TITOMIC

Industrial Scale
Additive Manufacturing

INVESTOR PRESENTATION
Oct 2017

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CEO & Director of Technology

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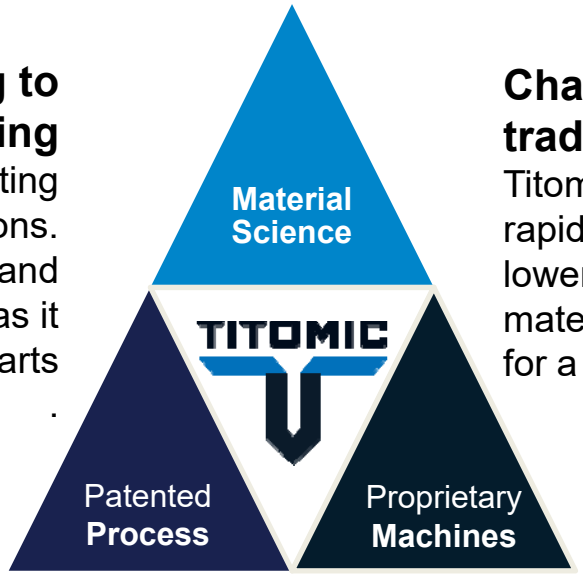
Titomic Kinetic Fusion

Industrial scale advanced manufacturing systems

Taking 3D Metal Printing to large scale manufacturing

Titomic overcomes metal 3D printing size, speed and oxidation limitations. Titomic offers the worlds fastest and largest metal 3D printing builds as it uses kinetic fusion to form metal parts .



Challenges the core of traditional manufacturing

Titomic's Kinetic Fusion system offers rapid protoyping, superior products at lower production costs and reduction in material waste. Utilising less resources for a sustainable and green tech future.

Overview – Titomic driving the future of manufacturing

Titomic overcomes the limitations of existing additive manufacturing for metals, to manufacture complex parts **faster**, **larger** and **smarter**.

Titomic's system enables speed-to-market, manufacturing at lower production costs and use less resources for a more sustainable future

Experienced Advanced Manufacturing board

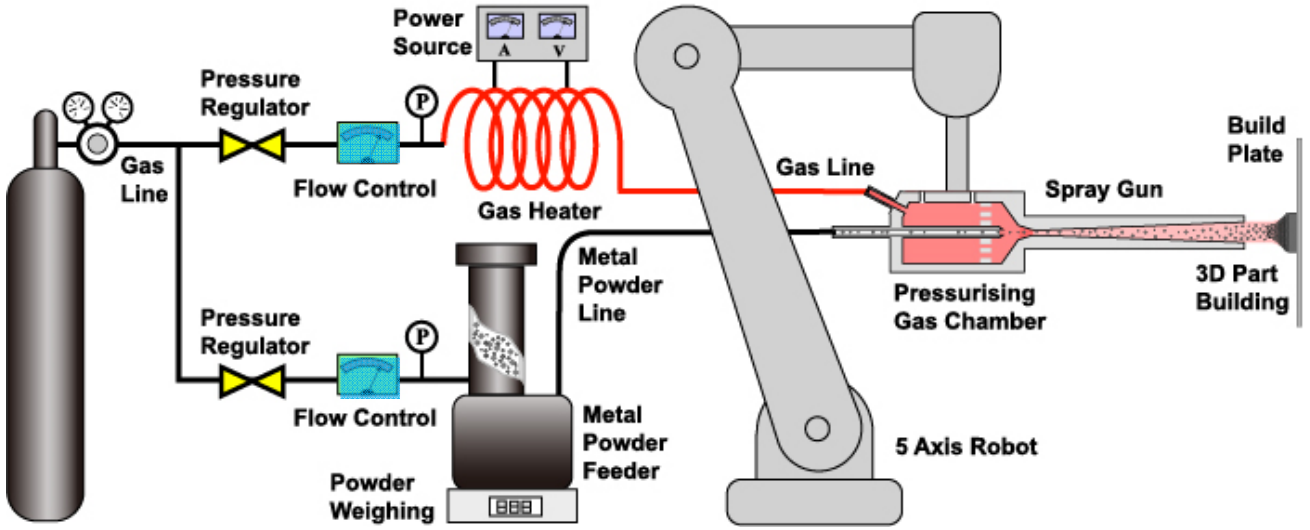
Leading Technology & Research support with CSIRO

Potential applications across global and mass market industries
Rapid growth sector with diversified revenue opportunities

Exclusive rights to commercialise the co-developed CSIRO proprietary and patented process, for the application of Titomic Kinetic Fusion technology

