6 December 2016



ASX:TLG

Talga Resources Ltd ABN 32 138 405 419

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Corporate Information

ASX CodeTLG, TLGOAShares on issue181.9mOptions (listed)44.9mOptions (unlisted)34.7m

Company Directors

Keith Coughlan Non-Executive Chairman

Mark Thompson Managing Director

Grant Mooney Non-Executive Director

Stephen Lowe Non-Executive Director

Talga Presentation at ASX CEO Sessions

Advanced materials company, Talga Resources Ltd ("Talga" or "the Company")(ASX: TLG) is pleased to provide a copy of the presentation delivered today, 6 December, by Managing Director Mark Thompson at the ASX CEO Sessions in Sydney, New South Wales.

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, visit www.talgaresources.com or contact:

Mark Thompson Managing Director Talga Resources Ltd T: + 61 (08) 9481 6667 Jeremy McManus Commercial Manager Talga Resources Ltd T: + 61 (08) 9481 6667















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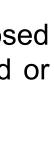
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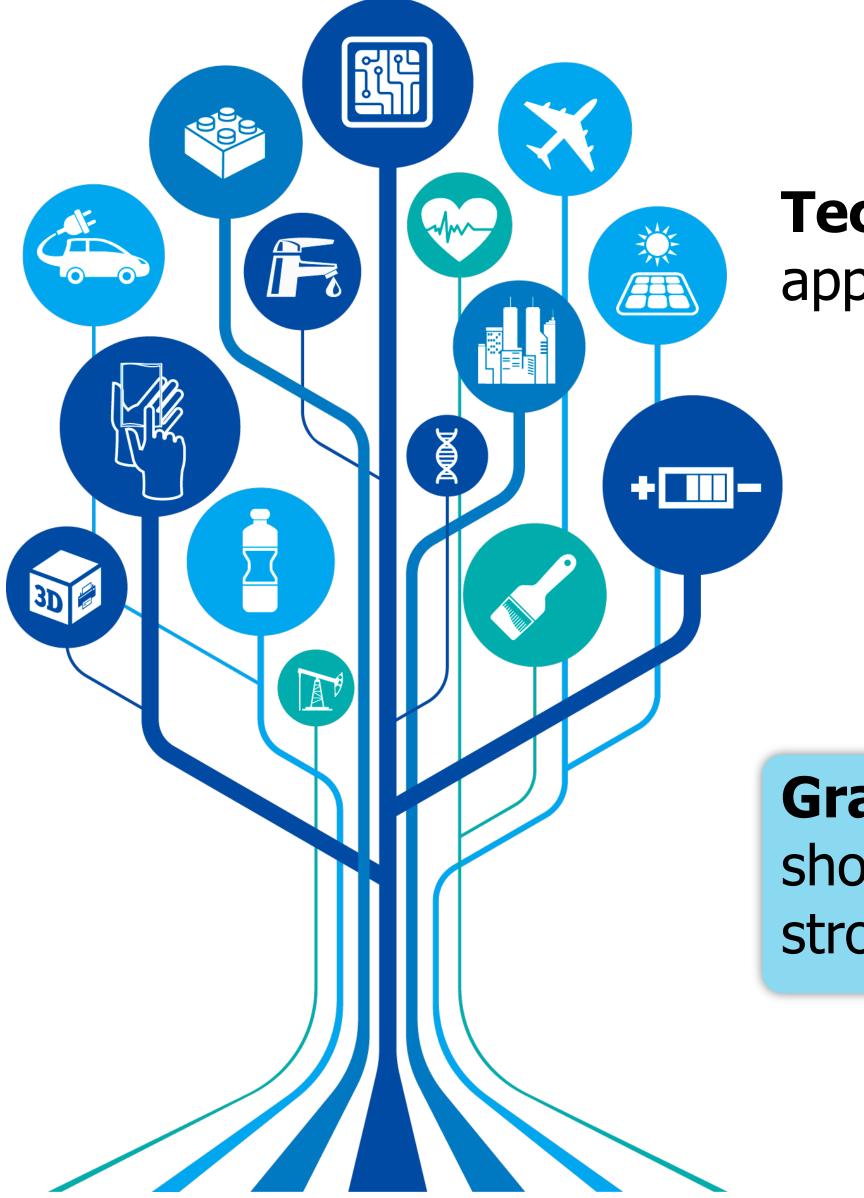








What are Technology Minerals?



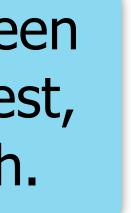
- efficient (lighter, stronger, faster)
- **functional** (conductive)
- sustainable (lower emissions, 'greener' chemistry)



Technology minerals enable new technologies, products and applications, or make current materials more:

Graphite and particularly its 2-D version, **graphene**, have been shown over the last 10 years to be the most conductive, lightest, strongest and universally disruptive material additives on earth.







Introduction - what we do



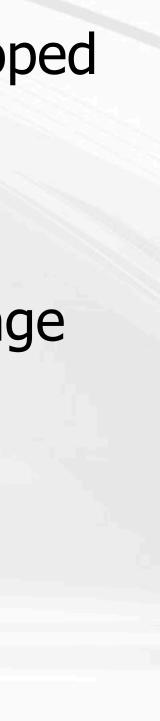
Talga CTO Dr Siva Bohm with graphene dispersions at Talga Advanced Materials GmbH, Germany

graphene possible.

[#] See <u>http://www.techmetalsresearch.com/metrics-indices/tmr-advanced-graphite-projects-index/</u>

- Talga is an advanced materials company that owns the highest grade graphite mineral resource in the world # and has developed an innovative process to make the mass production of quality
- Talga is a listed public company on the Australian Stock Exchange (ASX:TLG) with operations in Sweden, Germany and UK.
- Pilot plant operational and rapidly developing value-added **product** pipeline and IP delivery underway.
- Talga is positioning to play a large role in the emerging trend towards low emission energy production/storage and a host of technology applications enabled by graphene and graphite.







Process - Unique Ore

00:04

EARLY LAB TEST RAW VITTANGI ORE

For video see <u>https://www.youtube.com/watch?v=xrp4NzIe-B8&feature=youtu.be</u>







Commercial Advantages

- Vertically integrated with in-house product expertise value-adding to raw materials
- **Pilot plant** operational & successfully scaling up
- **Product pipeline** across multiple large technology and bulk sectors
- Process technology enables bulk high quality graphene production
- **Low cost** 'no crush/grind' & low enviro-impact process





Highest grade graphite resources in the world

Large and unique 'electrode' style ore deposits

Top class **jurisdiction** Sweden

Corporate Snapshot

Capitalisation Summary 30 Nov 2016	(AUD\$)	
Shares on issue TLG	1	81.9
Listed Options TLGOA (\$0.45 : 31 Dec 18)		44.9
Unlisted Options ¹		34.7
Market Capitalisation (undiluted @ \$0.27)		\$49

Top 5 Shareholders ²	
Smedvig G P Ltd	11.3%
Lateral Minerals Pty Ltd (M.Thompson)	7.8%
Kamberg Investments Ltd	3.3%
Yandal Investments Pty Ltd (M. Creasy)	3.0%
Pelmer Securities S A	2.5%



Board

- **9M** Managing Director - Mark Thompson
- **9**M Chairman - Keith Coughlan
- 7M Non-Executive - Grant Mooney
- **9**M Non-Executive - Stephen Lowe

Cash end Sept 2016 ~**\$10.3 million**. Nil Debt.



