



ASX ANNOUNCEMENT

20 February 2018

### Road-Show and Investor Presentation

Jadar Lithium Limited (ASX: JDR) (“Jadar” or “the Company”) is pleased to announce that it will be participating in a road-show in Europe this week, to inform high net worth individuals and institutional investors of the Company and its activities.

Mr Stefan Müller and a company representative will be on a five-day road-show covering Germany and Austria (Frankfurt, Hamburg, Berlin, Salzburg and Munich). In addition to informing investors about the Company, the road-show will present the potential of “battery metals”, as this is a focus of European investors, due to the local car manufacturing industry.

Attached is Jadar’s investor presentation for the road-show.

**ENDS**

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# JADAR LITHIUM LIMITED

*European Investor Presentation  
February 2018*



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Jadar Lithium Limited's Serbian interests consist of separate projects. Each project is distinct and will be developed at different times and therefore the Company records and discloses scientific and technical results separately. Any future economic viability of one project will not determine the outcome of the other. Projects are at the early stages of evaluation and although reasonable care has been taken to ensure that the facts stated in this Presentation are accurate and or that the opinions expressed are fair and reasonable, no reliance can be placed for any purpose whatsoever on the information contained in this document or on its completeness. Information provided relating to projected costs, capital expenditure, production profiles and timelines are expressions of judgment only and no assurances can be given that actual costs, production profiles or timelines will not differ materially from the estimates contained in this Presentation.

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# Capital Structure

## Capital Structure

Shares on Issue	389.5 million
Options (\$0.02; 27/12/2020)	70.2 million
Share Price (16/02/2018)	A\$0.022
Market Capitalisation	~A\$7.8 million
Cash balance (31/12/2017)	~A\$4.6M
Escrowed shares	53.1 million
Listing	ASX "JDR" Frankfurt Exchange R1E.F Berlin Exchange R1E.B Stuttgart Exchange R1E.SG

## Top 5 Shareholders (@ 15/2/2018)

Okewood Pty Ltd	2.2%
Mattinc Ventures Pty Ltd	1.9%
Fanucci Pty Ltd	1.6%
Brispot Nominees Pty Ltd <House Head Noiminee A/C>	1.4%
Benito Toscana Pty Ltd <Benito A/C>	1.3%

## Top holders (@ 15/2/2018)

Top 50	46%
Other	54%

# Highlights

- 5 exploration licences in Serbia (emerging lithium producer)
- Substantial exploration area  $\approx 328\text{km}^2$
- Serbia is only known source of Jadarite  
= new & valuable lithium-borate bearing mineral ( $\text{LiNaB}_3\text{SiO}_7(\text{OH})$ )
- 2 licences close to Rio Tinto's world-class Jadarite discovery  
= one of the world's largest lithium deposits
- Experienced local team in place & work program ready to commence
- Strategically placed for European manufacturers using lithium
- **Tesla's Gigafactory 1 alone requires entire current worldwide production of lithium ion batteries in latter half of this decade**

# Projects

- 5 granted Exploration Licences in Serbia
- Potential lithium mineralisation
- Total exploration area  $\approx 328 \text{ km}^2$
- All licences have:
  - Exploration rights for initial 3 years;
  - 2 year extension option; and
  - Final 2 year extension option dependent on results & project progress
- Targeting two different styles of lithium mineralisation:
  - Granite complexes with pegmatite & greisen mineralisation; and
  - Jadar-style sedimentary sequences in buried lake basins which contain extensive zones of hydrothermal lithium-borate mineralisation.



# Nearby

- **Rio Tinto's Jadar Project**
- World-class lithium borate deposit
- Unique Jadarite deposit near Loznica
- Ranked as one of largest global lithium deposits in world (due to high lithium & boron concentrations)
- Rio Tinto spent US\$90m+ to date
- Currently in prefeasibility stage
- Production could commence by 2023
- Could supply 10% of global lithium demand

Source: "Jadar Project Fact Sheet", Rio Tinto, March 2017

≈10km from JLL's Cer Project

≈ 90km from JLL's Bukulja Project

**"Rio Tinto powers up Serbian lithium mine for car battery boom"** *AFR, Feb 2017*





**Luke Martino**  
Non-Executive Director

- 25+ years experience at partner & board level with Deloitte
- Director of Indian Ocean Corporate, a boutique corporate & investment banking firm in Australia & Mainland China
- Experience & credibility in mining & resources, property and hospitality industries
- Specialist in corporate & growth consulting



**Martin Pawlitchek**  
Non-Executive Director

- 20+ years experience primarily in exploration and resource drilling with some exposure to underground and open pit mines
- Based in Europe, currently serving as Senior Vice President of Geology for a mining focused Private Equity fund
- During his 11-year tenure with BHP Billiton, he oversaw numerous exploration programs in Australia, Laos and several countries in Southern and Central Africa.



**Michael Davy**  
Non-Executive Director

- 15+ years experience as an executive
- Broad experience in oil and gas, resources, property, food distribution, hospitality and start-up technology companies
- During the past five years Mr Davy has held directorships in numerous ASX listed companies and assisted in an advisory capacity on a number of resource acquisitions.



