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# THE BATTERY SHOW

EUROPE 2018

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#### **Competent Persons Statement**

- The information in this report that relates to Exploration Targets and Mineral Resources is based on the information compiled by Mr Patrick Adams, of Cube Consulting Pty Ltd (Perth). Mr Adams has sufficient relevant professional experience with open pit and underground mining, exploration and development of mineral deposits similar to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of JORC Code He has visited the project area and observed drilling, logging and sampling techniques used by Infinity Lithium in collection of data used in the preparation of this report. Mr Adams is an employee of Cube Consulting Pty Ltd and consents to be named in this release and the report as it is presented.
- The information in this report that relates to Exploration Results is based on the information compiled or reviewed by Mr Adrian Byass, B.Sc Hons (Geol), B.Econ, FSEG, MAIG and an employee of Infinity Lithium Minerals Limited. Mr Byass has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Byass consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.



# Infinity Lithium Snapshot Fuelling Innovation

**Fully integrated lithium project** – from mine to battery grade lithium carbonate production on site

**European based** - open pit resource to produce 15,000tpa of battery grade lithium carbonate

**Proximity to end markets** – substantial investment in European battery production plants close to the San Jose Project

**Response to strategic partnerships and offtake requirements** – trade-off study to produce battery grade lithium hydroxide and/or lithium carbonate



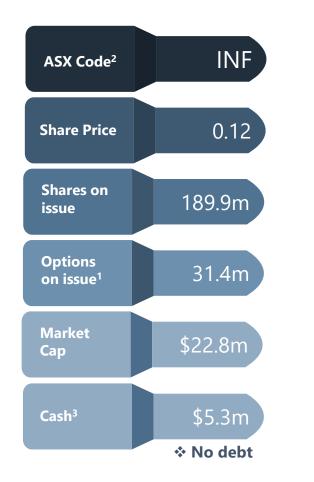


Level 1, 329 Hay Street. Subiaco, WA Australia 6008



www.infinitylithium.com

# Corporate Overview



Options exercise range from \$0.14 to \$0.35 per share. ASX Code to changed to INF from PLH circa 9<sup>th</sup> April 2018 1.

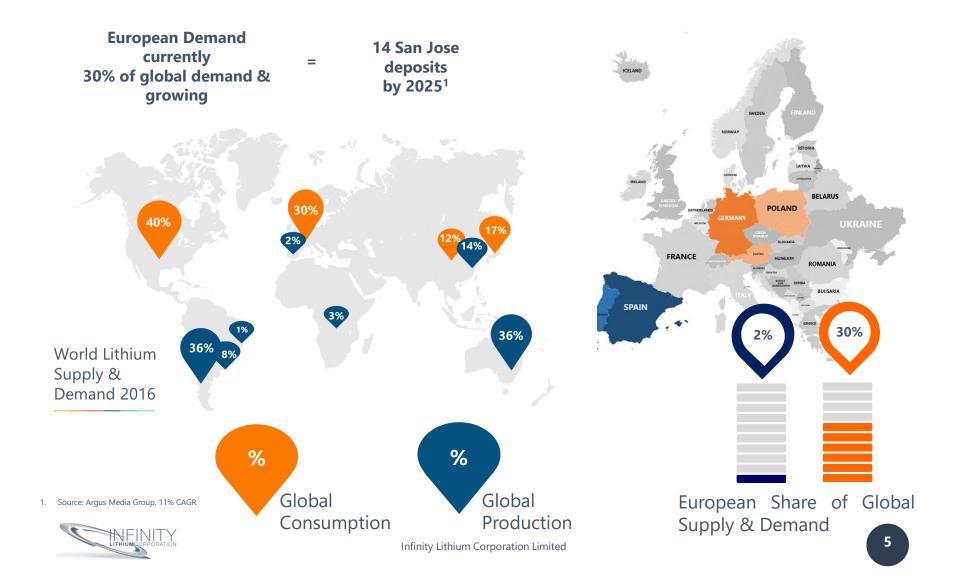
2.

