

# An Integrated Battery Material Producer

Critical Minerals | Battery Materials July 2024

ASX: VRC



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#### **Competent Person statement**

The information in this announcement which relates to exploration results is based upon details compiled from the available documentation by Mrs Christine Standing, who is a Member of the of the Australian Institute of Geoscientists. Mrs Christine Standing is an employee of Optiro Pty Ltd and has sufficient experience which is relevant to the style of mineralisation and the deposit under consideration, and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mrs Christine Standing confirms that the information included in this announcement in respect of the mineralisation at Jadar North, Ljig and Petlovaca is an accurate representation of the available data and studies.

Where information in this presentation relates to exploration results, mineral resources, ore reserves, production targets or forecast financial information that has previously been disclosed to the ASX, reference is made to the applicable ASX announcements where such information was first disclosed. Volt confirms that it is not aware of any new information or data that materially affects the information included in those announcements.



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## **Corporate Overview**



#### **Capital Structure. Listed on ASX**

ASX Code

VRC

#### **Major Shareholders**

Major Shareholders (as of June 2024)

14.33% Kabunga Holdings Pty Ltd 4,99% PR & E Notman 3.03% 10 BOLIVIANOS PTY LTD 2.67% D Virgara 1.80% Bosswhat Pty Ltd

Others

#### Balance

#### **Key Executive Team**

Executive Chairman Managing Director & CEO Non-Executive-Director Company Secretary Asimwe Kabunga Prashant Chintawar "PC" Jack Fazio Robbie Featherby

## **The Volt Team**

### **Battery Materials, Mining, & Specialty Chemical Background**



#### Asimwe Kabunga Executive Chairman

Asimwe is a Tanzanian born Australian entrepreneur with multiple interests in mining and IT businesses around the world. Asimwe has extensive technical and commercial experience in Tanzania, Australia, United Kingdom and the United States.







#### Prashant Chintawar MD & CEO

Prashant is an entrepreneurial global business leader with a track record of business management (over \$1 billion product P&L) and creation + scale up of new specialty chemical, battery material businesses. His key strengths include strategic planning and tactical execution by rallying teams. He has PhD in Chemical Engineering & management certificate in finance.





Roman Saramaga Director, Zavalievsky Graphite

Roman is based in Ukraine and has over fifteen years' experience in project management. He previously served as Deputy Head of the Ukrainian Geological Survey where he was involved in mining licensing, geological exploration and modernization of resource industry legislation. He also launched the Strategic Partnership between the European Union and Ukraine on critical raw materials and batteries.

> Ukrainian Geological Survey



#### Chris Larder VP, Technology

Chris is VP of Technology for Volt. He is a highly experienced metallurgist and brings experienced forged over a long career providing technical management for a range of projects in various jurisdictions and commodities. He brings significant experience in all aspects of concentration and purification of graphite.



RESOURCES

## **Volt Investment Rationale**



<u>**Clear Strategy**</u> – focus on battery grade graphite due to large addressable market, unique value proposition, and market tailwinds. We have a patent pending & environmentally superior process for ultra high purity (99.95%) battery grade graphite production.

**Proven Graphite Producer with Offtakes -** We have a graphite mine in production in Europe (since 1934) while Bunyu is one of the world's largest graphite deposits in Tanzania with offtakes and strong financials.

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Large Non-Dilutive Funding Pipeline – Won €595k in 2023 and the Board is confident of winning one or more additional non-dilutive grant(s) over the next year. Multiple projects in the pipeline.



<u>Entrepreneurial Team</u> with Fortune -100 experience and a track record of battery material, mining, specialty chemical business management, and winning non-dilutive funds (over USD 55 million won excluding Volt)





## **Graphite Poised for Next Bull Market**

- Expect flake graphite prices to steadily grow over the next several years
- Benchmark Flake Graphite Price China Index shows gradual improvement in flake graphite prices
  - 28 March 2024 US\$ 640/t
  - 30 April 2024 US\$ 688/t
  - 31 May 2024 US\$ 701/t
  - 30 June 2024 US\$ 738/t
- North America and Europe markets (our focus) are likely to favor natural graphite (over synthetic) in lithium-ion batteries
- There is no substitute for graphite in lithium-ion batteries