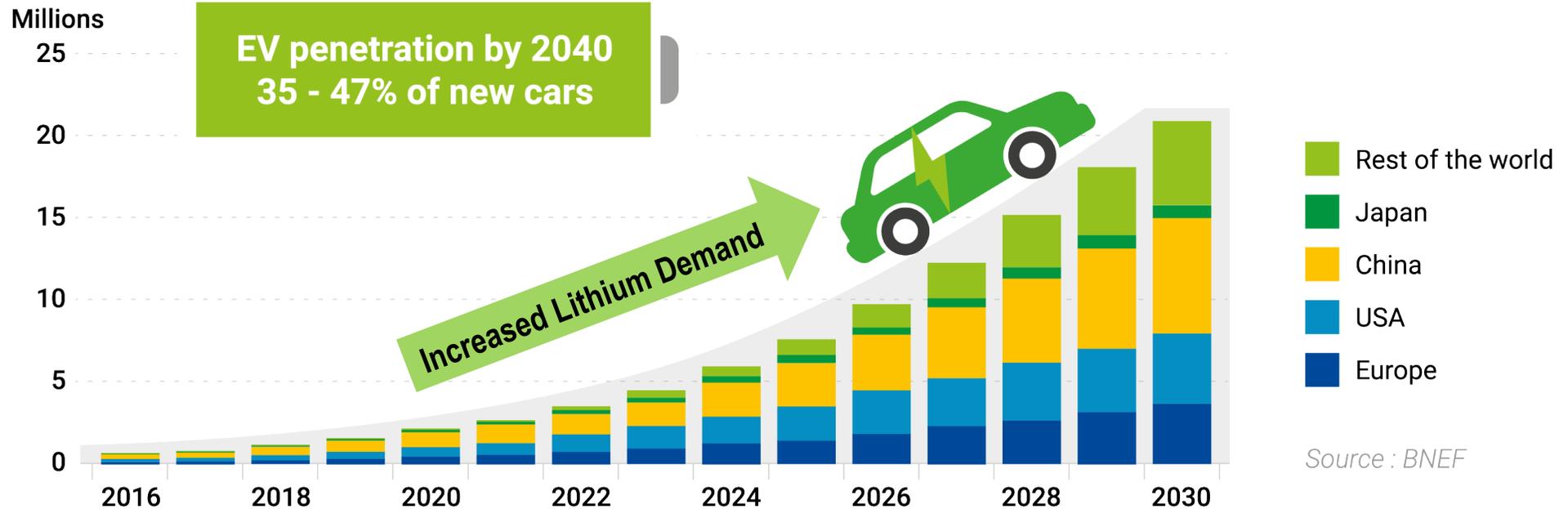
**Nicholas Sage**  
Non-Executive Director

- Mr Nicholas Sage is an experienced marketing and communications professional with in excess of 25 years in various management and consulting roles. Mr Sage is based in Western Australia and currently consults to various companies and has held various management roles within Tourism Western Australia. Mr Sage also runs his own management consulting business.
- Mr Sage is a Non-Executive Director of ASX listed Cauldron Energy Limited and Fe Limited.

# Lithium Demand → diverse

Application	Lithium Products	Demand kpta LCE 2015	Forecast Demand kpta LCE 2020	Forecast Demand kpta LCE 2025	Growth Rate
 <b>Batteries</b>	Lithium hydroxide and lithium carbonate	60 - 70	150 - 170	350 - 400	15 - 25% p.a.
 <b>Glass / Ceramics</b>	Spodumene / petalite concentrates Lithium carbonate	40 - 50	45 - 55	55 - 65	2 - 4% p.a.
 <b>Greases / Lubricants</b>	Lithium hydroxide	15 - 20	20 - 25	30 - 40	4 - 8% p.a.
 <b>Metal Alloys</b>	Lithium metal & alloys	10 - 15	12.5 - 20	15 - 25	3 - 5% p.a.
 <b>Air Conditioning</b>	Various	5 - 10	7.5 - 12.5	10 - 15	3 - 5% p.a.
 <b>Polymers</b>	Various	4 - 8	7.5 - 12.5	10 - 15	2 - 4% p.a.
 <b>Medicine</b>	Specialty organo-compounds	4 - 8	7.5 - 12.5	10 - 15	2 - 4% p.a.
 <b>Others</b>	Various	10 - 15	12.5 - 20	15 - 25	3 - 6% p.a.
<b>Compound Average Growth Rate</b>	N/A	150 - 170	265 - 340	495 - 600	12 - 15% p.a.

# Lithium Demand → electric vehicles (EVs)



- France - end sales of petrol & diesel by 2040
- Volvo - only fully electric or hybrid cars from 2019
- Norway - only 100% electric or plug-in by 2025
- Netherlands – potential 2025 ban for diesel & petrol
- Germany – potential 2030 phase-out (some states)
- India – potential 2030 end of petrol & diesel cars
- UK – 100% electric or ultra-low emission by 2040

# Lithium Demand → globally

- **Gigafactory 1 (Nevada, USA):**
  - Largest lithium-ion battery manufacturing facility in the world
  - Planned production target of 500,000 electric vehicles (EVs) per year by 2020
  - Requires the entire current worldwide production of lithium ion batteries for this target
- **Recent Tesla updates:**
  - Now targeting 500,000 EVs by 2018
  - Need 25,000 tonnes of Lithium Hydroxide per year (US currently produces 1,000 tonnes per year)
  - Plans afoot for 3 further Gigafactories, most likely in Europe and Asia



***“from tiny start-ups to large name lithium companies around the world, we are working with them to figure out the most economical or efficient ways ... to have capacity ready when we need it”.***

