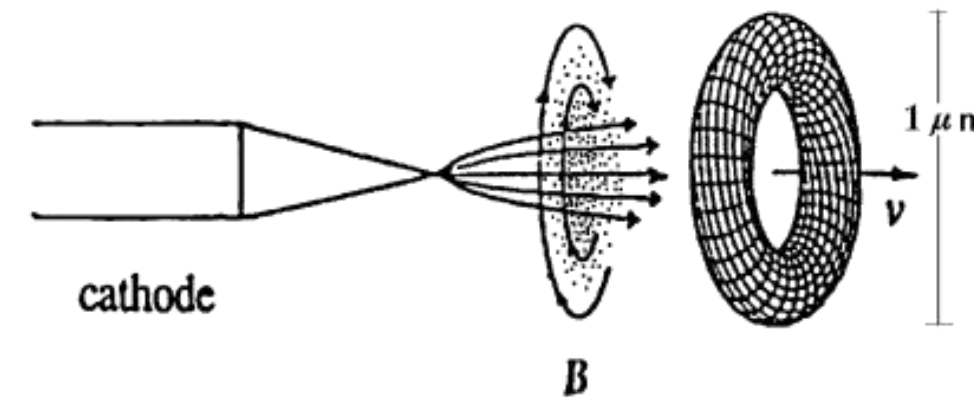
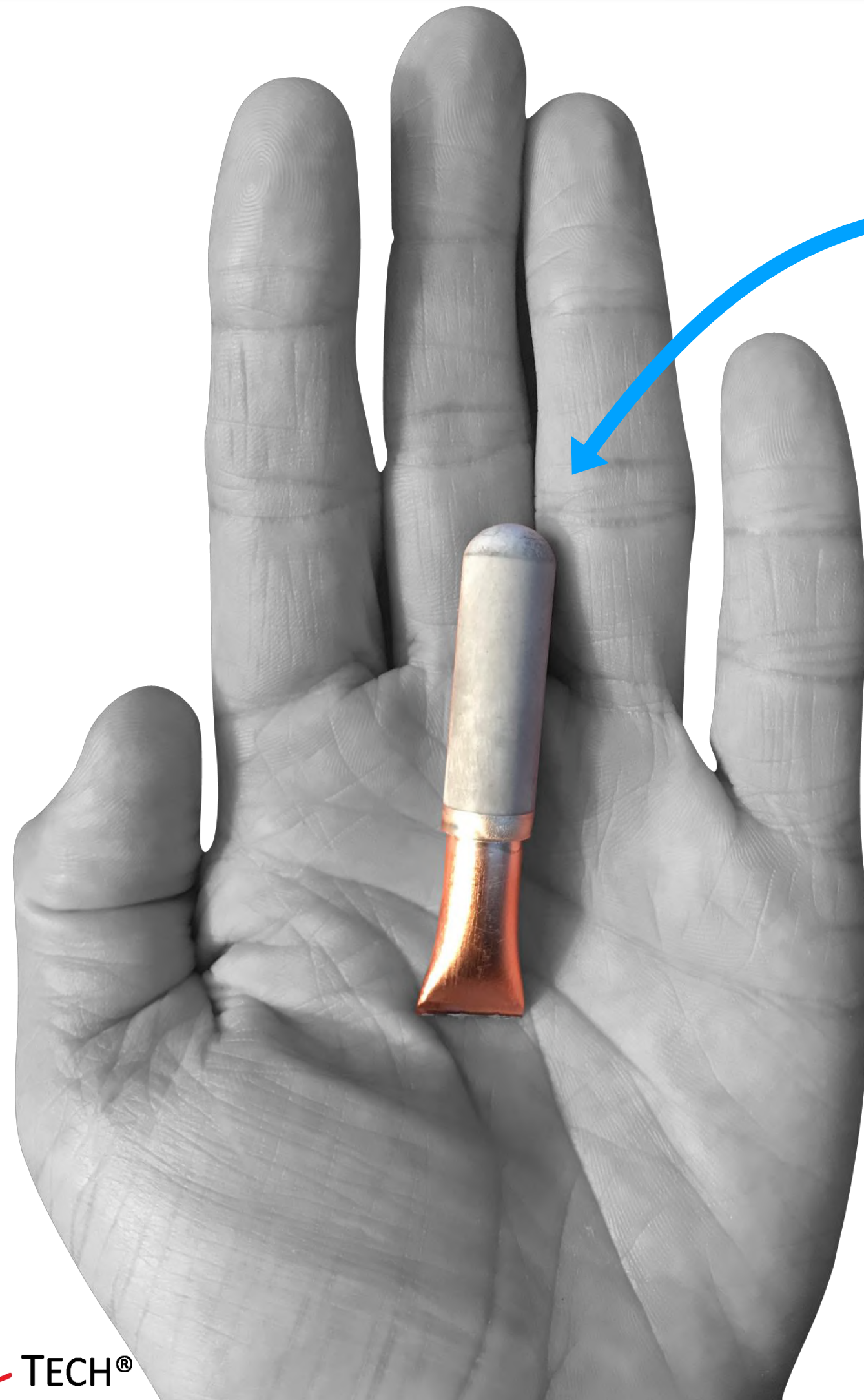
**FIT-ALL SOLUTION FOR ALL
CLIMATIC CONDITIONS,
INCL. SPATIAL**