3 As at 31 March 2018



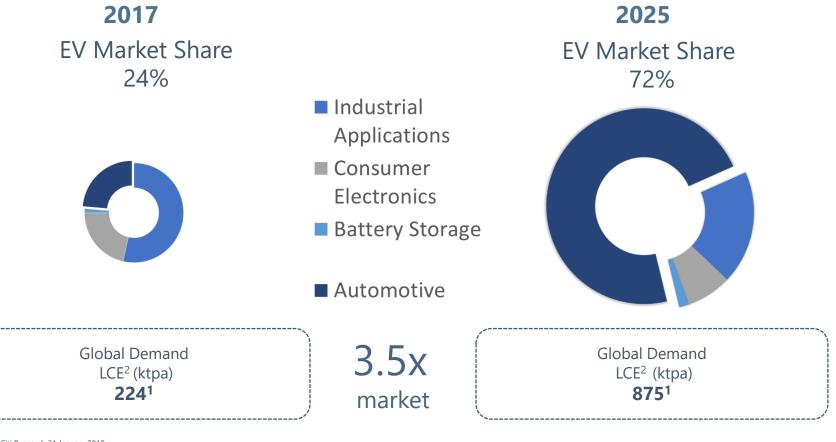
Board of Directors & Management			
Kevin Tomlinson	Chairman		
Adrian Byass	Managing Director/ CEO		
Humphrey Hale	Non-Executive Director,		
Eric Lilford	Non-Executive Director		
Rob Orr	Chief Financial Officer & Company Secretary		
Ryan Parkin	General Manager Corporate Development		
David Valls	Project Manager (Spain)		
Major Shareholders			
Board & Management	5.4%		
Тор 20	33.0%		

## Global Lithium – All Uses



## **Demand by End Applications**

Energy storage for vehicles (EV) is driving demand for lithium carbonate (LC)

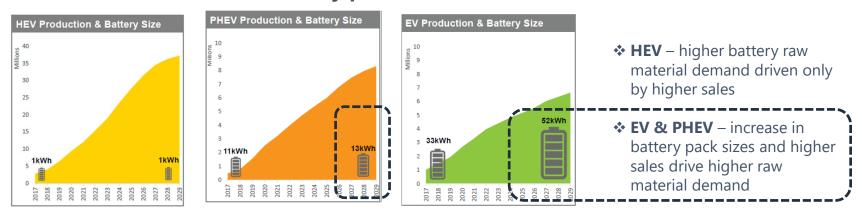




# Energy Storage for Electric Vehicles Driving Demand



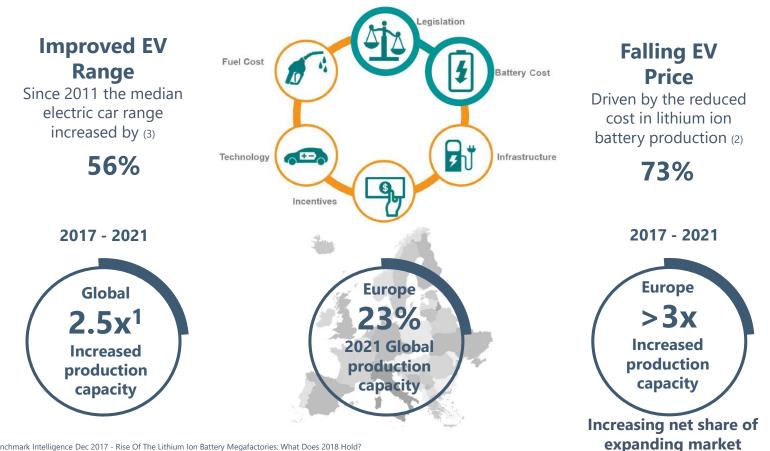
## Growth in EV sales and **battery pack size** leads to increased raw material demand



IHS Markit 23 March 2018 - Cathode technology: de-risking the supply chain



## Lithium Lithium Ion Battery Supply & Demand largely driven by



Benchmark Intelligence Dec 2017 - Rise Of The Lithium Ion Battery Megafactories: What Does 2018 Hold? 1.