*Elon Musk, June 2016*

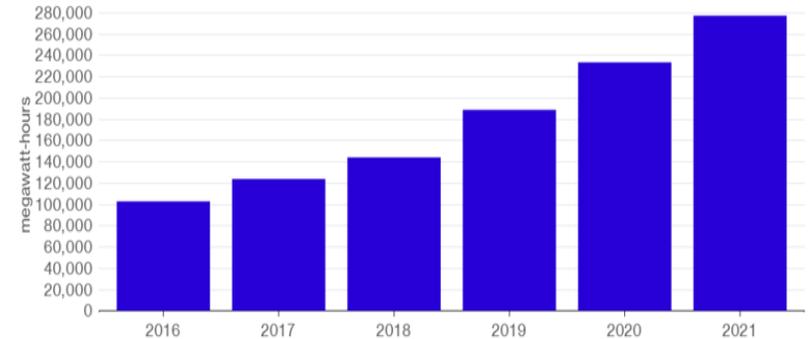
# Lithium Demand → in Europe

- Daimler break ground on €500m plant to assemble lithium-ion energy-storage units
- Global battery-making capacity doubles by 2021
- Large-scale factories planned in Sweden, Hungary and Poland
- Most major automakers planning electric vehicles by 2025
- Volkswagen in talks with battery makers & plans for potential assembly plant in Germany
- NorthVolt AB (ex Tesla) has plans for a €4bn battery factory in Sweden by 2023
- Lithium-ion packs up to 43% cheaper by 2021
- Electric vehicles could be 20% of new auto sales, or 21 million units, by 2030

Source: "Europe's Building Its Own Battery Gigafactories", Bloomberg, May 2017

## Battery Boom

Global battery manufacturing capacity is set to more than double by 2021

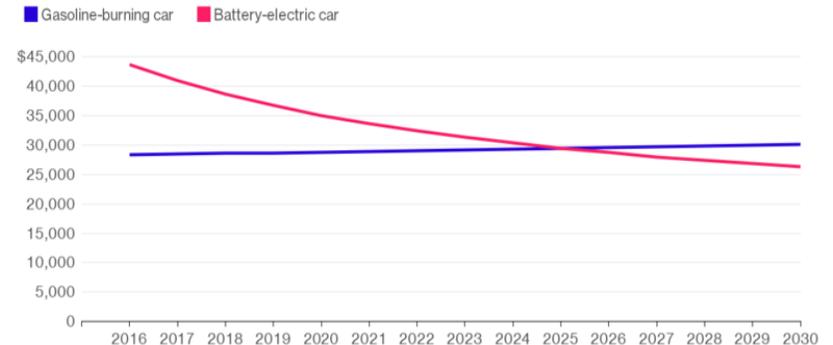


Source: Bloomberg New Energy Finance

Bloomberg

## Bargain Option

Electric vehicles are projected to be cheaper than regular cars by 2026

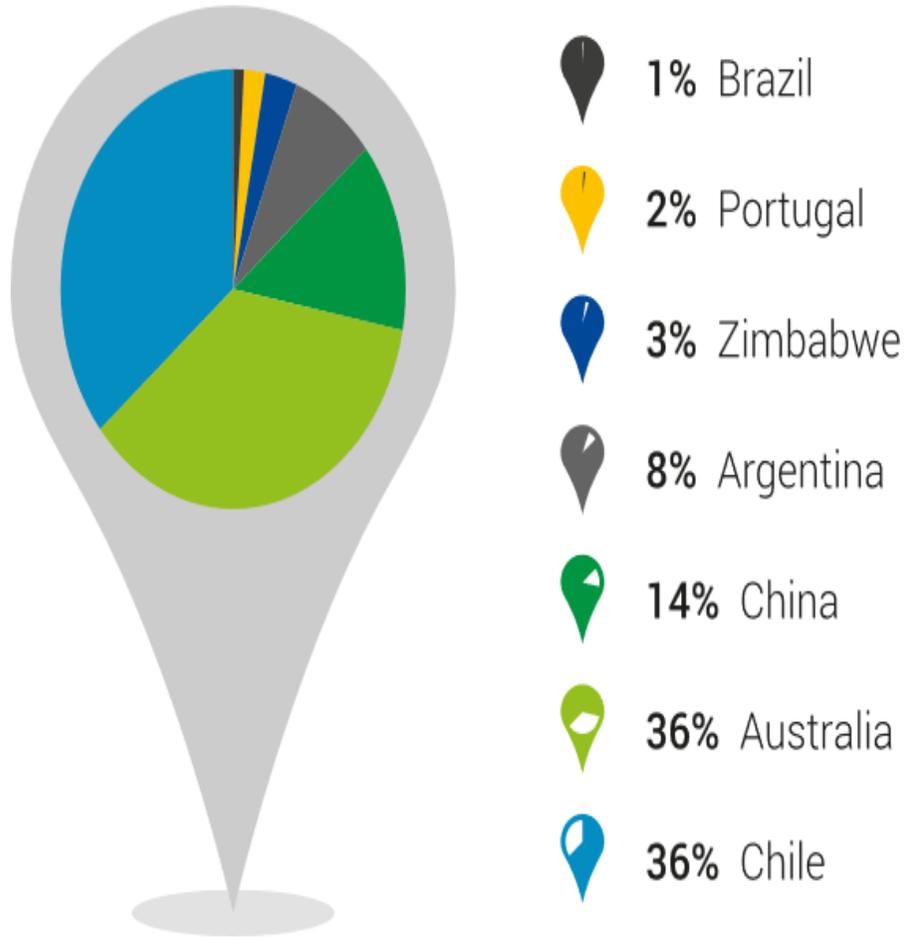


Source: Bloomberg New Energy Finance

Note: Data is for medium-sized cars in U.S. prices

Bloomberg

# Lithium Sources → concentrated globally



Source: Novo Litio (ASX: NLI)