**ENVIRONMENTALLY-FRIENDLY
EASY RECYCLING**

THE VACUUM CAPACITOR

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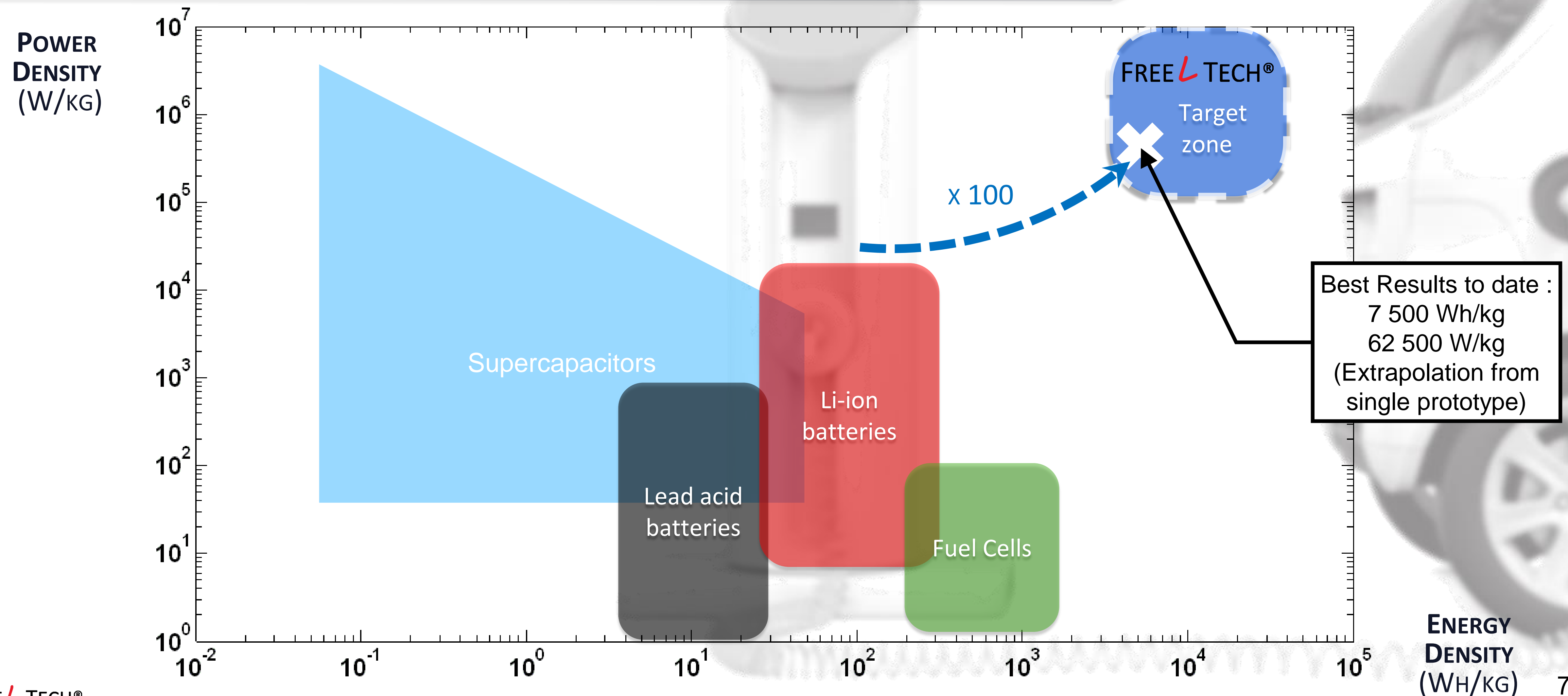
**CHARGES (e^-)
STORED
DIRECTLY
INSIDE
A SMALL BULB
UNDER VACUUM**

TARGET PERFORMANCES

- ▶ ENERGY DENSITY : $0,5 - 1 \text{ kWh} / \text{cm}^3$
- ▶ AFTER INTEGRATION : **Up To $20 \text{ kWh} / \text{kg}$**
- ▶ LOW COST : **$\ll 100 \text{ USD} / \text{kWh}$**
- ▶ HIGH NUMBER OF CYCLES
- ▶ HIGH ROUND-CYCLE EFFICIENCY
- ▶ SMALL QUANTITIES OF MATERIALS NEEDED
- ▶ NO RARE OR EXPENSIVE RAW MATERIALS
- ▶ LOW ENVIRONMENTAL IMPACT
- ▶ SIMPLE RECYCLING

UNMATCHED ENERGY & POWER DENSITY

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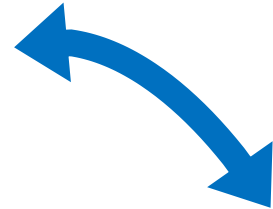
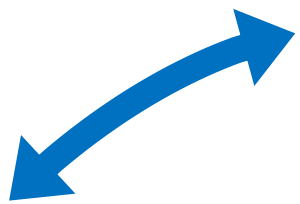
THE VACUUM CAPACITOR: SUITABLE FOR MOST APPLICATIONS

FREE **L** TECH®

WITH MANY COMPETITIVE ADVANTAGES, FREEL TECH TARGETS A SIGNIFICANT MARKET SHARE IN FUTURE YEARS.



BEHIND THE METER
RESIDENTIAL I&C



ELECTRICAL MOBILITY
(ROAD, AIR, SEA)



STATIONARY STORAGE
SMART GRIDS
GRID SCALE



THE TEAM

FREE **L** TECH®



Michael IRGANG
CEO

Civil Engineer
(Mines ParisTech)

