

## Pilot production lines for the health, transport and industry-EPPN workshop

Venue: Parque Científico y Tecnológico de Gipuzkoa, Paseo Mikeletegi 53  
San Sebastian, SPAIN  
Date: November 5<sup>th</sup> 2019

**cidetec**   
energy storage

# CIDETEC Battery Manufacturing Pilot Line

as a tool for Technology Transference to the  
Energy Storage Industry

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One Organization for applied research,  
three leading Institutes:



cidetec >  
surface engineering

cidetec >  
nanomedicine

cidetec >  
energy storage



## Approach

### Our Mission:

- > Give value to the industry – from short to long term
- > Target oriented approach – product / technology
- > Technology Transference – from the lab to the line



# Bridging the gap between R&D and Industry

Specialists in generation of new battery  
technology and its transference to the  
industry



### 3. Purpose / Features - Our Battery Manufacturing Pilot Line allows us to:

1. Manufacture (Li ion) battery **electrodes and cells**
2. according to state-of-the art **industrial-like techniques**
3. delivering **products in industry-relevant size and formats**
4. Key steps in **continuous/automated** mode
5. supported by with **added value knowledge** – water based electrode coating-
6. and **complete side facilities** for testing, characterization, post-mortem, etc.





## CIDETEC Battery Manufacturing Pilot Line

### What it is FOR:

- Battery Materials Validation
- Electrode and Cell technology development
- Production of cell batches / long electrode rolls
- Alternative, post-Li ion sample electrode manufacturing



### What it is NOT for:

- Materials production / battery pack assembly
- Full process optimization
- Series production of cells / electrodes

