Talga Presentation at IDTechEx Show 2019

Advanced battery anode materials and graphene additives provider Talga Resources Ltd ("**Talga**" or "**the Company**") (**ASX:TLG**) is pleased to provide a copy of the presentation to be delivered today by the Company's Technical Sales Director, Stephen Hutchins, at the IDtechEx Show 2019 in Santa Clara, California, USA.

The presentation is available on the Company's website via the link below:

http://www.talgaresources.com/irm/content/presentations.aspx?RID=301

For further information please contact:

Mark Thompson
Managing Director
Talga Resources Ltd
T: +61 (0) 8 9481 6667

Nikki Löf
Marketing & Investor Relations Coordinator
Talga Resources Ltd
T: +61 (0) 8 9481 6667

The Market Focused Approach:

Unlocking graphene potential through integrated products

talga

Forward Looking Statement & Disclaimer

This presentation has been prepared by Talga Resources Ltd (ACN 138 405 419) ("Issuer") for the sole purpose of providing an overview of its current prospects and proposed exploration and development strategy to recipients ("Recipient"). This presentation and its contents are provided to the Recipient in confidence and may not be reproduced or disclosed in whole or in part to any other person, without the written consent of the Issuer.

The presentation is based on information available to the Issuer as at the date of the presentation. The information contained in this presentation has not been verified by the Issuer nor has the Issuer conducted any due diligence in relation to that information. The presentation contains selected information and does not purport to be all inclusive or to contain all information that may be relevant to the Recipient. The Recipient acknowledges that circumstances may change and this presentation may become outdated as a result. The Issuer accepts no obligation to update or correct this presentation.

This document includes forward-looking statements. When used in this document, the words such as "could," "plan," "estimate," "expect," "intend," "may," "potential," "should," and similar expressions are forward-looking statements. Although the Issuer believes that the expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties, and no assurance can be given that actual results will be consistent with these forward-looking statements.

No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this presentation. To the maximum extent permitted by law, none of the Issuer, its directors, employees or agents, advisers, nor any other person accepts any liability for any loss arising from the use of this presentation or its contents or otherwise arising in connection with it, including, without limitation, any liability arising from fault or negligence on the part of the Issuer or its directors, employees or agents. Nothing in this Presentation is a promise or representation as to the future. Statements or assumptions in this presentation as to future matters may prove to be incorrect and differences may be material. The Issuer does not make any representation or warranty as to the accuracy of such statements or assumptions.

The information in this presentation does not take into account the investment objectives, financial situation and particular needs of any Recipient. The Recipient should not make an investment decision on the basis of this presentation alone and the Recipient should conduct its own independent investigation and assessment of the content of this presentation. Nothing in this presentation constitute financial product, investment, legal, tax or other advice. Nothing in this presentation should be construed as a solicitation to buy or sell any security or to engage or refrain from engaging in any dealing in any security.

Photographs, maps, charts, diagrams and schematic drawings appearing in this presentation are owned by and have been prepared by or commissioned by the Issuer, unless otherwise stated. Maps and diagrams used in the presentation are illustrative only and may not be drawn to scale. Unless otherwise stated, all data contained in charts, graphs and tables is based on information available at the date of this presentation. By accepting this presentation the Recipient agrees to be bound by the foregoing statements.

Why Graphene?

Graphene is an ultra-thin form of graphitic carbon which can be added to new or existing materials

It can make materials stronger, lighter and more functional, thereby decreasing the use of toxic plastic, metals and chemicals in some products

However it’s uptake and commercialisation has been hindered by it’s small scale and hype

The careful **integration of the carbon source and production process to product chemistry** is key to unlocking real-world applications

Talga Resources

A highly integrated producer of advanced battery anode materials and graphene additives

Since being founded and listing on the ASX in 2010, Talga moved to develop a range of clean-tech products utilising its high grade natural graphite deposits in Sweden

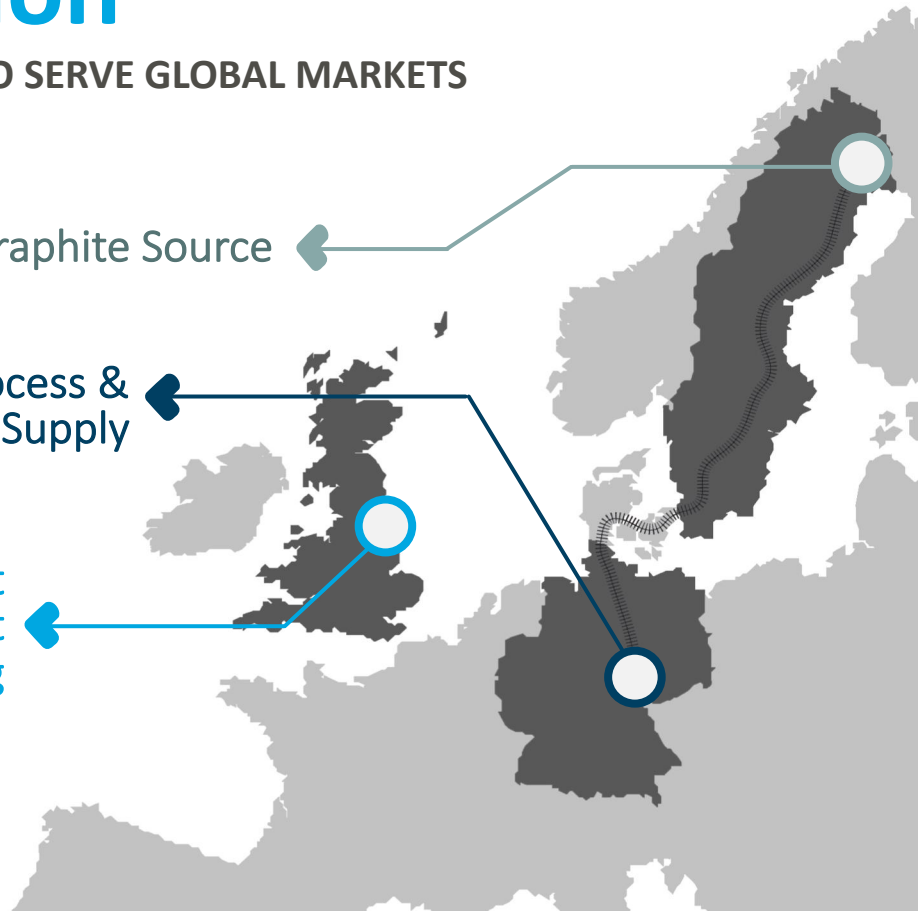
We now employ 35 technical and professional people from the exploration and development of mines, through processing technology, to marketing and R&D of new additive products

This vertical integration with 100% ownership of mineral supply, processing and product is designed to provide security of supply for customers and create long-lasting value for our stakeholders

Full Vertical Integration

EUROPEAN BASED AND VERTICALLY INTEGRATED TO SERVE GLOBAL MARKETS

- **Talga Sweden**
  100%-owned high grade graphite deposits under development
- **Talga Germany**
  100%-owned pilot production facility for scaling up process technology & customer samples
- **Talga UK**
  100% in-house science and marketing team in Cambridge