**24%** of global lithium demand comes from Europe, but only **2%** of supply  
*(all from small-scale mining in Portugal)*

- Global supply concentrated in few locations
- South American and Chinese supply has risks of disruption (geo-political and/or climatic)
- Diversification and security of supply is critical
- **European battery producers need secure local supplies of lithium**

# Lithium Sources → limited in Europe

## In Production

1. SMP (Portugal)

## World Class Potential

- 2a. Rio Tinto (Serbia)

- *start construction = 2020*
- *production target = 2023*

- 2b. Jadar Lithium (Serbia)

- *close to Rio Tinto*
- *significant upside potential*

## Scoping / Exploration

3. Avalonia Lithium (Ireland)
4. Keliber (Finland)
5. European Metals/Cinovec Tin (Czech Republic)
6. European Lithium (Austria)



Goal to join  
European Union by  
2020

World Bank #47 for  
overall ease of doing  
business 2017

At crossroad of  
Central & South  
Eastern Europe

New mining code in  
December 2015

Strong mining  
heritage & history

European quality  
infrastructure

Aim to increase GDP  
contribution from  
mining to 5% by 2020

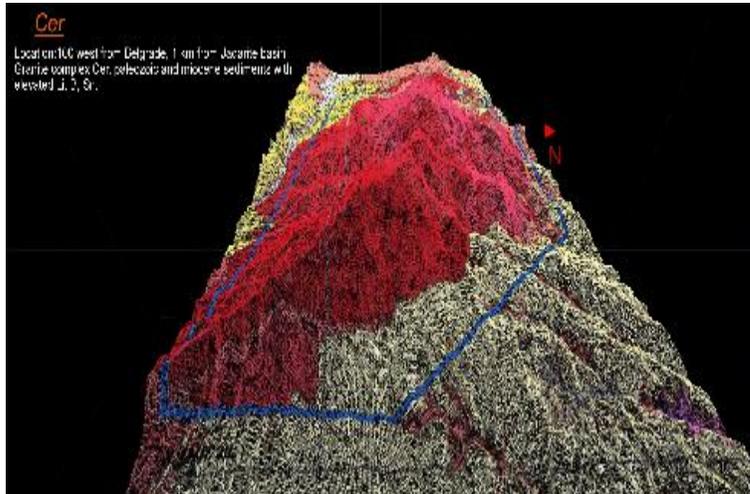
Supportive  
government &  
favourable regulatory  
environment



- Favourable foreign investment laws
- No restrictions on foreign ownership
- No government participation
- No restrictions on flow of capital

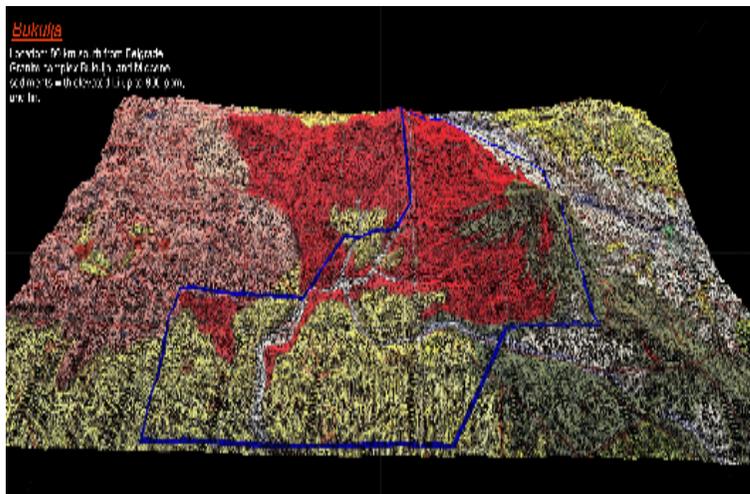
# Projects

Project	Location	Area (km <sup>2</sup> )	Deposit Type
Cer	Loznica, West Serbia	92.8	Granite, Pegmatite, Greisen, alluvials
Bukulja	Arandeelovac, Central Serbia	38.5	Granite, Pegmatite, Greisen, alluvials
Rekovac	Paraci, Central Serbia	75.4	Hydrothermal Sedimentary, Alluvials
Krajkovac	Nis, Central Serbia	31.2	Granite, Pegmatite, Greisen, alluvials
Vranje	South Vranje, South Serbia	90.4	Granite, Pegmatite, Greisen, alluvials
<b>TOTAL</b>		<b>328.3</b>	



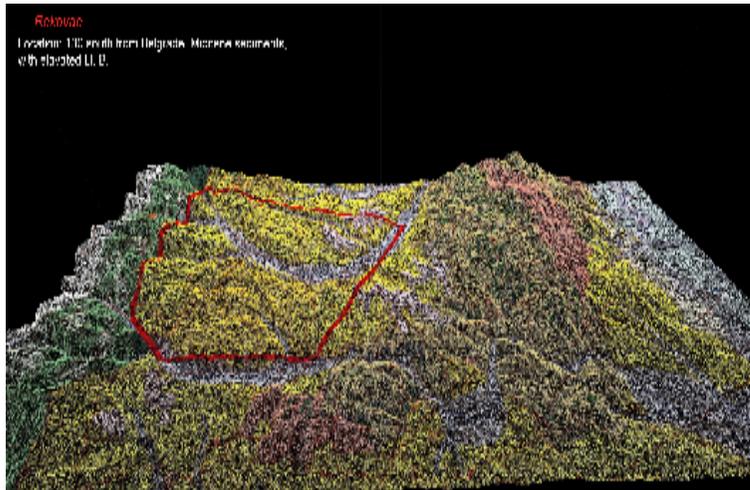
## Cer Project

- ~10km N of Rio Tinto's world-class Jadar Project
- The Cer district has a long mining history with placer tin deposits being mined along the rivers at Cer since the Bronze Age
- Geology has been mapped & described by various government and academic geologists since at least the 1960s leading to the recognition of mineralised, especially lithium and tin, bearing pegmatites and greisens
- Granitoid Complex shows metallogenic association with Lithium