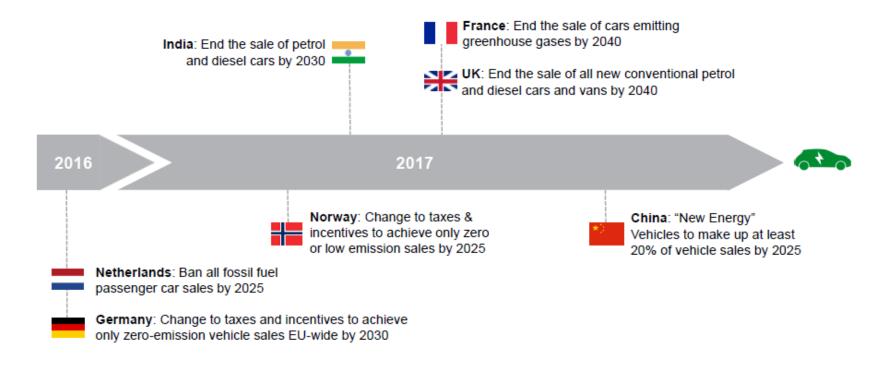
Bloomberg New Energy Finance 20 June 2017 - Average Cost 2010 \$1,000 / kWh, - Average Cost 2016 \$273 / kWh 2.

3. US Department of Energy - In model year 2011, there were just three different models of all-electric vehicles (AEV) available and their ranges on a full charge (according to the Environmental Protection Agency) spanned from 63 to 94 miles. By model year 2017, the number of AEV models increased to 15 and the available ranges expanded as well, from a minimum of 58 miles for the smart for two Electric Drive Coupe to a maximum of 335 miles for the Tesla Model S 100D. From 2011 to 2017, the median of the AEV ranges increased by 41 miles - from 73 to 114 miles.



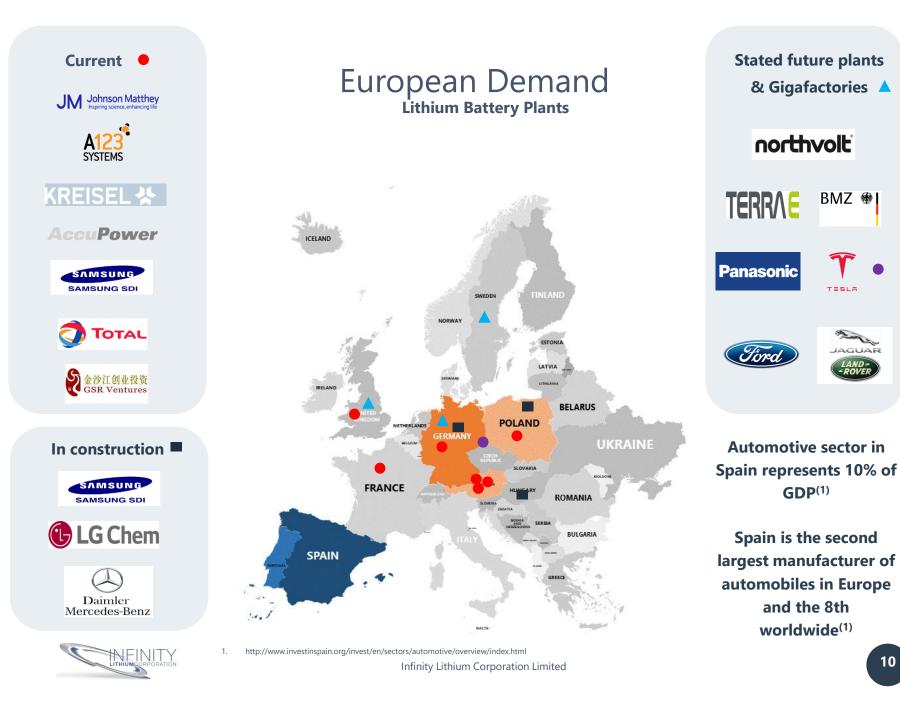
## EV Adoption to Accelerate Proactive European Government EV Targets