How does Titomic Kinetic Fusion work and its advantages

- Titanium alloys are sprayed onto a scaffold surface or a build plate at supersonic speeds (~3x the speed of sound) where the particles impact (and plastically deform) and bond to the scaffold or to themselves to create a 3D formed part.
- The only process which can fuse a broad range of materials : metals, composites (ceramics) to create superalloys and hybrid materials and fuse dissimilar materials.
- Fastest deposition rates of up to 45 kg/hr. Can be faster with multiple robotic heads
- Unlike existing 3D printers, Titomic can use less refined powders which are more cost competitive
- Replaces traditional metal fabrication techniques of folding, bending and welding.
- No melting the metal or need for an inert enclosure allowing much larger metal parts to be 3D printed



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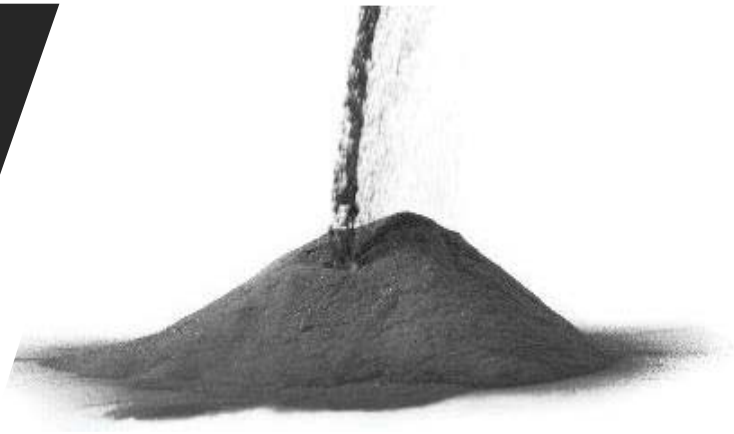
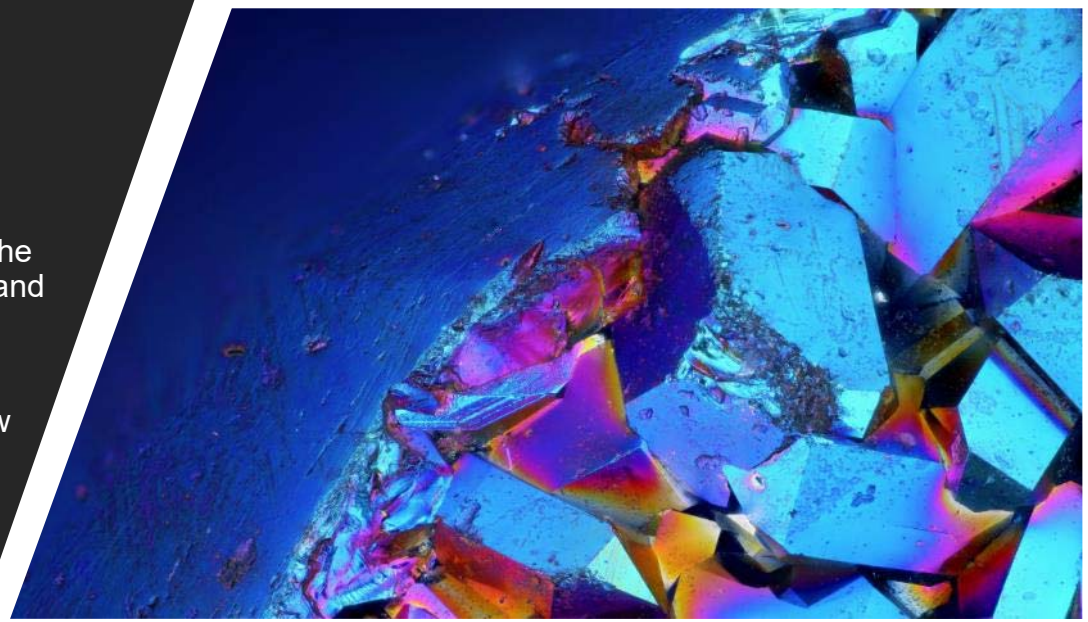
Powders

The Titomic Kinetic Fusion process fuses metals and composites together to form metal solids and hybrid materials, creating parts with engineered properties **not available with any other manufacturing technology.**

- Most aviation grade parts utilise powders costing a minimum of US$200 per kg and up to US$800 per kg for specialised purposes.
- Titomic offers a range of cost-effective metal/ alloy powders for additive manufacturing, including proprietary titanium alloy powders for use with Titomic machines.
- Unrefined Titanium powder costs less than refined powders at approximately US$20-50 per kilogram
- Existing additive manufacturing systems cannot currently utilise these unrefined powders.
- Many manufacturers still use alloys developed in the 1960s. Titomic can re-define alloying parameters and create new super alloys for industry applications.
- New super alloys mean customers can launch new superior products with the Titomic Kinetic Fusion process.