Expert in Energy,
Nuclear Energy

Co-founder



Roman KHOLOSHENKO
CTO

Military career, then Engineer
& Business owner In Russia

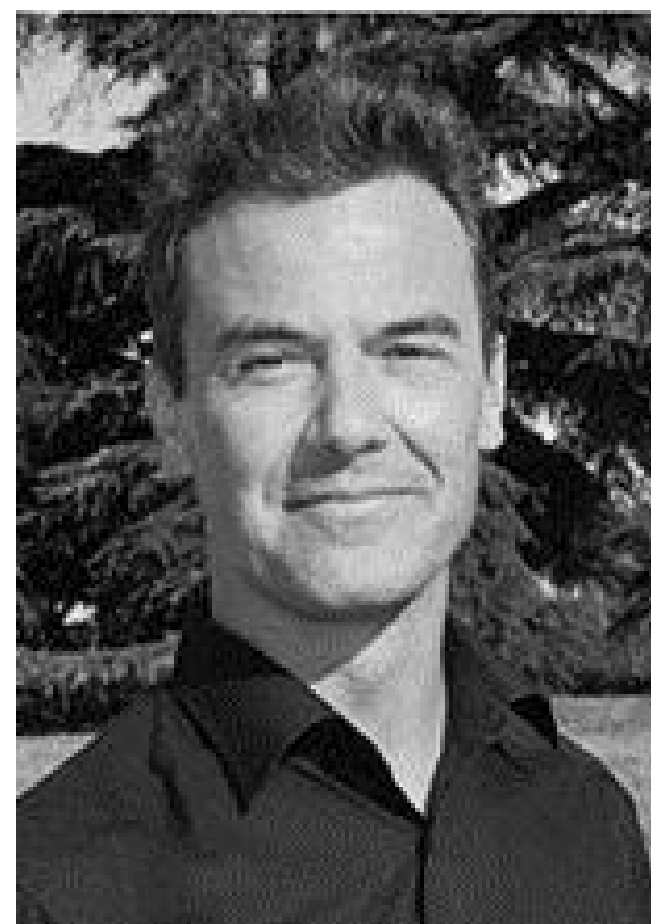
Expert in Electronics and
Magnetic Fields, invented the
« Vacuum Capacitor »



Sergueï GODIN
**Scientific & Technical
Researcher**

Graduated from Moscow
Electrotechnical &
Communication Institute

Expert in electrical engineering,
digital and analog electronics,
signal processing, instruments.



Julien PLAN
**Business Dev.
Director**

Mechanical Engineer
Nuclear Engineer
Executive-MBA

Expert in Energy &
Industrialization



William WEBER
Energy Engineer

Graduated from the Griffith's
School of Engineering
(Brisbane, Australia)

Expert in Energy Storage,
Renewable Energy



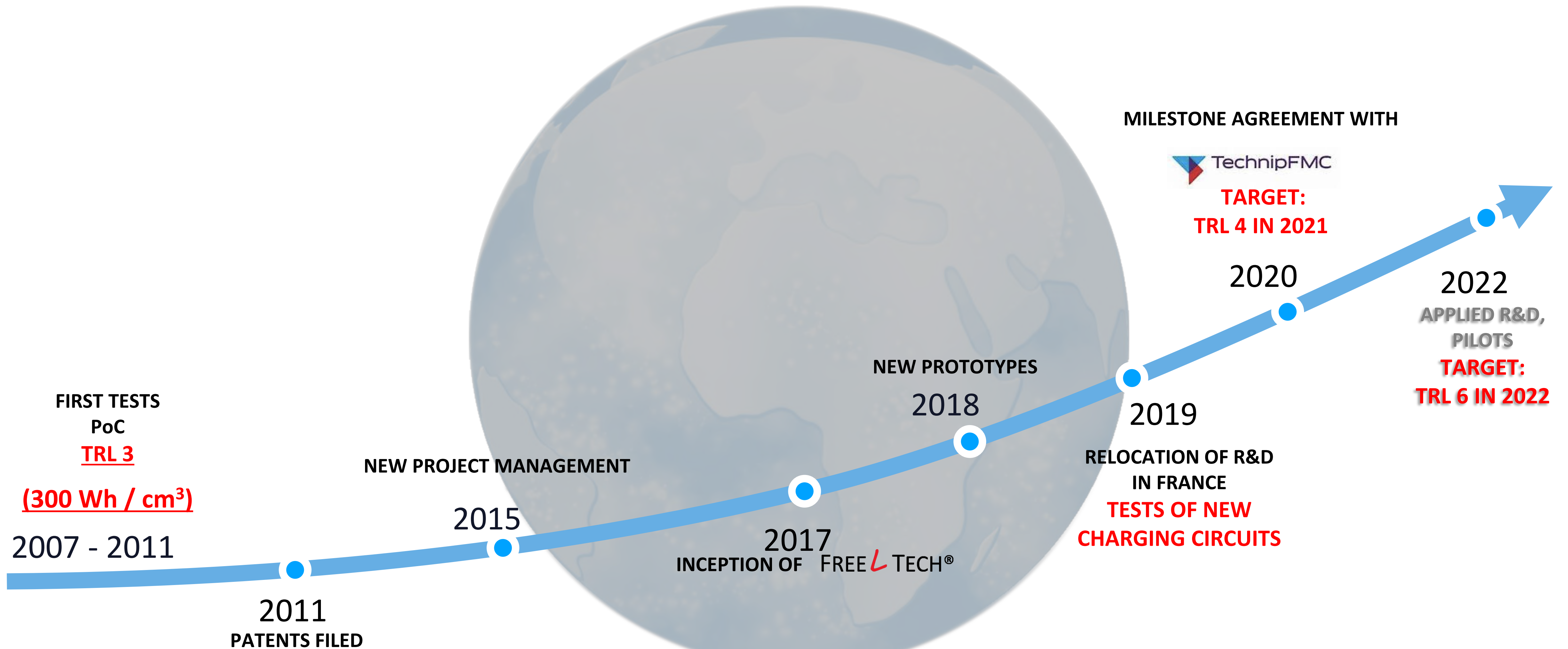
Roland IRGANG
CFO

Post-graduate Degree in
Banking&Finance
(La Sorbonne, Paris,
France)

