



**ASX ANNOUNCEMENT**

**FOR IMMEDIATE RELEASE TO THE MARKET**

**PPK Group Limited – ASX Code: PPK**

**Wednesday 11 November 2020**

**Chairman's AGM Presentation**

Please find attached the Chairman's AGM Presentation.

Authorised by the Chairman.

For further information contact:

**Robin Levison**

Executive Chairman of PPK Group Limited

On 07 3054 4500

**PPK GROUP LIMITED**

ABN: 65 003 964 181

Level 27, 10 Eagle St, Brisbane QLD 4000

GPO Box 754, Brisbane Qld 4001

Tel: +61 7 3054 4500 Fax: +61 7 3054 4599



# **ANNUAL GENERAL MEETING**

Wednesday, 11 November 2020

# STRATEGIC UPDATE

The past twelve months has strategically changed PPK going forward!

- At the 2019 AGM, we noted the joint venture with Deakin would present a raft of opportunities, it has and since August PPK has entered into several new BNNT application projects - an update on these will be presented shortly.
- We completed the 45% acquisition of Craig International Ballistics after the 2019 AGM and this has been both a financial and strategic benefit.
- In August we advised of the intent to review PPK's mining business, noting your Board's belief that a separation from the BNNT businesses would maximise the PPK Group shareholder value and as such we continue to explore our options.

PPK will continue to vertically integrate into new BNNT related technology ventures, expand production and sales of BNNT into new markets and pursue its current BNNT application projects to commercialise.

# COVID-19 IMPACT

## Very pleasing that:

1. All PPK businesses operated throughout the pandemic period without jobkeeper support
2. No employees lost work due to COVID-19, appropriate OH&S precautions were taken

## But:

1. Impact on supply chain, especially international, affected all businesses
2. Impact on customers' operations, especially international for BNNT
3. Impact on Deakin R&D, limited access to laboratories and buildings
4. Impact on our productivity as work practices were aligned to customer and supplier requirements

## Resulting in:

1. Lower revenues and profits than budgeted
2. R&D on BNNT application projects delayed
3. BNNT sales to new markets/customers temporarily deferred

## FINANCIAL PERFORMANCE

NPAT of \$8.269M (2019: \$1.800M) after writing back \$9.041M contingent consideration in relation to BNNT acquisition, otherwise a loss of \$0.772M made up of:

- PPKME \$2.676M (2019: \$3.765M)
- Technology \$0.331M (2019: -\$0.160M)
- Corporate and other - net -\$2.202M (2019: -\$2.359M)
- Share based expense -\$0.967M (2019: -\$0.321M)
- Legal defence costs -\$0.550M (2019: -\$0.067M)
- China office closure -\$0.060M (2019: nil)

PPKME impacted by COVID-19 but achieved a profitable EBITDA each month.

Early stage of technology ventures reflect a positive result.

Revenues of \$41.102M (2019 \$40.932M).

# CAPITAL MANAGEMENT

The Group has continued to strengthen its capital position:

• Current assets	\$24.663M	(2019: \$21.747M)
• Liquid assets	\$13.327M	(2019: \$11.496M)
• Net assets	\$54.193M	(2019: \$30.264M)
• Cashflow from operations	\$ 3.315M	(2019: -\$ 1.701M)
• Capital raised – PPK Group (gross)	\$ 8.500M	(2019: \$ 6.285M)
• Capital raised – Li-S Energy (gross)	\$ 3.250M	(2019: nil)
• No debt – net cash	\$ 5.344M	(2019: \$ 1.047M)

Undrawn finance facility of \$4.000M.

Annual dividends declared of 2 cents per share fully franked.

# TECHNOLOGY

Disclaimer: To protect our IP, this is not a photo of BNNT's laboratory

# TECHNOLOGY STRATEGIC UPDATE

- | To recap my comments in the 2020 Annual Report, our three strategies for BNNT are:
- Manufacture BNNT at 99% purity and in commercial quantities.
  - Supply BNNT to select parties as the manufacturers of products with which BNNT may be blended or infused.
  - Partner with application or industry leaders to blend or infuse BNNT into their products to enhance or create new products.
- | PPK has been successful in executing this strategy as noted in the following presentation.

