



European Battery Alliance: New Business Opportunities for Spain and Portugal

Mikel Lasa – Sevilla, 18/11/2019

- 1. Introducing InnoEnergy**
- 2. Battery market**
- 3. Resources & industrial capabilities in Iberia**
- 4. What is it needed to capture this opportunity?**
- 5. Some Iberian industrial initiatives across the battery value chain**
- 6. How can European Battery Alliance & InnoEnergy support?**

An aerial photograph of a dense green forest. A light-colored, circular path or clearing is visible in the center of the image, surrounded by thick trees. The text is overlaid on this central area.

We are the largest Innovation Ecosystem &
Accelerator for Sustainable Energy in Europe

+400 partners

+24 countries

We offer a complete package of solutions to support
Innovation at every stage of the journey

Investing ~100M€/year in people and innovative
businesses

Appointed by the Commission to coordinate European
Battery Alliance Industry Initiative – EBA@250

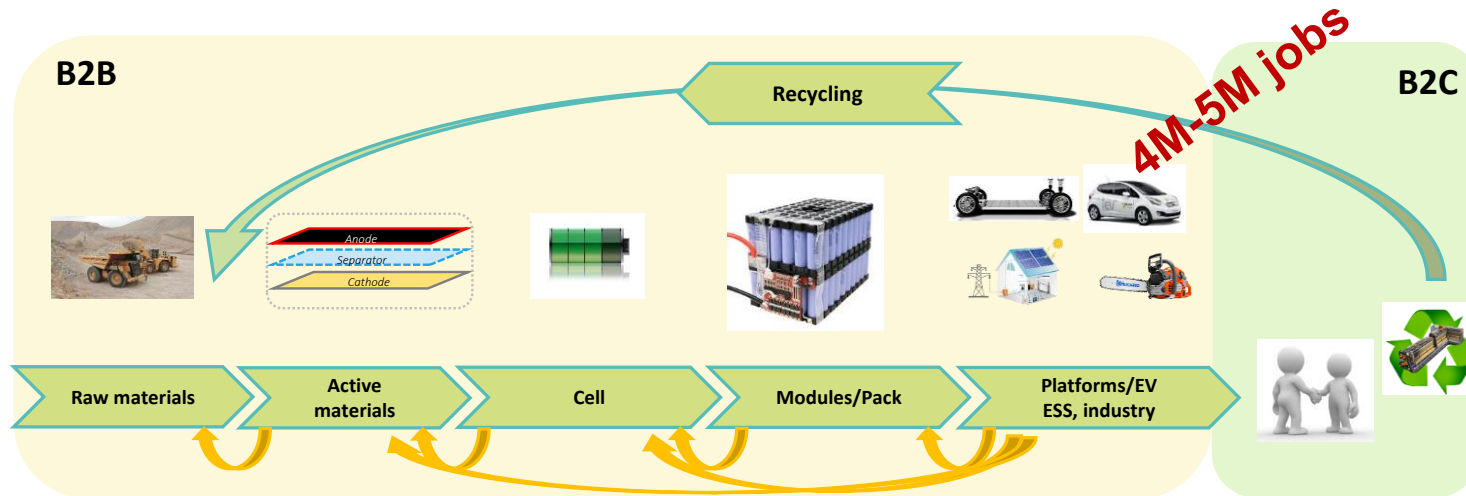
Europe becoming the *fast follower* in batteries

www.innoenergy.com



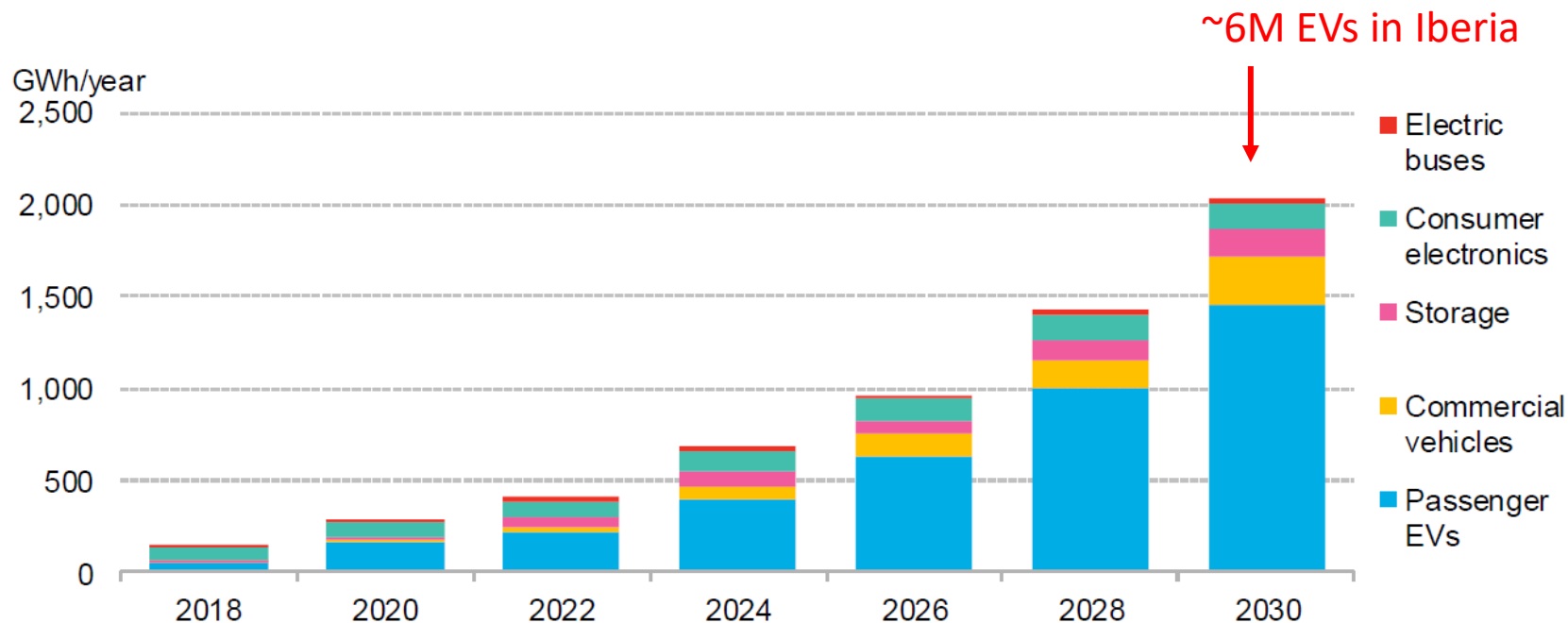
Europe can capture a new market worth 250 b€/year in 2025, if:

- we act **quickly**,
- with a **value chain** approach
- in a **multidimensional** way (technology, market, supply chain, talent, regulation, finance, society, ...)



- Launch of EBA in October 2017.
- In 2018 InnoEnergy appointed to lead the industrial initiative within EBA

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Source: BloombergNEF

Current and Planned Offering by OEMs

www.innoenergy.com

Aston Martin Rapide	320 km	2019
Aston Martin DBX		
Audi A3 e-tron		2021
Audi A9	500km	2020
Audi e-tron Quattro (Audi Q6)	500 km	2018
Audi Q4 e-tron	450 km	
Audi Q5 e-tron		
Audi Q7 e-tron		2017
Audi Q8 e-tron	450 km	2017
Bentley Barnato		2019
BMW 3 eDrive Sport	480 km	2020
BMW i3 V.3	450 km	2018
BMW i3S		2018
BMW i5	300 km	2018
BMW iNext		2020
BMW X3 eDrive		2019
Citroën C3		2024
Citroën C4		2021
Citroën C4 Cactus		2020
Citroën DS (Kompaktsuv, B-seg.)		2019
Citroën DS 4		2020
Citroën DS 7		2024
Citroën E-Mehari	200 km	2017
e-GO Life	140 km	2018
Ford (SUV)	500 km	2020
Ford Focus Electric v.2	225 km	2017
Honda Clarity	130 km	2017
Hyundai	400 km	2020
Hyundai Ioniq v.2	320 km	2018
Hyundai Kona	500 km	2018
Jaguar I-Pace	500 km	2018
Kia Niro	280 km	2018
Kia Soul 2.0	250 km	2018
Maserati Alfieri		2020
Mazda		2019
Mercedes-Benz C-klass		2020
Mercedes-Benz ELC		2018
Mercedes-Benz EQ	500 km	2019
Mercedes-Benz EQ A		2020
Mercedes-Benz EQ E (sedan)		2021
Mercedes-Benz EQ E (SUV)		2022



84 models
All in 2019 – 2021
Most 300km+ range



Mercedes-Benz EQ S (sedan)		2021
Mercedes-Benz EQ S (SUV)		2022
Mercedes-Benz GLA		2020
Mercedes-Benz S-klass		2020
Mini		2019
Mitsubishi eX	400 km	2020
Nissan (SUV)		2021
Nissan Leaf IDS	500 km	2018
Nissan Leaf v.4	350 km	2017
Opel Ampera-e	520 km	2017
Peugeot (SUV B-seg.)		2020
Peugeot (SUV, C-seg.)		2022
Peugeot 2008		2019
Peugeot 208	450 km	2019
Peugeot 308		2021
Porsche Macan		2022
Porsche Mission E	500 km	2020
Renault (SUV)		2022
Renault Kangoo v.2	270 km	2017
Renault Master Z.E	200 km	
Renault Zoe V.3		2020
Seat (SUV)		2020
Seat Cupra		2019
Seat e-Mii		2019
Skoda (SUV)	500 km	2020
Skoda Citigo	200 km	2019
Skoda Felicia E		2021
Smart Forfour	155 km	2017
Smart Fortwo	160 km	2017
Smart Fortwo Cabrio	155 km	2017
Subaru (SUV)		2021
Tesla Model 3	350-500 km	2017
Tesla Model Y		2019
Tesla Roadster V.2		
Uniti	150/300km	2019
Volkswagen Budd-E	600 km	
Volkswagen I.D	400-600 km	2019
Volkswagen I.D Buzz	600 km	2025
Volkswagen I.D Cross	500 km	2020
Volkswagen Phaeton		2019
Volvo (stora plattan)	500 km	2020
Volvo V40	360 km	2019

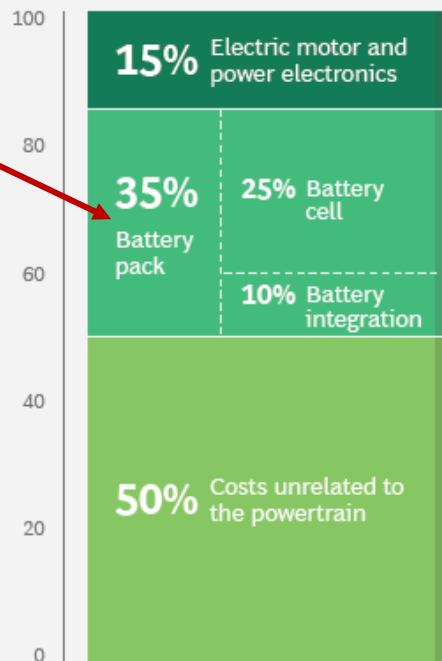
All the big players: VW, Toyota, Daimler, Volvo, Renault, PSA, Ford, 300B€+

BEV vs ICE costs in 2018

www.innoenergy.com

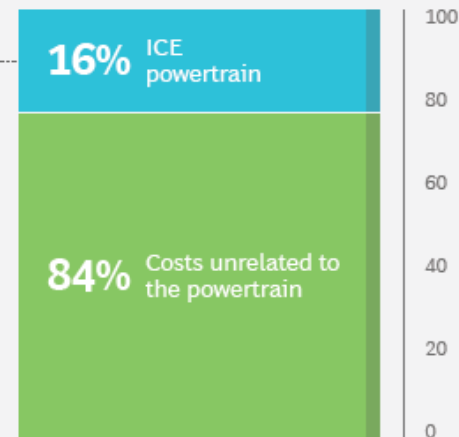
Technology & Business
dominated by Asian players