**\*** Adoption of EVs needs to accelerate in order to align with government EV proposals and targets

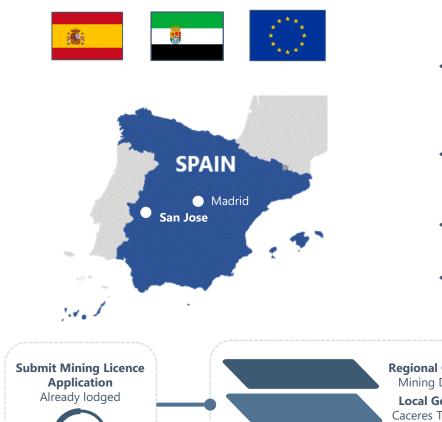


IHS Markit 23 March 2018 - Cathode technology: de-risking the supply chain





## San Jose Lithium Project Extremadura Region, Spain – European Integration



### Extremadura – a proactive mining region: permitting projects

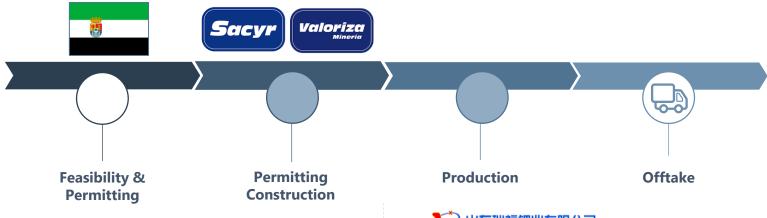
- San Jose is a brown fields mining project that was historically mined for tin and has undergone a previous positive feasibility study to produce lithium carbonate on site
- Government awarded tender for San Jose sought rapid development – aware of the needs of industry and responding with industry
- Priority was given in tender to groups who can develop project faster
- Project partners are active in the region and have secured recent mining permits





# San Jose Lithium Project





- Sacyr is a major +\$1bn construction and engineering company with a proven ability to permit mines in Spain
- Valoriza Mineria (Sacyr's mining subsidiary) to be a 25% contributing partner in development
- Extensive, regional experience with major construction and engineering works in Spain. Strong ability to permit mining projects
- Agua Blanca (Extremadura) major nickel & copper development with recent (2017) permitting driven by Valoriza Mineria



- Technology alliance to bolster feasibility study
- Shandong Ruifu is an established Chinese lithium carbonate producer and one of several Chinese companies with a history and expertise in lithium production sourced from mica feedstock
- Commissioning expansion to over 20,000tpa lithium carbonate. In addition, work is in progress on a 10,000tpa lithium hydroxide plant



# Scoping Study Outcomes: Robust + Upside

IRR 28% @ half current spot price

NPV <sub>8</sub> US\$401m <sup>+</sup> @ half current spot price	IKK 20% @ Hall culterit spot price		CAFEX 03\$24011		
Metric (Pre by-product credit)	Value	Case	LCE Price	NPV <sub>8</sub>	
Grade (mined) – Lithium Carbonate (year1-8)	2.1%	Assumed	US\$10,000/t	US\$401m	
JORC Resource	+1.6Mt LCE	Low Spot	US\$18,000/t	US\$1,335m	
Potential annual production (tonnes lithium carbonate)	15,000tpa	Spot LC Price	Currently US US\$20,0		
Average C1 cost year 1-10 (US\$/tonne) without credit*	\$4,763/t	<sup>1.</sup> Plus 10% contingency of US\$24.8m	for total US\$273n	n	
Long term lithium carbonate price (US\$/tonne)	\$10,000/t				
Current lithium carbonate spot price (US\$/tonne) (not used for Scoping Study economics)	~\$20,000/t				
Average gross operating cashflow p.a. yrs 1-10	US\$ 74.8m				

#### Scoping Study – Cautionary Statement

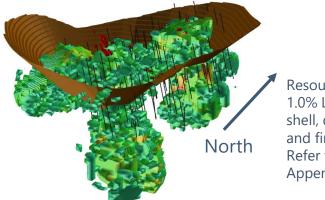
NIDV/ LIS\$401m<sup>1</sup> @ half current spot price

Refer to ASX announcement 16 October 2017. Figures are based on 100% ownership. The Scoping Study referred to in this announcement is a preliminary technical and economic investigation of the potential viability of the San Jose Lithium-Tin Project. It is based on low accuracy technical and economic assessments, (+/- 35% accuracy) and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage; or to provide certainty that the conclusions of the Study will be realised. Infinity Lithium confirms that all the material assumptions underpinning the production target, or the forecast financial information derived from the production target, in the initial ASX announcement continue to apply and have not materially changed. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Measured or Indicated Mineral Resources or that the Production Target or preliminary economic assessment will be realised.