ASX: TLG year to date share price

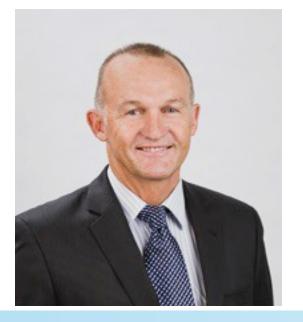
0.35 0.30 0.20

Board and Management









Mark Thompson Managing Director

+25 years international industry experience in minerals-mining management. Member of the Australian Institute of Geoscientists and the Society of Economic Geologists, guest Professor in Mineral Exploration Technology at Chengdu University of Technology and the Southwest University of Science and Technology in China. Mr Thompson currently serves as a Non-Executive Director of Phosphate Australia Ltd.

Keith Coughlan Non-Executive Chairman

+30 years' experience in stockbroking/funds management. Largely involved in the funding and promoting of resource companies listed on the ASX, AIM and TSX. Advised various companies on the identification/acquisition of resource projects and previously employed by one of Australia's then largest funds management organisations. Mr Coughlan is currently the managing director of ASX listed European Metals Holdings Limited.

Grant Mooney *Non-Executive Director*

Mr Mooney has extensive experience in resources and technology markets. Has served as Director and Company Secretary to several ASX listed companies including Director of renewable energy developer, Carnegie Wave Energy Ltd, Barra Resources Ltd, Phosphate Australia Ltd and Wild Acre Metals Limited. Mr Mooney is a member of the Institute of Chartered Accountants Australia.

Stephen Lowe *Non-Executive Director*

Mr Lowe's background is in business management and taxation and he has over 18 years' experience consulting to a range of corporate and high wealth clients. Mr Lowe is currently a non-executive director of Corizon Resources Ltd and Windward Resources Ltd and a former Chairman and non-executive director of ASX 200 company Sirius Resources NL. Mr Lowe is a Fellow of the Taxation Institute of Australia and a Member of the Australian Institute of Company Directors.



Operations





Talga Technologies Ltd UK - product development

Part of Talga team at Phase 2 pilot plant commissioning in Rudolstadt, Germany



Talga Mining Pty Ltd Filial Sweden - graphite source

Talga Advanced Materials GmbH Germany - pilot process facility





This financial year we have:

Test Mined

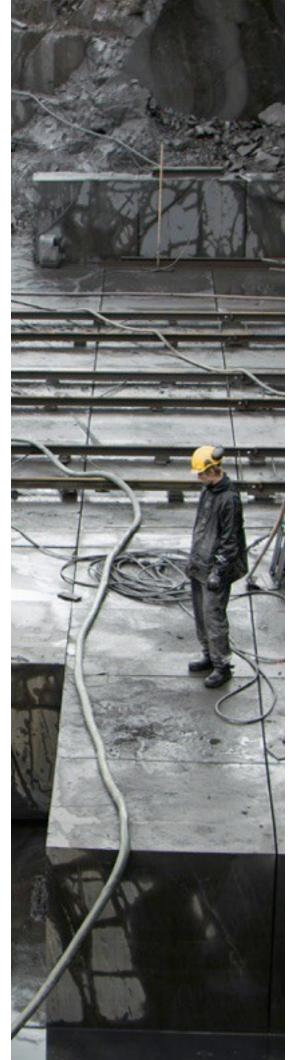
- Produced ~5,000 tonnes low cost electrode-quality ore
- Opened up our ore bodies
- Expanded resources

Built and Operated a Pilot Plant

- Provided new source graphene and micrographite to market
- Demonstrated potential supply scale to customers
- Developed key insights towards full scale project

Produced graphene and graphite products

- Validated in-house expertise with peer-reviewed test results
- Gained market knowledge and customers across target markets











- Produce value added graphene products to complement supply of raw graphene & graphite
- Pursuit of revenue prior to full-scale production through licensing and royalties – plus sale of raw materials

Initially aim to replace additives in existing products with better performing ones ('new products' not required)





Test samples of Talphene[™] graphene dispersion product for customer



Product - Application Sectors

COATINGS



- Higher performance anti-corrosion and anti-fouling paints
- Replace toxic amounts of chrome, copper and zinc
- Total coating market worth \$120B and uses 40Mtpa materials

ENERGY -

- Higher performance or lower cost Li-ion, flow and alkaline **batteries**
- Wearable', printable batteries and other energy storage devices
- Batteries market alone worth \$24B



CONSTRUCTION

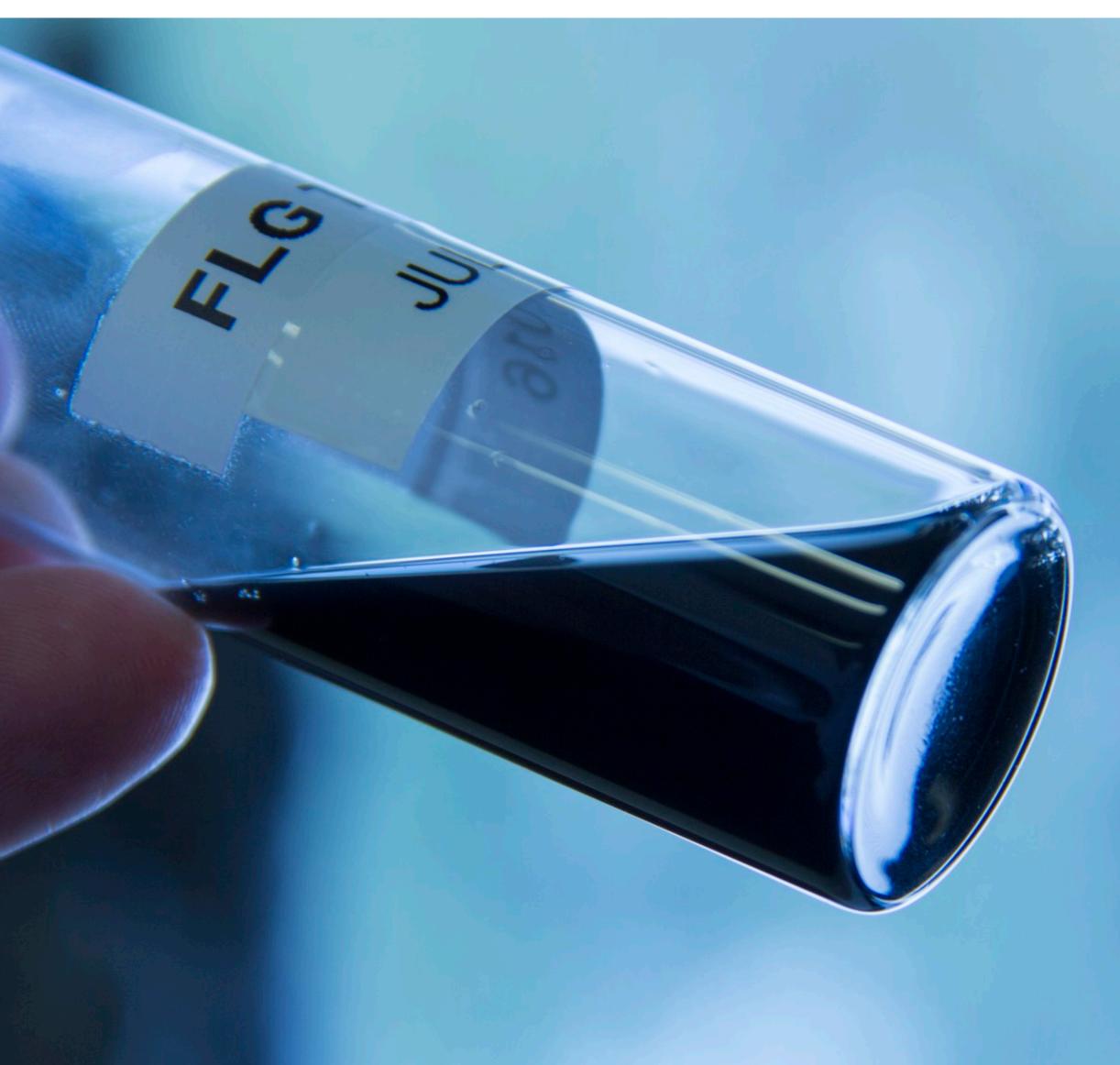


- Higher performance concrete and tarmac with electric & thermally conductive properties
- Snow & Ice-free' roads, paths, rail crossings, driveways, steps, airport aprons
- Total cement market worth \$450B