The Graphene Market

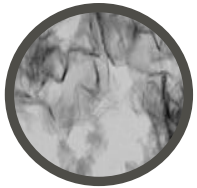
Moving from lab to marketplace

Graphene Types and Market Segments

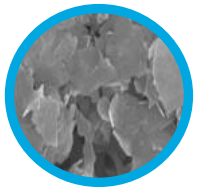
LAB GRAPHENE

SINGLE LAYER GRAPHENE

INDUSTRIAL GRAPHENE

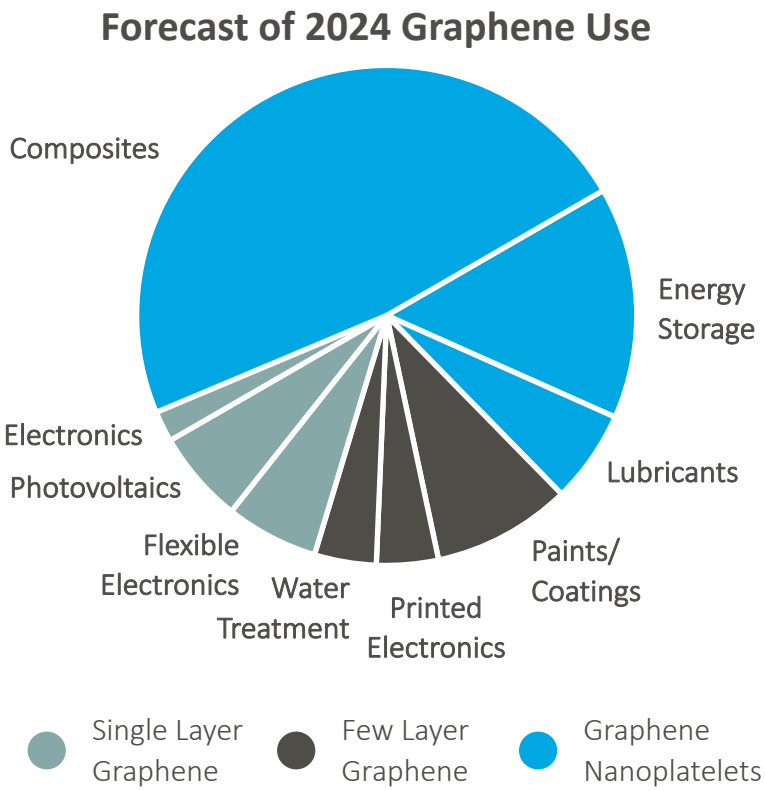


FEW LAYER GRAPHENE

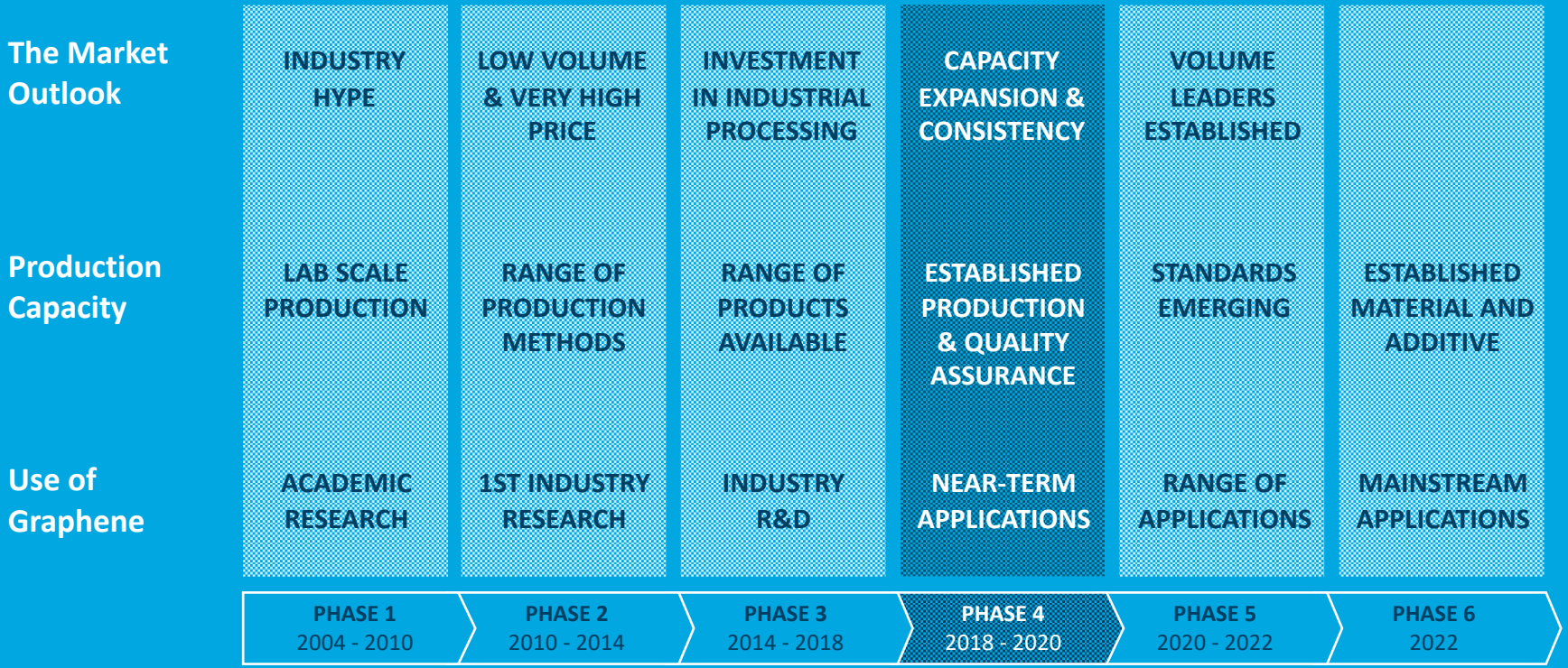


GRAPHENE NANOPLATELETS

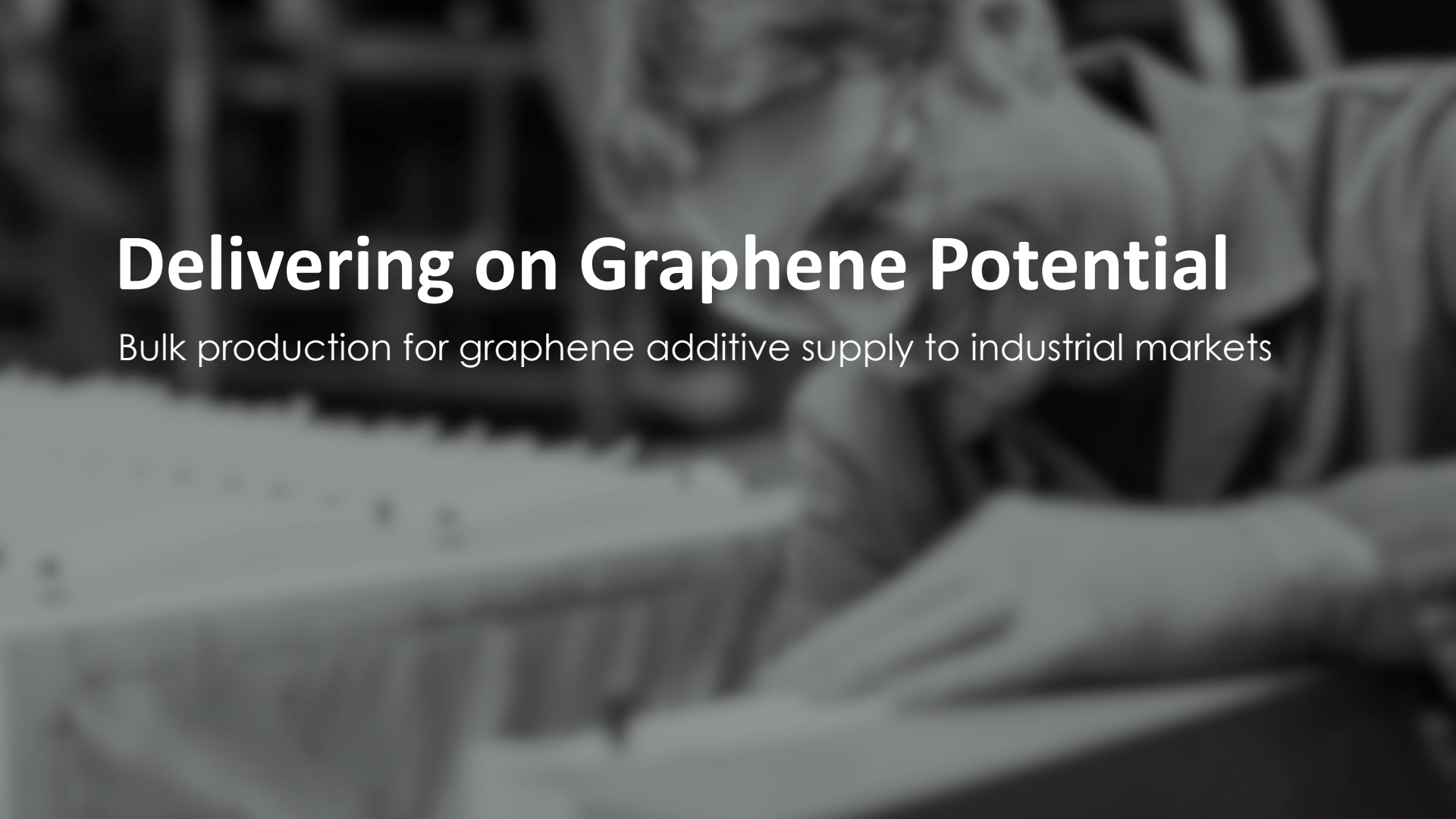
SOURCE: CHART ADAPTED FROM FULLEREX 2019



Graphene Industry Timeline