CAPEX LIS\$248m<sup>1</sup>

# **Project Summary**



Resource using 1.0%  $Li_2O$  grade shell, drilling and final pit Refer to Appendix 6

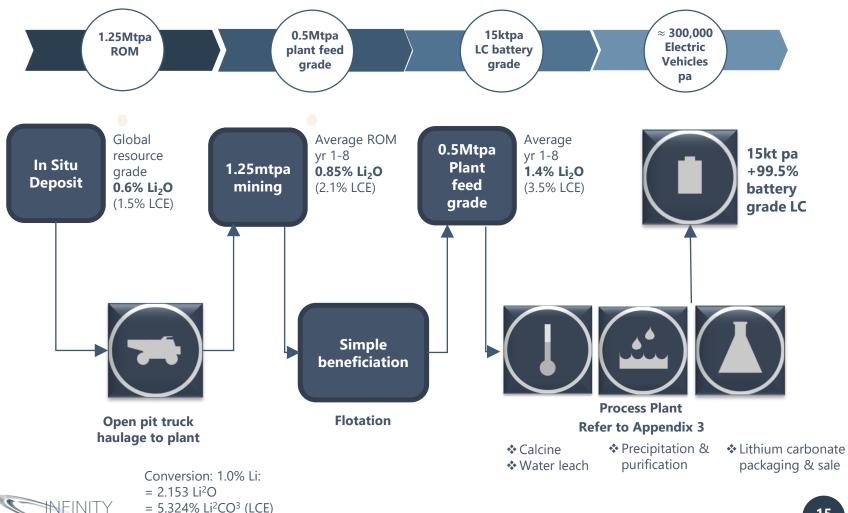


San Jose JV tenure, deposit and proposed plant location (in infrastructure ground area)

Project name	San Jose
Location	Extremadura region, Spain
Scoping study	Completed
Feasibility study	In progress
JORC Resource	+1.6Mt LCE
Planned ROM	1.25Mt pa
Initial mine life	16 years
Life of mine strip ratio	<2:1
Initial production life	24 years
In situ deposit	0.6% Li <sub>2</sub> 0 : 1.5% LCE
Average ROM (yr1-8)	0.85% Li <sub>2</sub> 0 : 2.1% LCE
Plant feedstock	1.4% Li <sub>2</sub> 0 : 3.5% LCE
Product - battery grade lithium carbonate	15kt pa +99.5% LC



## San Jose Lithium Project Upgrading ROM ore / Beneficiated ore / LC Product



# San Jose Project Highlights

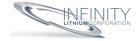
- Mining licence application submitted.
- Mining friendly region in Extremadura.
- Fully integrated lithium project hard rock resource to produce battery grade lithium carbonate.
- Proximity to infrastructure including a gas pipeline.
- Low strip ratio low cost and environmental benefits.
- Average C1 cost at lower end of the cost curve.

## **Environmental Benefits**

- ✤ Low strip ratio less wastage.
- Proven process sulphate roast & water leach.
- Sulphate roast reagent 95% recycling.
- Benign tails lower environmental impact

### **Proven Battery Grade Lithium Carbonate**

- LC was first produced in Germany using the same mica mineralogy as at San Jose.
- Process at San Jose Project as per other European lithium-mica projects.
- Independent testing confirmed San Jose produces battery grade LC.



## San Jose Lithium Project Quarterly Developments

## **Resource Diamond Drilling**

Strategic program designed to upgrade some Inferred category JORC resources within pit designs to Indicated.

- Positive results received.
- Revised and upgraded JORC in Q2 2018.

## **Revised Pit Design**

Positive geotechnical results relating to work on the planned pit.

Steeper walls and a substantially smaller pit can be prepared.

### **Improved Project Economics**

Lower strip ratio – reduced material movement.

### **Environmental and Community Engagement**

Improved environmental and visual impacts – smaller pit and reduced waste handing facilities requirements.