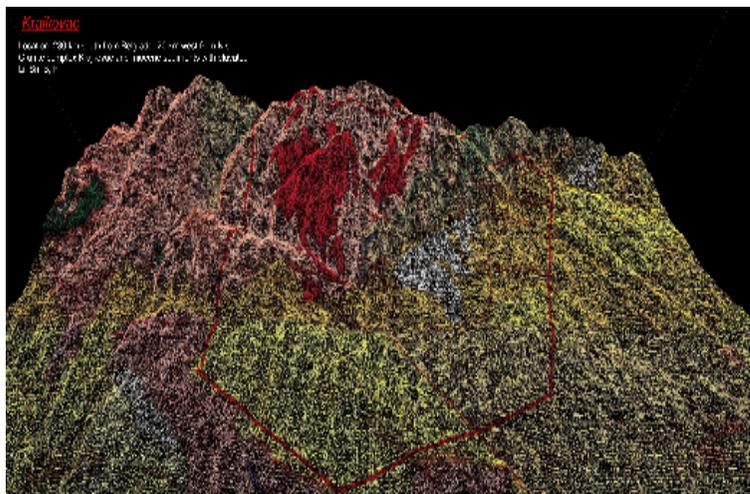
## Bukulja Project

- ~90km ESE of Rio Tinto's world-class Jadar Project
- Geology has been mapped & described by various government & academic geologists since at least the 1970s leading to the recognition of mineralised bearing pegmatites & greisens
- Covers part of the Bukulja granitoid complex which is overlain by younger Tertiary sediments to the east and Quaternary sediments to the south. There is potential for economic minerals in both the granitoids as well as within the Tertiary sediments
- Has a long mining history with placer tin deposits being mined along the rivers at Bukulje since the Bronze Age



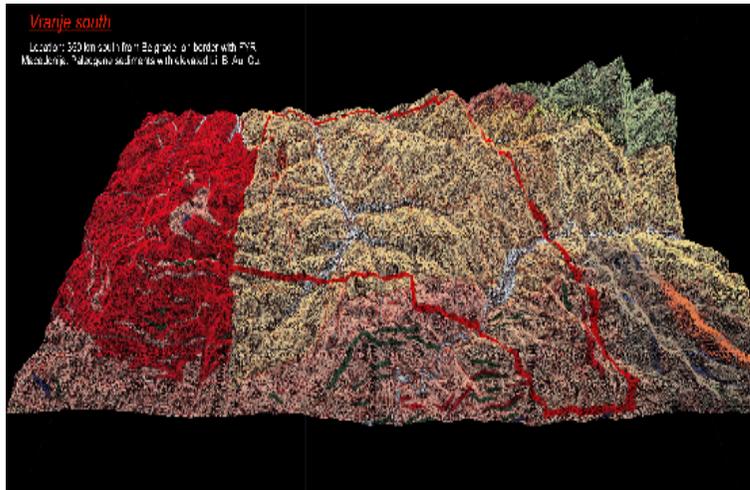
## Rekovac Project

- The tenement area is composed entirely of lacustrine Lower & Middle Miocene sediments overlaying Proterozoic gneisses and lepidolites intruded by granites, aplite, pegmatite dykes & quartz & veins to the east of the tenement and the Gledičkih Chalk unit to the west of the tenement
- The Miocene sediments are very similar setting to Jadar Basin, with potential to contain jaderite or other lithium minerals



## Krajkovac Project

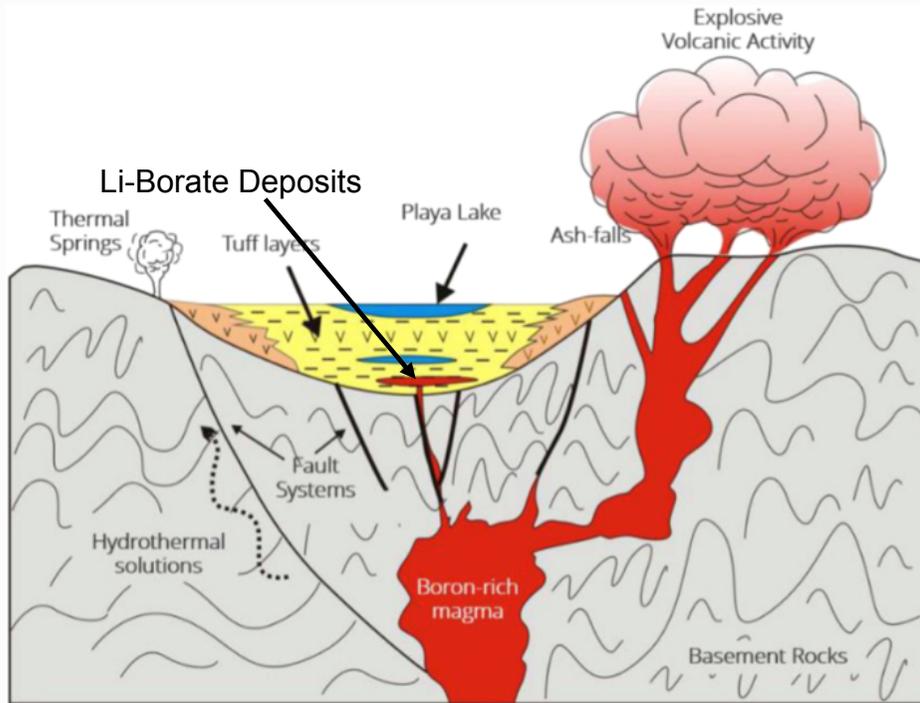
- Consists of a granite complex intruding highly metamorphosed Proterozoic gneisses, schists, quartzites and marbles that are overlain by Miocene silts, sands and gravels
- The geology of the district has been studied since the early 19th Century however, only mapped & described by various govt & academic geo's since the 1930s including detailed studies of the granitoids. Mineralised, especially lithium and tin, bearing pegmatites and greisens were also recognised in the granitoids.