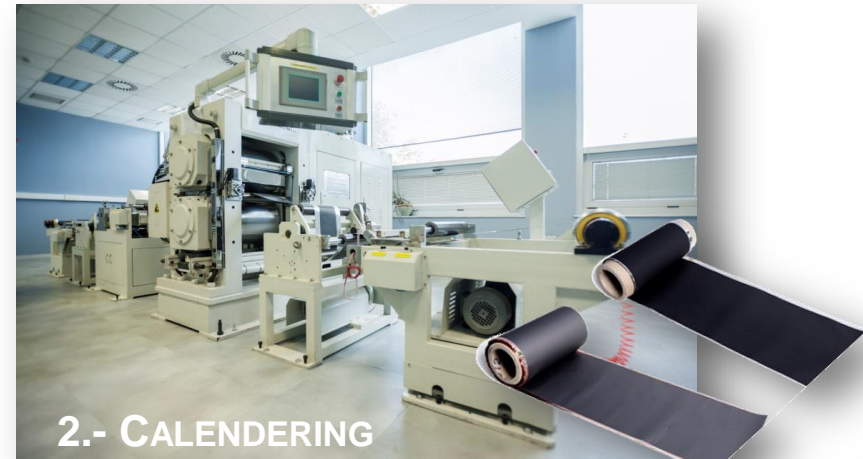


→ Next slides: a visual tour through its main components





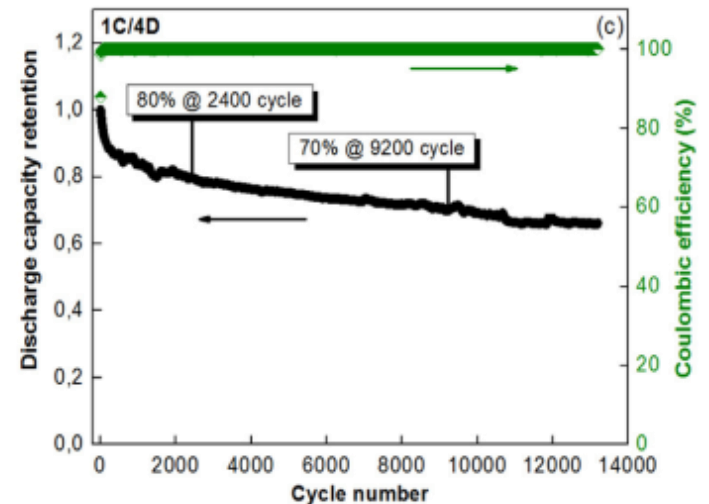
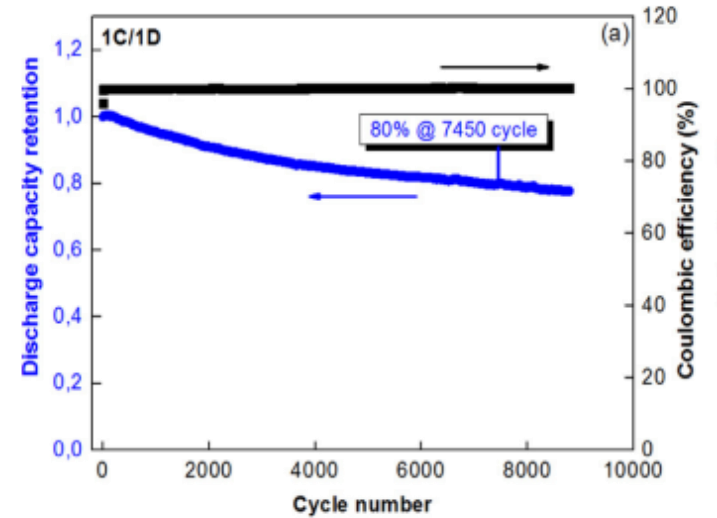
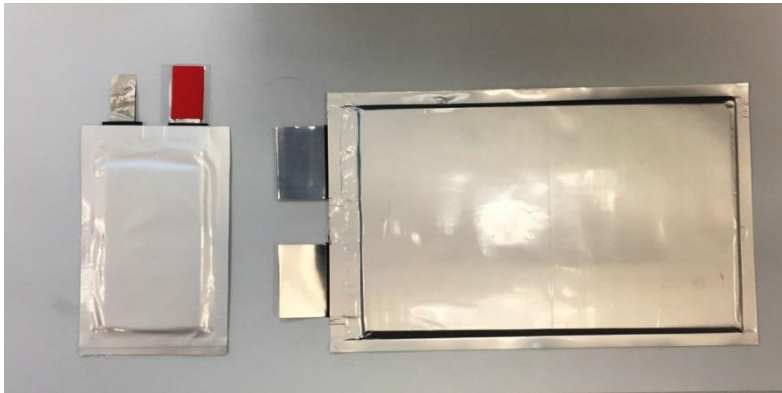
## CIDETEC Battery Manufacturing Pilot Line