Fundraising, Strategy,
Valuation, Investment
Policy, Financial Advisory

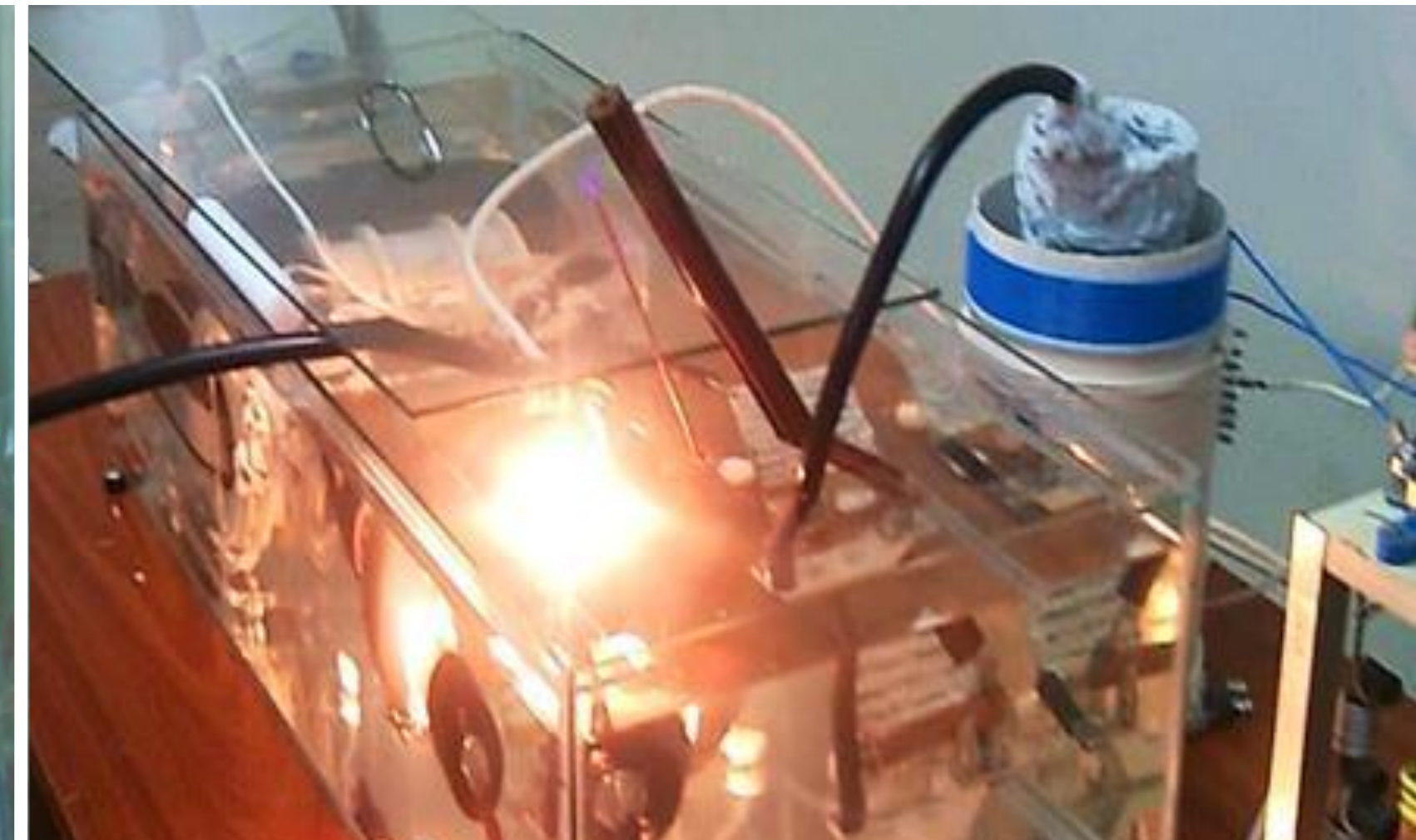
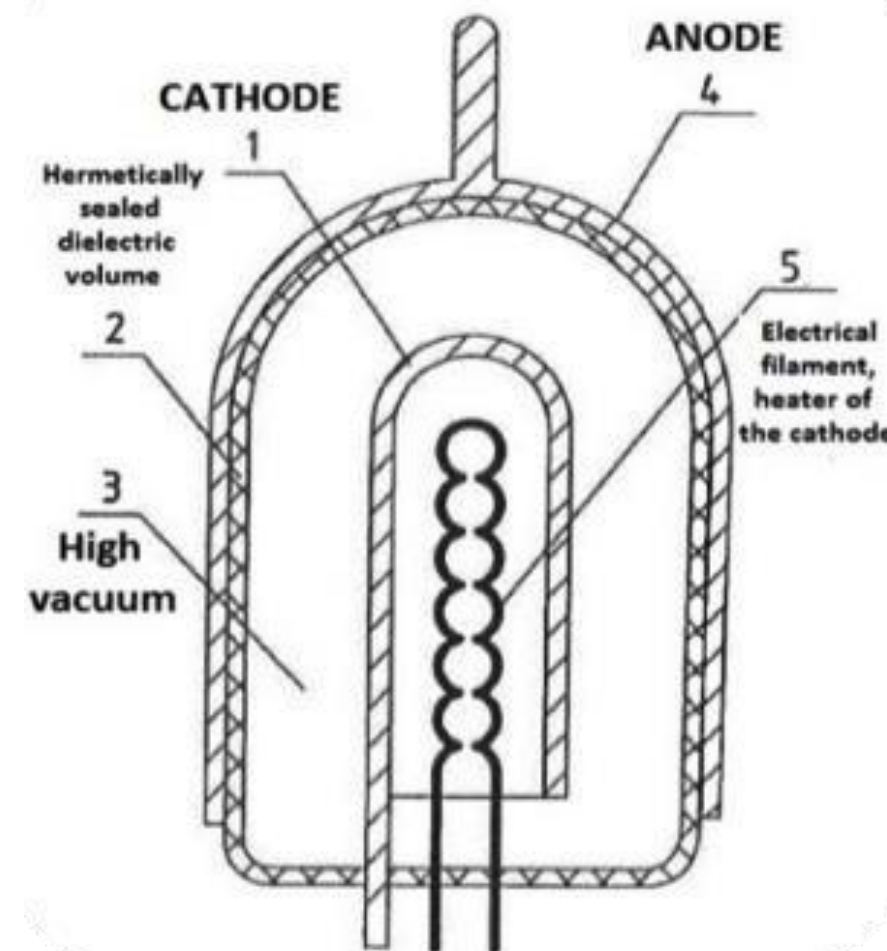
TIMELINE

