
EIC MeBattery Workshop

Experiences in technology transfer in batteries at CIDETEC Energy Storage

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A great technological complex

CIDETEC is an organization for applied research that integrates three international reference institutes in the fields of **Energy Storage**, **Surface Engineering** & **Nanomedicine**.



cidetec >
surface engineering

cidetec >
nanomedicine

cidetec >
energy storage

Index

1.- What we do

2.- How we do it



FROM POWDER TO POWER

**R+D Excellence Centre for Advanced
Battery Technologies**

**Bridging the gap between Research
and Industry**

01

Cell Development

- 1.1 NEW BATTERY TECHNOLOGIES
- 1.2 BATTERY MANUFACTURING
- 1.3 POST-MORTEM ANALYSIS
- 1.4 CELL MODELLING & SIMULATION

02

Battery Systems

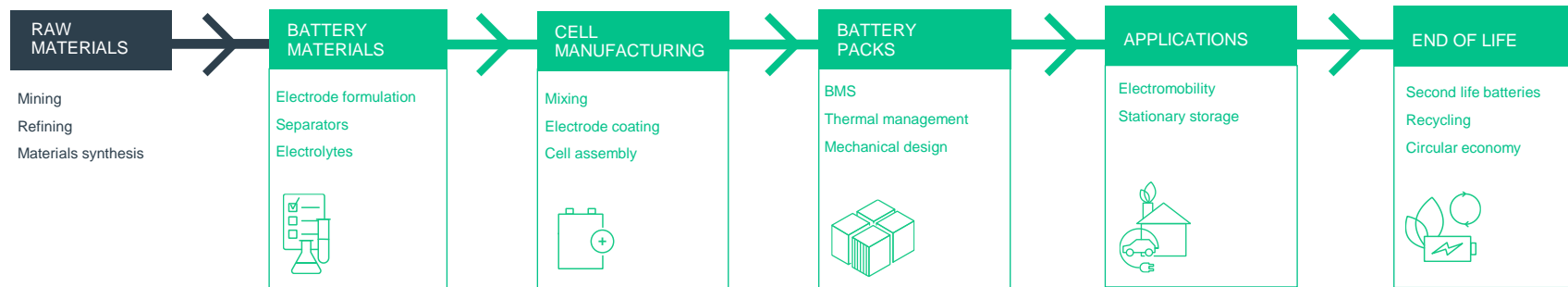
- 2.1 MODULE AND PACK
ENGINEERING
- 2.2 STATIONARY ENERGY
STORAGE SOLUTIONS
- 2.3 BATTERY DIGITAL TWINS &
DIAGNOSTICS
- 2.4 BATTERY TESTING