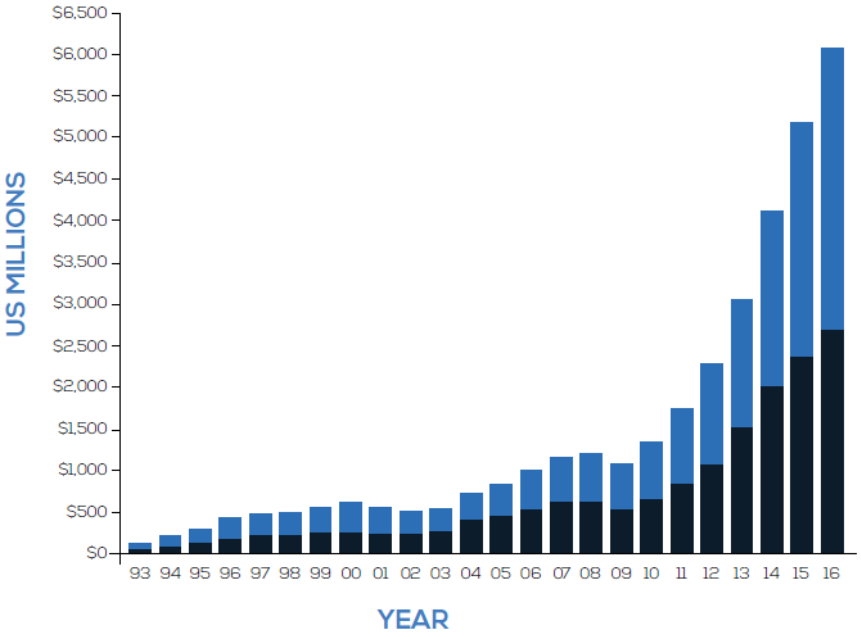


Additive Manufacturing Market Growth

The additive manufacturing industry is expected to grow from $6.1 billion in 2016 to approximately $26.2 billion by 2022 (Wohlers Associates, Inc).

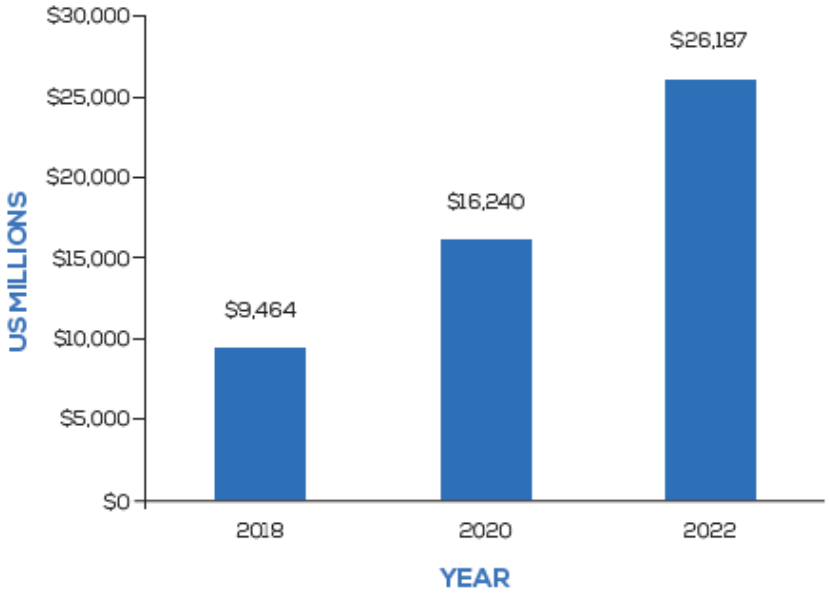
By 2018 the industry is forecast to reach nearly $9.5 billion worldwide.

Additive Manufacturing 1993-2016



Source: Wohlers Report 2017

Additive Manufacturing 2018-2022



Source: Wohlers Report 2017

Additive Manufacturing products, systems and material sales

Additive Manufacturing Services.