## Vranje South Project

- Similar to Rekovac Project, sedimentary basin with hydrothermal to metasomatically altered volcanogenic-sedimentary deposits
- Main exploration target is a Jadar analogue where the hydrothermal mineralisation is sourced from proximal granites, greisens and pegmatites that occur to the immediate west of the tenement
- The geology of the district has been studied by various govt & academic geo's since the 1930s including detailed studies of the granitoids. Mineralised, especially lithium and tin, bearing pegmatites and greisens were also recognised in the granitoids.

# Jadar Style Lithium-Borate Targets



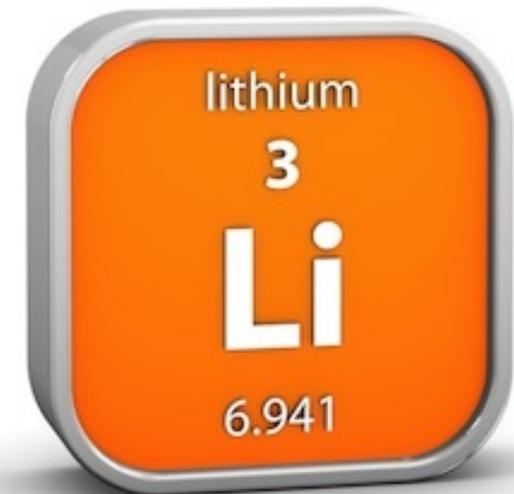
Genetic Model for Borate +/- Lithium deposit formation, From: Helvacı, C., 2015, *Geological Features of Neogene Basins Hosting Borate Deposits: An Overview of Deposit and Future Forecast, Turkey*. Bull. Min. Res. Exp., 151: pp 169-215

- Jadar Deposit is essentially a borate deposit with high grade lithium co-product.
- Borate deposits form from hydrothermal fluids associated with volcanic activity and granites in arid tectonic basins.
- Typically associated with fine-grained, lacustrine sediments, evaporates, clays and sands.
- Have kilometre scale footprints.
- Deposits associated with basin scale faults that provided fluid conduits
- Testing will require reconnaissance drilling of the basin sequence
- Potentially prospective accumulations of sediments exist at Rekovac, Krajkovac and Vranje South.
- Additional data review and field visits are required to ascertain the prospectivity of these sedimentary packages.

# Work Program 2018

Activity	2018			
	Q1 Jan-Mar	Q2 Apr-Jun	Q3 Jul-Sep	Q4 Oct-Dec
<b>Phase 1</b>				
Sampling & mapping of known pegmatite bodies (Cer & Bukulja)	■			
Permit wide 'Stream Sediment Sampling' (Cer & Bukulja)	■			
Permit wide heavy mineral stream sampling (Cer & Bukulja)	■			
Sampling & mapping of known pegmatite bodies (Rekovac, Krajkovac & Vranje South)		■		
Permit wide 'Stream Sediment Sampling' (Rekovac, Krajkovac & Vranje South)		■		
Permit wide heavy mineral stream sampling (Rekovac, Krajkovac & Vranje South)		■		
<b>Phase 2</b>				
Detailed prospect mapping (Cer & Bukulja)		■		
Infill geochemistry (Cer & Bukulja)		■		
Trenching (Cer & Bukulja)		■		
Detailed prospect mapping (Rekovac, Krajkovac & Vranje South)			■	
Infill geochemistry (Rekovac, Krajkovac & Vranje South)			■	
Trenching (Rekovac, Krajkovac & Vranje South)			■	
<b>Phase 3</b>				
Drilling of most advanced targets			■	

- Extensive mapping & sampling program for Serbian Lithium Projects to:
  - Confirm extent of lithium mineralisation; and
  - Identify anomalies & drill targets for further testing
- Identify further complementary & value-adding opportunities



# JADAR LITHIUM LIMITED



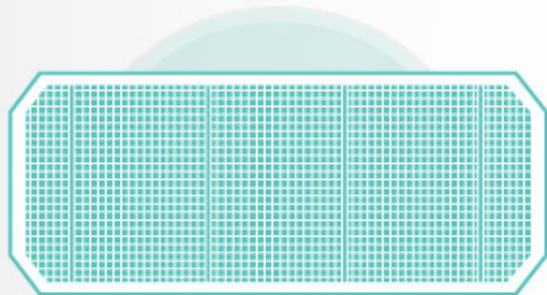
*Appendices*





# THE GIGAFACTORY WILL BE THE LARGEST BUILDING IN THE WORLD BY FOOTPRINT.

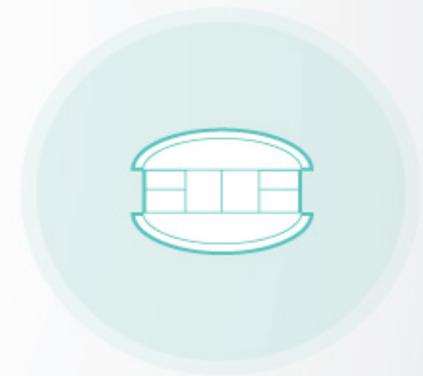
The Gigafactory will take up 5.8 million square feet of space, making it bigger than Boeing's Everett factory...