Total BEV cost, 2018 (%)



Powertrain
accounts for **50%** of
BEV costs versus
16% of ICE
vehicle costs

Total ICE vehicle cost, 2018 (%)



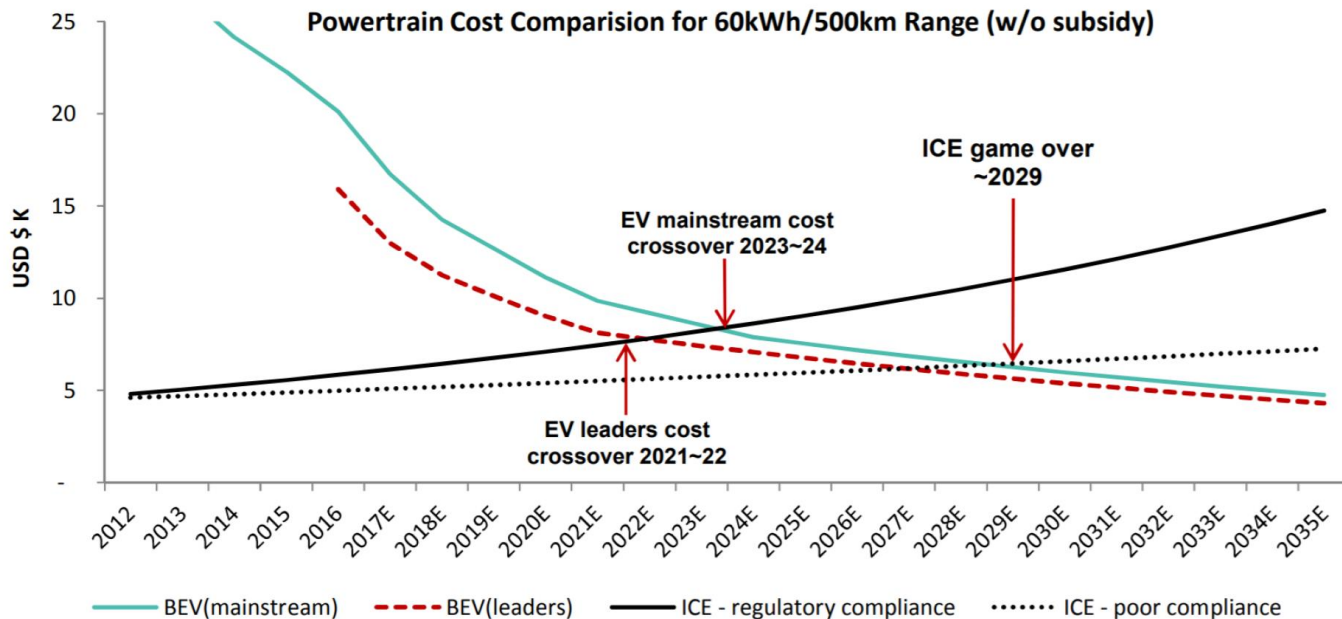
BEV

ICE VEHICLE

Sources: JPMorgan Chase; BCG analysis.

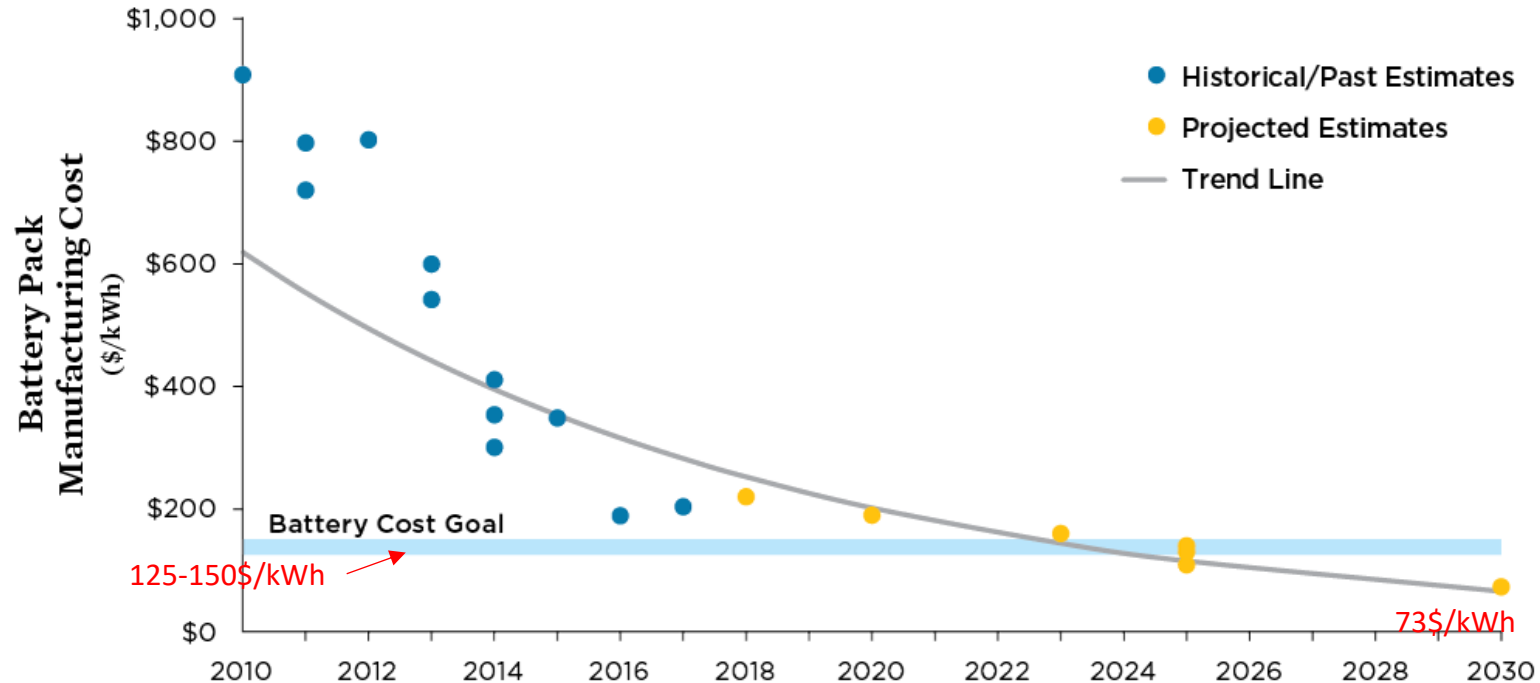
Note: BEV = battery electric vehicle; ICE = internal combustion engine. The electric powertrain consists of the electric motor, power electronics, and battery pack.

Cost of BEV vs ICE



Source: Bernstein estimates and analysis

Manufacturing Costs Are—and Are Expected to Continue—Falling



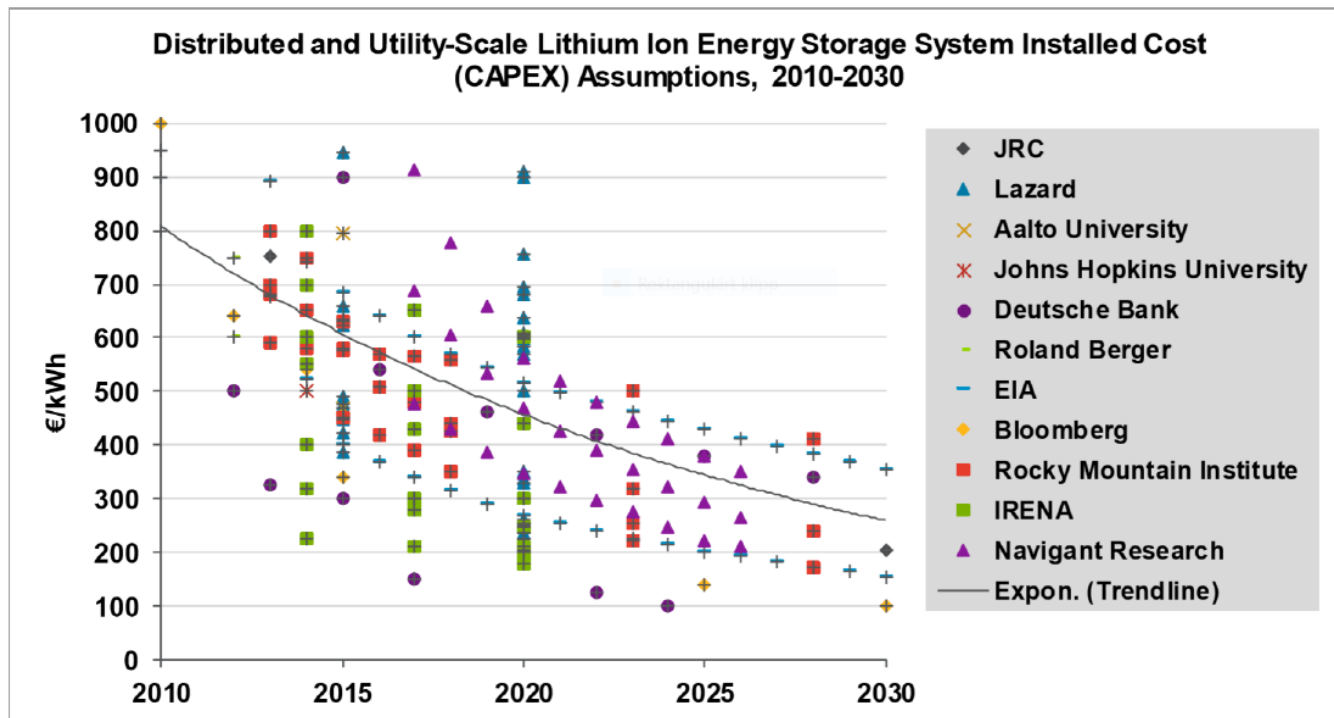


Figure 2. Past and forecasted Lithium-Ion Battery system costs for distributed and utility-scale batteries. Own representation based on [IRENA] [EPRI] [RMI] [Bloomberg] [EIA] [Roland Berger] [Deutsche Bank] [Castillo] [Zakari] [Lazard] [JRC 2014] [Navigant].

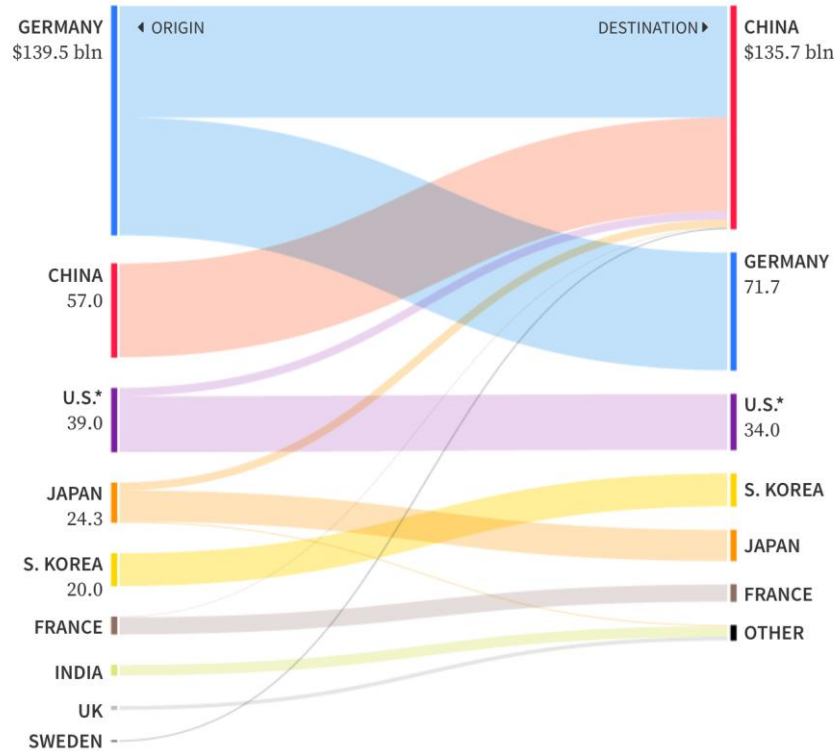
Source: Batstorm 2019

300B\$+ investments committed in the eV industry

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EV INVESTMENT FLOWS BY COUNTRY OF ORIGIN OF AUTOMAKER

In billions of dollars



*U.S. includes Fiat Chrysler.