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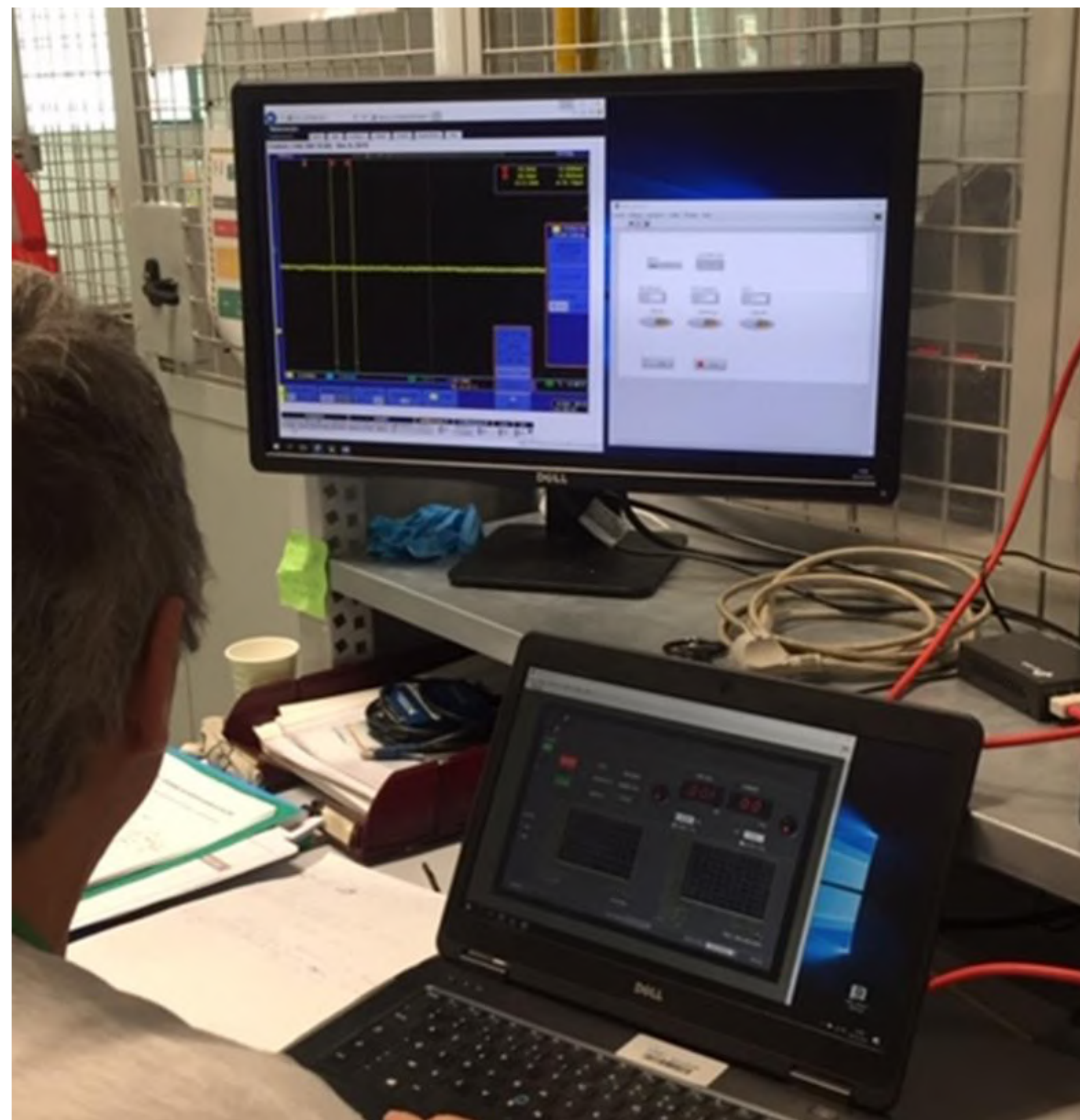