SOURCE: FIGURE ADAPTED FROM FULLEREX 2019

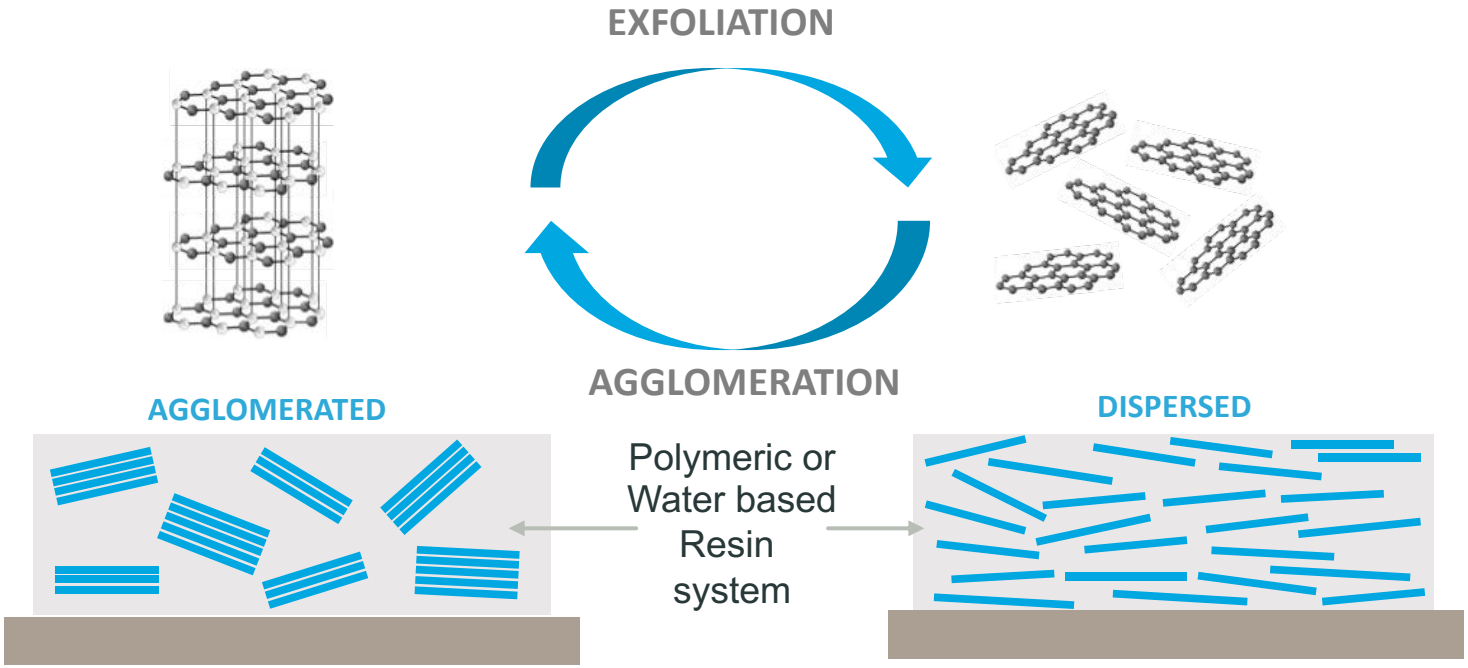


Delivering on Graphene Potential

Bulk production for graphene additive supply to industrial markets

Unlocking Graphene Potential

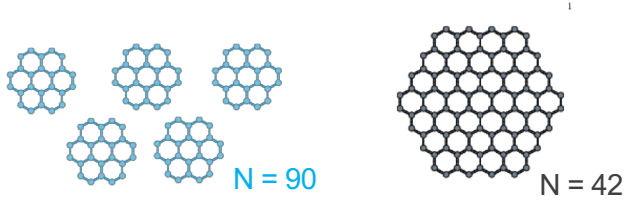
ENSURING GOOD STABLE DISPERSION IN THE MATRIX



Talga Advantage: Particle Morphology

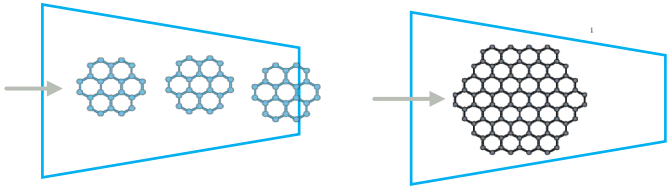
ADDITIONAL EDGES

- Higher degree of functionalization & dispersion
- Higher sites for cross-linking