Business model

- Titomic is targeting the sales of Titomic Systems (machines and powders) with the validation of Titomic Kinetic Fusion process for clients' manufacturing requirements to 3D print large complex parts through R&D prototyping services. Servicing and maintenance will be another revenue source.
- Clients will be offered a licence to manufacture these parts

R&D Prototyping Service	Titomic Equipment sales	Consumables Supply	Service & Maintenance
• Fee for service prototyping for clients • Titomic manufactures client product / part • Client offered a licence to manufacture with Titomic process • In the early stages of business model it is intended that the Titomic service bureau will generate a significant portion of sales revenue.	• Titomic design, commission and install machinery • Titomic system sales are intended to be a major revenue channel in the first 5 years of commercial operations.	• Supply Titomic branded powders and machine consumables (spray nozzles and powder feeders) • Metal powder and consumable sales are intended to be a major long term, highly profitable, revenue stream from Titomic systems customers	• Titomic will offer a preventative maintenance programme for Titomic equipment • Servicing and upgrades to equipment according to client requirements

Target industries – Current

Titomic has the commercial rights to exploit the licenced patents in the US, Japan, NZ in the following industries. China, Europe, Australia to follow.

1. **Aerospace @ $8bn**
   - primary target titanium (Ti) raw market worth $3.4bn pa
   - secondary target composites @$2.7bn pa for 787 & A350 production
   - tertiary target superalloys @$1.9bn pa

2. **Military in Australia @$7.3bn**
   - Australian defence autonomous systems /drones ~$50m pa
   - Submarine, future frigate and offshore patrol vessel market is ~$7.2bn pa
   - Material for ballistics protection & high temperature resistance
   - Large seamless fuselage or monocoque wing for drones & submarines

3. **Sporting Goods @$11bn**
   - primary target Mountain bikes, Racing and Road bikes worth $11bn pa

4. **Marine in Australia @$2bn**
   - primary target catamarans / sailboats & full cabin cruisers $2bn pa
   - secondary target repairs for corrosion resistance, anti-fouling

Target industries –Future

5. Medical equipment and mobility

- Primary target lightweight Titanium wheelchairs & mobility devices
- Secondary target hospital equipment; beds, tables, anti-microbial cladding

6. Automotive

- Targeting car panels and chassis strength to weight ratio and lightness

7. Building and Civil Construction

- Targeting lightweight corrosion resistant cladding and maintenance of steel structures