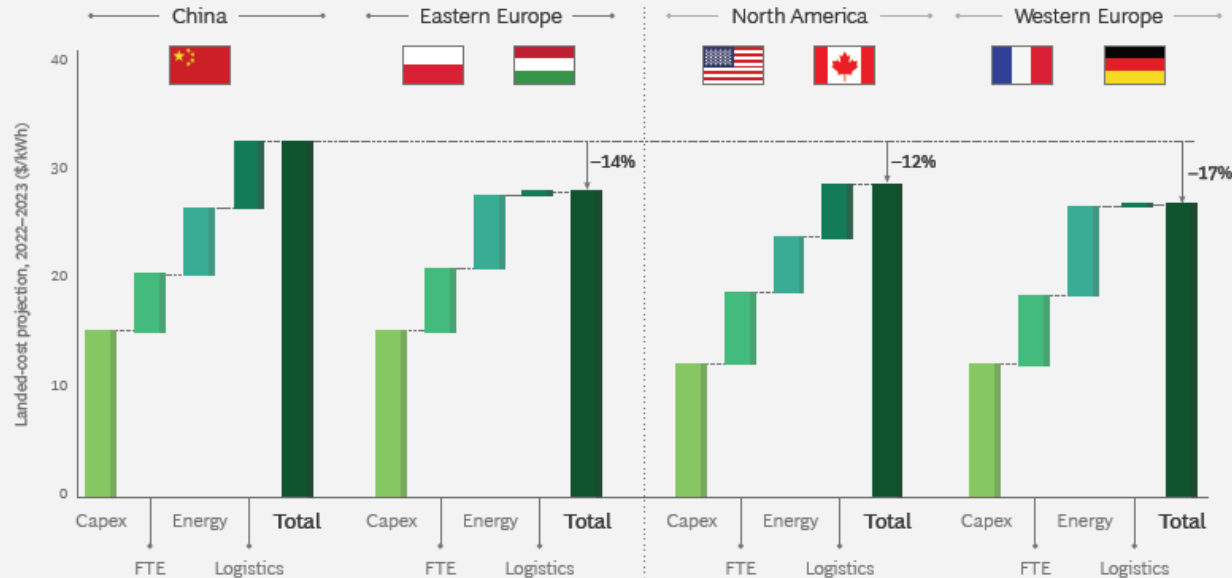
Reuters, January 2019

The Economics of Manufacturing in Europe vs China

www.innoenergy.com

Traditional cell production

Factory of the future



Source: BCG analysis.

Note: FTE = full-time equivalent. Battery cell costs exclude the cost of materials. In all cases, logistics costs are projected for delivering battery cells to a German automotive plant.

Key Success Factors:

- Automation
- Low cost of energy
- Affordable raw materials
- Logistics

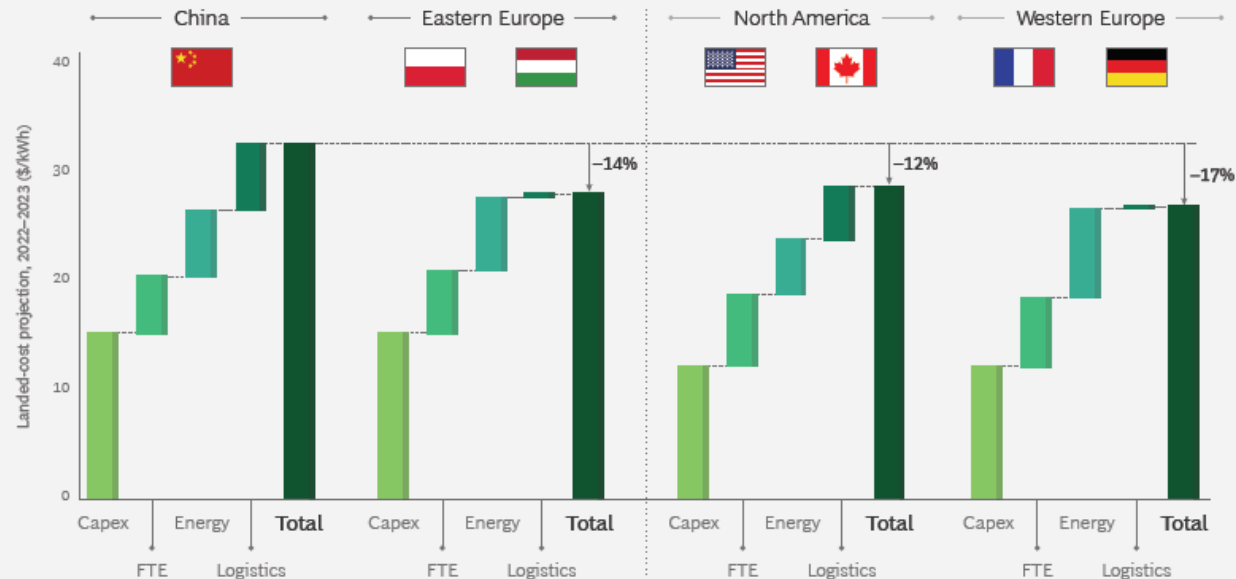


The Economics of Manufacturing in Europe vs China

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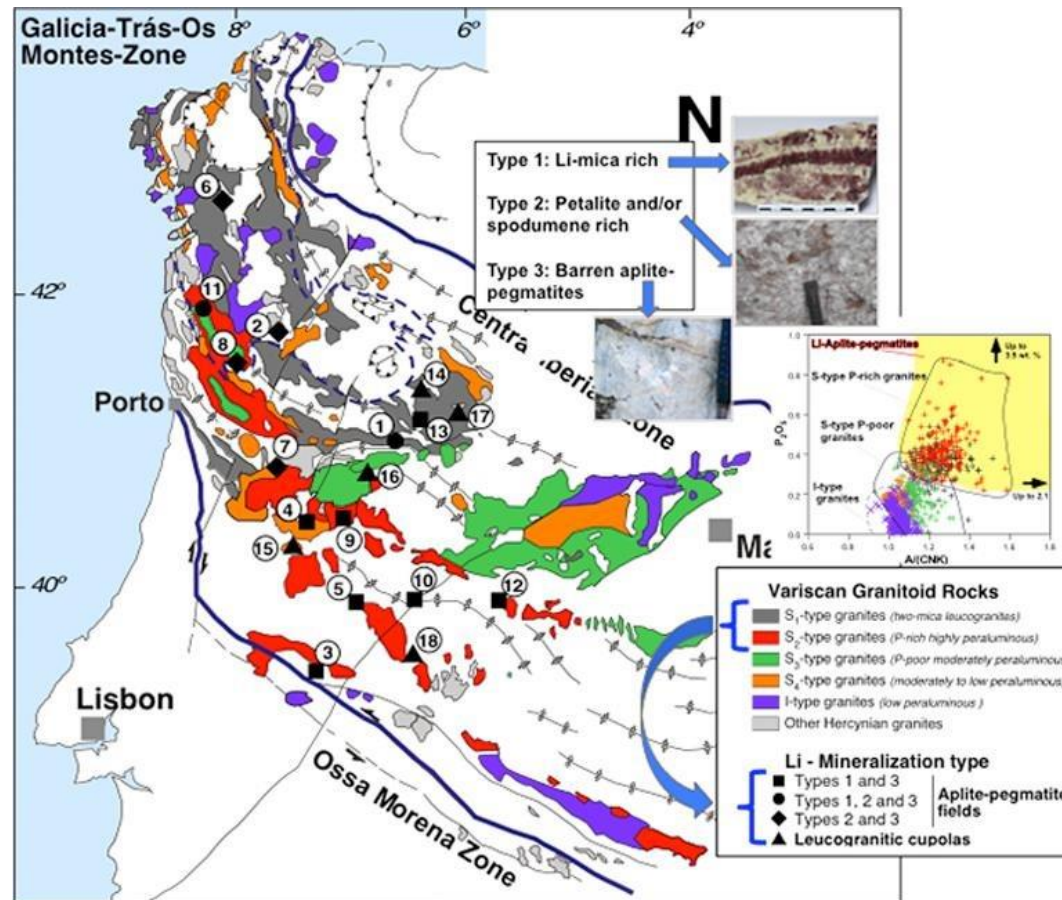
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Key Success Factors

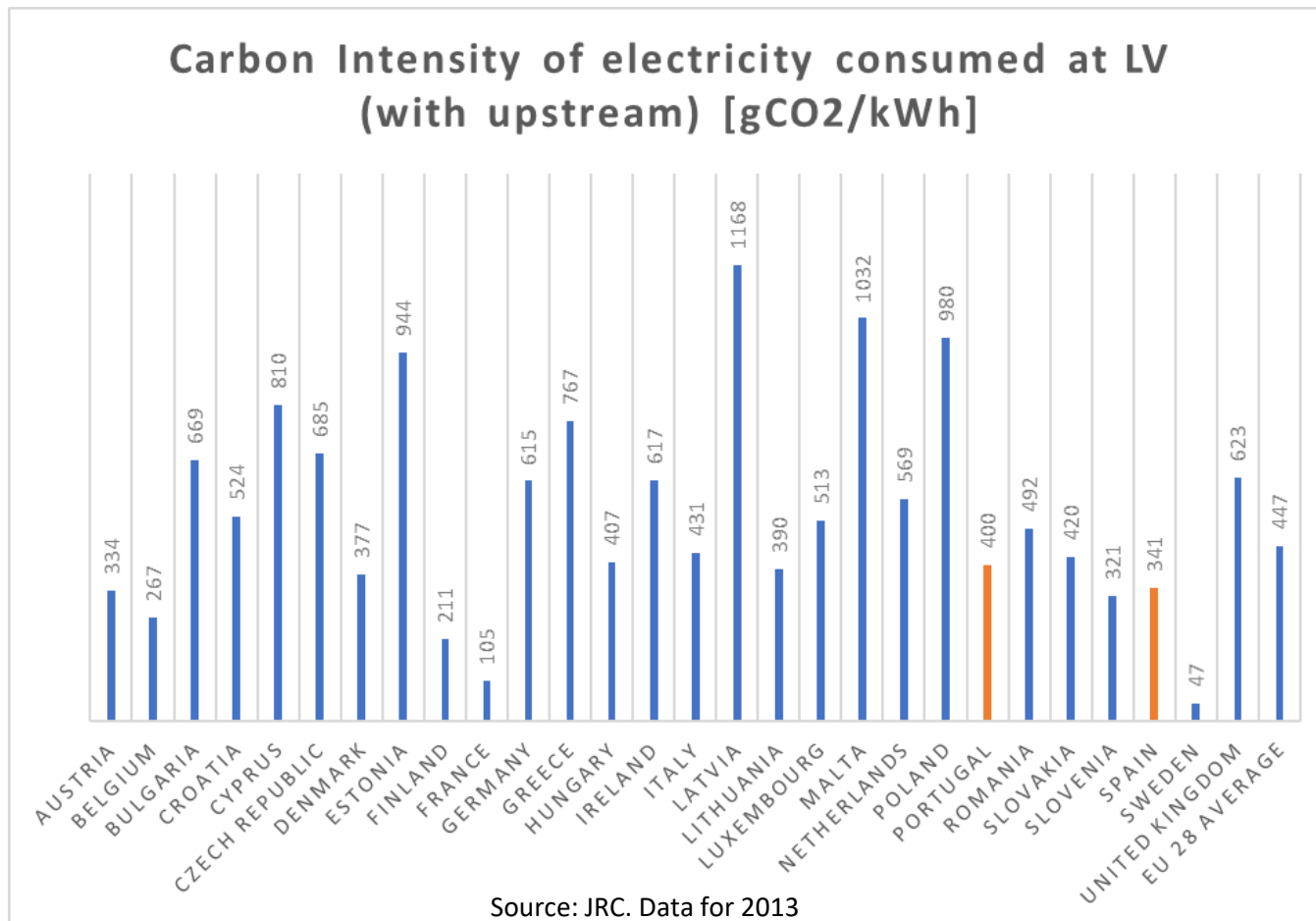
- Automation
- Low cost of energy
- Affordable raw materials
- Logistics
- Low Carbon Footprint

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Blessed with some of the best natural resources for renewable, carbon-free energy generation in Europe!