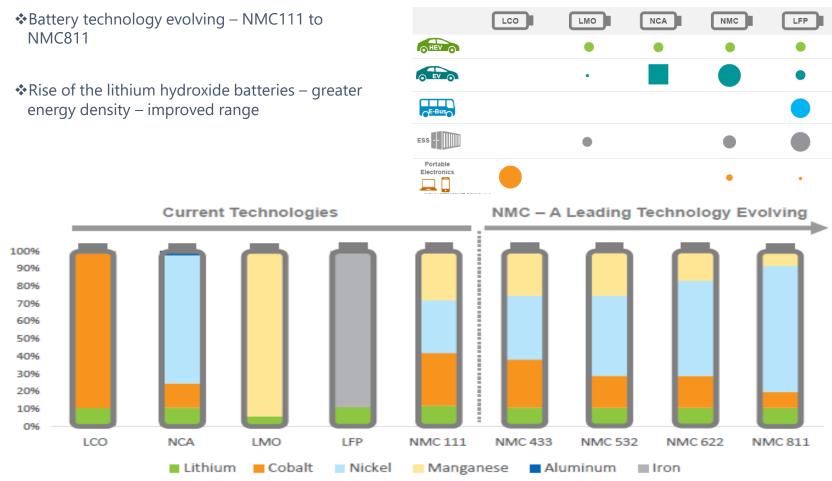
## Lithium Hydroxide Trade-Off Study

Engagement of strategic partners and the ability to adapt to offtake requirements.

- Commencement of lithium hydroxide trade off study and process flow sheet completed.
- Ability to produce battery grade lithium carbonate and lithium hydroxide opportunity.



# Lithium Hydroxide Trade Off Study

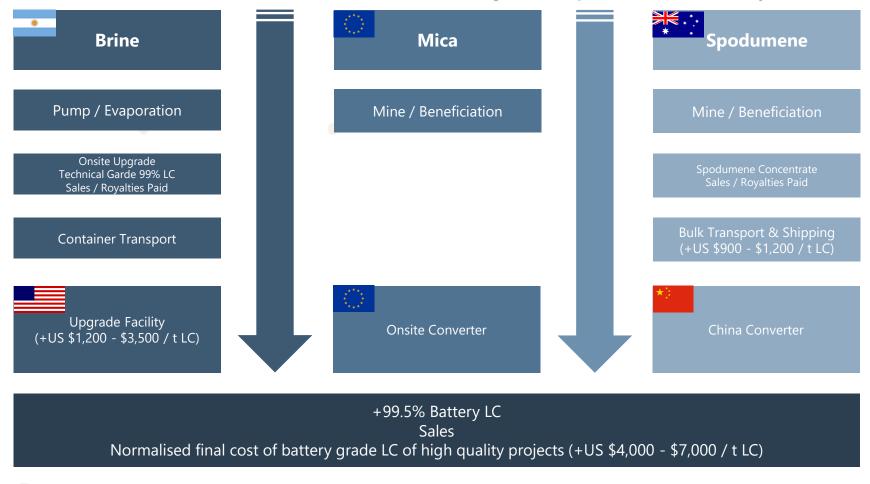


IHS Markit 23 March 2018 – Cathode technology: de-risking the supply chain



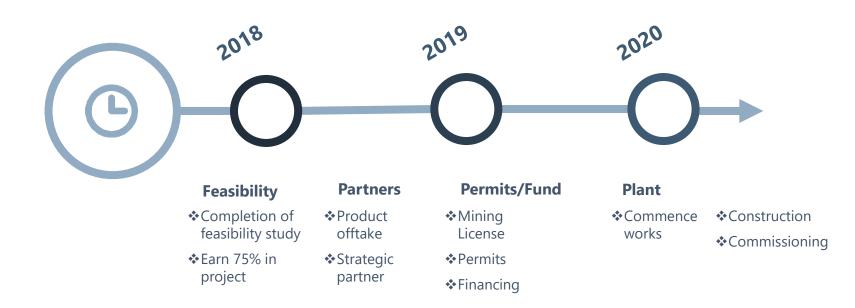
## Lithium Production Sources 99.5% Battery Grade LC

Brine and hardrock sources have vast differences in in-situ grades but production costs are very similar





## San Jose Lithium Project Pathway to Production





## San Jose Lithium Project **Key Points**



Scale One of the largest lithium deposits in Europe Low cost production



## Proximity to Market

Significant European developments in battery factories Adjacent sealed road and major arteries by road to Europe



**Down Stream Processing** High value product with no transport costs Availability of supporting infrastructure



#### Partners

World class project, development & technical partners Track record of development in the region