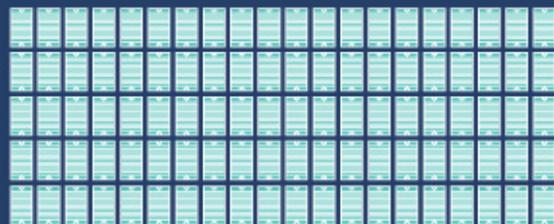
GIGAFACTORY



BOEING EVERETT



DALLAS COWBOYS STADIUM



...and equal to roughly 100 football fields.

 = 1 football field



2

## THE GIGAFACTORY'S SCALE WILL MAKE BATTERY PRODUCTION WAY CHEAPER.



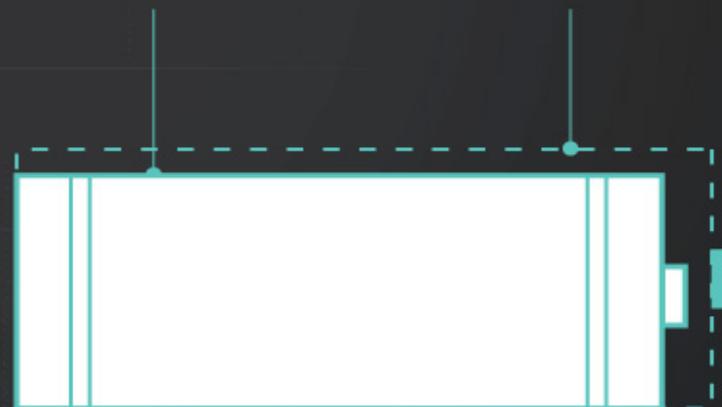
Tesla estimates the factory will enable it to reduce its battery prices by about **30%.**

Current cost  
**\$190 PER KWH**  
April 2016

Tesla is even re-designing the form factor of cells from the industry standard:

ORIGINAL  
**18MM X 65MM**  
18650

NEW  
**20MM X 70MM**  
20700



COST REDUCTIONS WILL COME FROM:



3

# THE GIGAFACTORY WAS INITIALLY SET TO PRODUCE 50 GWH OF LITHIUM-ION BATTERY PACKS PER YEAR BY 2020.

This production would have allowed Tesla to power the 500,000 EVs per year it expected to build by 2020.

## GIGAFACTORY

50 GWh breakdown



for a total of **50 GWH**



## FOR COMPARISON,

the entire advanced battery industry shipped:



**53.3 GWH**  
of lithium-ions in 2014.



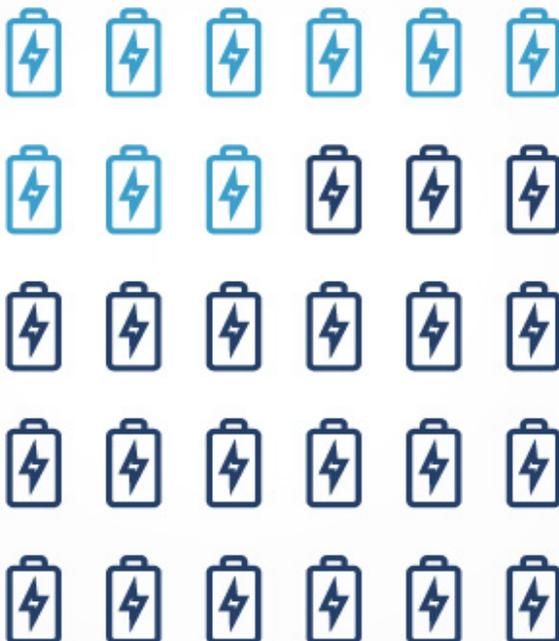
4

# DURING THE 2016 TESLA SHAREHOLDERS MEETING, ELON MUSK UPPED THE ANTE.

With Model 3 pre-orders flying off the charts, Tesla now predicts to build 500,000 cars per year by 2018.

THAT'S TWO FULL YEARS  
BEFORE PLANNED.

Tesla has said to meet demand, that it actually expects to **triple** its battery production:



**45 GWH**  
for power storage

**105 GWH**  
for cars

for a total of up to  
**150 GWH**

 = **5 GWH**  
(per year)



5

# HOWEVER, ALL OF THESE BATTERIES WILL REQUIRE SERIOUS AMOUNTS OF RAW MATERIALS.

Tesla battery packs use a formulation that **relies on lithium, cobalt, and graphite.**

Elon Musk wants to source materials from North America, but:



## LITHIUM

Tesla needs **25,000 TONNES** of lithium hydroxide per year\*



## COBALT

The US hasn't mined cobalt since 1971 and has 301 tons remaining in a government stockpile according to the USGS

**OVER 50%** of global supply comes from the DRC



## GRAPHITE

Some analysts estimate that switching from **synthetic to natural graphite** for anodes could help provide additional savings to Tesla

Anodes make up **30% OF THE COST** of a li-ion battery\*



\*According to Benchmark Mineral Intelligence \*\*Based on most recent figures from 2013. Projections based on initial Gigafactory battery pack production of 50 GWh