03

Hydrogen

- 3.1 HYDROGEN PRODUCTION
- 3.2 HYDROGEN
TRANSPORT & STORAGE
- 3.3 HYDROGEN USES

Batteries Value Chain



Customer profile



BATTERY MATERIALS
INDUSTRY



BATTERY CELL
MANUFACTURERS

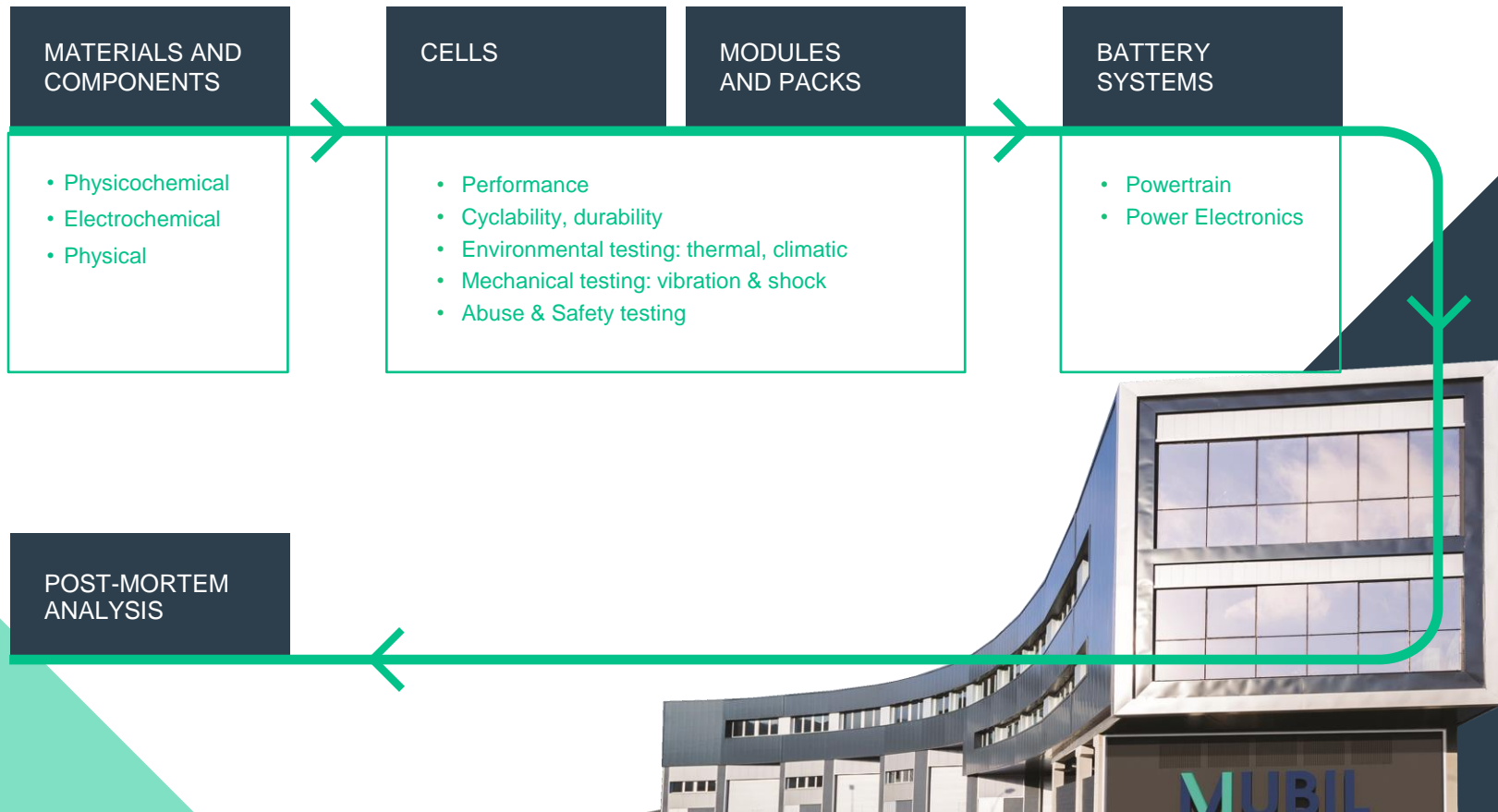


AUTOMOTIVE OEMS



ENERGY COMPANIES

Battery testing through the value chain



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✓ **What we do**

2.- How we do it

1.- Our approach to Bridging the gap between Research and Industry

Internal strategic thinking

OUR TARGET MARKETS

- Market needs analysis
- Policy developments
- Specific company/sector needs

OUR TECHNOLOGICAL AND SPECIALIZATION PLAN

- Prioritization of core technologies
- Identification of research lines
- Strategic investment needs



Our storytelling

OUR TECHNOLOGICAL OFFER

1. New Battery Technologies Development
2. Battery Manufacturing
3. Battery Engineering
4. Energy Storage Solutions
5. Battery Digitalization
6. Battery Testing

&

OUR VALUES





2.- How we create value for our customers and partners

TOOLS TO DELIVER VALUE

- Sort-term projects (months)
- Mid-term projects (<year)
- Longer projects (>year)
- Framework Collaboration Agreement (years)

OUR TECHNOLOGICAL OFFER

1. New Battery Technologies Development
2. Battery Manufacturing
3. Battery Engineering
4. Energy Storage Solutions
5. Battery Digitalization
6. Battery Testing