## Approvals

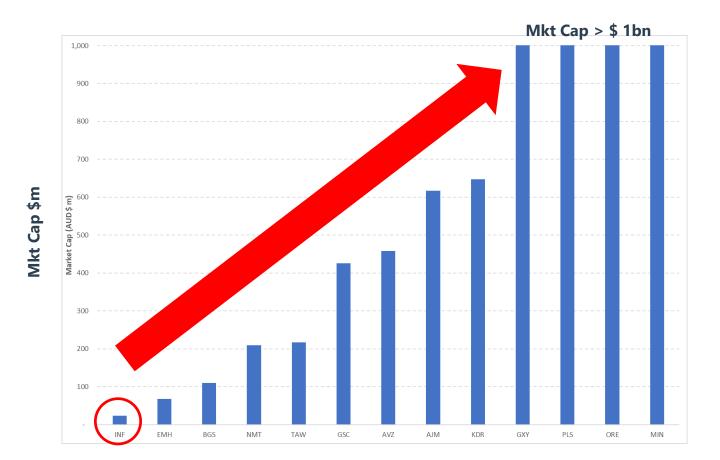
Scoping study completed, feasibility study commencing Mining License Application submitted

#### Government

Local & regional government support











## Europe

- VW e-Golf (2017)
- Extended range from 130km in 2016 to 300km<sup>1</sup> in 2017



New VW I.D. model with range 600km (enter the market in 2020)

## BMW i3 EV

- Extended range up to 200km<sup>3</sup>
- Optional range extender up to 300km
- Upgraded 33kWh battery is almost the same size & weight as the 22kWh battery

#### 1. Deutsche Bank Markets Research 6 March 2017 – increased battery size from 24kWh to 35.8kWh

- 2. Deutsche Bank Markets Research 6 March 2017
- 3. BMW Australia www.bmw.com.au



#### Renault Zoe EV

Extended range from 170km (in 2012) to 320km<sup>2</sup>

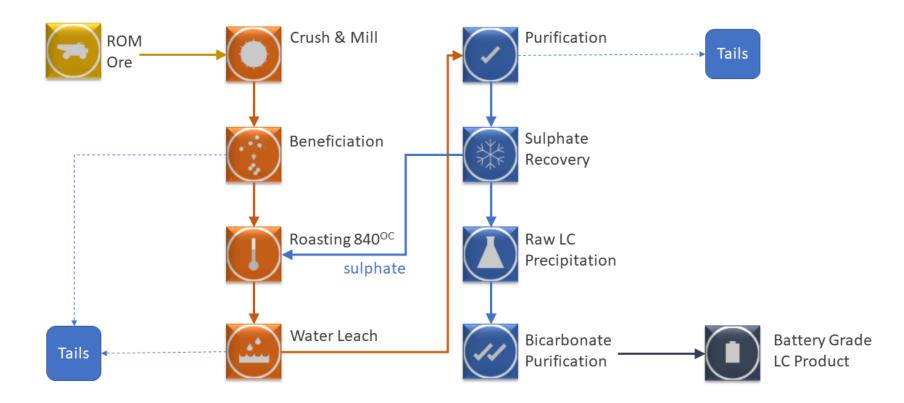


NB – Upgraded LG Chem 41kWh battery is almost the same size & weight as the 22kWh battery

### **Other European Brands**

- Audi expects that 25% of its entire vehicle sales in the US will be EVs by 2025
- Porsche confirmed that it is investing more than US\$750m on EV model development
- Volvo estimates 10% of global sales to be EVs by 2020
- Mercedes estimates 15-25% of global sales to be EVs by 2025 with a concept car targeting 500km range

## Appendix 3 Proven Battery Grade Lithium Carbonate







- Strong team to deliver the project
- Multiple Project Financing (Debt and Equity deals up to +\$500 million
- Resource focused, proven track record in region and project development
- European based / experienced Chairman and Country Manager
- Offtake and industrial commodity understanding
- Capital raising and project finance strengths
- Strong incentive ownership of Infinity Lithium stock
- Evolving and growing internally bolstered with strong partners where needed



Geology & Finance
Career in banking & resources
London based

## Eric Lilford (Non-Executive Director)

- Mining Engineer
- Production operational experience
- Banking & mining professional

## Rob Orr (Company Secretary & CFO)

 Chartered Accountant
 Professional public & private company experience

## Adrian Byass (Managing Director)

- Geology & Economics
   Project acquisition & development experience
- Operating in European resource projects for +10 years