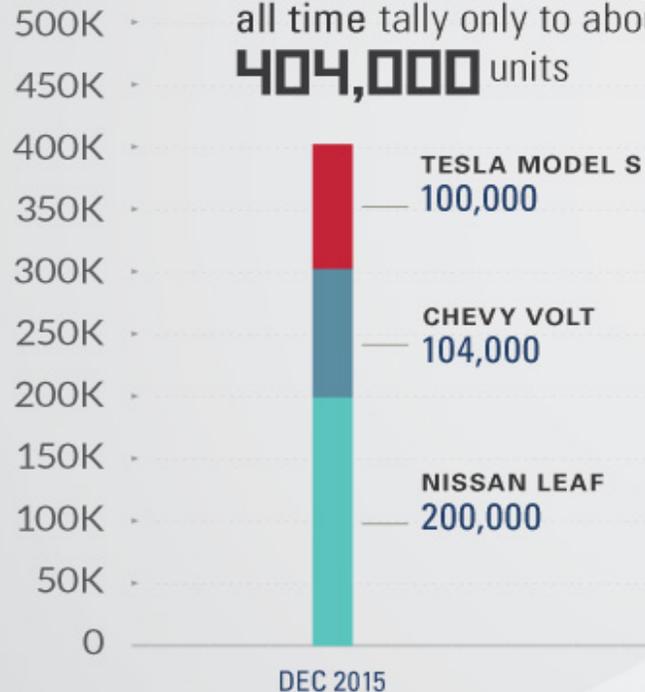


# IF TESLA HITS ITS 500K ELECTRIC CAR PER YEAR PROJECTION, IT'S A SERIOUS MILESTONE FOR EVs.

## ALL-TIME

To put that in perspective, the three best selling plug-in electric cars of all time tally only to about

**404,000** units



## 2018

**500,000**  
units

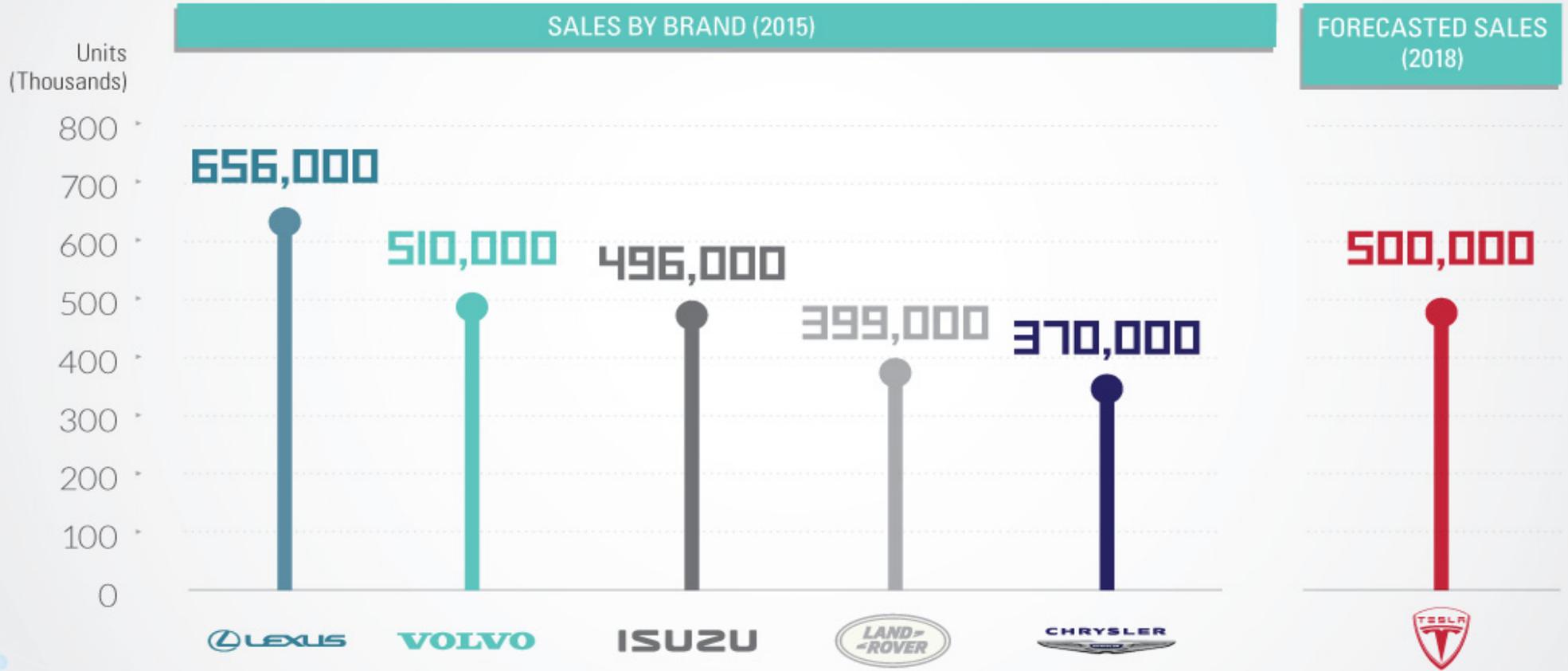
  
Expected Gigafactory production in 2018:  
Enough batteries to power 500,000 Teslas

PROJECTION:  
TESLA



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# PRODUCING 500K CARS ANNUALLY WOULD PUT TESLA ON PAR WITH SOME TRADITIONAL AUTO BRANDS.



# JADAR LITHIUM LIMITED

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