SPAIN

Tabla 1.1. Evolución de la potencia instalada de energía eléctrica (MW)

Parque de generación del Escenario Objetivo (MW)				
Año	2015	2020*	2025*	2030*
Eólica	22.925	27.968	40.258	50.258
Solar fotovoltaica	4.854	8.409	23.404	36.882
Solar termoeléctrica	2.300	2.303	4.803	7.303
Hidráulica	14.104	14.109	14.359	14.609
Bombeo Mixto	2.687	2.687	2.687	2.687
Bombeo Puro	3.337	3.337	4.212	6.837
Biogás	223	235	235	235
Geotérmica	0	0	15	30
Energías del mar	0	0	25	50
Biomasa	677	877	1.077	1.677
Carbón	11.311	10.524	4.532	0-1.300
Ciclo combinado	27.531	27.146	27.146	27.146
Cogeneración carbón	44	44	0	0
Cogeneración gas	4.055	4.001	3.373	3.000
Cogeneración productos petrolíferos	585	570	400	230
Fuel/Gas	2.790	2.790	2.441	2.093
Cogeneración renovable	535	491	491	491
Cogeneración con residuos	30	28	28	24
Residuos sólidos urbanos	234	234	234	234
Nuclear	7.399	7.399	7.399	3.181
Total	105.621	113.151	137.117	156.965

*Los datos de 2020, 2025 y 2030 son estimaciones del Escenario Objetivo del PNIEC.

Fuente: Ministerio para la Transición Ecológica, 2019.

~5M EV in Spain by 2030
6GW Storage in Spain for ESS

PORTUGAL

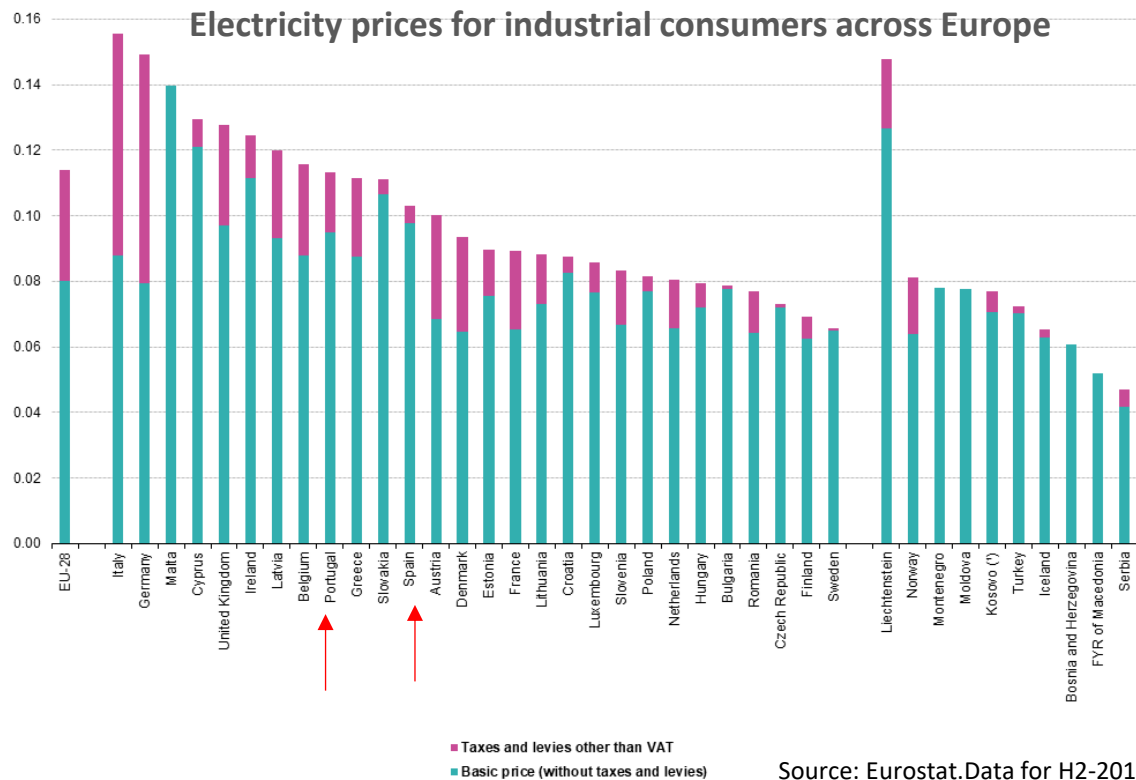
Table 5 - Total effective contribution (installed capacity) of each renewable energy technology in Portugal in the Electricity sector (GW) for the 2030 horizon [Source: DGEG]

	2015	2020	2025		2030	
Hydro	6.0	7.0	8.2		9.0	9.0
Wind	5.0	5.4	6.6	7.8	8.8	9.2
Solar	0.4	1.9	5.5	6.6	8.1	9.9
Other Renewables [1]	0.3	0.5	0.5	0.5	0.7	0.6
TOTAL [2]	11.7	14.7	20.8	23.2	26.6	28.6

[1] Includes Biomass, Biogas, Waste (50% of production via waste is not renewable), Geothermal and Wave

[2] Does not include cogeneration

~1.5M EV in Portugal by 2030



Source: Eurostat.Data for H2-2016

Note: annual consumption: 500 MWh < consumption < 2 000 MWh. Excluding VAT.

(*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

Source: Eurostat (online data code: nrg_pc_205)

2nd largest Light Duty Vehicle manufacturer after Germany: ~3M vehicles/year
~190k direct jobs



Resources & Industrial Capabilities in Iberia

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Resources & Industrial Capabilities in Iberia

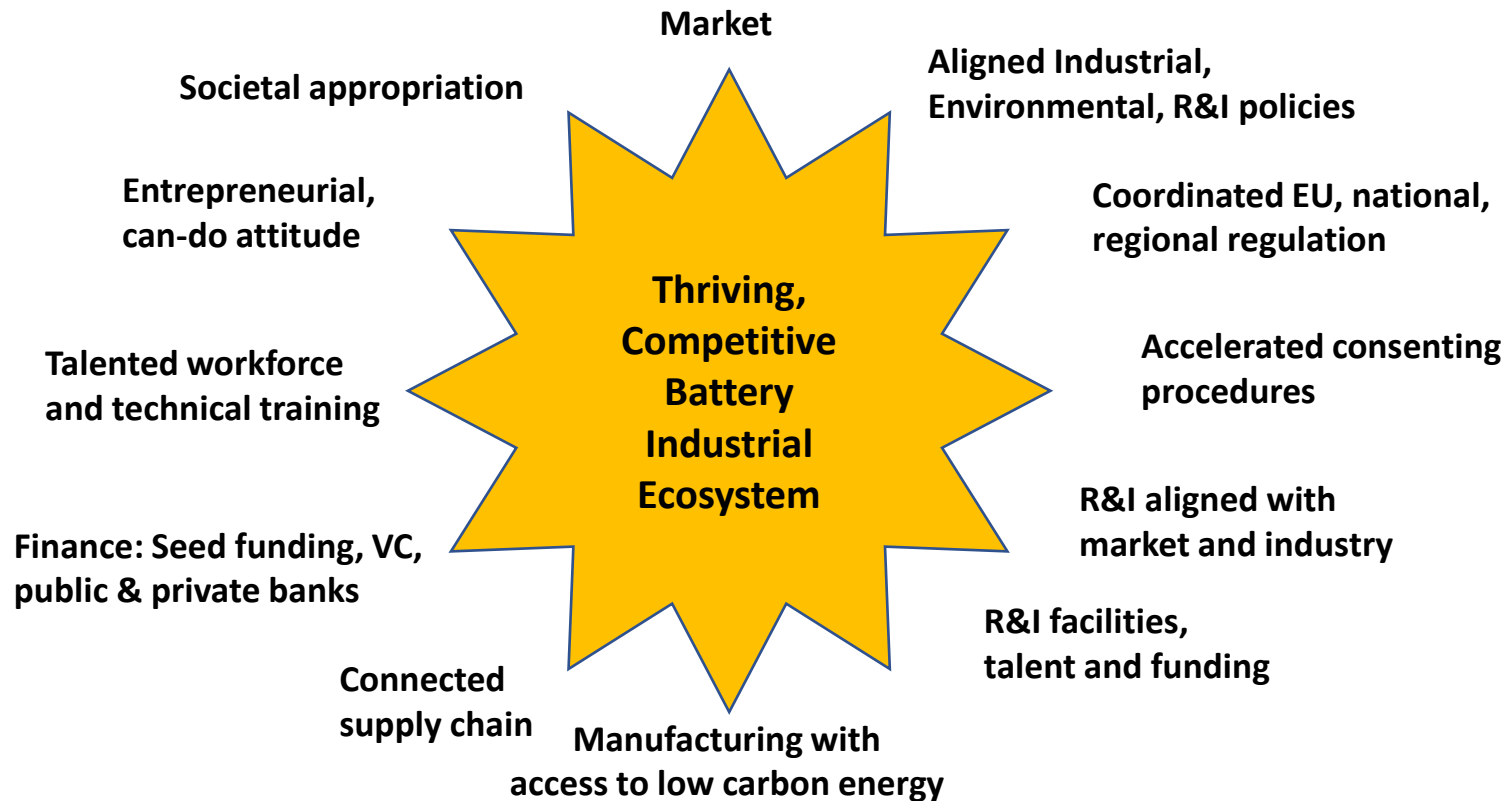
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What is it needed to capture this opportunity?