- Conductive, stronger and lighter plastics and fibres
- Flexible electric and thermally conductive materials
- Market worth \$18B

Where Talga 'Fits In'



alga few layer graphene (FLG) dispersion product Test sample of



- Products enhanced with graphene & micrographite are being used **now** (not distant possibility) - **no need to re-tool** manufacturing lines in target products
- Real world products with addressable markets
- Aim to remove the supply volume and pricing bottleneck to enable rapid industry uptake
- **Disrupt** graphene market even during pilot plant phases



Current Collaborations







NETZWERK



MAX-PLANCK-GESELLSCHAFT







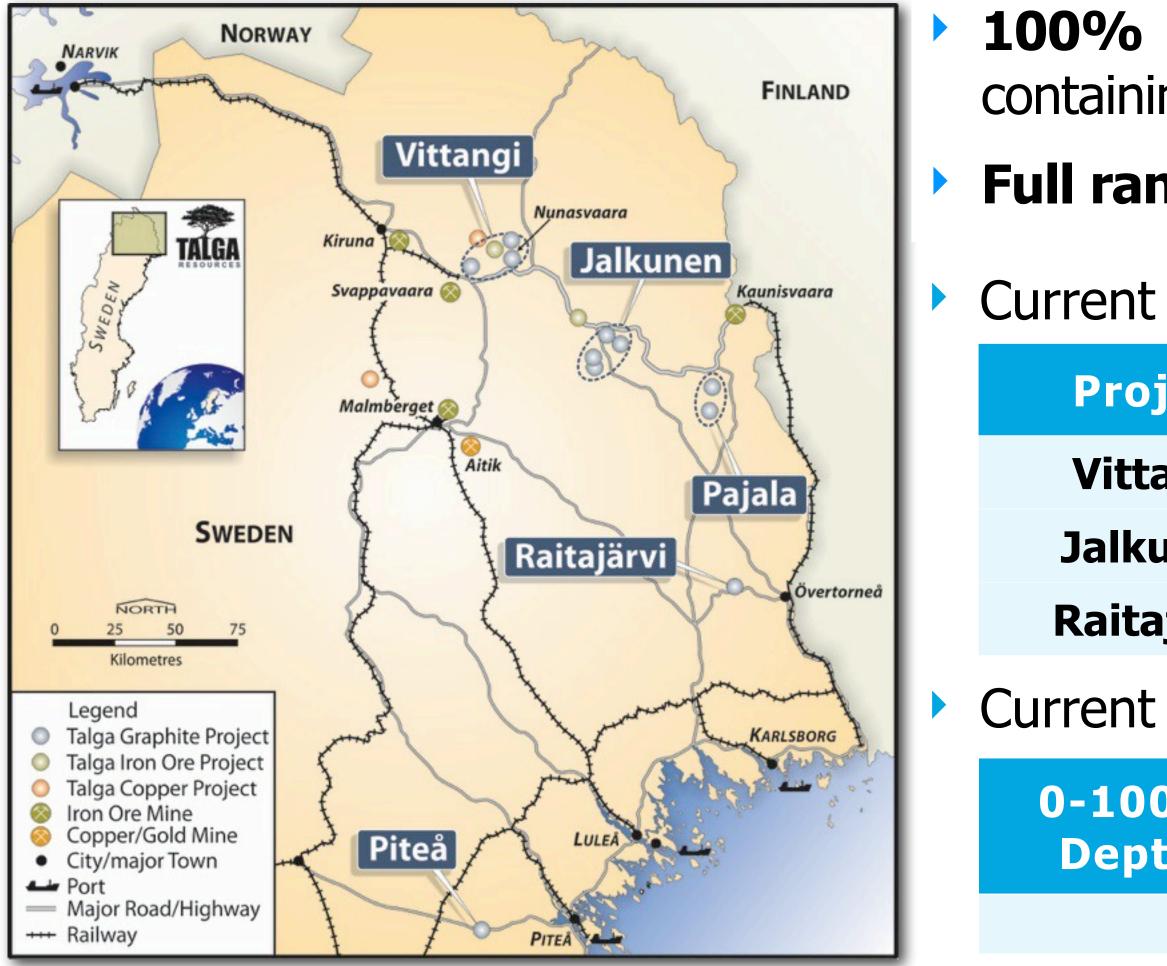








Source - Sweden



Note: The Exploration Target is based on a number of assumptions and limitations with the potential grade and quantity being conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource Estimate in accordance with the JORC Code and it is uncertain if future exploration will result in the estimation of a Mineral Resource.