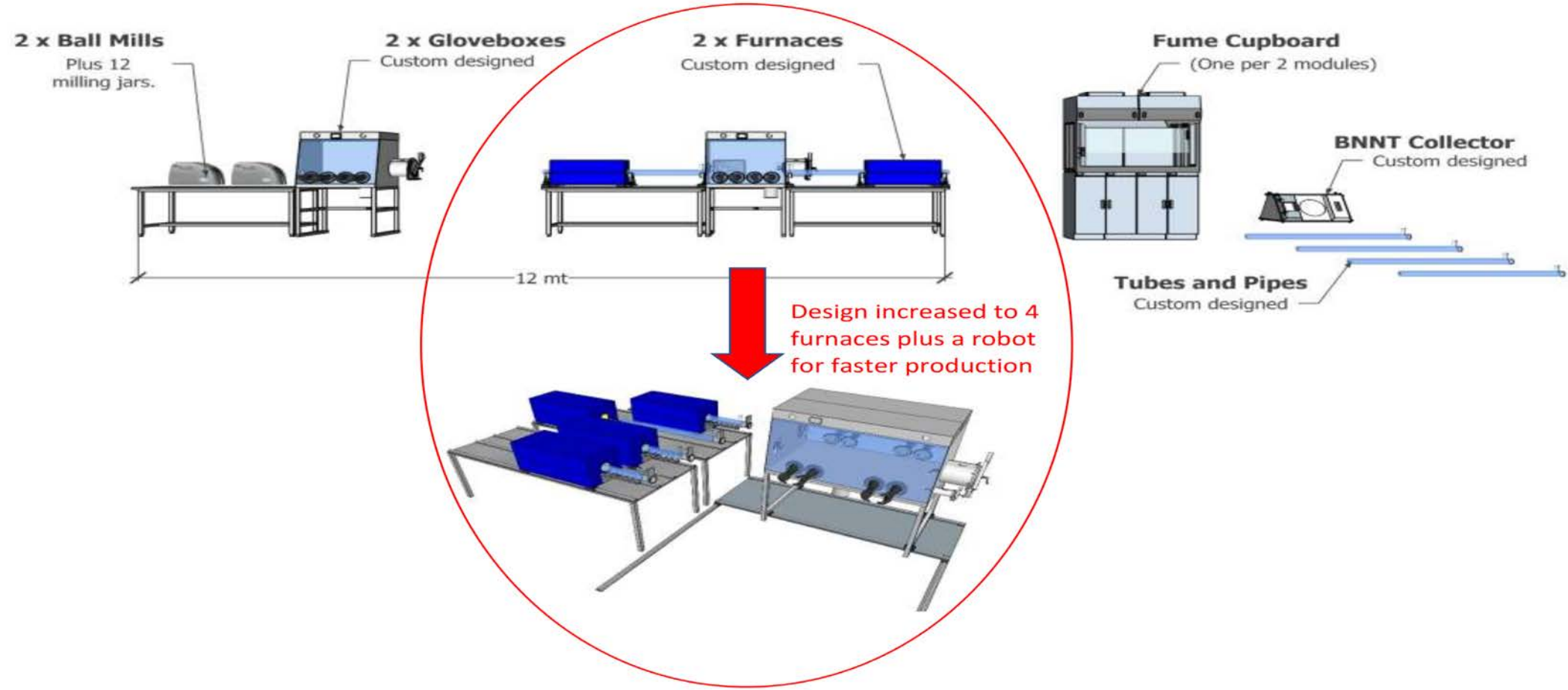


# BNNT PRODUCTION UPDATE

- | Semi-automated production processing system in place:
  - Consistently producing BNNT at 99% purity (as independently tested)
  - Module design currently utilising a two furnace configuration – BNNT have purchased two additional furnaces to optimise the manufacturing process and double current output
  - Introduced universal robotic arm for loading/unloading functionality to increase production
  - Anticipate by 31 December 2020 we will have the semi-automated design finalised and operating
  - Replicate module build thereafter (scale up), timeframe 2 to 3 months to complete
  
- | Each new production module is able to produce 15 kilos per annum per shift for a total capital cost of less than \$700,000 per module
  
- | BNNT Technology Limited has a 20 year exclusive global license and global patents to manufacture BNNT.
  