## **Graphite Demand Vs Supply**

Synthetic Graphite Anode: 2022–2030		Natural Graphite Anode: 2022–2030			
Supply Growth	Demand Growth	Supply Growth	Demand Growth		
150%	170%	95%	415%		
Synthetic G	raphite Anode				
Natural Gra	phite Anode				
Market Balance (tpa)					
Balanc					
arket I					
Σ̈́					
2018 2019	2020 2021 2022 2023	2026 2025 2026	5 2027 2028 2029 2030		

Source: Benchmark Mineral Intelligence Q4-2022

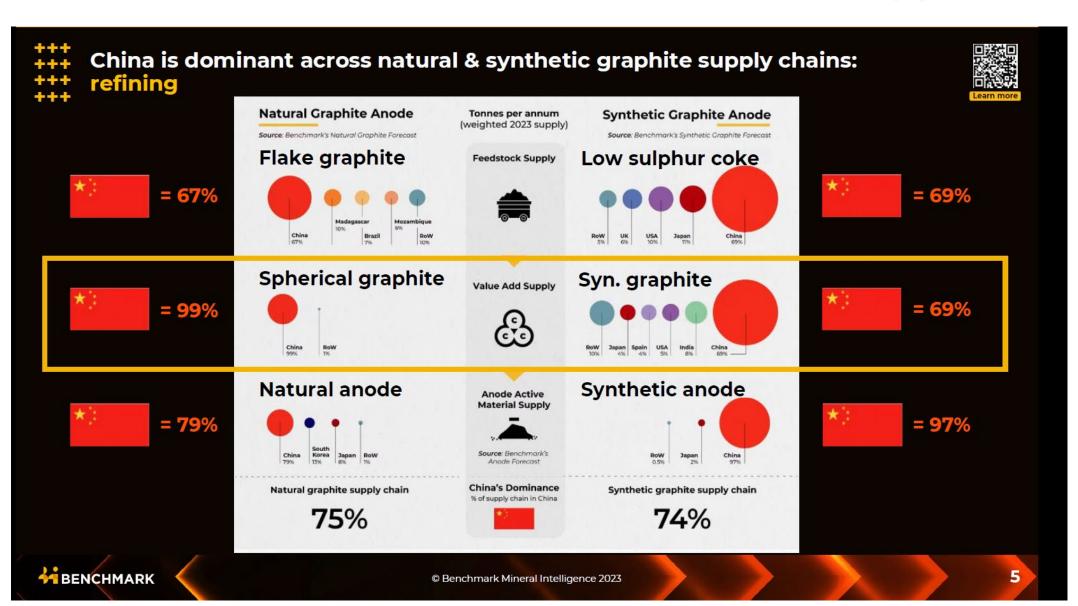
# Downstream Business (Natural Graphite Anode)

Upstream Business (Mining)

# **China Controls Graphite Refining**

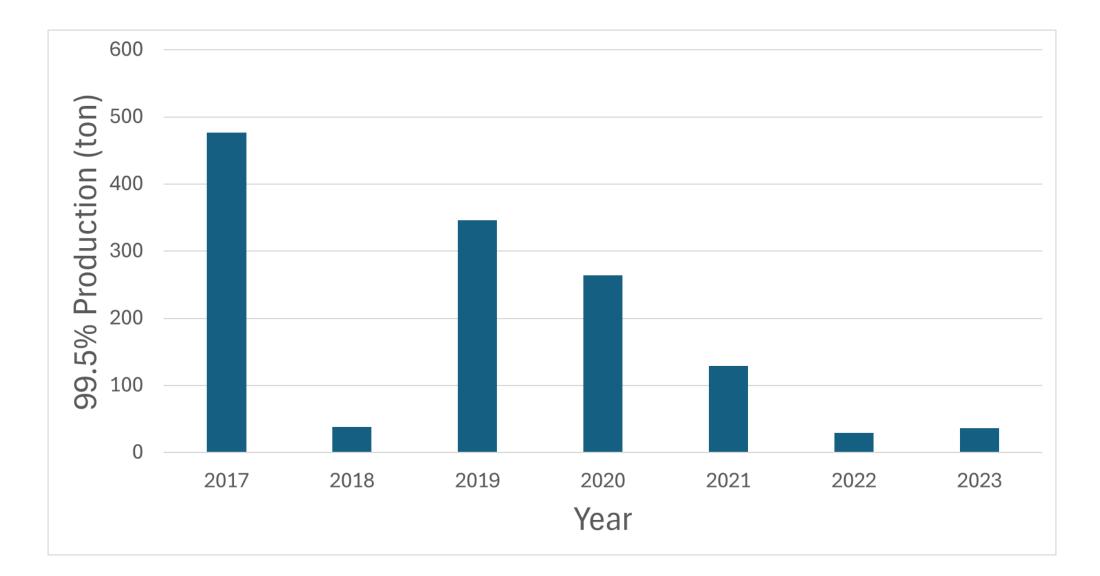
US and Europe looking to build ex-China supply chain