*See Appendix 1 for resource and exploration target details

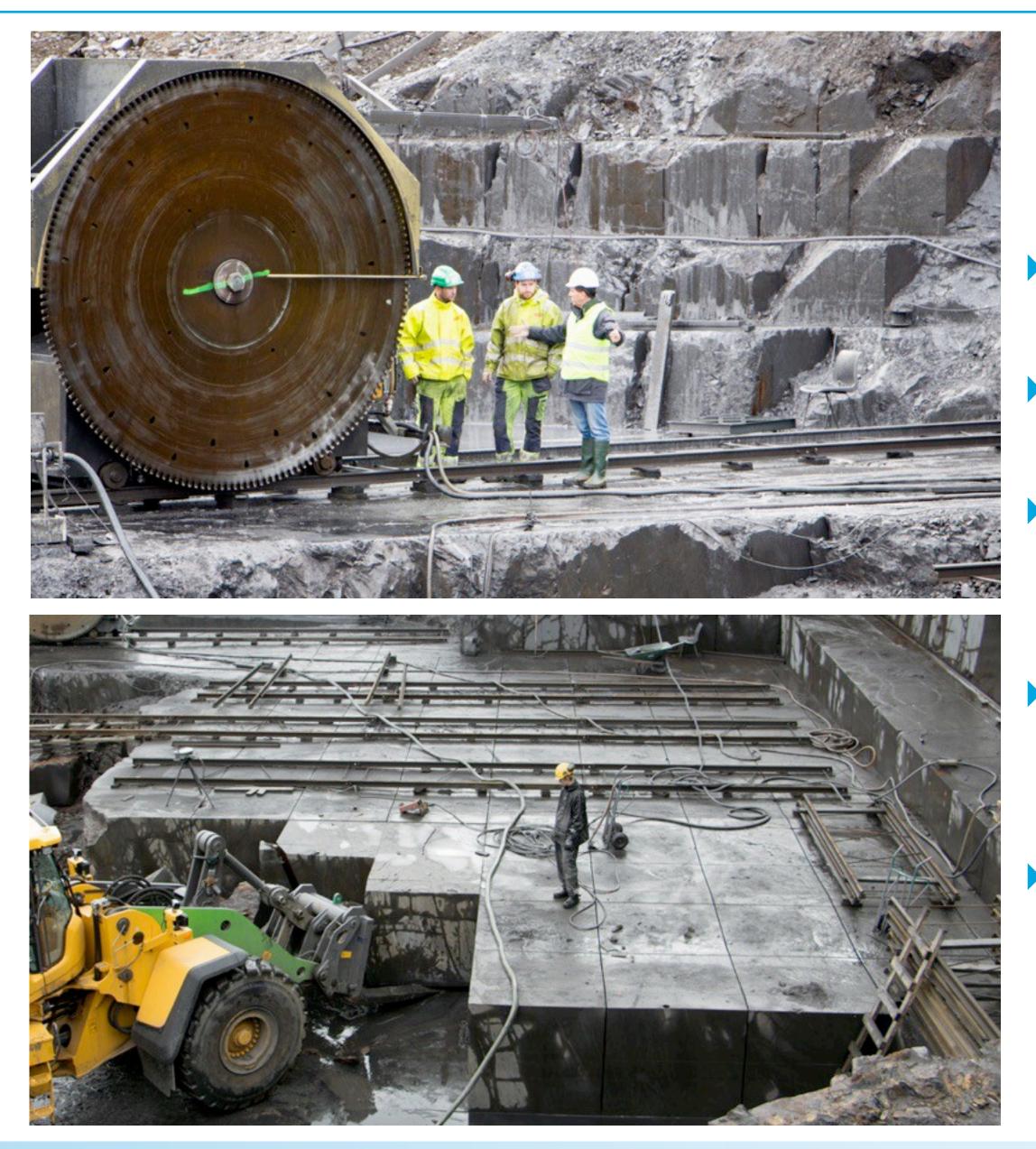


- **100% ownership** of **five** graphite projects in Sweden containing three resources and over 25 deposits
- **Full range** of graphite flake sizes from micro to jumbo flake
- Current JORC compliant Mineral Resources*

ject	Tonnes	Graphite Grade
angi	9,800,000	25.3 %Cg
unen	31,500,000	14.9 %Cg
ajärvi	4,300,000	7.1 %Cg
JORC	C compliant Exploration	n Targets*
0m th	Tonnes	Graphite (%Cg)
Total	136-250,000,000	18-25



Source - Vittangi Project Trial Mine 2016



Vittangi trial mining. Details see TLG ASX release 25 July 2016

Innovative graphite ore mining technique

Extracts ore as direct use "**electrodes**"

No 'drill and blast' of ore = less dust and noise/ minimise environmental impact

Trial of larger, tailor-made and automated ore block cutting equipment successful

~5,000t extracted to date to feed upscaled pilot test processing and graphene product development



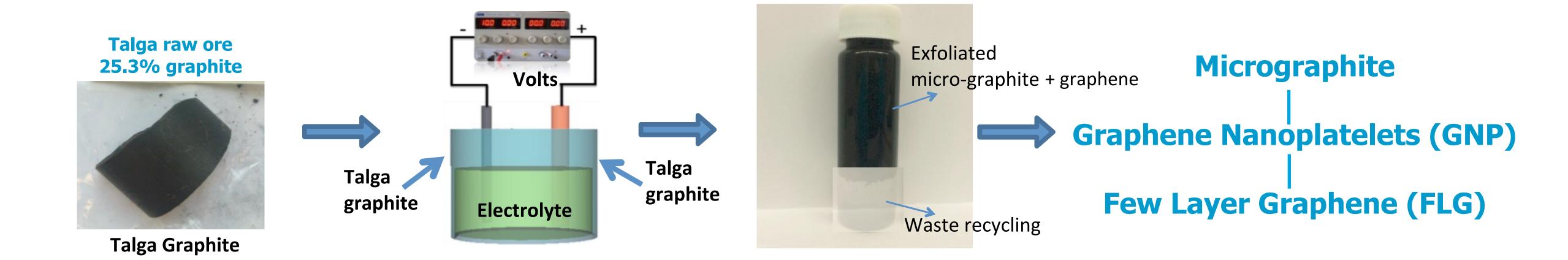
Source - Vittangi Project Trial Mine 2016

2016 TRIAL MINING VITTANGI GRAPHITE PROJECT - SWEDEN

For video see https://www.youtube.com/watch?v=q2Xmz7Buj3A



Process - Advantages

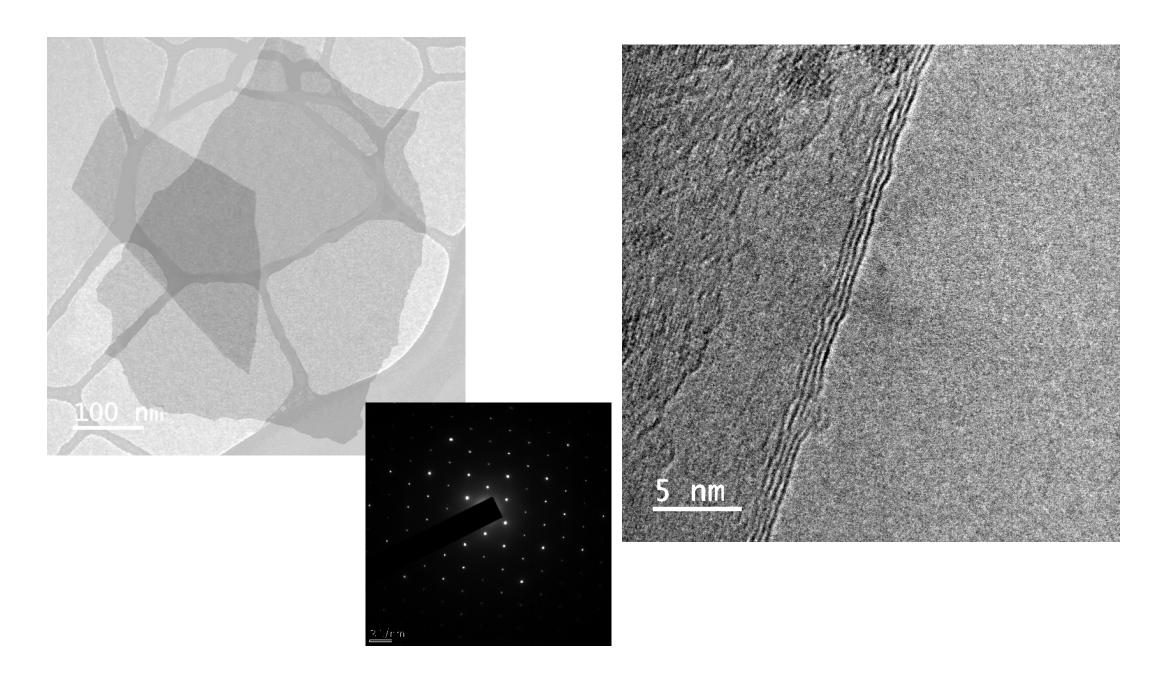


- Process liberates graphene and micrographite directly from raw ore
- Requires no crushing, no grinding, no jet milling
- economically at this scale
- Lowers energy, costs and emissions of graphene production
- Higher performance in applications