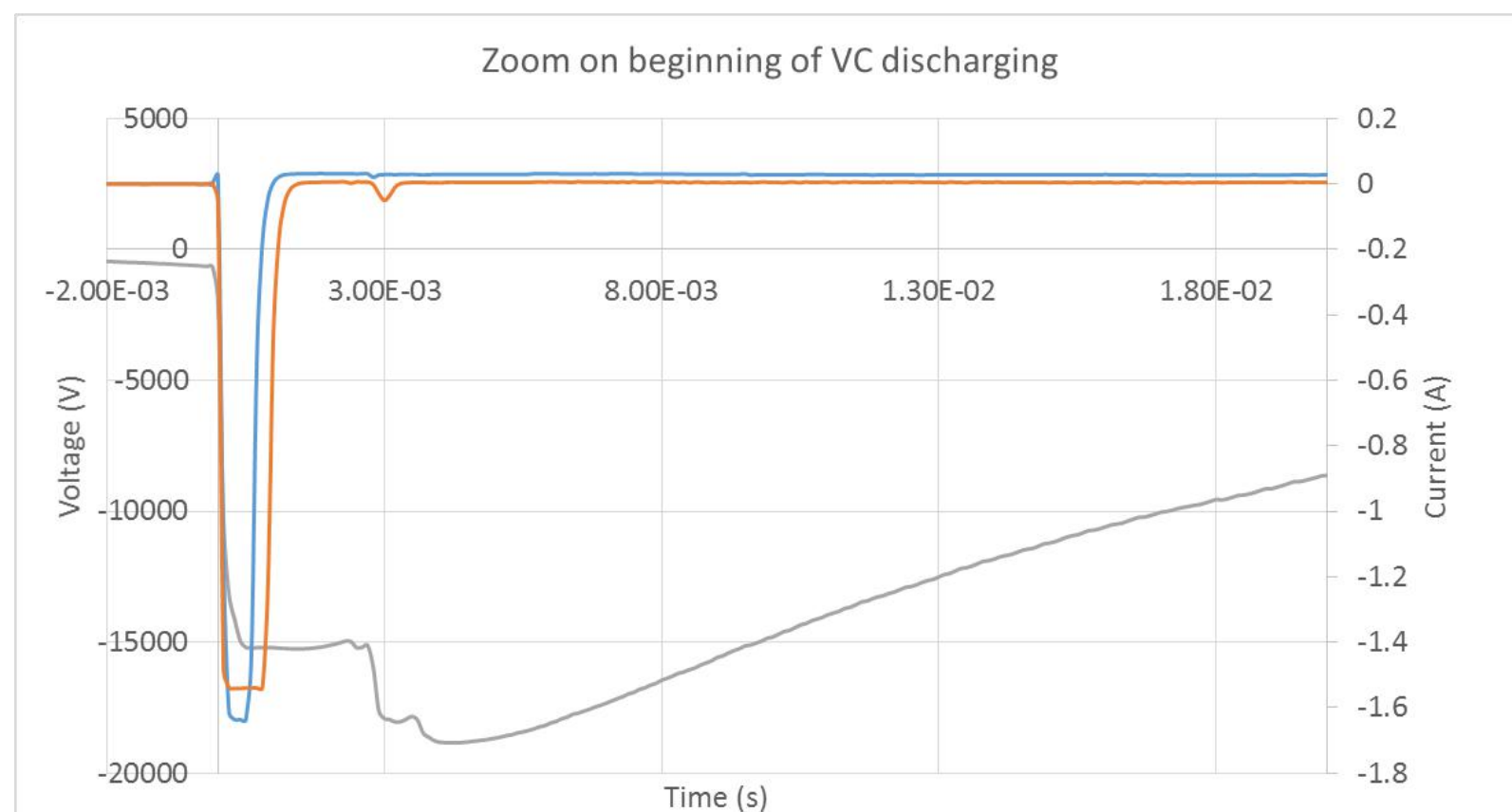
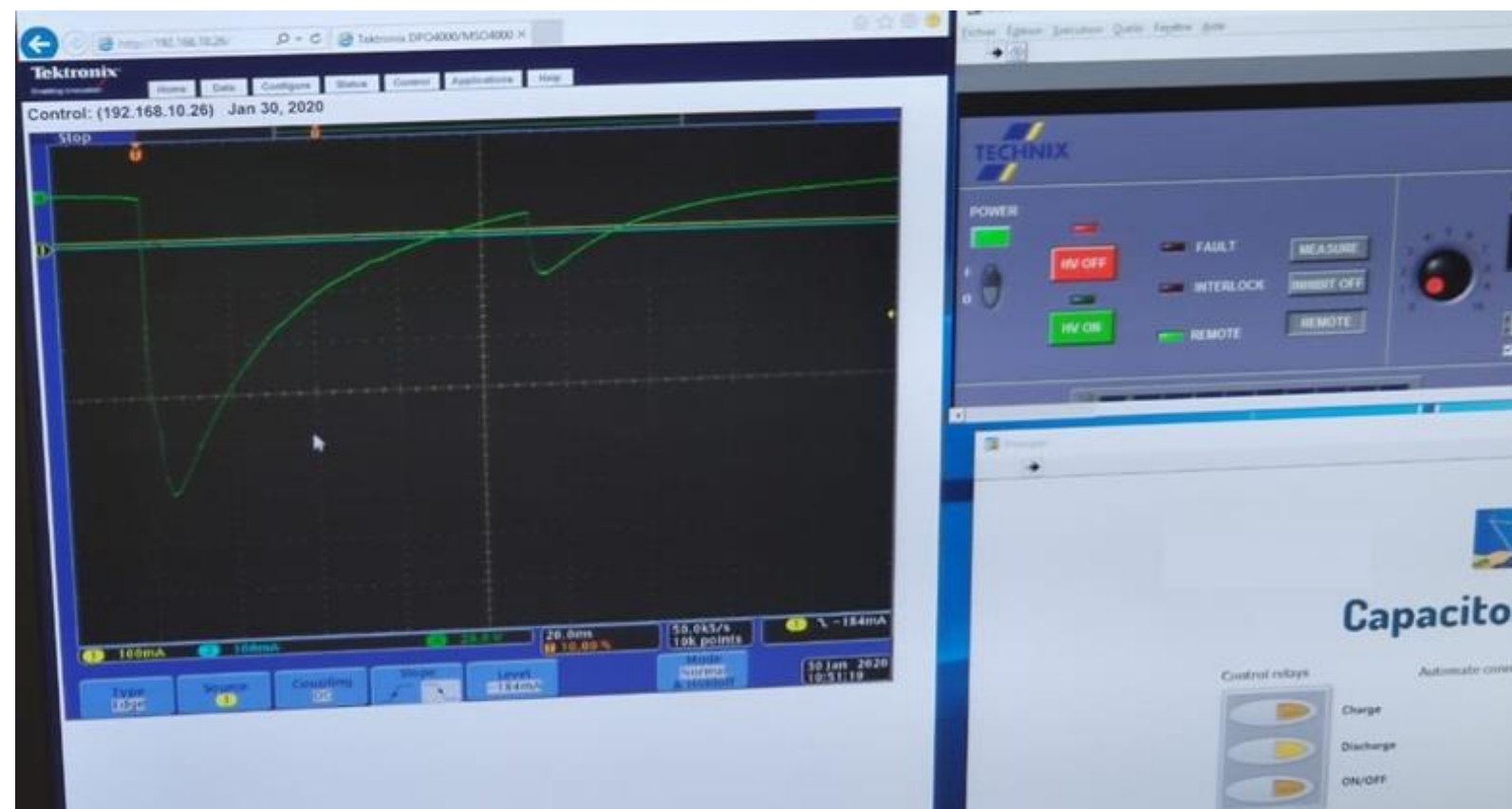
THE BEGINNING (2007)