# Volt is a Proven Graphite Refiner





Patent Pending Low-Cost Process for Ultra High Purity (99.95%) Battery Grade Graphite Production

US Provisional Patent (63/581,171) "Low-Cost HF Free Purification to Produce Battery Grade Graphite".

Step 1: Starting with flake graphite
concentrate (85-96% purity), <u>99.5% pure</u>
graphite (based on Company's proven process
with years of experience) is produced.

**Step 2 :** Starting with 99.5% pure graphite, produced in Step 1, <u>ultra-high purity (99.95%)</u> graphite anode pAAM is produced via new chemical purification process.



### **Existing High Purity (99.5%) Graphite Production Line**





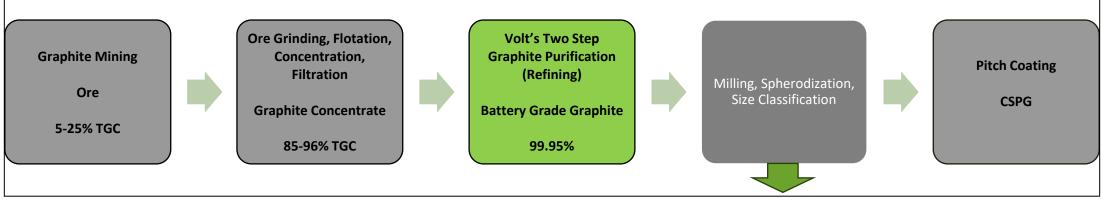




### Purification Can be Done Before or After Spheroidization

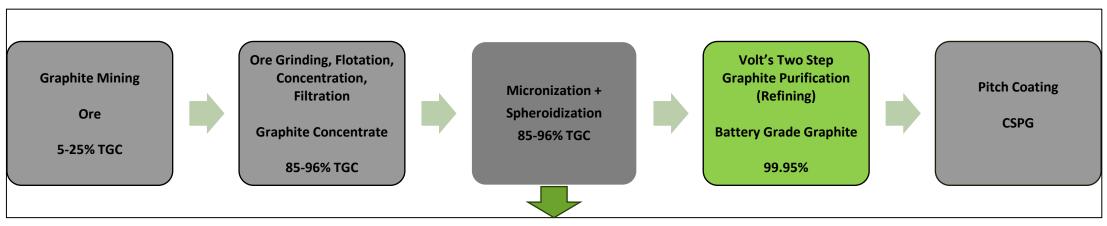


#### Non-Conventional Process for CSPG (Coated Spherodized Purified Graphite) Production



Non-Spherical Purified Graphite

#### Conventional Process for CSPG (Coated Spherodized Purified Graphite) Production



Non-Spherical Non-Purified Graphite



## **Volt's Non-Thermal and Hydrofluoric Acid Free Refining Process Produces Battery Grade Graphite**

Features	Benefits
HF free process	<ul> <li>No need to store hydrofluoric acid (HF) on-site</li> <li>Lower cost</li> <li>Ease of permitting</li> </ul>
Non-thermal purification	Lower cost
Simple flowsheet	Low cost
Proven	<ul> <li>99.5% product is in commercial production since 2017</li> <li>99.95% product samples available for evaluation</li> </ul>

# **Volt's Graphite Refining Process**



#### Volt analysis

		Volt's Chemical Process	Thermal Purification	Hydrofluoric Acid Purification
Economic	Low Initial Capital Cost		XX	Х
Comparison	Low Sustaining Capital Cost	$\checkmark$	X	X
	Low Operating Cost	$\checkmark$	X	X
Technical	Suitability of		$\checkmark$	$\checkmark$
Comparison	Graphite for LIB – Impurity			
	Туре			
	Suitability of	$\checkmark$		
	Graphite for LIB – Impurity			
	Content			
	No loss of crystalline structure	$\checkmark$		
	Easy to Operate	$\checkmark$	X	?
	Easy to Secure Permit	$\checkmark$	$\checkmark$	XX
	No Environmental Issues	$\checkmark$	$\checkmark$	XX
	Simple Process	$\checkmark$	XX	X
	Ease of Process Control	$\checkmark$	X	$\checkmark$
ESG Comparison	Low CO <sub>2</sub> Emission		Х	$\checkmark$
	ESG Compliance	$\checkmark$	?	Х
	High Energy Efficiency		XX	?
	High Resource Efficiency		XX	?