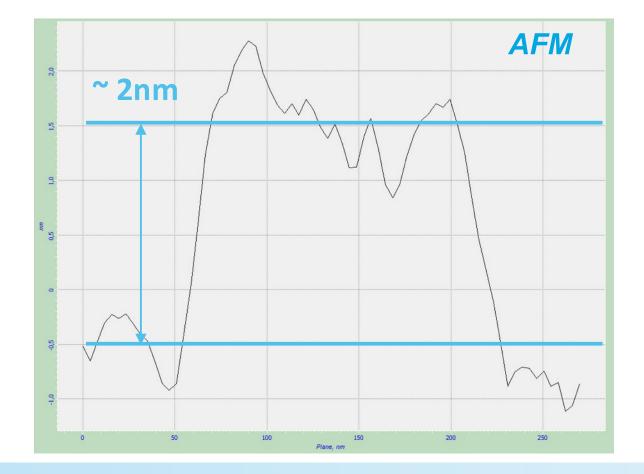


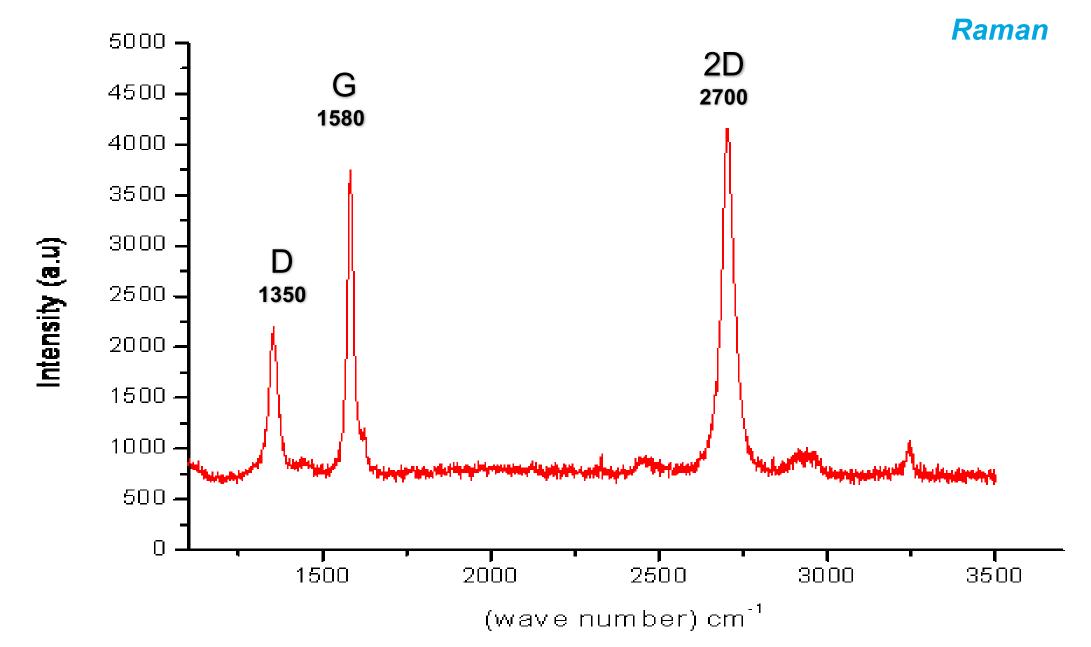
Makes ultrafine and ultrathin size particles, a type of material not previously available

Product - High Quality Graphene TalpheneTM



HR-TEM and other tests confirm high quality, 1-4 layer graphene.





- Talga can produce a range of products from pristine graphene to nano and micrographite
- Talga's graphene has been measured and tested by various and prestigious universities and scientists, including peer review studies on it's use in coatings
- Talga has moved to trademark it's few layer graphene product as Talphene[™] in preparation for commercialisation of value-added products





Pilot Test Plant Expansion

- Pilot process test-work well advanced
- 3 phases to upscaling process
 Phase 2 just commissioned
- High quality graphene output confirmed
- ▶ ~76% of input carbon converted to graphene
- Capacity scale up continues towards Phase 3
- Product outputs used to supply product feed, prototypes and customer samples

Raw ore cut into 50kg electrodes for pilot test plant processing



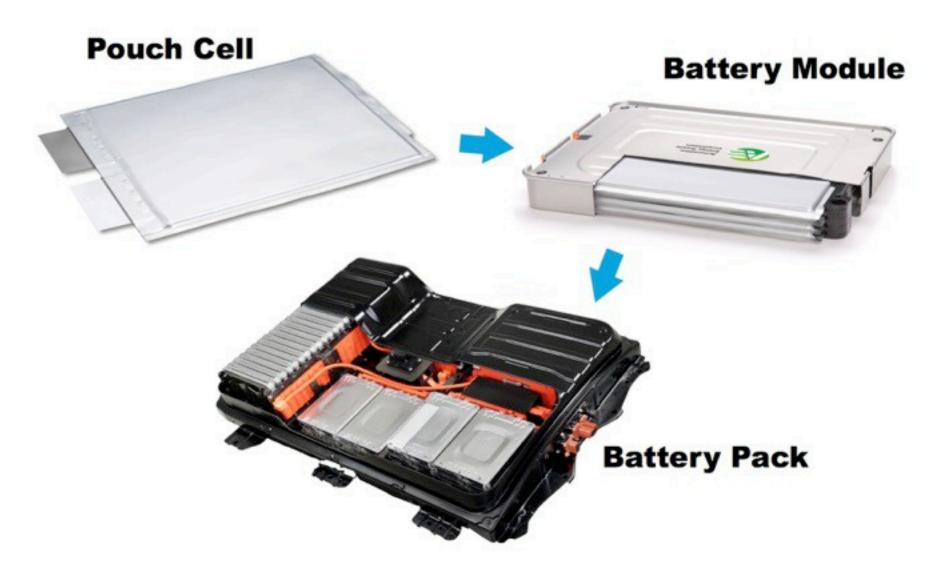


Few layer graphene test samples for customer program





Products - Energy: Li-ion Batteries



Talga Li-ion battery test material preparation



- Talga can produce graphite for Li-ion battery anodes: **No** grinding, micronising and shaping costs
- Recent tests support previous breakthrough results (ASX:TLG 17 Feb 2016)
- Results show excellent stability and greater than 99.7% efficiency without capacity fade
- Tests underway on larger scale programs at EIC Warwick UK and with battery manufacturer in USA
- Data supports commencing industrial Li-ion 'pouch' cell testwork and commercial-style roll to roll anode formulations

See ASX:TLG 10 Oct 2016





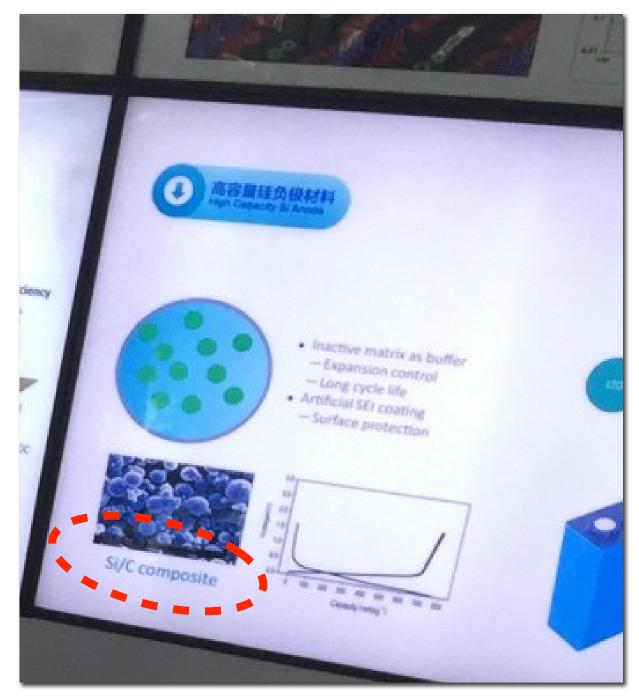


Products - Energy: Battery technology

- Major battery makers are testing and preparing the **next generation** battery technologies
- Some will **not** use spherical graphite anodes, forming 'technology traps'
- Graphene has been shown to suit current and emerging battery technologies:
 - Silicon-graphene in Li-ion
 - Li-Sulphur
 - Li-Aluminium
 - Li-Air
 - Flow batteries
 - Printable batteries
- Talga's ore has natural characteristics that may be exploited for new battery materials