- | The following 2 slides present the evolution of the semi-automated processing system.

# BNNT – SEMI-AUTOMATED PROCESSING SYSTEM

## Initial Module Design



# BNNT – SEMI-AUTOMATED PROCESSING SYSTEM

## Robot for Glovebox

(Currently being trained, due for delivery next week)



# BNNT APPLICATION PROJECT UPDATE

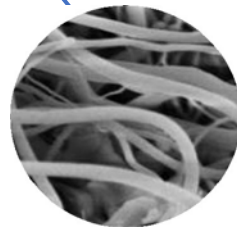
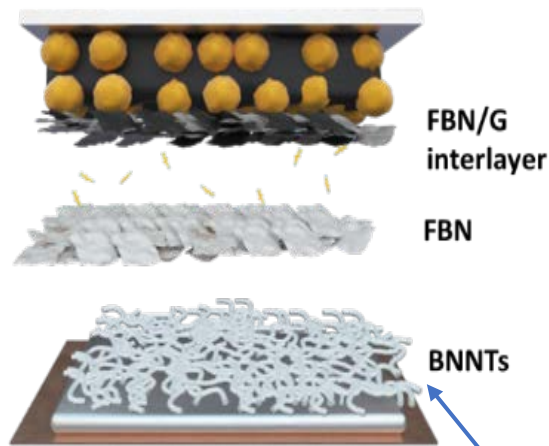
- | Six projects identified in JVRA with Deakin University, BNNT Technology Limited and PPK (October 2019):
  - to reiterate, all projects have a 2 to 3 year time horizon
  - Deakin University provides existing IP, researchers, resources and equipment
  - BNNT Technology Limited provides BNNT for research and commercial purposes
  - PPK provides management services to oversee the projects and funding, to commercialise new technology products
  
- | **Executing to strategy** - five BNNT application projects have commenced:
  - Li-S batteries (Li-S Energy)
  - Reinforced ceramics (3D Dental Technology)
  - Reinforced precious metals (BNNT Precious Metals)
  - Reinforced transparent armour and ballistic glass (BNNT Ballistic Glass)
  - Metal composites (Strategic Alloys)

# LITHIUM SULPHUR (LI-S) BATTERY UPDATE

- | R&D agreement signed in January 2020 for two-year project
  - 20 year exclusive global license to commercialise the “Flexible Lithium-Sulfur Batteries” patent
  - R&D has been in progress by Deakin for > 6 years
  
- | Investment in Zeta Energy Inc completed in June 2020
  - Zeta had a notional value of US\$70M before its pre-IPO capital raise
  - 2% share swap with Zeta plus an additional \$500,000 invested by Li-S Energy
  - Li-S Energy committed to an IPO by 31 December 2021
  - Zeta’s battery technology uses a hybrid anode created from graphene and carbon nanotubes
  - Zeta is in pre-IPO stage with expected commercial sales within two years
  
- | Capital raise of \$3,250,000 @ \$0.65 per share completed in June 2020
  - R&D and pre-IPO costs are fully funded
  - PPK fully diluted to 62.5%
  
- | Li-S battery laboratory completed in October 2020 - 4 months behind schedule due to COVID-19 but R&D has been ongoing

# UNTIL NOW LI-S BATTERIES HAVE HAD LIMITATIONS THIS IS HOW BNNTs CAN SOLVE THOSE LIMITATIONS

BNNTs have unique advantages in battery applications in cycling, stability and safety. **Up until now large scale production of BNNTs was not available**, and therefore it was not generally considered as a solution in the architecture and chemistry of a Li-S battery. BNNT enables high performing Li-S batteries by:



- 1 Providing a protective insulation and structural layer for lithium metal anodes (prevent dendrite growth).
- 2 Improving the thermal stability, free ion transport and mechanical strength of polymer separators - improves battery safety under hot conditions by avoiding separator melt down and internal short circuits.
- 3 Used in the battery packaging materials - gives efficient heat dissipation and maintains a low temperature of the battery package.
- 4 Protecting the integrity of Sulphur Graphene cathode chemistry.
- 5 Interpolation into electrolytes for flexible Li-S batteries.