# Identified Site in Tuscaloosa, Alabama for 20 ktpa

Planned SOP in 2027 (contingent on funding)



## New US Battery Manufacturing and Supply Chain Investments

Nearly \$82 billion announced so far



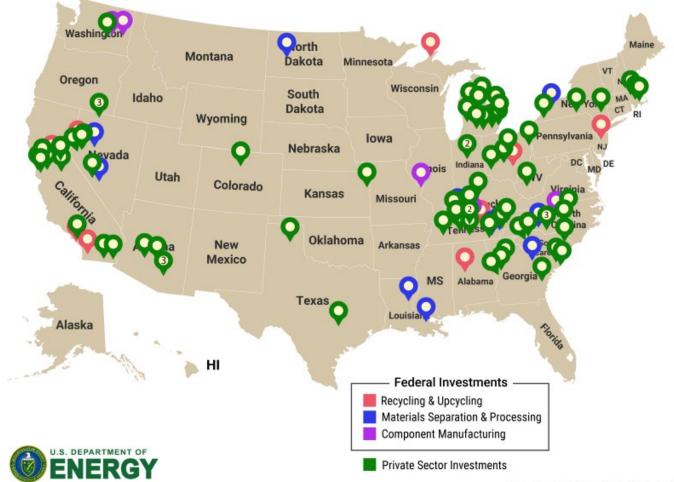
96 new and expanded processing and manufacturing plants



Enough to power 10 million EVs each year







Based on publicly available information

RESOURCES

# Downstream Business (Natural Graphite Anode)

# Upstream Business (Mining)

# Volt is a proven graphite producer with a mine in operation since 1934

- Significant portion of graphite is fine mesh suitable for lithium-ion batteries
- Grinding + Flotation + Filtration + Purification done at mine + processing plant to produce 99.5% pure product
- Permits for subsoil use (mining licence equivalent) valid until November 2035.
- Makes graphite products across the range and potential to significantly increase high value, large flake production.
- Excellent transport infrastructure covering road, rail, river and sea freight combined with reliable grid power.

#### **Project KPIs**

- Ownership
   70% Volt, 30% Ukraine entities
- Long-life: producing graphite mine that has been in operation for over 87 years, with exploration upside
- Refer to ASX announcement dated 18 October 2021 titled "Expansion potential for Zavalievsky Graphite Supported by Graphite Mineralisation Estimate"

- Resources: 22.9 million ton at a grade of 6.8% carbon – subset of overall deposit based on south-east zone only<sup>1</sup> (Non-JORC and approximately 20% of Russian code resources)
- Production : average 7,300 tpa graphite concentrate from 2017 to 2021. 1980s – 60 ktpa

#### **Upcoming Milestones**

- Industrialize 99.95% production
- Become a supplier to lithiumion battery cell makers based in Europe and North America