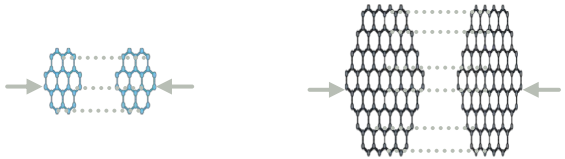
PROCESS IMPLICATIONS

- Lower chances of blockages during extruding/printing



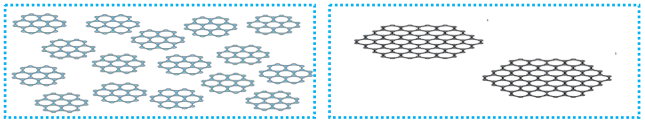
DEGREE OF AGGLOMERATION

- Lesser tendency to agglomerate
- Lower chances of sheets getting folded



IMPROVED REINFORCEMENT

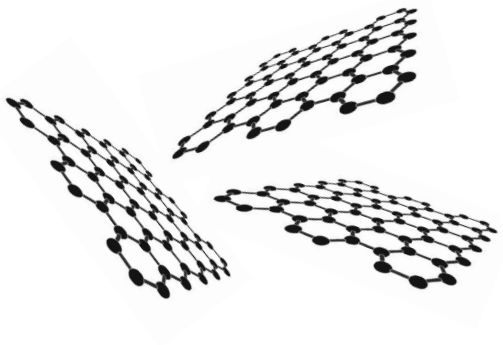
- Improved/consistent reinforcement
- Improved Mechanical stiffness and impact strength



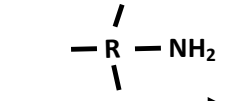
Graphene Functionalisation

DISPERSION ENABLED BY FUNCTIONALISATION ACCORDING TO SYSTEM CHEMISTRY

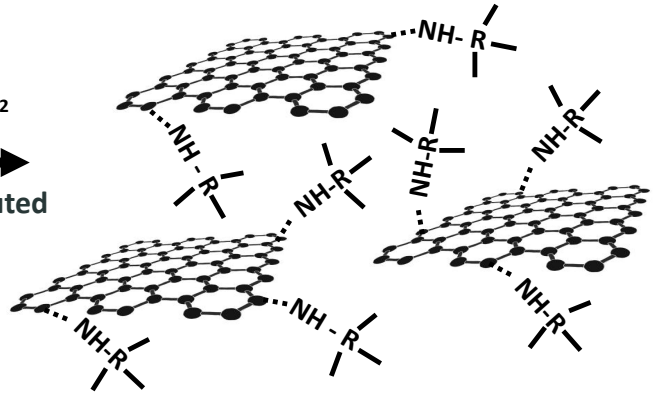
FUNCTIONALISATION REACTION



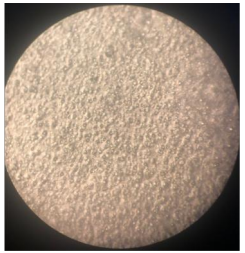
Talphene® Flakes



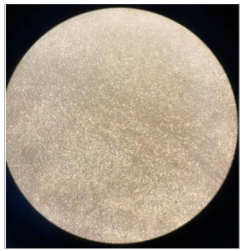
Amino substituted linker



Functionalised Talphene® Flakes



Talphene® in Polymer



Functionalised Talphene® in Polymer

Talga Production Overview

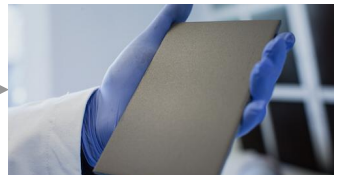
MINE-TO-PRODUCT BATTERY ANODE MATERIAL AND GRAPHENE ADDITIVE SUPPLY CHAIN

Mining → **Processing** → **Refining** → **Talga Products** → **End user Applications**

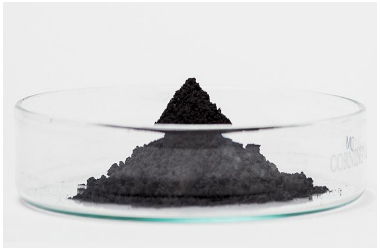
Natural Graphite Ore → Proprietary Process Technology

- Graphite → Talnode® High Power Battery Anode Material

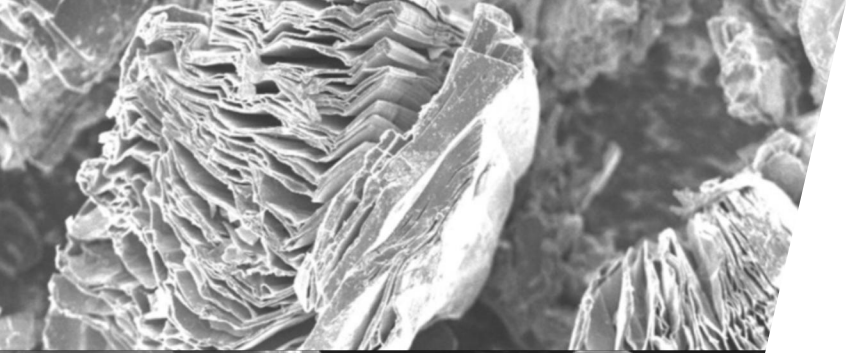
- Graphene & Functionalizing* → Talphene® Functionalized graphene

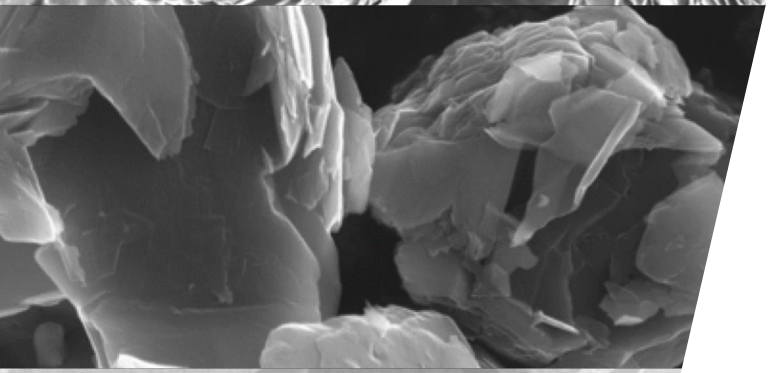


Graphite Ore Stockpile (7 ton blocks)



Talga Pilot Plant





Talga Materials

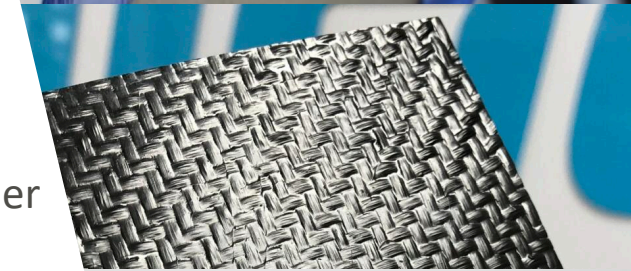
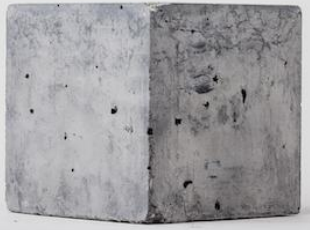
Talphite® / High purity micro-graphite using proprietary electrochemical exfoliation and concentration process