Live-in factory facilities of global leading Li-ion battery manufacturer, China





Silicon-graphene anode technology advertised as part of development







Product - Energy, Coatings, Conductives

Graphene produces opportunity to deploy our products more widely than just batteries Lighter components increase range and decrease emissions/km travelled



Source: Johnson Controls





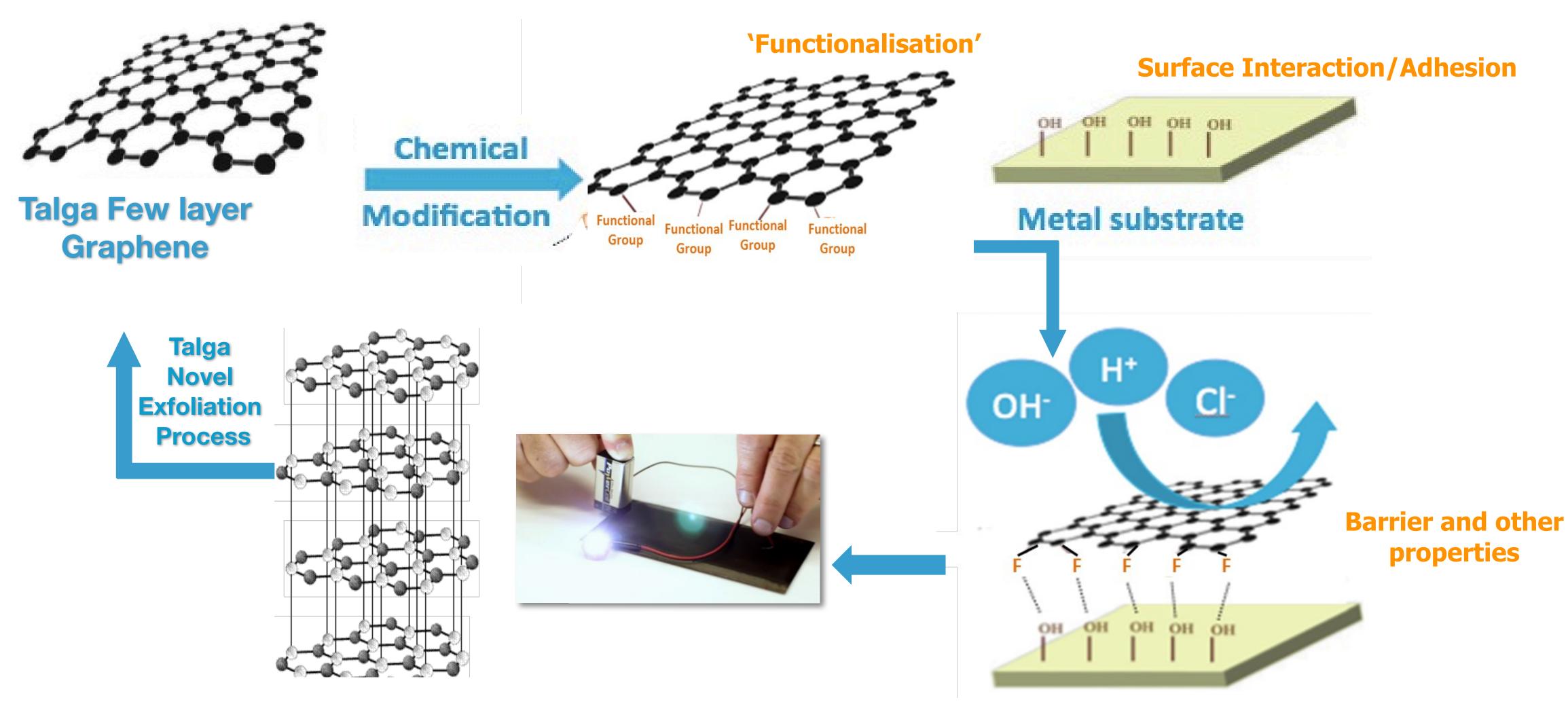
BILLION TIRES ANNUM

KG HEATING/COOLING EQT

>150 DIFFERENT ELECTRICAL DEVICES



Product - Coatings



Talga Raw Graphite Ore

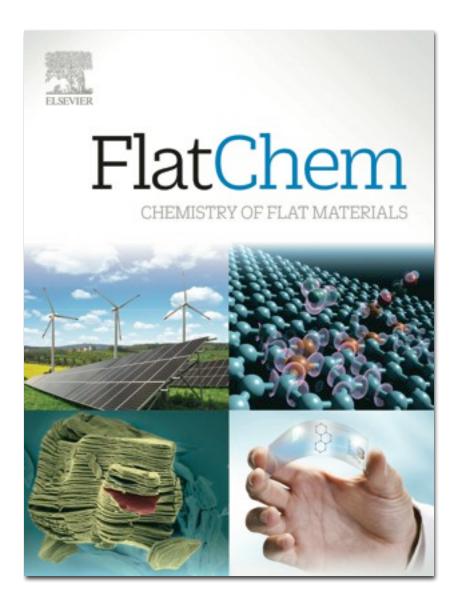




Talga Few Layer Graphene Coated Metal

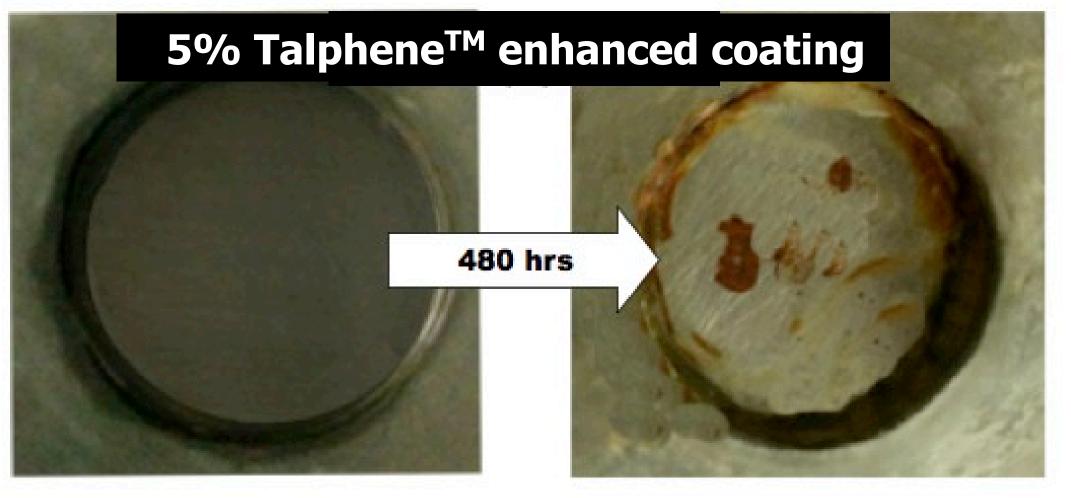
Product - Coatings

- ► TalpheneTM enhanced coating corrosion evaluation results show 74% less water permeation and great anti-corrosion results on mild steel
- Validates global potential of Talga product for giant volume coatings sector



Graphene Anti corrosion coating: Flatchem, 1 (48) (09/2016)

Salt immersion tests show Talga's graphene significantly reduces corrosion over time