### Ukraine

) Kyiv

JLT

RESOURCES

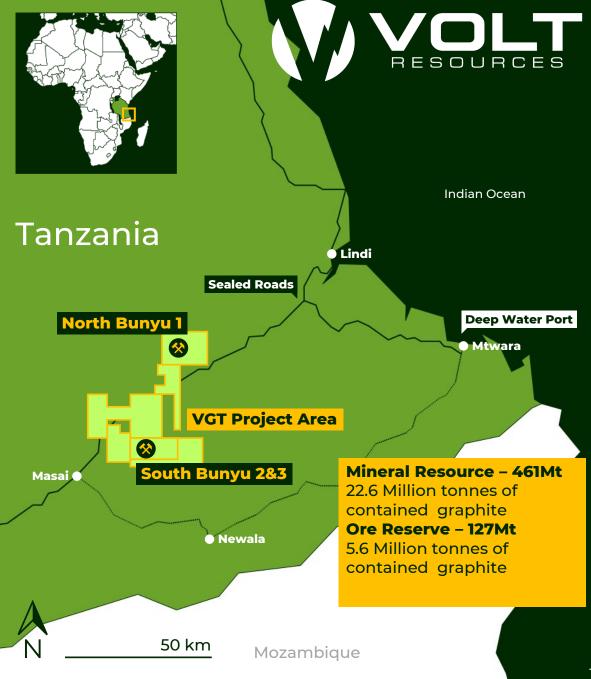


## Tanzania Bunyu Graphite

Enough to power 2.8 million EVs per year

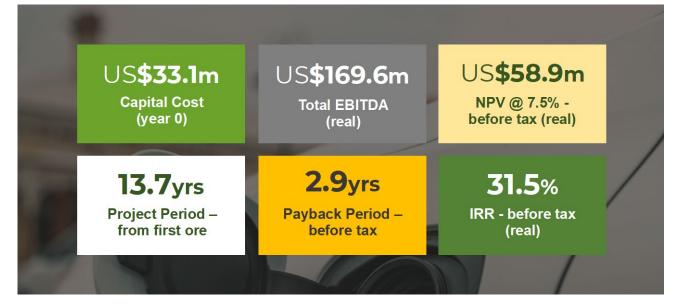
#### Highlights

- One of the largest graphite deposits in the world. 100% owned; Greenfield project; Bunyu is the largest JORC Mineral resource in Tanzania
- Only 140 km from Mtwara port
- Two stage development strategy with Stage 1 significantly de-risking the development of Stage 2 Expansion Project
- Stage 1 to produce 24,780 tpa flake graphite (@ 6.26% TGC feed grade)<sup>1</sup> and Stage 2 expansion increases annual production to 170,000 tpa flake graphite.
- Environmental Impact Assessment Certificate and Mining Licences received covering both Stage 1 and 2
- Africa is set to become graphite production leader



Refer to Volt's ASX announcement titled "Feasibility Study Update for Bunyu Graphite Project Stage 1, Tanzania, delivers significantly improved economics" dated 14 August 2023.

### Bunyu Stage 1 has Strong Project Economics Feasibility study completed in August 2023



Stage 1 Project	Unit	Financial
		Performance
		2023
Project Period - from first ore	years	13.7
Total Net Revenue	US\$ M, real	433.2
Total EBITDA	US\$ M, real	169.6
IRR - before tax	%, real	31.5
IRR – after tax*	%, real	23.6
NPV @ 7.5% - before tax	US\$ M, real	58.9
NPV @ 7.5% - after tax*	US\$ M, real	36.4
Capital Cost (year 0)	US\$ M, real	33.1
Payback period, before tax – from first ore	years	2.9
Payback Period - after tax - from first ore	years	3.9
* Tanzanian corporate income tax rate of 30% has been ap	plied to the project plus	minimum tax (MTA) of
0.5% of sales revenue in loss years. Payments of corpora	ate tax on profits are e	stimated to commence
from year 1 of production, after utilising the benefits of carrie	ed forward income tax lo	osses.
<sup>1</sup> A discount rate of 10% was used to determine NPV for the	e 2018 study.	

Volt is looking for about USD 40 million financing for Stage 1

## Stage 1 Bunyu Graphite Sold Under Offtakes

#### **Graphex Group Limited**

Offtake agreement signed with global battery anode material producer Graphex Group Limited subsidiary, Graphex Michigan 1 LLC. Graphex Group is listed on Hong Kong Stock Exchange and the NYSE.

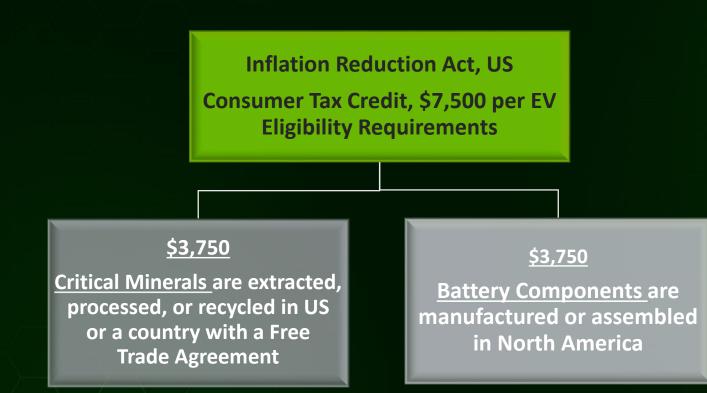
- 7,500-10,000 tpa fine flake graphite for five years
- An option to extend a further five years
- All Stage 1 fine graphite product is sold