Talphene® Nanoplatelets / Multi-layered platelets of graphene using combinations of proprietary processes

Talphene® Flakes / Few layer graphene flakes using electrochemical exfoliation process and collected in liquid suspension

Key Product Sectors

- **ENERGY STORAGE** — Lithium-ion battery materials / Silicon & Solid State anodes / Conductive Additives
- **ENHANCED COATINGS** — Cr(VI)-free pre-treatment coatings / Anti-corrosion coatings / anti-fouling systems
- **COMPOSITES & RESINS** — Conductive and high strength plastics or polymer composites / High strength CRFP systems
- **BUILDING MATERIALS** — High strength building materials / Thermally or electrically conductive concrete

Translating to Real World Use

An example of successful lab to market journey of bulk graphene

Market - Marine Coating

Global paints and coating market estimated at ~54 million tonne per annum with marine coatings segment projected to grow to USD$12 billion by 2024

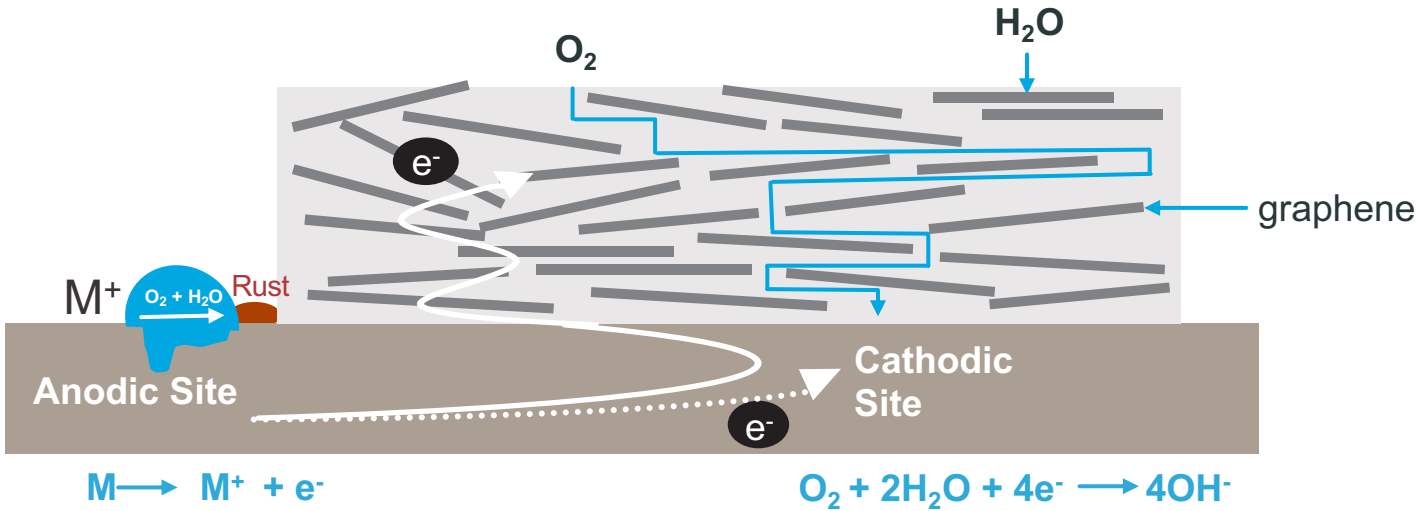
- Market drivers include environmental and regulatory demands, fuel efficiency, construction costs (pre-fabrication) and maintenance costs
- Benefits from graphene incorporation include decreased toxic metal content, increased strength, corrosion resistance, adhesion, impermeability, antifouling, electrical conductivity and weldability

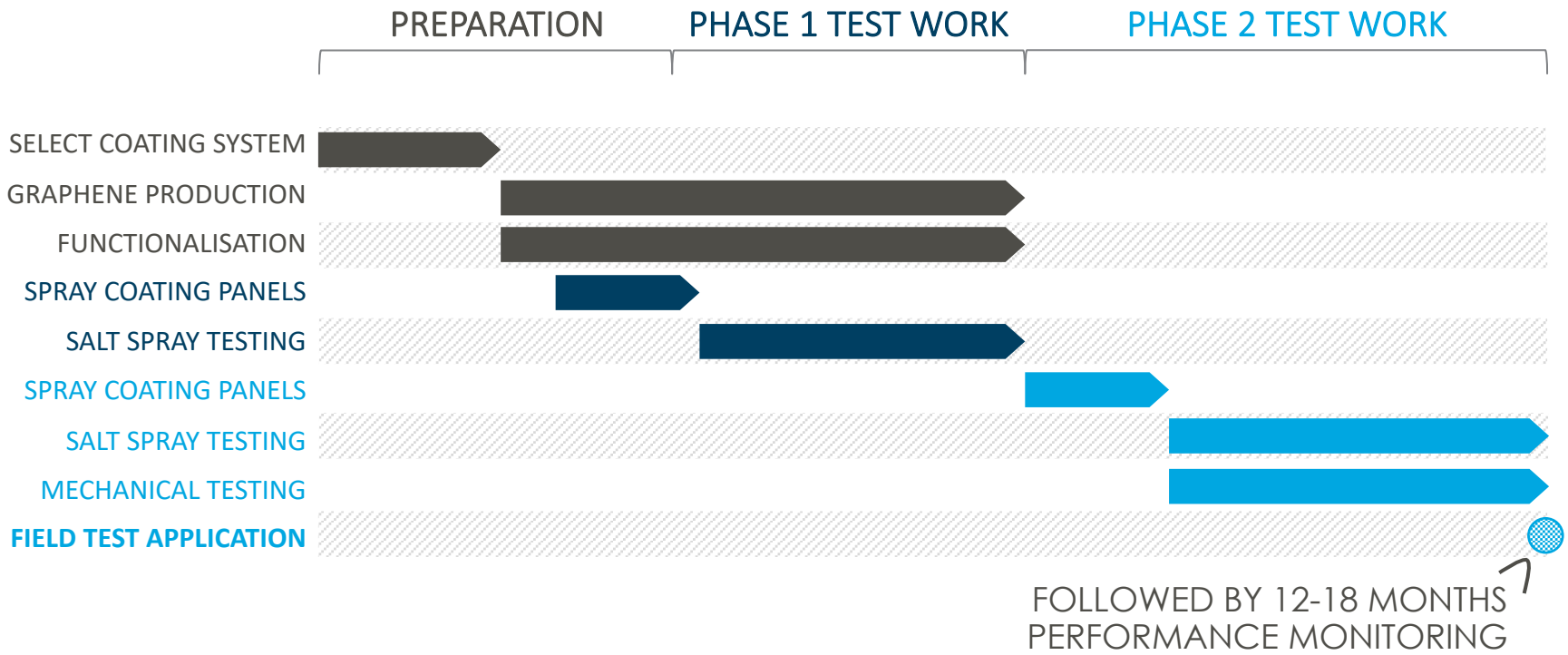
SOURCE: WORLD PAINT & COATINGS-DEMAND & SALES FORECASTS, FREEDONIA GROUP, JUN 2016.