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TESTS IN FRANCE (WINTER 2019-2020)

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PARTNERSHIP WITH TECHNIP ENERGIES (AUGUST 2020)

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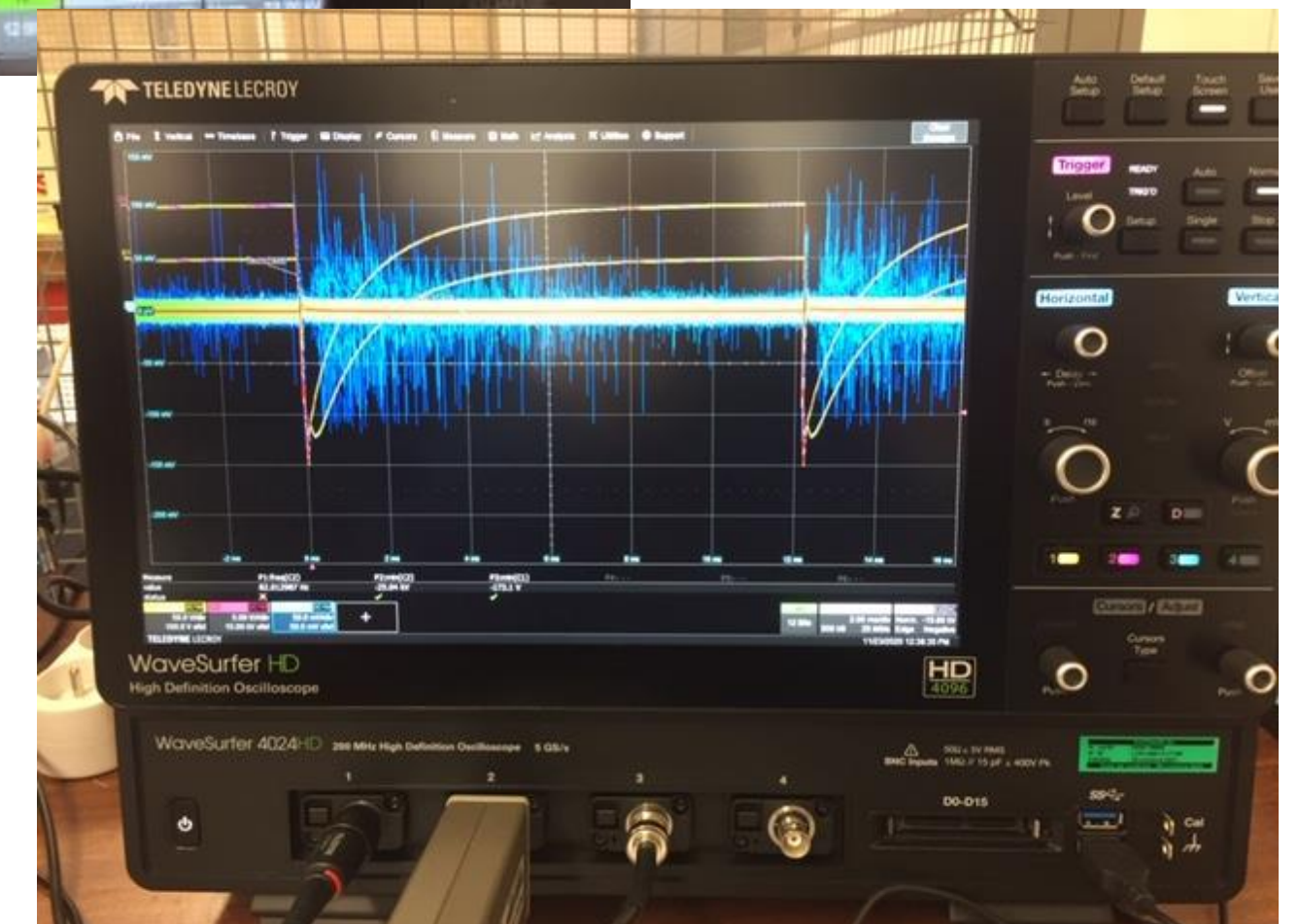
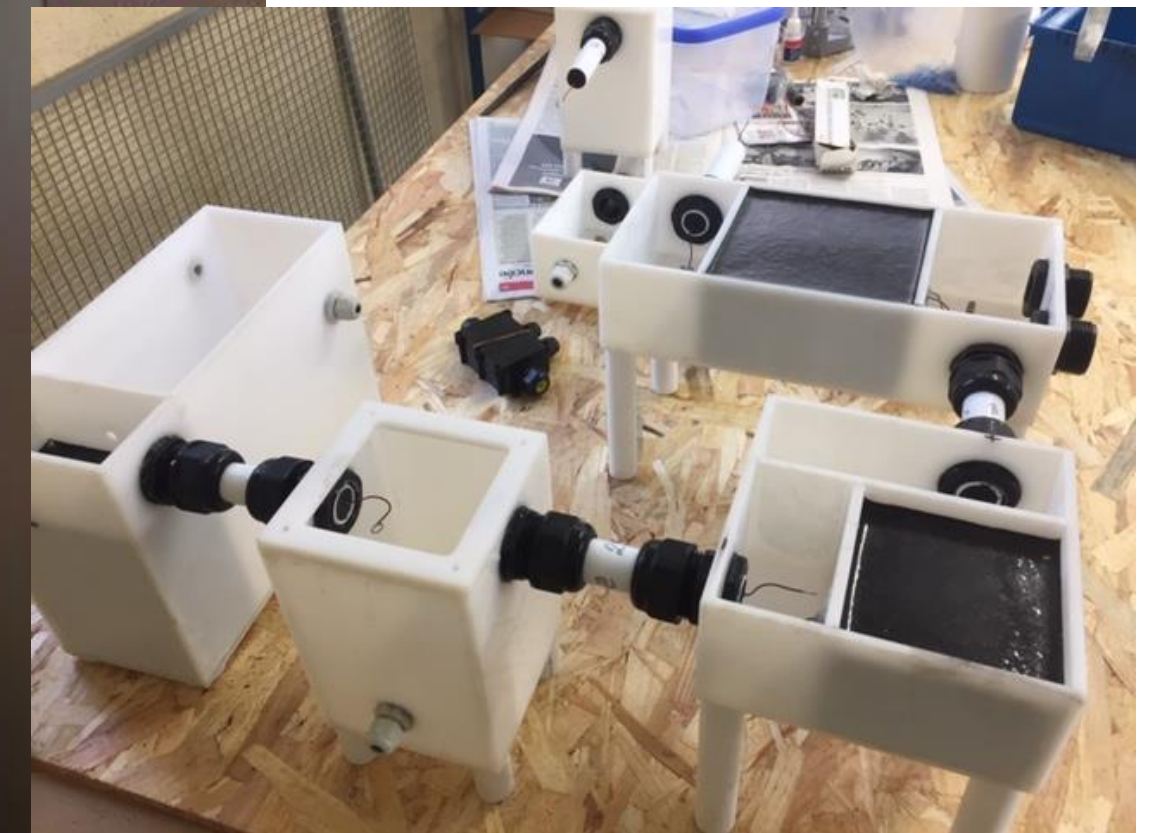
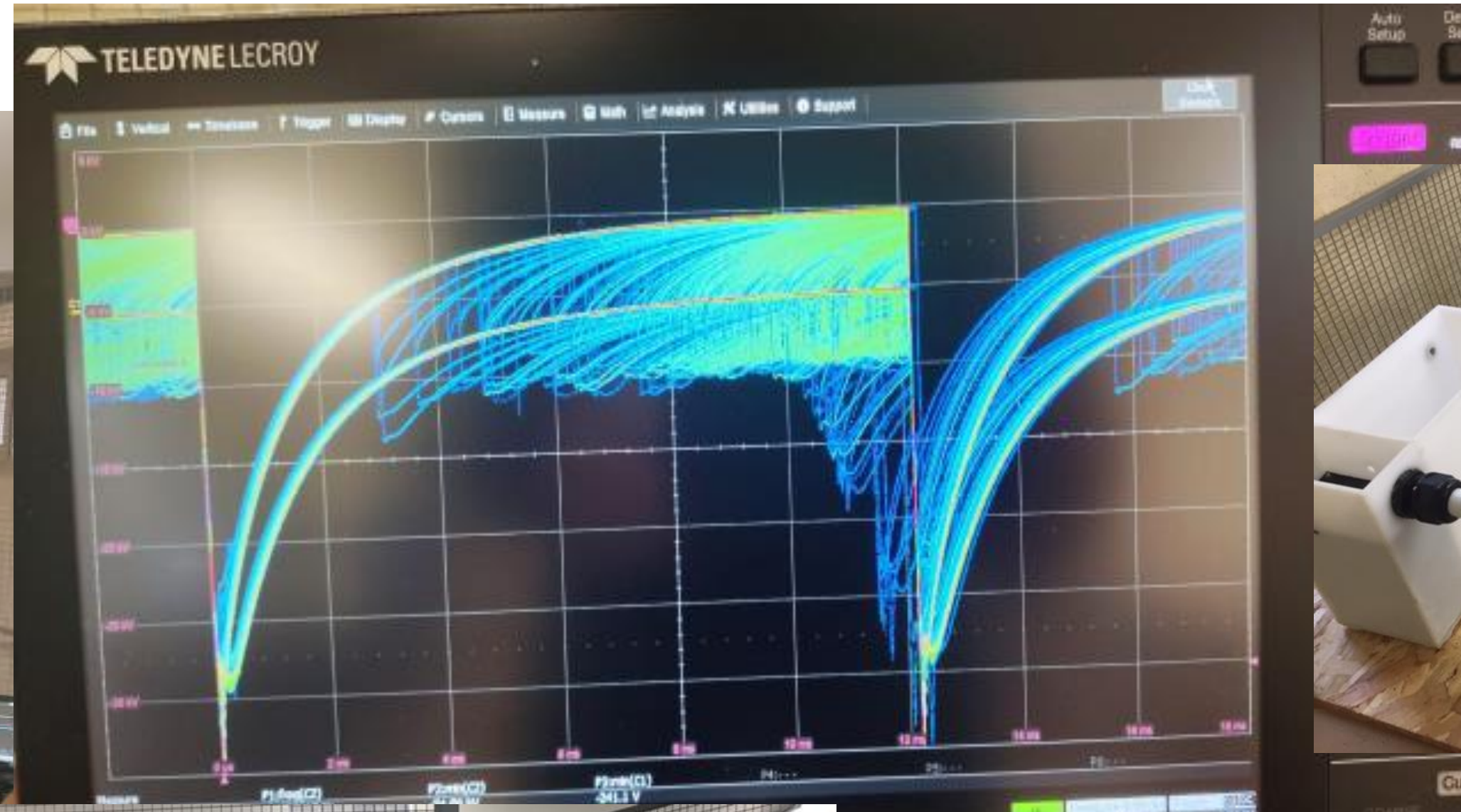
FREEL TECH HAS FINALIZED A STRATEGIC PARTNERSHIP WITH TECHNIP ENERGIES (TECHNIPFMC GROUP), SUPPLYING FRESH INVESTMENT, EQUIPMENT, LAB FACILITIES, TECHNICAL AND MARKET EXPERTISE.

R&D CONTINUES AT A FIRST-CLASS INDUSTRIAL FACILITY IN THE SOUTH OF FRANCE SINCE OCTOBER 2020.

FREE  TECH® x  TechnipFMC

TESTS IN FRANCE (SINCE OCTOBER 2020)

FREE TECH®



SNAPSHOT

FREE TECH®



CREATED AND INCORPORATED IN LUXEMBOURG IN APRIL 2017



CORE MANAGEMENT OWNS MAJORITY OF CAPITAL



MULTIPLE WORLDWIDE PATENTS FOR THE TECHNOLOGY