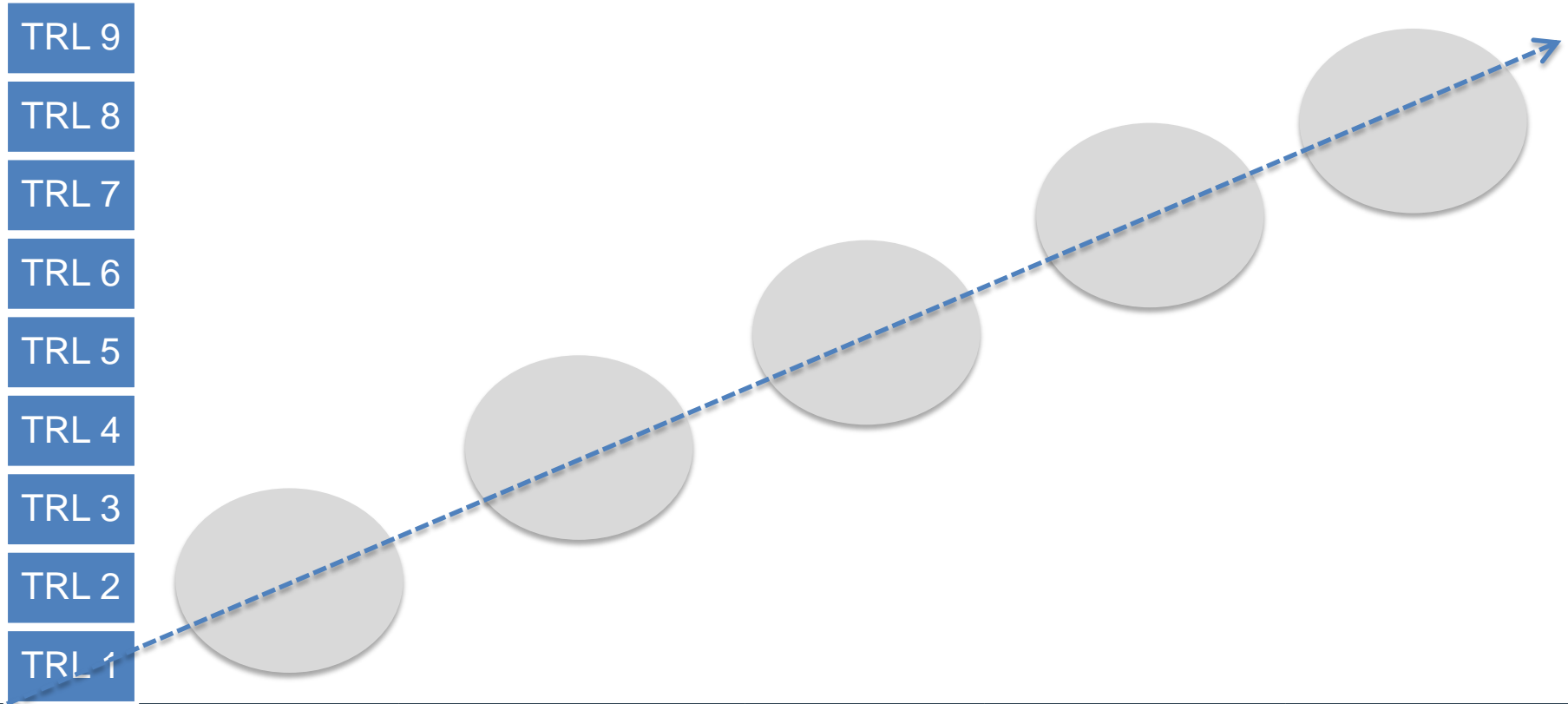
# CIDETEC Battery Manufacturing Pilot Line