Graphene Selection Criteria

POTENTIAL MECHANISMS OF GRAPHENE ADDITIVE FOR MARINE COATING (PRIMER)

- Increased barrier effect from impermeability of graphene flakes
- Increased tortuous path effect, slowing oxidation
- Electrochemical potential via anodic and cathodic effects from tuned conductivity





Primer Test Program

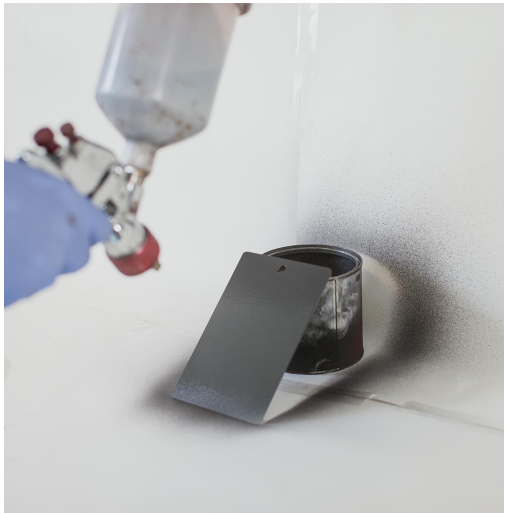
SEE: ASX:TLG 4 NOV 2019

Product Development

IN-HOUSE DEVELOPMENT, PREPARATION AND CORROSION TESTING TO ASTM STANDARDS

ADDITIVE PREPARATION

COATING APPLICATION

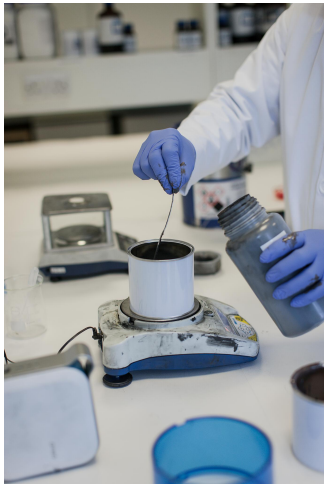


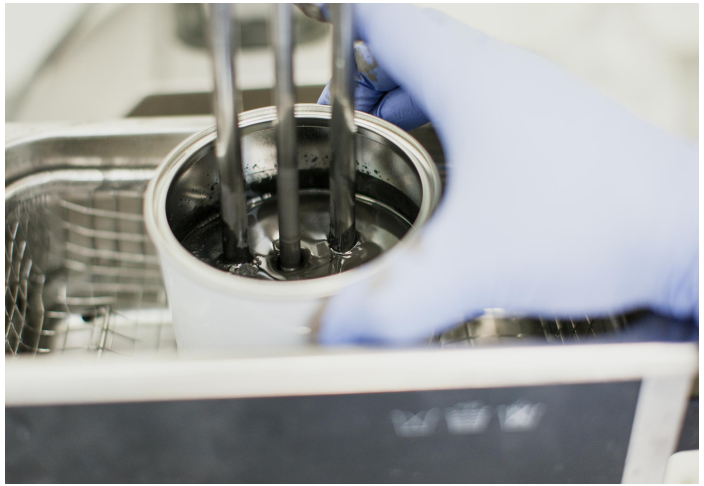
CORROSION TESTING

SEE: ASX:TLG 4 NOV 2019

Product Development

ADHESION AND MECHANICAL TESTING TO ASTM STANDARDS





ADHESION: Pull off Test (ASTM 4541) and Overcoating Test (ASTM 4541)

MECHANICAL PERFORMANCE: Impact Test (ASTM 2794) and Abrasion Resistance (ASTM D4060)

SEE: ASX:TLG 4 NOV 2019

Marine Primer Development Results

GRAPHENE INCORPORATION IN COMMERCIAL PRE-FAB AND POST FAB PRIMERS

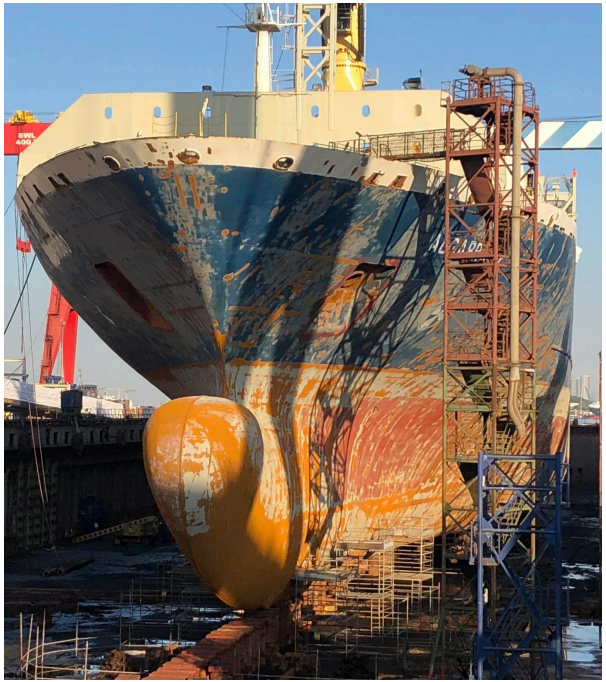
Successful incorporation of functionalised Talphene® into primers for steel and aluminum substrates to enable reduction of toxic additives such as Cr, Cu or Zn

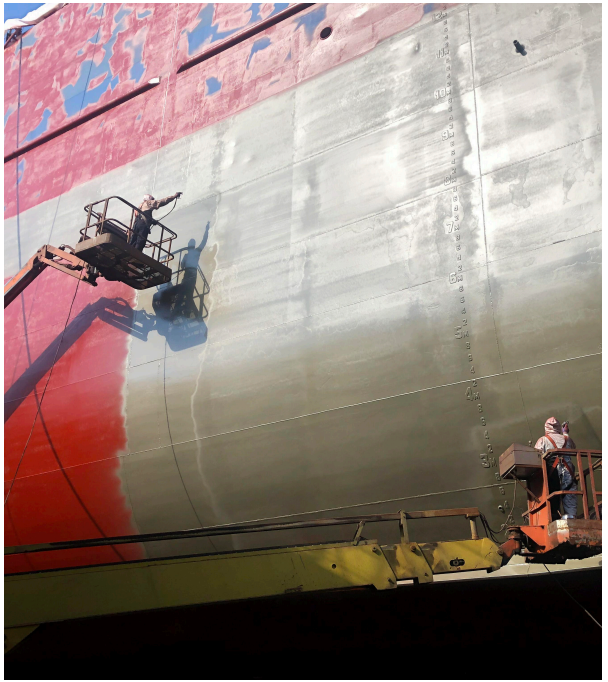
- Development work included multi-stage testing to optimise graphene loadings (i.e. quantities) and Talga's patent-pending dispersion technology for commercial primer coating systems
- Results showed significant increase in corrosion resistance, impact toughness (+28%), substrate adhesion (+7%), interlayer adhesion (+14%) and consistent improvement in abrasion resistance