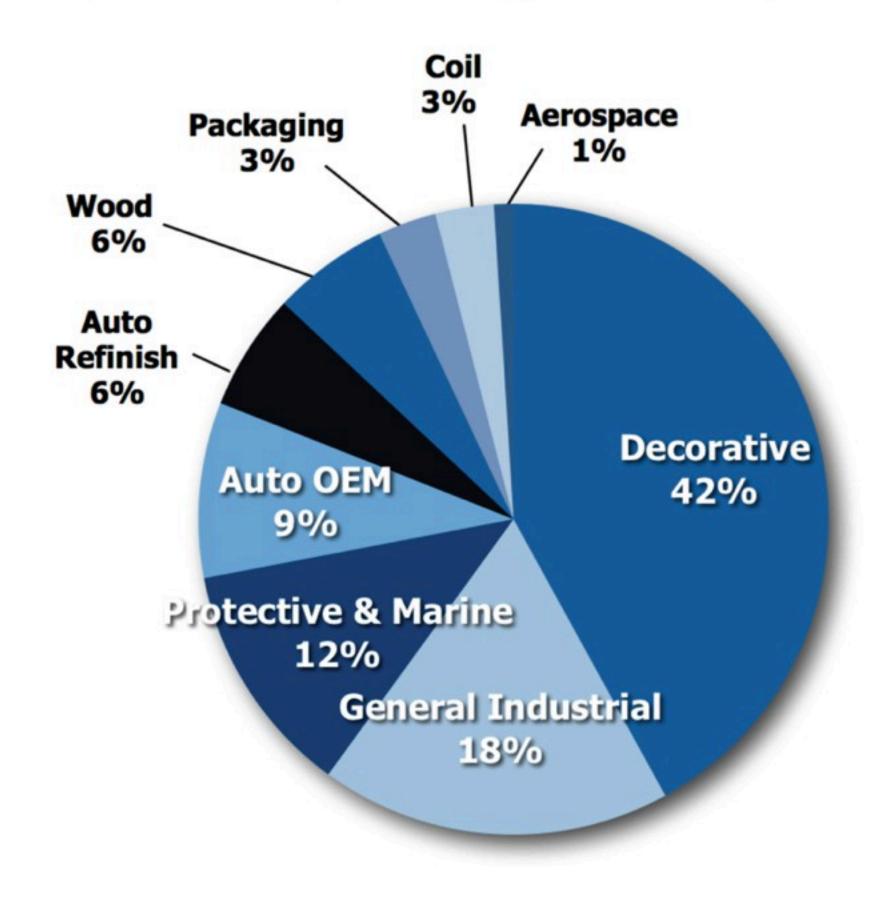




Product - Coatings market

Fig 1. Paints and Coatings Global Market US\$/annum.

Total Paints and Coatings Market : \$120 Billion

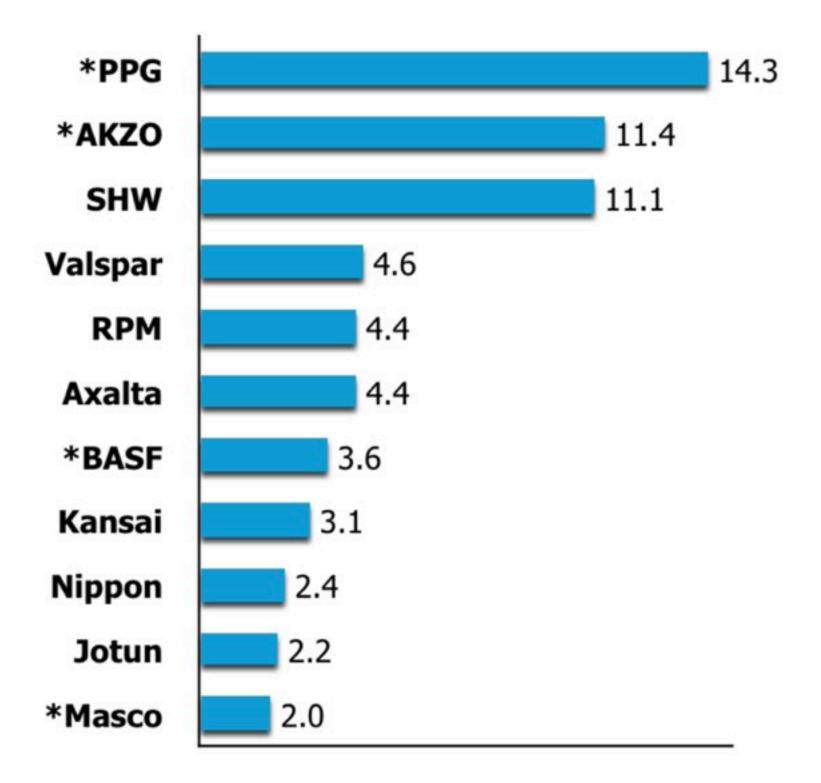


Source: Jan 2016 Valspar Investor Presentation after 2013 Orr & Boss, Kusumgar, Nerlifi & Growney



Fig 2. Paints and Coatings Market Leaders US\$/annum.

Billion Global Leaders by Sales (\$Billion)



Source: Jan 2016 Valspar Investor Presentation & Company reports. * Excludes non-coating sales

Product - Composites

Automotive



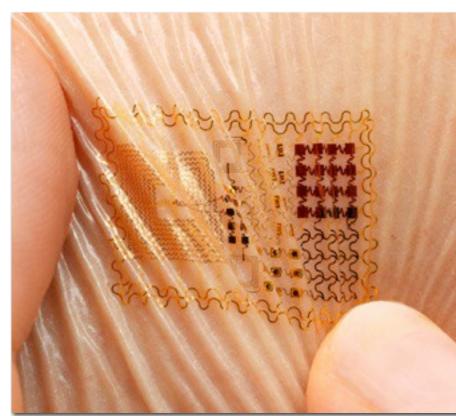
'Solar' Panels



Packaging/RFID

BioMed







- Graphene can make functional composite materials that are conductive, flexible, lightweight and non-corroding
- Current markets include RFID tags, printed packaging, copper-wire replacement and solar panels.
 - **Emerging markets** in textiles, plastic and fibres for 'wearable' technologies, printable batteries & 3-D printing
- Current conductive ink market relies on high cost silver and carbon black but is **high growth**
- 78 million ounces of silver used in solar panel industry in 2015, **up 23%** over 2014^{*}







Product - Construction



Snow-free driveway heating installation



Snow & ice-free road heating installation

- Graphene and graphite additives can make concrete electrically and thermally **conductive** for **ice & snow-free** roads, bridges, foot-paths, bike-paths, rail crossings, stairs, airport aprons as well as direct-heating house materials
- Electrically warm solid state material can use less energy and save installation and maintenance costs of pipes or Cu-wire
- Conductive cement useful for earthing of buildings, wind turbines and other lightning-prone structures
- Graphene also has ability to strengthen concrete similar to carbon nanotubes (eg, Edencrete) but using lower cost graphene oxide









Underway! Upcoming Catalysts





Drilling results and resource upgrade

Commercial partnerships

Industry test results

Product prototypes and patents

Pilot facility scale up

Feasibility/ Permitting advances

Test revenue opportunities

Commercialise non-core assets (including cobalt and aold)





Appendix and Statements

References

#) see <u>http://www.techmetalsresearch.com/metrics-indices/tmr-advanced-graphite-projects-index/</u> * see Industrial Minerals Natural Graphite report 2012, unpublished internal reports for Talga, and Scoping Study released to ASX 9 October 2014. NB) any data not specifically referenced is based on personal communications with industry participants where appropriate and/or unpublished technical research.