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... working together across Europe

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Battery Value Chain

www.innoenergy.com

Raw materials

Active Materials

Battery Manufacturing

Machinery

Cells

Packs

Systems

Application & Integration

E-mobility

ESS

Ind. applications

Recycling & 2nd life

EIT Raw Materials	Leading Edge Materials	Nanomakers	Nawa Technologies	Saft	Akasol	Freudenberg	Sonnen	CNH Industrial	BMW	Veolia
Finnish Minerals Group	European Metals Holdings	3M	Grupa Azoty	KLIB	Tata Steel Plating	Manz	ElringKlinger	Volkswagen	Epiroc	Suez
Fin. Network for Sust. Mining	European Copper Institute	Elkem	EMIRI	Northvolt	EM Micro-electronics	MW group	PSA Groupe	VESTAS	Portliner	Revatech
European Lithium	Gov. of Western Australia	Umicore	Ganomat	LION Smart	HE3DA	Thyssen Krupp	Renault SA	RIMAC	Ampere Energy	EBRA
Magnis/Allocate	Fennoscandian Resources	Imerys Graphite & Carbon	Leyden-Jar	LION E-Mobility	EV Battery	PEC	Daimler AG	FCA - EMEA	Cargotec	RECHARGE
Prince Erachem	Infinity Lithium	Solvay		CustomCells	Akkurate	MG Energy	NISSAN Automotive	FIAT	Cummins	Stena metall
Aura Energy	Eramet	LOTOS		EAS Batteries	Delfort	Honeywell	Einride	Centro Ricerche FIAT	Rafako	Stena Recycling International AB
Outotec	DERA	BASF		Terra E	Videoton	ABB	Jaguar Landrover	AmbiBox	ENEL	AkkuSer
Cobalt Institute	Boliden	Arkema		Lithops	EoCell Inc	Coperion	TESLA	Innogy	TERNA	Interseroh
Copperalliance	Cobat	SGL Group		Leclanché	CAEC	NXP Semiconductors	Ford	Red Electrica	EDF	Bee Planet
Keliber	FLSmidth	Heraeus		Liacon	Clean Power Technology	Vaisala	VolvoCars	cyberGRID	ENEDIS	ARN
Albemarle	KGHM	Nanomakers		Electrovaya	Passion Motorbike	Tungstam	Volvo	Albufera Energy Stor	Total	envirobat
EUROMINES		Wacker Chemie		Litarion	Renata Batteries	Gestamp	Continental AG	Streetscooter	Vattenfall	
Trafigura		OXIS Energy		Varta	Dassault Systems	Swatch Group	Bosch	PKN ORLEN	EDP Inovacao	
Rio Tinto		Phillips 66		Hoppecke	Blue Solutions	BMZ	Siemens	AMPS Power	OIG	
GTK		Evonik		Envites Energy	Freyr	Schäffer AG	Stihl	Fortum	CAF	
Crisolteq		Tribotecn		BELENOS			Honda R&D Europe	Nordex	Alpiq	
Aurubis		Höganäs		Forsee Power			Danfoss	TOYOTA Tsusho EU	FPT Powertrain Tech	
		RGS Development		MES			Viessmann	Husqvarna		

Research and associations active in large parts of the value chain

Fraunhofer Inst. Chem. Slovenia	CEA	SINTEF	AIT	VITO	ENEA	AVL ITALIA	CNR	ANIE	Politecnico Milano	CATCH	ECOS
Munster Uni	Innovate UK	Faraday Inst	Uppsala Univ	VUB	CEPS	UTBM	FEMTO	INST. ITALIANO	CIDETEC	SFEM Storg	Not innovated here
smartEN	CIC	TU Braunschweig	Aalto Univ	ERRIN	EASE	EUROBAT	T&E	EUCAR	EGVIA	Federchimica	CEFIC
MCI	DNV GL	TUV SUD	AVL	RISE	ifu	CEFIC	VDMA	VDE	CEN/CENELEC	Instituto Tec Energia	
DENA	Valuad	AVERE	ADS	BVES	A3PS	Zabala	AMMA	TNO	ACEA	VG-Colab	
	GART	Business Finland	VASEK	GigaVaasa	Amiens	Invest in Lithuania	RVO	RSE	CLEPA	CEEP	

Savannah's flagship asset is the Mina Do Barroso lithium Project in Portugal (100% interest)



Western Europe's most significant spodumene lithium discovery with potential for further resource growth



Granted mining lease (valid until 2036, extendable for 20 years)



JORC Resource increased from 3Mt in Dec-17 to 27Mt in May-19 (707kt Lithium carbonate equivalent with 56% in Measured & Indicated categories)



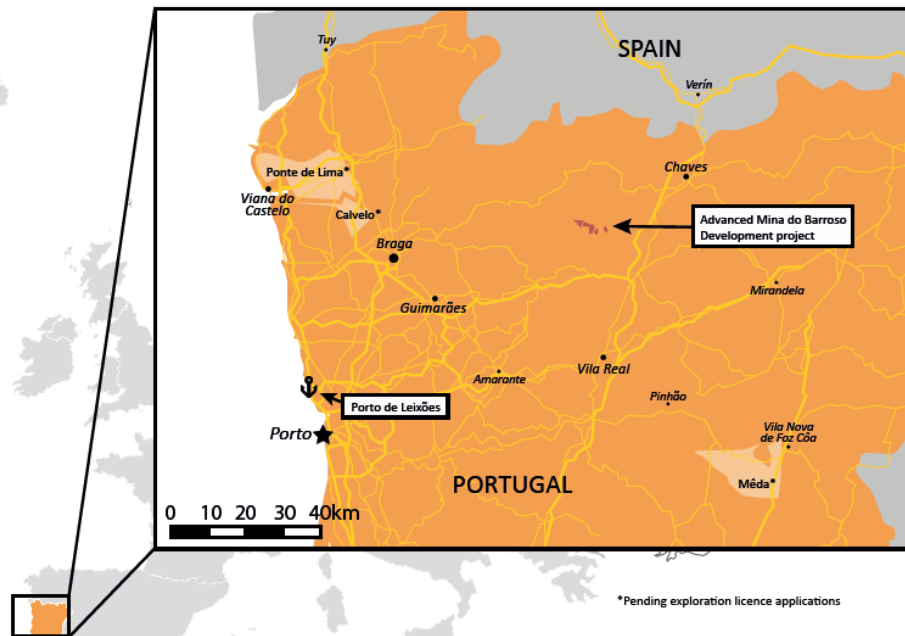
Jun-18 Scoping Study demonstrated robust economics for surface mine & spodumene concentrator operation



Feasibility Study underway and to be completed in 2019. Production targeted for 2020/21



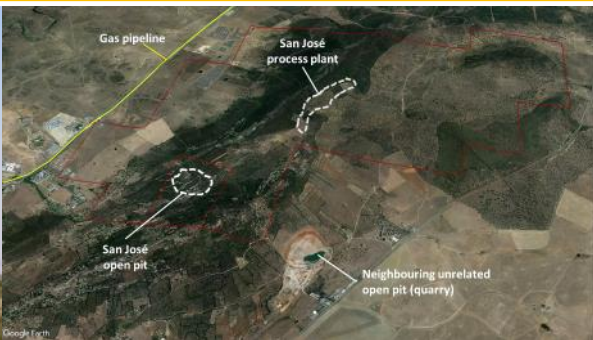
Location benefits: Situated in an EU member state, close to Europe's growing lithium battery markets. Project is less than 2hrs trucking distance from the major industrial port of Leixões



*Pending exploration licence applications

Infinity Lithium San José Project – Li Extraction and Industrial Refining

www.innoenergy.com



Infinity is a **fully integrated** project with a **low carbon footprint** and sustainable operation



Producing **15Kt¹** of **Lithium Hydroxide** per year, able to power >10M Electric Vehicles



30-year production, with total revenues expected to reach **US\$6 Billion**



Creating a new industry for Europe, **generating employment** and supporting the community

Battery Value Chain

www.innoenergy.com

Raw materials

Active Materials

Battery Manufacturing

Application & Integration

Recycling & 2nd life

Machinery

Cells

Packs

Systems

E-mobility

ESS

Ind. applications

EIT Raw Materials	Leading Edge Materials	Nanomakers	Nawa Technologies
Finnish Minerals Group	European Metals Holdings	3M	Grupa Azoty
Fin. Network for Sust. Mining	European Copper Institute	Elkem	EMIRI
European Lithium	Gov. of Western Australia	Umicore	Ganomat
Magnis/Allocate	Fennoscandian Resources	Imerys Graphite & Carbon	Leyden-Jar
Prince Erachem	Infinity Lithium	Solvay	
Aura Energy	Eramet	LOTOS	
Outotec	DERA	BASF	
Cobalt Institute	Boliden	Arkema	
Copperalliance	Cobat	SGL Group	
Keliber	FLSmidth	Heraeus	
Albemarle	KGHM	Nanomakers	
EUROMINES		Wacker Chemie	
Trafigura		OXIS Energy	
Rio Tinto		Phillips 66	
GTK		Evonik	
Crisolteq		Tribotecn	
Aurubis		Höganäs	
		RGS Development	

Saft	Akasol	Freudenberg
KLIB	Tata Steel Plating	Manz
Northvolt	EM Micro-electronics	MW group
LION Smart	HE3DA	Thyssen Krupp
LION E-Mobility	EV Battery	PEC
CustomCells	Akkurate	FAAM FIB srl
EAS Batteries	Delfort	MG Energy
Terra E	Videoton	Honeywell
Lithops	EoCell Inc	ABB
Leclanché	CAEC	Coperion
Liacon	Cleantron	NXP Semiconductors
Electrovaya	Skeleton	Vaisala
Litarion	Clean Power Technology	CEGASA
Varta	Passion Motorbike	Tungstam
Hoppecke	Renata Batteries	Gestamp
Envites Energy	Dassault Systems	Swatch Group
BELENOS	Blue Solutions	BMZ
Forsee Power	Freyr	Schäffer AG
MES		
Innolith		

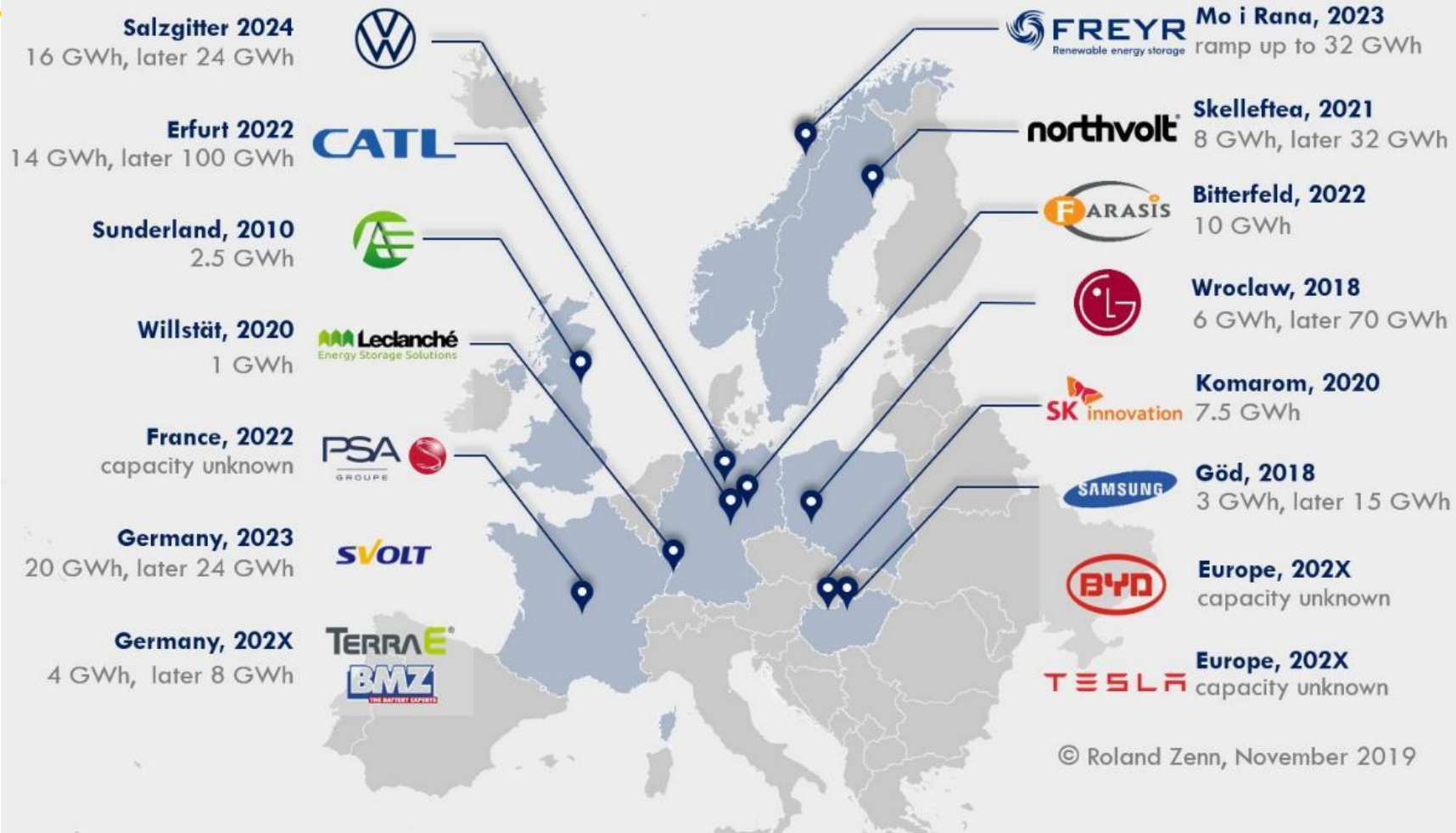
Sonnen	CNH Industrial	BMW
ElringKlinger	Volkswagen	Epiroc
PSA Groupe	VESTAS	Portliner
Renault SA	RIMAC	Ampere Energy
Daimler AG	FCA - EMEA	Cargotec
NISSAN Automotive	FIAT	Cummins
Einride	Centro Ricerche FIAT	Rafako
Jaguar Landrover	AmbiBox	ENEL
TESLA	Innogy	TERNA
Ford	Red Electrica	EDF
VolvoCars	cyberGRID	ENEDIS
Volvo	Albufera Energy Stor	Total
Continental AG	Streetscooter	Vattenfall
Bosch	PKN ORLEN	EDP Inovacao
Siemens	AMPS Power	OIG
Stihl	Fortum	CAF
Honda R&D Europe	Nordex	Alpiq
Danfoss	TOYOTA Tsusho EU	FPT Powertrain Tech
Viessmann	Husqvarna	