#### Qingdao Baixing Graphite Company Ltd

Offtake agreement signed with established producer of graphite products

- 12,000-90,000 tpa coarse flake graphite for five years
- An option to extend a further five years
- All Stage 1 coarse graphite product is sold

## **Graphite Projects & Inflation Reduction Act**



- From 2027, Critical Minerals can not be extracted, processed, or recycled in a Foreign Entity of Concern
- 2. Foreign Entity of Concern China, Russia, N Korea, & Iran
- 3. The US Geological Survey reaffirmed graphite as a Critical Mineral in its 2021 Review and Revision of the US Critical Minerals List, ranking graphite higher than manganese, lithium, nickel, and copper in overall supply risk

# **Asena Lithium Overview**



Three license applications of 291km<sup>2</sup> in area with similar prospective geology and physical proximity

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#### JADAR NORTH (area comprising 98.75km<sup>2</sup>)

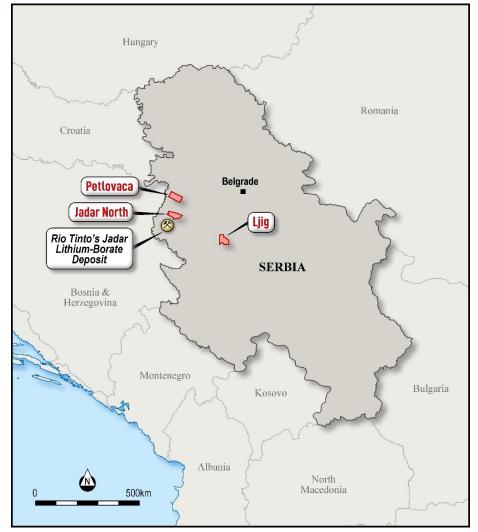
- Asena has directly targeted the northern extent of the basin where Rio Tinto is developing the world class Jadar Deposit
- Rio and Asena occupy 100% of the Jadar basin subject to Asena being granted the North Jadar licence
- Extensive surface geochemical sampling, ground magnetic and magnetotelluric surveys, followed by limited drilling conducted

#### PETLOVACA (area comprising 99.65km<sup>2</sup>)

- Near to the Jadar basin, gravity-data indicates similar depths, thicknesses, environments and stratigraphic sequences.
- Undrilled to date

#### LJIG (area comprising 92.31km<sup>2</sup>)

- Two holes drilled in the Ljig license application area to date penetrated lacustrine sediments with mineralisation found as pseudomorphs
- Large area of mineralised basin sediments indicated by the nearby Valjevo borate deposit drilling



# HIGHLIGHTS

**Gold Projects, Guinea** 

- Volt acquired 100% interest in three gold projects (Kouroussa, Mandiana and Konsolon) in the richly mineralised Birimian Greenstone Belt in Guinea, West Africa.
- Three projects comprise six highly prospective gold permits with a total area of 388km<sup>2</sup>
- Previously announced assay results for the above permits included  $^{\rm 1}$ 
  - Konsolon
     20.25g/t Au, 12.87g/t Au, 5.12g/t Au,
     4.97g/t Au and 3.21g/t Au (soil samples)
  - Nzima

14.5g/t Au, 2.93g/t Au, 1.54g/t Au and 0.86g/t Au from grab samples

 Kouroussa
 1.02g/t Au, 0.77g/t Au, 0.46g/t Au from grab samples

#### **UPCOMING MILESTONES**

• Evaluate options that will provide value for Volt shareholders without the need for further material investment by the Company

1. Refer to ASX announcement dated 23 July 2020 titled "Guinea Gold Projects Exploration Update"





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**FACT SHEET** 

# **Volt Transformation is Underway**

From mining only to an integrated materials producer



#### Mining

 Development ready & one of the world's largest graphite project in Tanzania with offtake agreements and strong financials
 Potential for value creation from Serbia lithium and Guinea gold projects

#### **Integrated Materials Producer**

 Producing high purity (99.5%) graphite at commercial scale. Patent pending process for battery ready ultra-high purity (99.95%) graphite
 Plan to set-up Graphite Refinery in Alabama, US (contingent upon financing)
 Strong and growing non-dilutive funding pipeline

## Contact



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