SEE: ASX:TLG 4 NOV 2019

Largest Single Graphene application

APPLICATION OF TALPHENE®-ENHANCED PRIMER TO 33,000 TONNE CARGO SHIP





SEE: ASX:TLG 4 NOV 2019

Real World Trial

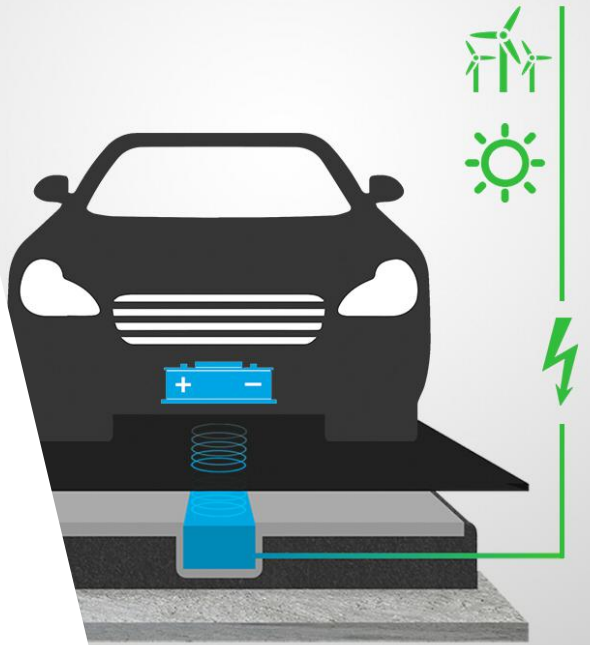
Other Products Under Development

In-house R&D alongside partner collaboration programs

Cleaner Concrete

Reposition concrete, the world's most widely used construction material and a large greenhouse gas emitter, as an integral part of building a greener future

- Standard cement combined with Talga graphene
- Prototype concrete exhibits significantly increased electrical conductivity
- Potential to create smart roads that can charge EV batteries while in motion or be kept snow and ice free without the need for environmentally harmful chemicals



SEE: ASX:TLG 25 JUN 2018

Greener Packaging

Graphene technology with material impact to performance and functionality for innovative and sustainable packaging solutions

- Graphene packaging technology drivers include waste reduction, increased recycling, cost decreases and multi-functionality
- JDA executed with Swedish multinational packaging company BillerudKorsnäs with program designed to enable a range of performance and eco-benefits such as natural fibre replacement of plastic packaging

SEE: ASX:TLG 23 AUG 2018 & 24 OCT 2019

Next-Gen Batteries

In-house battery technology innovations focusing on higher performance graphene hybrid anode materials

- Development of Talnode®-Si, a graphene silicon-anode for higher energy density (70% higher than standard)
- Development of Talnode®-E, a graphene hybrid anode to replace metallic lithium in solid state batteries
- Higher capacity batteries can benefit industry by extending device operating times (or range in an EV) and lead to lower costs, as the increased energy density decreases the cost per unit of energy (kW/hr) for the total battery pack

SEE: ASX:TLG 24 OCT 2018, 19 FEB 2019 & 2 OCT 2019

Superior Composites

Graphene solutions for applications with complex needs and requirements such as automotive, aerospace, biomedical and sports goods

- Graphene composite technology drivers include strength increase, impact resistance, weight and cost reduction and conductivity
- JDA executed with UK polymer manufacturing and technology company Biomer Technology to co-develop graphene-enhanced thermoplastics for potential commercialisation in the healthcare and coating markets

SEE: ASX:TLG 4 SEP 2018

Graphene Business

Talga's business model is to sell or licence a range of functionalised fit-for-purpose graphene additives, not raw/basic graphene materials

Targets large volume applications with performance and eco-sustainability as key market drivers

Strong synergies between graphene processing, products and technologies with graphite enable parallel development of each vertical

Talphene® production expansion, at Talga pilot production facility in Germany or as addition to planned Swedish anode refinery, will progress in step with commercial demands/contracts

TALGA RESOURCES LTD

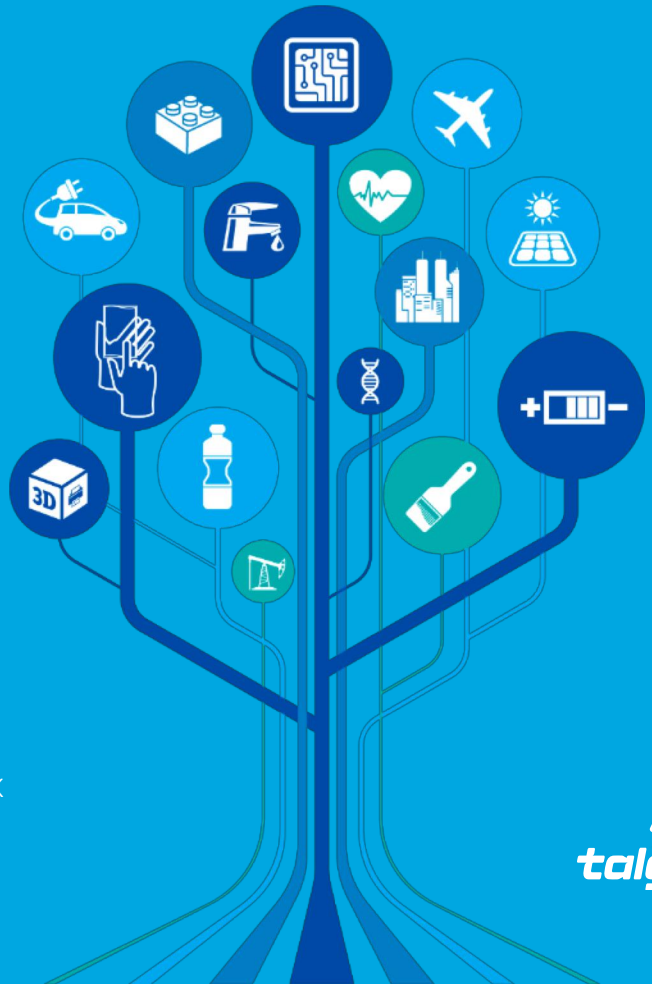
ASX Code: TLG

Head Office: 1st Floor, 2 Richardson Street, West Perth WA 6005, Australia

Phone: +61 8 9481 6667
Email: admin@talgaresources.com
Website: www.talgaresources.com

GLOBAL OPERATIONS

Talga Sweden: Vänortvägen 2, 981 32 Kiruna, Sweden
Talga Sweden: Storgatan 7, 972 38 Luleå, Sweden
Talga UK: The Bradfield Centre, 184 Cambridge Science Park, Cambridge CB4 0FQ, UK
Talga Germany: Prof.-Hermann-Klare-Str. 25, 07407 Rudolstadt, Germany
Talga Japan: Takatsuki, 569-1046, Osaka, Japan



Competent Person Statements

The information in this report that relates to Graphite Resource Estimation for the Vittangi Project is based on information compiled by Oliver Mapeto and reviewed by Albert Thamm. Both Mr Mapeto and Mr Thamm are consultants to the Company. Mr Mapeto is a Member of both the Australian Institute of Mining and Metallurgy (Membership No.306582) and Australian Institute of Geoscientists (Member No 5057) and Mr Thamm (Member No 203217) is a Fellow Member of the AusIMM. Both Mr Mapeto and Mr Thamm have sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this document and to the activity which both are 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" ("JORC Code"). Mr Mapeto and Mr Thamm consent to the inclusion in this report of the Matters based on this information in the form and context in which it appears.