Veolia
Suez
Revatech
EBRA
RECHARGE
Stena metall
Stena Recycling International AB
AkkuSer
Interseroh
Bee Planet
ARN
envirobat

Research and associations active in large parts of the value chain

Fraunhofer Inst. Chem. Slovenia	CEA	SINTEF	AIT	VITO	ENEA	AVL ITALIA	CNR	ANIE	Politecnico Milano	CATCH	ECOS
Munster Uni	Innovate UK	Faraday Inst	Uppsala Univ	VUB	CEPS	UTBM	FEMTO	INST. ITALIANO	CIDETEC	SFEM Storg	Not innovated here
smartEN	CIC	TU Braunschweig	Aalto Univ	ERRIN	EASE	EUROBAT	T&E	EUCAR	EGVIA	Federchimica	CEFIC
MCI	DNV GL	TUV SUD	AVL	RISE	ifu	CEFIC	VDMA	VDE	CEN/CENELEC	Instituto Tec Energia	
DENA	Valuad	AVERE	ADS	BVES	A3PS	Zabala	AMMA	TNO	ACEA	VG-Colab	
	GART	Business Finland	VASEK	GigaVaasa	Amiens	Invest in Lithuania	RVO	RSE	CLEPA	CEEP	

Over 300 GWh/a Li-Ion Battery Cell Production Capacity Announced in Europe



Efforts by different stakeholders to **establish gigafactories** in ES & PT

- ES & PT National Governments and Agencies
- Regional Governments
- Local industry from automotive and other sectors
- Foreign incumbents in the battery manufacturing

So far, lack of visibility on OEM plans regarding Iberian plants.

Is this changing for the better?

europapress / economía finanzas

Dos empresas chinas fabricantes de baterías trasladan al Gobierno su interés por el mercado español

Publicado 06/06/2019 19:37:34 CET

El Gobierno ultima la llegada de la china Guoxuan High Tech para que instale una fábrica de baterías en España

Ramón Roca 13/11/19



La producción de vehículos eléctricos se dispara en Nissan Barcelona

La planta de la Zona Franca fabricó más de 5.300 furgonetas e-NV200 entre enero y mayo, un 240% más

El Mercedes EQV eléctrico, de fabricación española, es una de las estrellas del Salón de Fráncfort 2019

PSA fabricará tres vehículos 100% eléctricos en las factorías españolas a partir de 2020

● De esta manera, será el primer fabricante que produzca coches totalmente electrificados en todas sus plantas en España

VOLKSWAGEN

VW Navarra aspira a fabricar coches eléctricos antes de 2030 para garantizar su futuro

El presidente de la empresa, Emilio Sáenz, pretende compatibilizar su producción con vehículos convencionales

Ford creará una nueva planta en Almussafes para ensamblar baterías de vehículos eléctricos

El montaje de baterías para los nuevos Ford Kuga Plug-In Hybrid y Kuga Hybrid, también fabricados en Valencia, comenzará en 2020

J. L. Z. | València | 05.06.2019 | 12:43

AUTOMOCION

Volkswagen deja a Seat Martorell sin fabricar ningún modelo eléctrico hasta 2023

Batteries for collective e-mobility

www.innoenergy.com





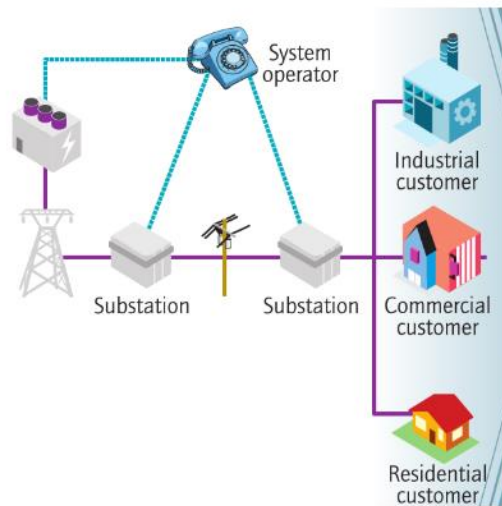
Scoobic concept

- Capilarity: access to sidewalks and pedestrian areas in cities
- Zero emissions and noise
- Removable batteries: range and rechargeability
- IoT: fully connected vehicle and battery management
- Up to 750kg payload

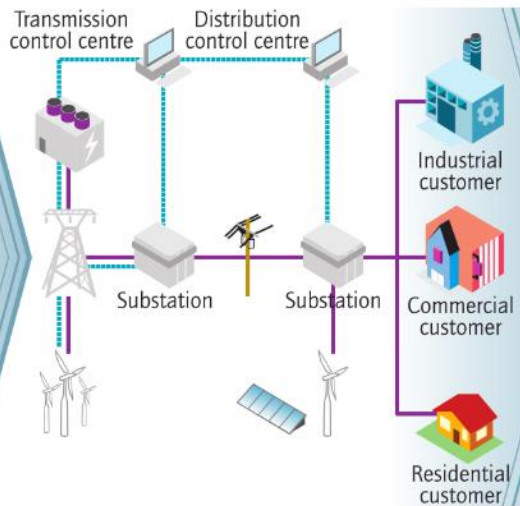
Batteries for ESS

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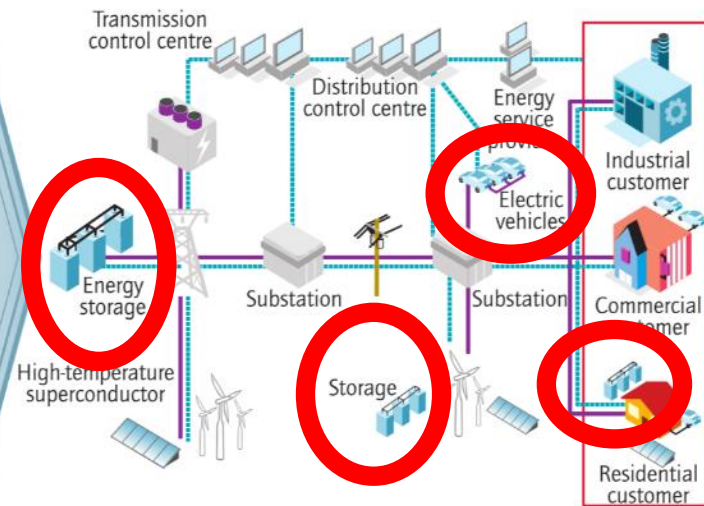
Past



Present



Future



— Electrical infrastructure - - - Communications

galp energia

Naturgy



REN

Ingeteam

velatia



IBERDROLA



SIEMENS Gamesa
RENEWABLE ENERGY

ZIGOR





Conócenos

Productos

Descargas



eBick 180 Pro

Solución modular de almacenamiento de energía entre 9 kWh y 2 MWh



eBick Ultra 100

Preinstalada y autogestionable, la solución lista para usar, aplicable a OFF-GRID, Autoconsumo, y la



eLion

Baterías de tracción para equipos de manejo de materiales y maquinaria de elevación



eNerlit

Completa gama de Baterías para Semitracción, Movilidad y usos genéricos.



eZ8

Pilas industriales de bajo consumo y muy larga duración



Non commercial yet



Battery Value Chain

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Raw materials

Active Materials

Battery Manufacturing

Machinery

Cells

Packs

Systems

Application & Integration

E-mobility

ESS

Ind. applications

Recycling & 2nd life

EIT Raw Materials	Leading Edge Materials	Nanomakers	Nawa Technologies	Saft	Akasol	Freudenberg	Sonnen	CNH Industrial	BMW
Finnish Minerals Group	European Metals Holdings	3M	Grupa Azoty	KLIB	Tata Steel Plating	Manz	ElringKlinger	Volkswagen	Epiroc
Fin. Network for Sust. Mining	European Copper Institute	Elkem	EMIRI	Northvolt	EM Micro-electronics	MW group	PSA Groupe	VESTAS	Portliner
European Lithium	Gov. of Western Australia	Umicore	Ganomat	LION Smart	HE3DA	Thyssen Krupp	Renault SA	RIMAC	Ampere Energy
Magnis/Allocate	Fennoscandian Resources	Imerys Graphite & Carbon	Leyden-Jar	LION E-Mobility	EV Battery	PEC	Daimler AG	FCA - EMEA	Cargotec
Prince Erachem	Infinity Lithium	Solvay		CustomCells	Akkurate	FAAM FIB srl	NISSAN Automotive	FIAT	Cummins
Aura Energy	Eramet	LOTOS		EAS Batteries	Delfort	MG Energy	Einride	Centro Ricerche FIAT	Rafako
Outotec	DERA	BASF		Terra E	Videoton	Honeywell	Jaguar Landrover	AmbiBox	ENEL
Cobalt Institute	Boliden	Arkema		Lithops	EoCell Inc	ABB	TESLA	Innogy	TERNA
Copperalliance	Cobat	SGL Group		Leclanché	CAEC	Coperion	Ford	Red Electrica	EDF
Keliber	FLSmidth	Heraeus		Liacon	Cleantron	NXP Semiconductors	VolvoCars	cyberGRID	ENEDIS
Albemarle	KGHM	Nanomakers		Electrovaya	Skeleton	Vaisala	Volvo	Albufera Energy Stor	Total
EUROMINES		Wacker Chemie		Litarion	Clean Power Technology	CEGASA	Continental AG	Streetscooter	Vattenfall
Trafigura		OXIS Energy		Varta	Passion Motorbike	Tungstam	Bosch	PKN ORLEN	EDP Inovacao
Rio Tinto		Phillips 66		Hoppecke	Renata Batteries	Gestamp	Siemens	AMPS Power	OIG
GTK		Evonik		Envites Energy	Dassault Systems	Swatch Group	Stihl	Fortum	CAF
Crisolteq		Tribotecn		BELENOS	Blue Solutions	BMZ	Honda R&D Europe	Nordex	Alpiq
Aurubis		Höganäs		Forsee Power	MES	Schäffer AG	Danfoss	TOYOTA Tsusho EU	FPT Powertrain Tech
		RGS Development		Innolith	Freyr		Viessmann	Husqvarna	