# LI-S BATTERY ADVANTAGES

## Energy Density

Li-S batteries have been proven to provide up to 5 to 10 times more power than Li-ion batteries. This will allow not only longer times between charges but also batteries becoming 5 to 10 x smaller for the same battery life as a Li-ion battery.

## Battery Cost

Sulphur is one of the most abundant elements on Earth and is inexpensive and is less than a hundredth of the cost of Lithium Cobalt Oxide - the material predominantly used in Mobile phone, Laptops and Digital Camera batteries.

**5 x**  
More

**4 x**  
Faster



**2 x**  
Less

**3 x**  
Lighter

## Charge Rate

Much shorter charging times. Li-S batteries can be recharged far more effectively due to their chemical design. The charging process is much faster, and they have a higher number of charge/recharge cycles. This translates to long lasting batteries and more reliable life cycles.

## Weight Reduction

With a higher energy density capacity, Li-S batteries can be made many times smaller than Li-ion batteries for the equivalent energy delivery and capacity. Significantly lighter batteries with superior performance provides new opportunities in almost everything using battery power.

\* Wh/kg is Watt hour capacity per kilogram of battery mass.



# 3D DENTAL TECHNOLOGY UPDATE

- | Purpose – development of more advanced dental materials infused with BNNT for use in prosthetic and implant dentistry (ie inlays, onlays, veneers, crowns, bridges). BNNT acts as a nano-reinforcement in dental composite materials enabling stronger, harder and more wear resistant dental products. 3D printed dental products will be tougher, more reliable and longer lasting.
- | R&D agreement signed in October 2020 for 18 month project.
- | DD Technologies and Deakin to provide R&D, PPK provides funding and commercialisation.
- | Government grant has been awarded, project fully funded and has commenced.
- | PPK retains a 45% ownership of the joint venture company.





# BNNT PRECIOUS METALS UPDATE

- | Purpose – to infuse small amounts of BNNT into gold and silver to enable superior strength and hardness of these metals for industry and jewellery. Gold and silver have amazing benefits and uses however they are so soft that they need to be alloyed with other metals which compromise their inherent effectiveness, properties and value. BNNT introduces a nano-reinforcement to the pure metals to give them superior strength, hardness and durability.
- | This application will look to produce Ultra Gold and Ultra Silver for use in jewellery, industrial foils, electronic components, radiation shielding and other commercial products.
- | R&D agreement signed in October 2020 for 18 month project.
- | 2019 global silver sales were 1.0 billion ounces
  - 50% for industrial use
  - 10% for electrical energy.
- | PPK retains a 45% ownership of the joint venture company.

# BNNT BALLISTICS GLASS UPDATE

- Purpose – development of advanced BNNT polymer composites used in the laminated construction of ballistic capable materials, both transparent and non-transparent.
- R&D Scope, Budget and Project Program now confirmed and underway.
- JV Company – Ballistic Glass Pty Ltd has been incorporated to advance, hold and commercialise a new resin enhancement technology.
- R&D being undertaken by Deakin University. Initial R&D validation expected mid-2021.
- PPK retains a 40% ownership of the joint venture company.