## Humphrey Hale (Non-Executive Director)

## ✤Geology

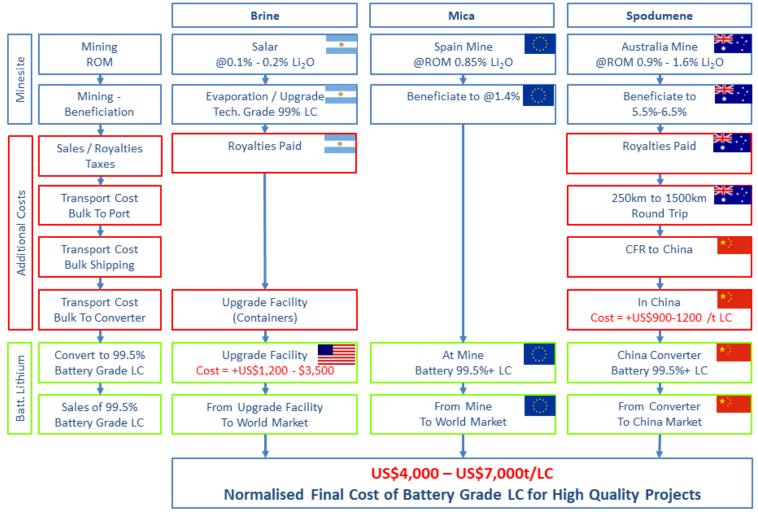
 Extensive European permitting, funding & mine experience
 Past MD (Wolf Minerals)

## Ryan Parkin (General Manager Corporate Development)

 Chartered Accountant
 Professional public & private company experience











## JORC Resources +1.6 million tonnes LCE

#### TABLE 1

### SAN JOSE MINERAL RESOURCE, REPORTED ABOVE 0.1% LI CUT-OFF, DECEMBER 2017

Classification	Tonnes (Mt)	Li (%)	Li <sub>2</sub> O (%)	Sn (%)
Indicated	57.3	0.29	0.63	0.02
Inferred	54.7	0.27	0.59	0.02
TOTAL	112.0	0.28	0.61	0.02

#### TABLE 2

## SAN JOSE MINERAL RESOURCE, REPORTED ABOVE 0.35% LI CUT-OFF, DECEMBER 2017

Classification	Tonnes (Mt)	Li (%)	Li <sub>2</sub> O (%)	Sn (%)
Indicated	14.1	0.43	0.92	0.03
Inferred	11.1	0.41	0.88	0.03
TOTAL	25.2	0.42	0.90	0.03

\* For full details refer to ASX announcement dated 5th Dec 2017 – San Jose resource upgrade – JORC 2012 compliant resource. Infinity Lithium is not aware of any new information or data that materially affects the information included in this ASX release, and Infinity Lithium confirms that, to the best of its knowledge, all material assumptions and technical parameters underpinning the resource estimates in this release continue to apply and have not materially changed.





Spanish Tenure type	Australian equivalent	Period (min-max)	Maximum Size (km2)	Comment
Exploration Permit	nil	1-2 years	300	No active surface works – mapping, remote sensing etc
Investigation Permit	Exploration Licence	3-9 years	90	Can allow drilling and bulk sampling, feasibility study work and advancement of technical/economic activity
Exploitation Concession	Mining Licence	30-90 years	30	Mining and treatment

San Jose is currently covered by granted Investigation Permits and overlain by a Mining License Application. Mining legislation in Spain is regulated by the Mining Act, all mineral resources are legislated under this regulation.

Infinity Lithium's partner, Valoriza Mineria (Sacyr) recently obtained permits for Agua Blanca to allow Agua Blanca to commence underground mining (a nickel copper sulphide mine). The favourable outcome for the Environmental Impact Statement (EIS 04/08/2017)) of the Agua Blanca mine collects up to twenty-five conditions for its internal exploitation, many of them related to waste, water resources, ore collection and concentrations of acid-forming minerals in waters shows the ability to permit successfully in Extremadura.

All decisions in order to permit and commence a mining operation are made at the local and regional government levels - there is no Federal involvement in permitting of San Jose unlike some other project types in Spain.

San José project are under the supervision of the Extremadura Mining Department.

Land Ownership – regulated by the Mining Act with provision for state acquisition to accelerate development. Clear court procedure for land acquisition if required.



## Appendix 8 Demand By End Applications