Veolia
Suez
Revatech
EBRA
RECHARGE
Stena metall
Stena Recycling International AB
AkkuSer
Interseroh
Bee Planet
ARN
envirobat

Research and associations active in large parts of the value chain

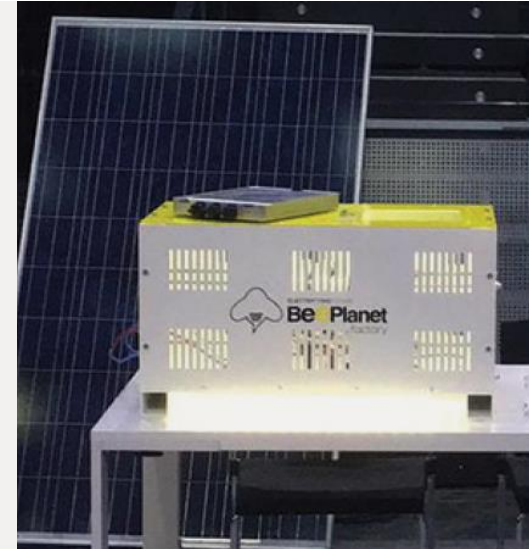
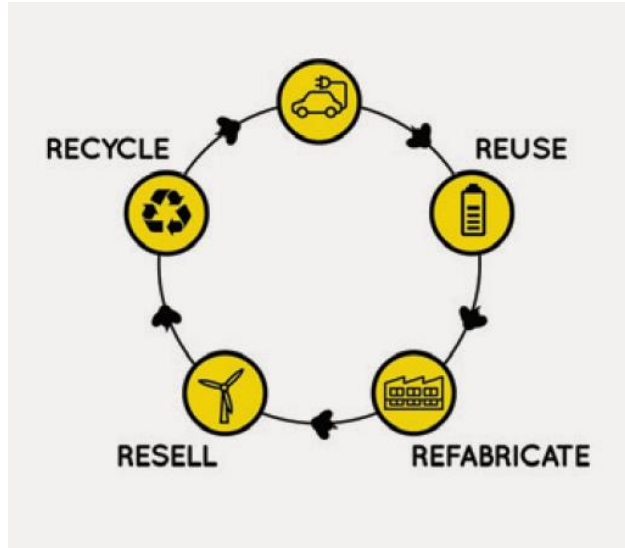
Fraunhofer Inst. Chem. Slovenia	CEA	SINTEF	AIT	VITO	ENEA	AVL ITALIA	CNR	ANIE	Politecnico Milano	CATCH	ECOS
Munster Uni	Innovate UK	Faraday Inst	Uppsala Univ	VUB	CEPS	UTBM	FEMTO	INST. ITALIANO	CIDETEC	SFEM Storg	Not innovated here
smartEN	CIC	TU Braunschweig	Aalto Univ	ERRIN	EASE	EUROBAT	T&E	EUCAR	EGVIA	Federchimica	CEFIC
MCI	DNV GL	TUV SUD	AVL	RISE	ifu	CEFIC	VDMA	VDE	CEN/CENELEC	Instituto Tec Energia	
DENA	Valuad	AVERE	ADS	BVES	A3PS	Zabala	AMMA	TNO	ACEA	VG-Colab	
	GART	Business Finland	VASEK	GigaVaasa	Amiens	Invest in Lithuania	RVO	RSE	CLEPA	CEEP	

Uncertainty about:

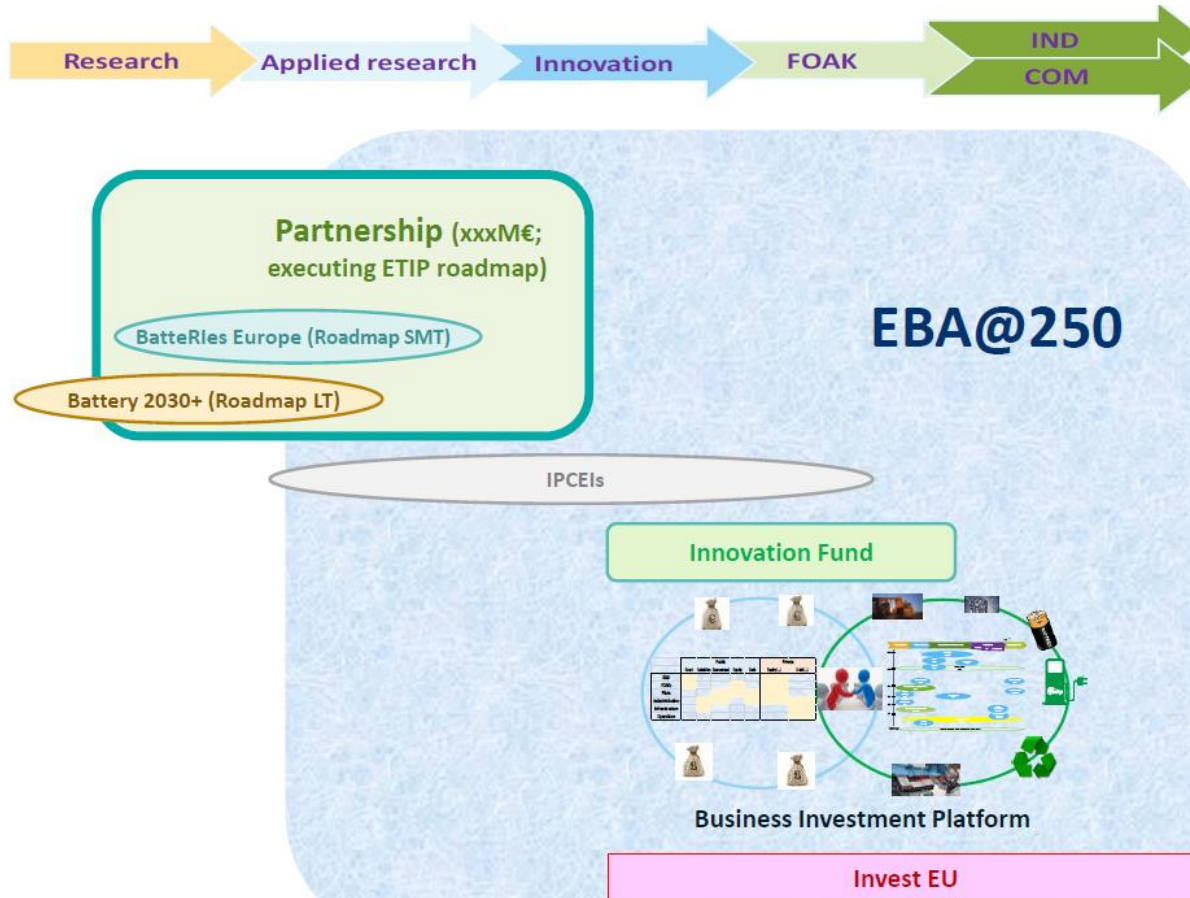
- Regulation
- Logistics
- Costs
- Business models
- ...

First profitable business models for recycling → manufacturing scrap

Still unclear positioning of OEMs in the value chain will be decisive

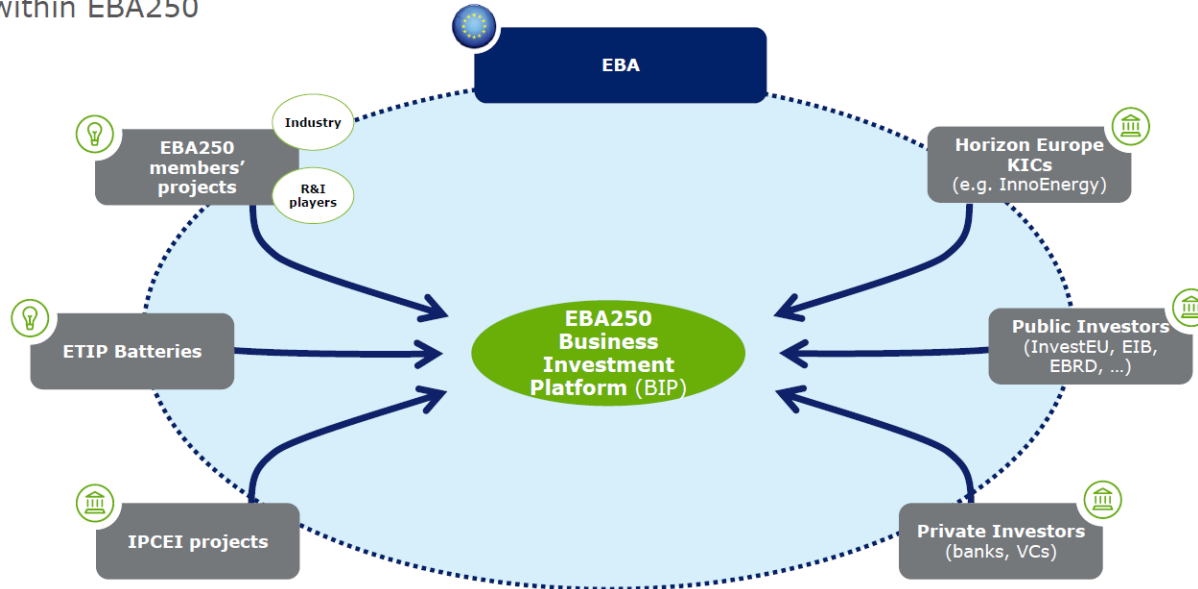


- 1. Introducing InnoEnergy**
- 2. Battery market**
- 3. Resources & industrial capabilities in Iberia**
- 4. What is it needed to capture this opportunity?**
- 5. Some Iberian industrial initiatives across the battery value chain**
- 6. How can European Battery Alliance & InnoEnergy support?**



- A “fit for purpose” business investment platform for **industrial initiatives**
- **One stop shop**: € Supply side meets and transacts € demand side

Overview and strategic fit of the business investment platform (BIP)
within EBA250



70 B€ targeted transactions for the period [2019-2023]

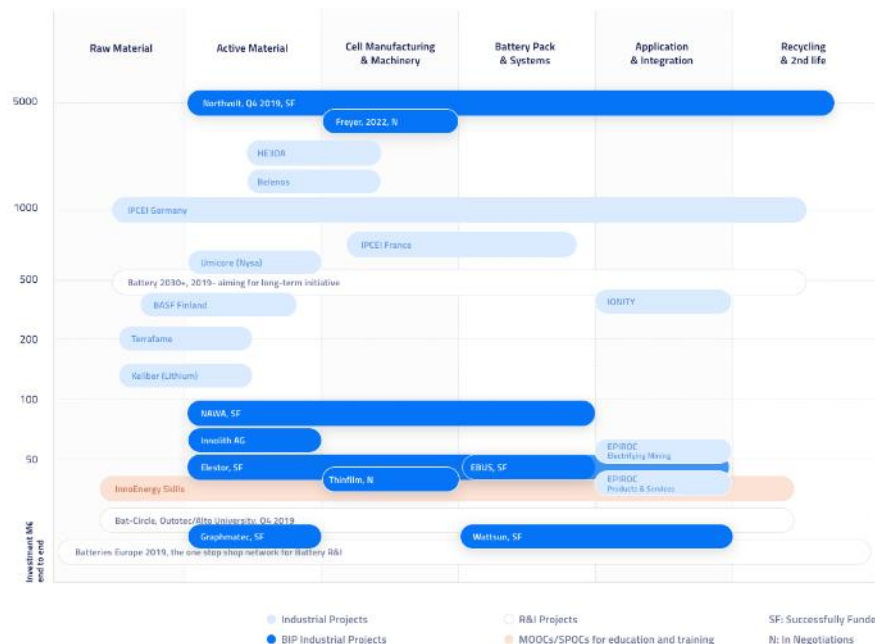
Statement by Vice-President Maroš Šefčovič on the third political meeting under the European Battery Alliance

Brussels, 30 April 2019

By June, our EU accelerator – the EIT InnoEnergy – is setting up together with the EIB support an Investment Platform. This match-making platform should create an additional flow of EUR 70 bn into EU-based projects.