# STRATEGIC ALLOYS UPDATE

- JUST ANNOUNCED** – Joint Venture Research Agreement signed with Amaero International Limited (ASX: 3DA), Deakin and PPK to develop a super strength aluminium alloy:
- Amaero is a specialist in metal additive manufacturing (3D printing) for the aerospace, defence and tooling sectors
  - Super strength aluminium alloy will include BNNT in its formulation to act as a nano-reinforcement to significantly improve the mechanical properties of aluminium
  - Multiple applications exists with defence and aerospace continually seeking materials that are lighter, stronger and more durable
  - Research will be undertaken at Amaero’s manufacturing plant and R&D laboratory in Notting Hill, Victoria and at Deakin University in Geelong
  - Amaero CEO Barrie Finnin said it “is a new partnership in materials development that will give rise to new IP and create opportunities for high end applications across the aerospace and defence industries ... aims to develop this revolutionary technology in Australia and create new industry, employment, products and exports for many years to come.”
- PPK retains a 45% ownership of the joint venture company



- | CIB supply a range of products and services directly to the Australian Defence Force and in-directly via Defence Primes.
- | CIB continues to see strong growth within the Australian Defence sector, with unprecedented federal government spending and grant support.
- | CIB hold a strong order book for the FY 20/21, with sales revenue expected to increase by over 20%.
- | Product development and diversification continues with a significant focus on export growth.



# PPKME - MINING EQUIPMENT



# PPKME UPDATE

- Positive monthly EBITDA from July 2019 to November 2020 and a positive cashflow to assist funding corporate costs
- Impacted by COVID–19, Met coal prices fell 27% end-March to end-April, but have been steadily increasing since mid-October to be up 15% since end-April.
- Short term impact on PPKME
  - Customers cut back on operating and capital budgets, PPKME revenues and margins decreased
  - Expected growth from new contracts yet to occur
  - Build of the battery electric personnel transporter delayed, to be operational end-November
  - Ceramic filter project delayed, pending sale of IP to PPKME from current owner
- Positive news for Port Kembla operations:
  - Dendrobium (South32) \$1 billion mine expansion project
    - Extract 78 million tonnes of coal from two additional mining areas, extend the life of the mine until 2048
    - NSW planning department recommend expansion approval
  - Tahmoor (Simec Mining) South Project
    - Extract 33 million tonnes of coal by extending current mine south, extend the life of the mine until 2032
    - Amended development application lodged with Department of Planning, Industry & Environment

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# PPK GROUP LIMITED

## HEAD OFFICE

Level 27, 10 Eagle Street, Brisbane QLD 4000, Australia

+61 (0) 7 3054 4500

[info@ppkgroup.com.au](mailto:info@ppkgroup.com.au)

[www.ppkgroup.com.au](http://www.ppkgroup.com.au)

## TECHNOLOGY COMPANIES

**BNNT Technology Limited**

**Li-S Energy Limited**

**White Graphene Limited**

**3D Dental Technology Pty Ltd**

**BNNT Precious Metals Limited**

**Strategic Alloys Pty Ltd**

**Ballistic Glass Pty Ltd**

Level 27, 10 Eagle Street, Brisbane QLD 4000, Australia

+61 (0) 7 3054 4500

[office@bnnt.com.au](mailto:office@bnnt.com.au)

**Craig International Ballistics Pty Ltd**

4 Harrington Street, Arundel,

QLD 4212, Australia

+61 (0) 7 5563 1099

[info@ballistics.com.au](mailto:info@ballistics.com.au)

## PPK MINING EQUIPMENT

**Tomago Facility**

13B Old Punt Road, Tomago NSW 2310, Australia

+61 (0) 2 4964 5400

[info.equipment@ppkgroup.com.au](mailto:info.equipment@ppkgroup.com.au)

**Port Kembla Facility**

Lot 1 / 201 Old Port Road, Port Kembla NSW 2505,

Australia

Telephone: +61 (0) 2 4207 3000

**Mt Thorley Facility (PPK Firefly and Rambor)**

25 Thrift Close, Mount Thorley NSW 2330, Australia

+61 (0) 2 6574 6500

[info.firefly@ppkgroup.com.au](mailto:info.firefly@ppkgroup.com.au)

[info.rambor@ppkgroup.com.au](mailto:info.rambor@ppkgroup.com.au)