The information in this report that relates to the Mineral Resource Estimate and metallurgical results for the Vittangi Graphite Project was first released to ASX on 27 April 2017 and 10 April 2019 respectively. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of the Mineral Resource Estimate, that all material assumptions and technical parameters underpinning the Mineral Resource Estimate continue to apply and have not materially changed.

The information in this report that relates to Reserve Estimation is based on and fairly represents information that has been compiled by John Walker. Mr Walker is a Principal Mining Engineer with Golder Associates Ltd. who act as consultants to the Company. Mr Walker is a Professional Member of the Institute of Materials, Minerals and Mining (Membership No.451845) a Fellow of the Institute of Quarrying (Membership No.22637) and a Fellow Member of the Geological Society (Membership No.1021044). He has been involved in the mining industry for 30 years acting in various roles including production, project development and consulting. Mr Walker has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this report and to the activity 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" ("JORC Code"). Mr Walker consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to Reserve Estimation was first released to ASX on 23 May 2019. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of the Reserve Estimation, that all material assumptions and technical parameters underpinning the Reserve Estimation continue to apply and have not materially changed.

The information in this report that relates to Graphite Resource Estimation for the Jalkunen and Raitajärvi Projects is based on information compiled and reviewed by Mr Simon Coxhell. Mr Coxhell is a consultant to the Company and a member of the Australian Institute of Mining and Metallurgy. Mr Coxhell has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this document and to the activity which he 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" ("JORC Code"). Mr Coxhell consents to the inclusion in this report of the Matters based on this information in the form and context in which it appears.

The information in this report that relates to the Mineral Resource Estimate for the Jalkunen and Raitajärvi Projects were first released to ASX on 27 August 2015 and 26 August 2013 respectively. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of the Mineral Resource Estimate, that all material assumptions and technical parameters underpinning the Mineral Resource Estimate continue to apply and have not materially changed.

The information in this report that relates to production targets or forecast financial information derived from a production target was first disclosed in the Company's announcement of 23 May 2019 titled 'Outstanding PFS results support Vittangi graphite development'. The Company confirms that all the material assumptions underpinning the production targets and forecast financial information derived from the production targets continue to apply and have not materially changed.

Appendix

JORC Graphite Reserve & Resources

Ore Reserve [3, 6]	Tonnes	Graphite (% Cg)
Nunasvaara (JORC 2012)	**1,935,000**	**23.53**
Proven	0	0
Probable	1,935,000	23.53

Mineral Resources [1, 2, 4, 5, 7, 8, 9]	Tonnes	Graphite (% Cg)
Vittangi Nunasvaara (JORC 2012)	**12,300,000**	**25.57**
Indicated	10,700,000	25.7
Inferred	1,600,000	23.9
Vittangi Niska (JORC 2012)	**4,600,000**	**25.8**
Indicated	4,600,000	25.8
Jalkunen (JORC 2012)	**31,500,000**	**14.9**
Inferred	31,500,000	14.9
Raitajärvi (JORC 2004)	**4,300,000**	**7.1**
Indicated	3,400,000	7.3
Inferred	900,000	6.4
Total Mineral Resources	**52,700,000**	

NOTE:
[1] MINERAL RESOURCES ARE INCLUSIVE OF ORE RESERVES.
[2] MINERAL RESOURCES ARE REPORTED AT VARIOUS CUT OFF GRADES: NUNASVAARA 17% Cg, NISKA 10% Cg, JALKUNEN 5% Cg AND RAITAJÄRVI 5% Cg.
[3] ORE RESERVE IS REPORTED AT A CUT OFF GRADE OF 12% Cg.
[4] ERRORS MAY EXIST DUE TO ROUNDING.

SEE: ASX:TLG [5] 27 APR 2017, [6] 23 MAY 2019, [7] 15 OCT 2019, [8] 27 AUG 2015 AND [9] 26 AUG 2013

Peer Comparison Information

MINERAL RESOURCES ESTIMATE GRADE JORC/NI43-101

Company	Project	Stage	MRE Grade	Cut-off Grade	Information Source
Talga	Nunasvaara	Development	25.5	17	ASX Announcement, 27 April 2017 https://www.asx.com.au/asxpdf/20170427/pdf/43hrrm62qg5hp8.pdf
Mason	Lac Guéret	Development	16.3	6	Company Website, 19th September 2019 www.masongraphite.com/projects/lac-gueret-graphite-project/default.aspx
Buxton	Yalbra	Development	16.2	4	Company Interim Financial Report, 16 March 2016 www.asx.com.au/asxpdf/20160316/pdf/435w84kwc5j5gl.pdf
Lincoln	Kookaburra Gully	Development	15.1	5	ASX Announcement, 19 December 2013 www.asx.com.au/asxpdf/20131219/pdf/42lqg554lxp15w.pdf
Focus	Lac Knife	Development	14.8	3	Press Release, 28 January 2014 www.marketwired.com/press-release/focus-graphite-reports-92-increase-measured-indicated-mineral-resource-categories-its-tsx-venture-fms-1873218.htm
Syrah	Balama Mozambique	Operating	10.0	3	ASX Announcement, 29 March 2019 www.asx.com.au/asxpdf/20190329/pdf/443w7j8hbl9gtd.pdf
Triton	Balama North Nicanda Hill	Development	11.1	3	Company Website, 19th September 2019 www.tritonminerals.com/projects/balama-north/#nicanda
Kibaran	Epanko	Development	9.9	8	ASX Announcement, 31 March 2017 www.asx.com.au/asxpdf/20170331/pdf/43h5qh0m1jmf4h.pdf

Peer Comparison Information

MINERAL RESOURCES ESTIMATE GRADE JORC/NI43-101

Company	Project	Stage	MRE Grade	Cut-off Grade	Information Source
Sovereign	Mallingunde	Development	7.1	4	Company Website, 19th September 2019 www.sovereignmetals.com.au/projects
Graphex	Chilalo	Development	5.4	2/5	ASX Announcement, 28 August 2019 www.asx.com.au/asxpdf/20190828/pdf/447xrt01m63qyp.pdf
Next Source	Molo	Development	6.13	2	Company Website, 19 September 2019 www.nextsourcematerials.com/graphite/molo-graphite-project
Graphite One	Graphite Creek	Development	7.2	6	Company Website, 19 September 2019 www.graphiteoneresources.com/projects/graphite-creek/resource-estimates/
Magnis	Nachu	Development	5.4	3	ASX Announcement, 1 February 2016 www.asx.com.au/asxpdf/20160201/pdf/434rl82h51bvd7.pdf
Hexagon	McIntosh	Development	4.45	3	ASX Announcement, 5 April 2019 www.asx.com.au/asxpdf/20190405/pdf/4442qj43jgxh5x.pdf
Westwater	Coosa	Development	2.39	1	Company Website, 19 September 2019 www.westwaterresources.net/projects/graphite/coosa-graphite-project
Ontario	Kearney	Development	2.14	1.10	Company Website, 19 September 2019 www.ontariographite.com/s/kearney_mine.asp
Northern	Bissett Creek	Development	1.74	1.02	Company Website, 19 September 2019 www.northerngraphite.com/project/bissett-creek-project/overview/