- Products & Some validation results





General Value Chain – a *wrong* common thinking



**Materials &  
New Battery  
Technologies**



**Cell  
prototyping &  
validation**



**Modelling**



**Battery Packs**


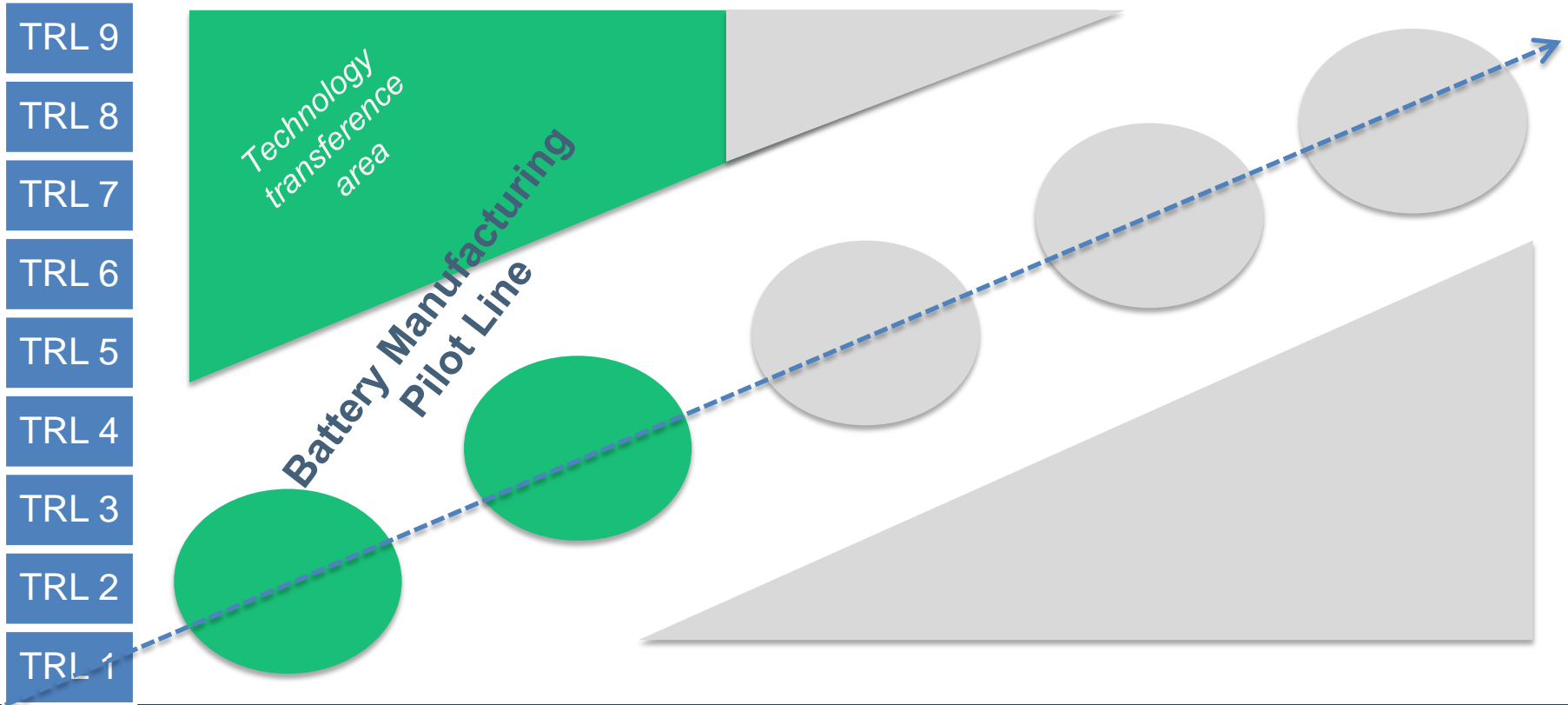


**Applications:  
eMobility  
& Energy**





## Our General Value Chain



Materials &  
New Battery  
Technologies

Cell  
prototyping &  
validation

Modelling

Battery Packs

Applications:  
eMobility  
& Energy



## 5. EU funded projects as a innovation tool through the value chain (FP7...H2020)



Coordinated

finished

Advanced Li ion

Post Li ion

Beyond Li



*(Plus 5 new projects from LC-BAT-2019 calls)*



# Li-PLANET

## LI-ION CELL PILOT LINES NETWORK

Acronym: LiPLANET | Coordination and Support Action

PARTICIPANT NO	PARTICIPANT ORGANIZATION NAME	COUNTRY
1 (coordinator)	Technische Universität Braunschweig (TUBS)	Germany
2	Commissariat à l'énergie atomique et aux énergies alternatives (CEA)	France
3	Austrian Institute of Technology (AIT)	Austria
4	Fundación CIDETEC (CIDETEC)	Spain
5	Avesta Battery & Energy Engineering (ABEE)	Belgium
6	Energy Materials Industrial Research Initiative (EMIRI)	Belgium
7	KIC InnoEnergy SE (INNOENERGY)	Netherlands
8	VDI/VDE Innovation + Technik (VDI/VDE-IT)	Germany

*(starting January 2020)*

### **LC-BAT-7-2019: “Network of Li-ion cell pilot lines” call:**

- Support the market access of EU cell production companies...
- Standardized data exchange platform ... compare qualification method & results matching...
- Models for shared access ... Information security...IPR management
- Workshops, dissemination, training, visibility

# EC strategic initiatives



**Scope**

- TRL 1-3: Long-term research
- TRL 4-6: Short-to-medium term research
- TRL 7-9: Industrialization

**Actors**

- TRL 1-3: BATTERY 2030+
- TRL 4-6: BATTERIES EUROPE
- TRL 7-9: European Battery Alliance

**Roadmap**

- TRL 1-3: A long-term research roadmap (FETPROACT-04-2019 CSA)
- TRL 4-6: SET-Plan
- TRL 7-9: Industrial roadmaps

## ✓ Our position:

Coord. Roadmap Chapter  
“Battery Design & Manufacturing”



(member)

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[www.cidetec.es](http://www.cidetec.es)

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