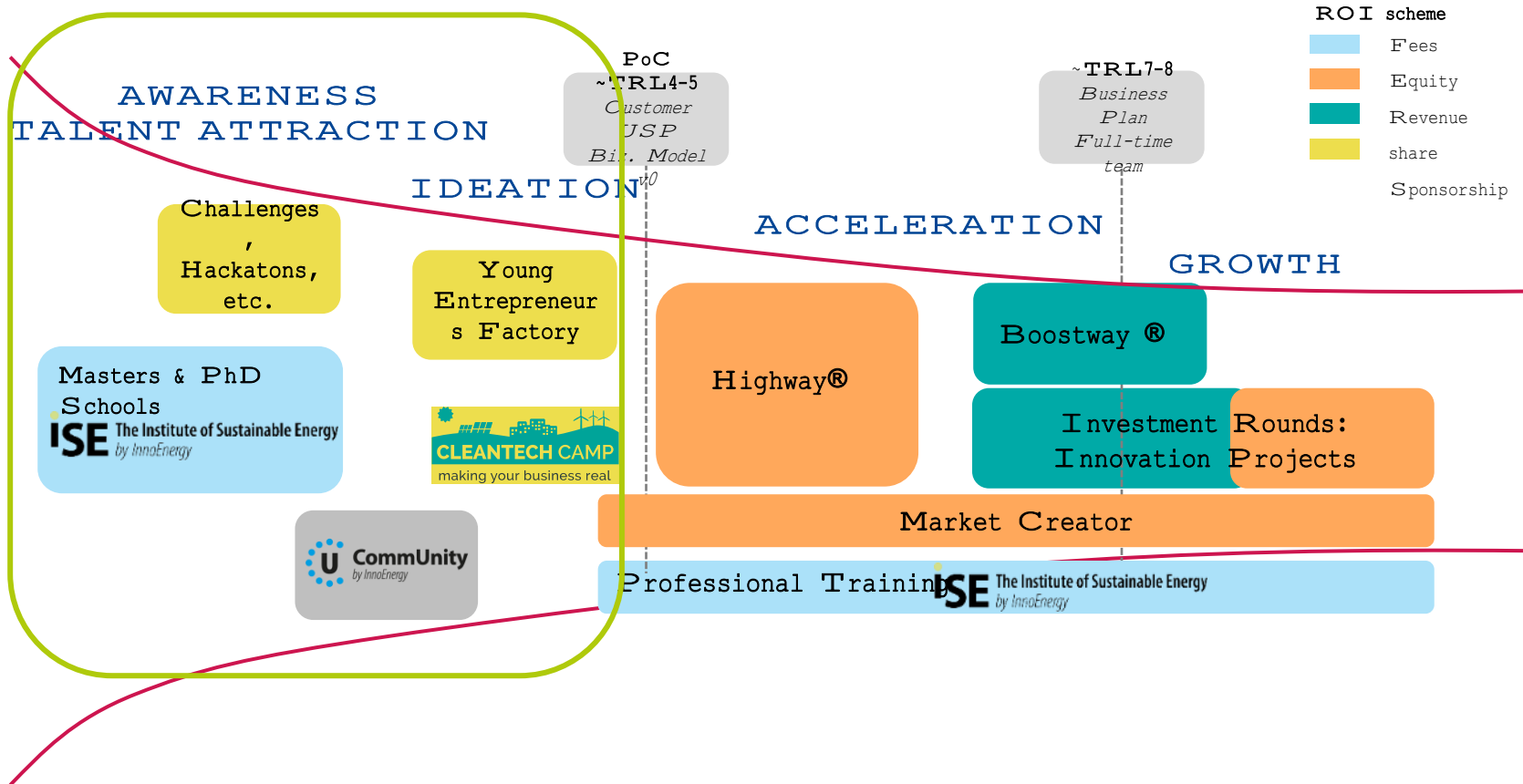
Get ready to join the BIP@EBA

<http://bipeba.com>



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Master's in Energy Storage

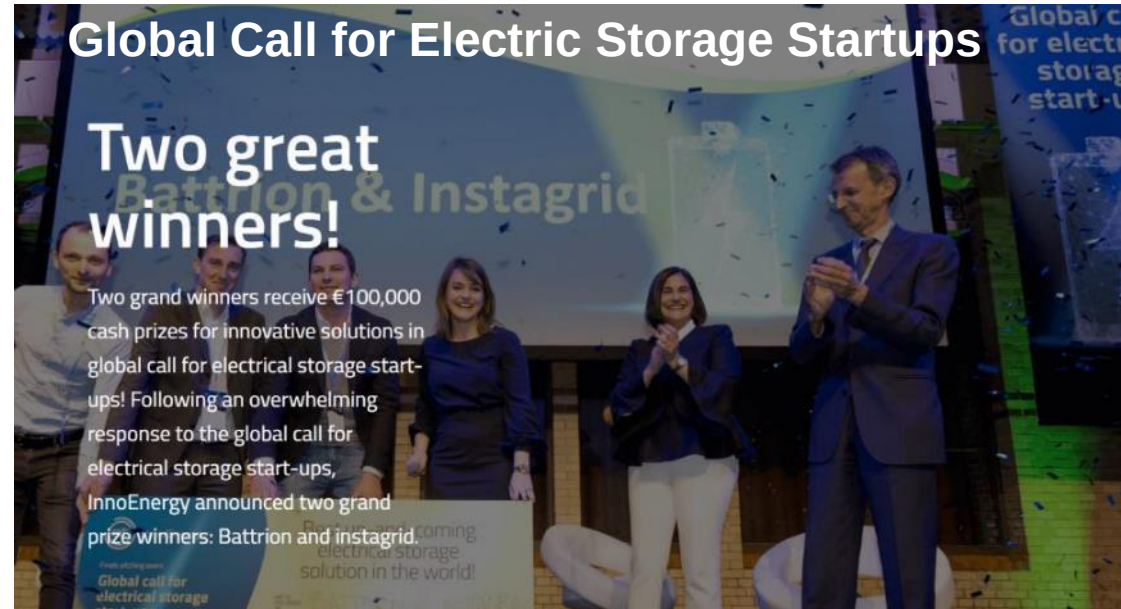
Unprecedented professional opportunities!

Battery Storage Masterclass: Lisbon

Look into the future of stationary energy storage.
Discover what's next for your business.

Battery Storage Masterclass: Lisbon

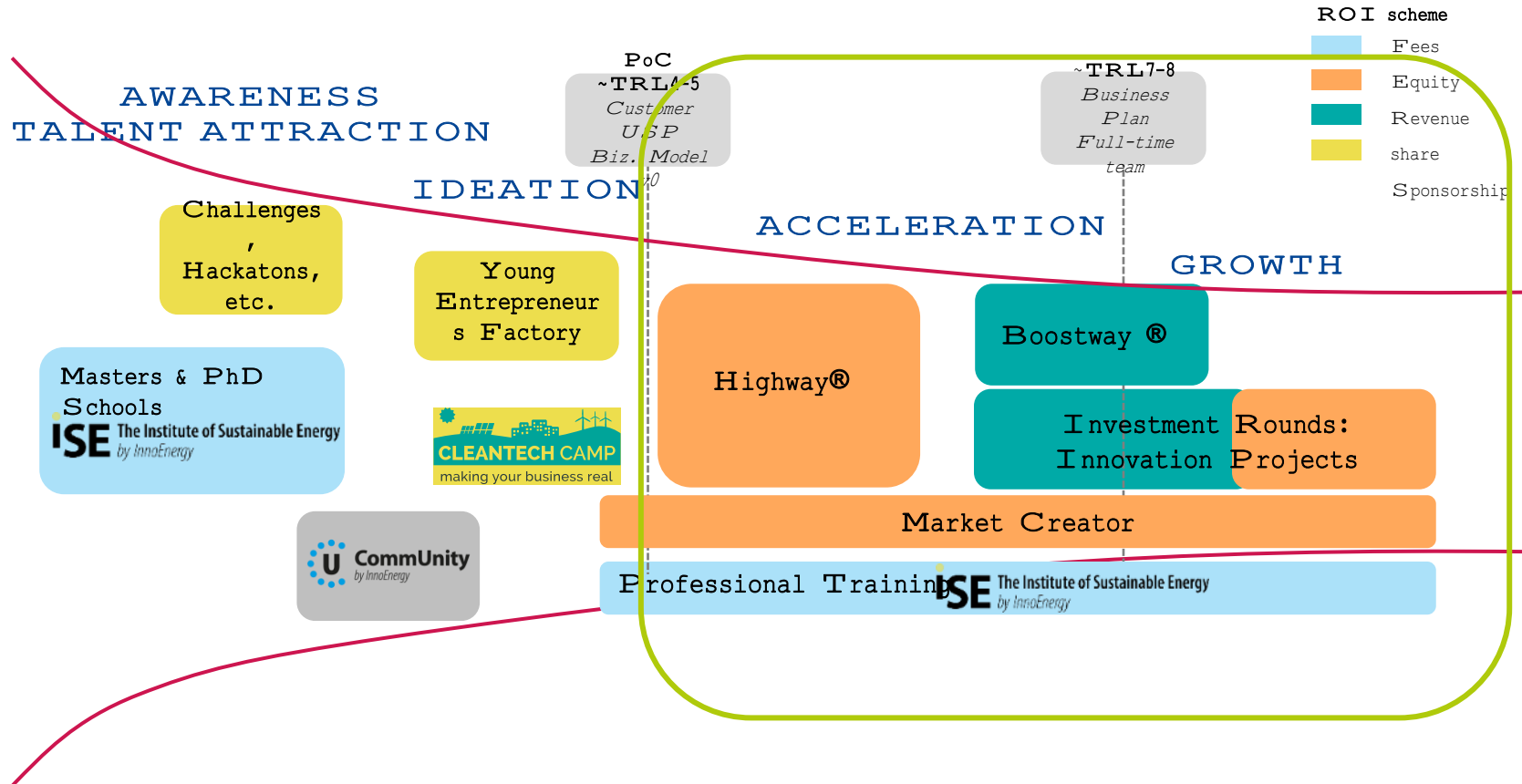
📅 20/11/2019 to 21/11/2019
📍 Lisbon, Portugal
🕒 Duration: 1.5 days
💰 € 1000



220 proposals -> 30 finalists -> 10 pitches -> 2 winners

InnoEnergy: Supporting Innovation at Every Stage of the Journey

www.innoenergy.com



Portfolio of 30+ storage related investments



FREYR secures €7.25 million investment from EIT InnoEnergy to build a 32 GWh battery cell production facility in Norway

JUNE 20, 2019

FREYR AS, a Norwegian incorporated company, is backed by a...



volterion

Thank you very much for your attention!

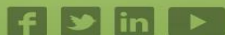


Mikel Lasa

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a body of the European Union