Cautionary Statement

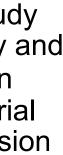
The scoping study referred to in this report is based on low level technical and economic assessments, and is insufficient to support estimation and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusion of the scoping study will be realised. The Company confirms that all material assumptions and technical parameters underpinning the scoping study results and projections in this release continue to apply and have not materially changed. The use of the word "ore" in the context of this report does not support the definition of 'Ore Reserves' as defined by the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". The word 'ore' is used in this report to give an indication of quality and quantity of mineralised material that would be fed to the processing plant and is not to assumed that 'ore' will provide assurance of an economic development case at this stage, or to provide certainty that the conclusion of the scoping study will be realised.

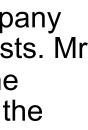
Competent Person's Statement

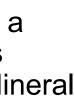
The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled and reviewed by Mr Simon Coxhell, a consultant to the Company and a member of the Australian Institute of Mining and Metallurgy and Mr Mark Thompson, who is an employee of the Company and a member of the Australian Institute of Geoscientists. Mr Thompson and Mr Coxhell have sufficient experience which is relevant to the activity which is being undertaken 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 Thompson and Mr Coxhell consent to the inclusion in the 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 Resource Estimation 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.









Graphene to Graphite Market on a Slide

PRODUCTS AND APPLICATIONS

GRAPHENE

vFLG = Very Few Layer Graphene (1-3 sheets) Flexible electronics, Water membranes, Bio-tech

FLG = Few Layer Graphene (2-5 sheets)

Sensors, Conductive ink, Li-Air batteries

MLG = Multilayer Graphene (3-10 sheets) Functional coatings, Composites, Plastics

GNP = Graphene Nano Platelets (10-150 sheets)

Functional coatings, Fuel cells, Cement and road additives

GRAPHITE

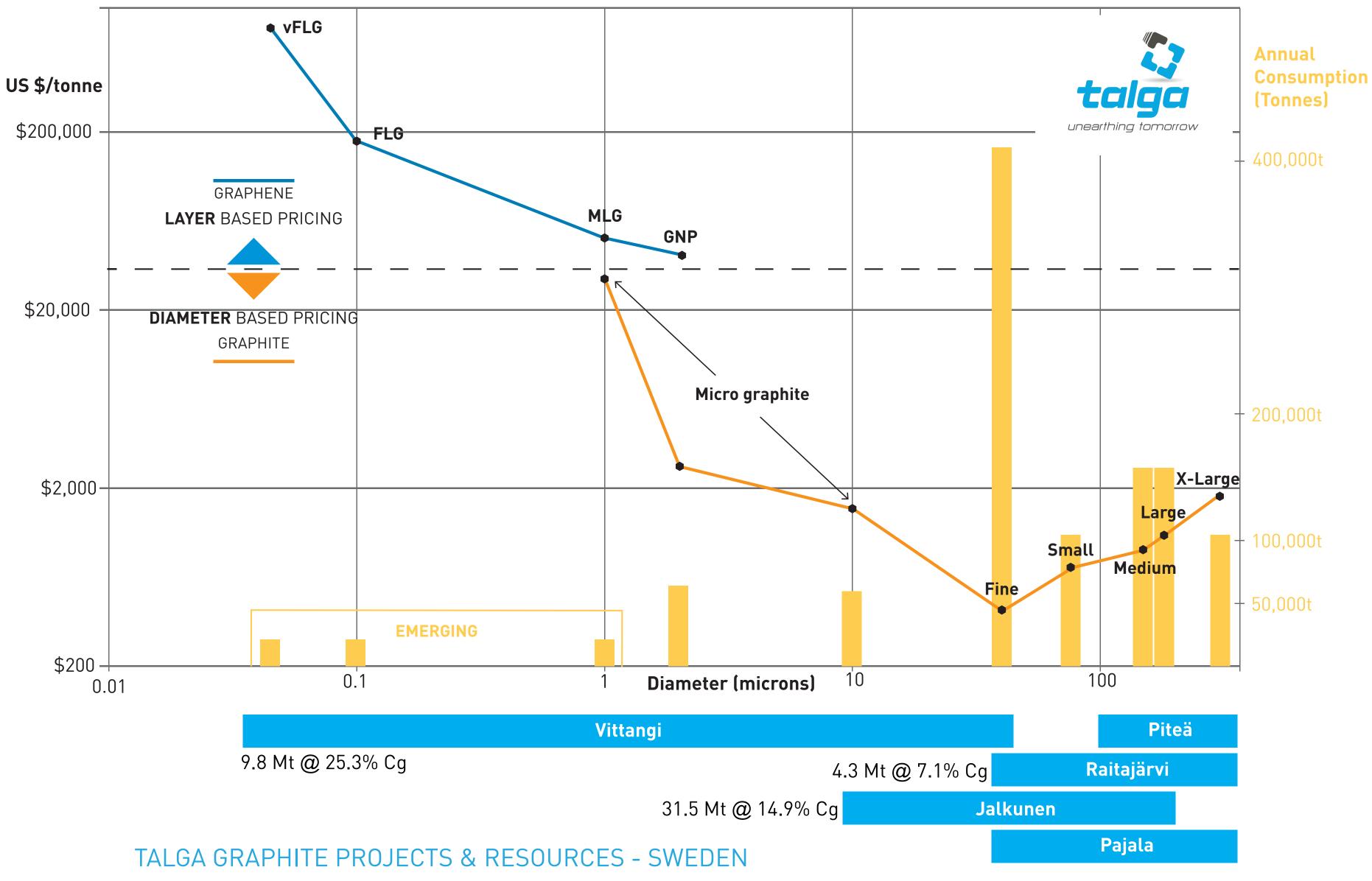
Micro to X-Large = Flake graphite (>3,000 sheets)

Micro - Insulation and construction products, Lubricants, Pencils, Flame retardants, Additives, Li-lon batteries

Fine - Refractories

Small-Large - Recarburisers, Li-lon batteries

X-Large - Various industrial uses



References: Reports of Benchmark Minerals, Industrial Minerals, Fullerex, Roskill, Prographit, internal reports and personal communications



Graphite JORC Resources and Exploration Targets

Nunasvaara JORC (2012) Mineral Resource (10% Cg cut-off)

JORC 201		Tonnes	Graphite
Classificat Ind	icated	6,900,000	(%Cg) 24.2
In	ferred	2,900,000	28.1
	Total	9,800,000	25.3
JORC (2012	, 	esource (5% Cg cut	Graphite
Classificat		Tonnes	(%Cg)
Ir	oferred	31,500,000	14.9
Raitajärvi JORC (2004	4) Mineral F	Resource¹ (5% Cg cı	ıt-off)
JORC 20		Tonnes	Graphite
Classificat	licated		(%Cg) 7.3
	nferred		6.4
	Total	4,300,000	7.1

JORC 2012 Classification	Tonnes	Graphite (%Cg)
Inferred	31,500,000	14.9

JORC 2004 Classification	Tonnes	Graphite (%Cg)
Indicated	3,400,000	7.3
Inferred	900,000	6.4
Total	4,300,000	7.1

1 Note: This information was prepared and first disclosed under the JORC code 2004. It has not been updated since to comply with the JORC code 2012 on the basis that the information has not materially changed since it was last reported. The Company is not aware of any new information or data that materially affects the information included in the previous announcement and that all of the previous assumptions and technical parameters underpinning the estimates in the previous announcement have not materially changed.

2 Note: The Exploration Target is based on a number of assumptions and limitations with the potential grade and quantity being conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource Estimate in accordance with the JORC Code and it is uncertain if future exploration will result in the estimation of a Mineral Resource.