Services

Benchmarking

Development

Research

Cost

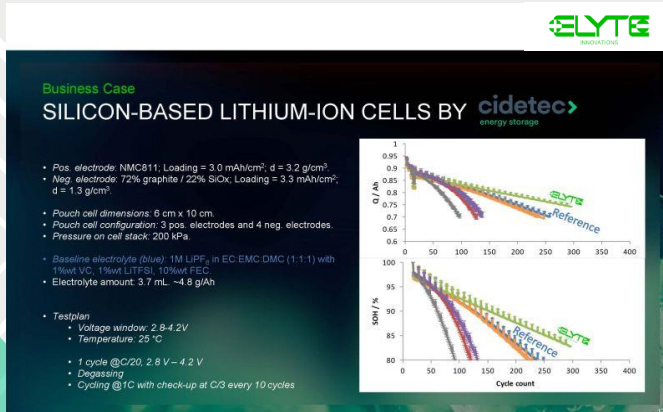
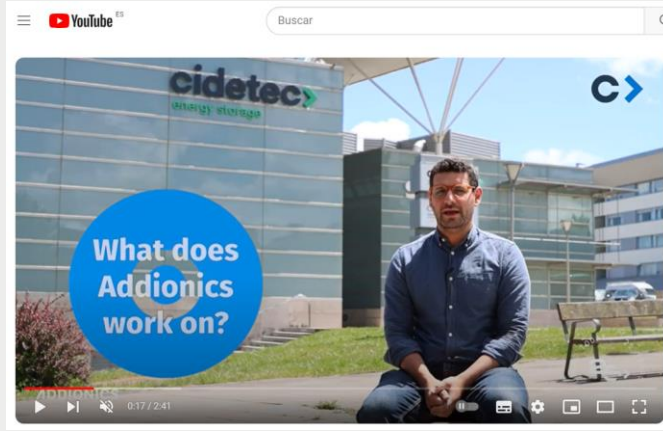
Project Timeline

Property of results,
IPR management

Mutual engagement



Some success stories



SUCCESS STORY

CIDETEC Energy Storage has worked alongside IBIL and REPSOL in energy design, sizing and commissioning of the first national charging station for electric cars with backup battery, a pioneering initiative in Europe.

The first prototype, which is now 100% operational and open to the public, can be found in a Repsol service station on the N-I road in Gipuzkoa.

The first nationwide electric vehicle charging station with energy storage.



Collaboration with:





SUCCESS STORY

CIDETEC Energy Storage is IRIZAR Group's technology partner for the design, prototyping and certification of all proprietary battery packs assembled and installed by IRIZAR in its range of e-buses and other electric and hybrid vehicles.

The vehicles in the ie bus, ie truck and ie tram ranges, are now in operation in several European cities with IRIZAR/CIDETEC battery technology.



Pioneers in proprietary battery packs.



ie bus
ie truck
ie tram



CIDCell

CIDCell produces customized electrodes and cells, adapted to the most demanding customer needs.

We offer swift and flexible services, aimed at niche battery markets, backed by one of the main battery R&D centers in Europe.

Production capacity **10** MWh/
per year

Cell capacity **1 to 100** Ah

Electrodes per day **500** m²

ELECTRODES

Anode



CHEMISTRIES:

- Graphite
- LTO
- Si/C
- Others

Cathode



CHEMISTRIES:

- NCA
- NMC 811
- NMC 9XX
- LFP / LMFP
- Others

Maximum
width
300 mm

TECHNOLOGIES



Advanced Li ion



Solid State Batteries



Lithium Sulphur

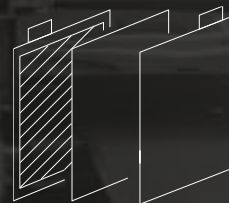


Na ion



Ultracapacitors

CELLS



HIGH-PERFORMANCE CELLS

VARIOUS SIZES

CHOICE OF MATERIALS



Format
60 x 100
mm



Format
160 x 230
mm



Format
**TAILOR
MADE**



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