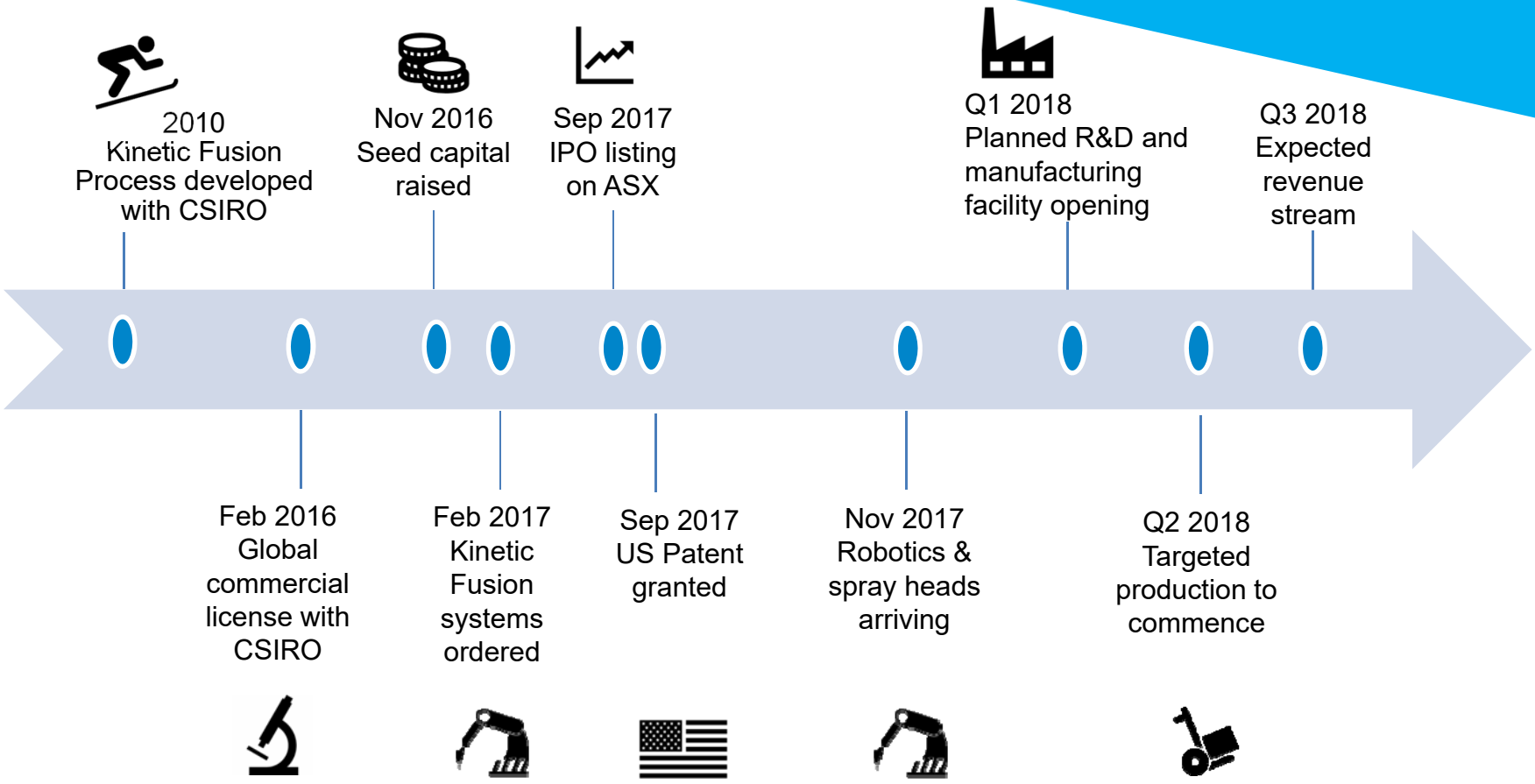
8. Mining, Oil & Gas and Transport

- Targeting repair and preventative maintenance for structures, piping and equipment

Current target industries and progress

Industries	Companies	Project	Revenue Stream
Sporting Goods	• Major USA Bike brand	• Titanium bike frames	• R&D Q2'18 project leading to machine & powder sales
	• Major USA Golf brand	• Super alloy golf clubs	• R&D Q2'18 project leading to machine & powder sales
	• Major European Bike brand	• Titanium bike wheels	• R&D Q2'18 project leading to contract manufacturing
	• Major Taiwan Bike Brand	• Super alloy bike parts	• R&D Q1'18 project leading to machine & powder sales
Aerospace & Defence	• Major US material supplier	Repair of castings & bosses onto forging	• R&D Q2'18 for Aerospace leading to machine & powder sales
	• European Aerospace OEM	• Airframe components & Alloy/CFRP coatings	• Current R&D trials leading to a licensed supply contract Q1'18
	• US Aerospace Prime	• Space & Satellite hypersonic coatings	• Scoping project leading to R&D machine & powder sales
	• US Defence Prime	• UAV wing & fuselage structures for drones	• Scoping project leading to R&D machine & powder sales
	• European Naval OEM	• Super alloy & ballistic components	• Scoping project leading to R&D machine & powder sales
Marine	• AU ship builder	• R&D for components in high speed ships	• Scoping project leading to R&D machine & powder sales
	• AU naval ship builder	• Maintenance project leading to machine sales	• Maintenance project leading to machine & powder sales

Milestones


2010
Kinetic Fusion Process developed with CSIRO
Feb 2016
Global commercial license with CSIRO
Nov 2016
Seed capital raised
Feb 2017
Kinetic Fusion systems ordered
Sep 2017
IPO listing on ASX
Sep 2017
US Patent granted
Nov 2017
Robotics & spray heads arriving
Q1 2018
Planned R&D and manufacturing facility opening
Q2 2018
Targeted production to commence
Q3 2018
Expected revenue stream

Manufacturing facility

The Melbourne Facility will provide clients with a bureau to **research, develop and manufacture prototypes & products** utilising the Titomic Kinetic Fusion process.

- The facility will include a ITAR (International Traffic in Arms Regulation) compliance area – a United States regulatory regime to restrict and control the export of defence and military related technologies to safeguard U.S. national security and further U.S. foreign policy objectives.
- This is a requirement in order for Titomic to work with US based Defence OEMs

- Titomic is building the **world's largest metal 3D printer** (L x W x H) 9 x 3 x 1.5 m = 40.5 m^3

- Titomic's is building a fully automated manufacturing system the **world's fastest production line** for bicycle and wheelchair frames

- Titomic intends for production to commence by Q2 2018

Board with advanced manufacturing experience

Philip Vafiadis : Chair & Non-Executive Director
Executive Chair of Innovyz, Australia's leading tech. commercialisation firms
Founder & Chair of VAF Research, manufacturer of high fidelity speaker systems
Co-founded ZEN Energy, one of Australia's fastest growing companies
Founding member & Director of Australian Transformation & Turnaround Association

Jeff Lang : CEO & CTO
30 years' in composite manufacturing & advanced materials technologies in Australia, Europe and Asia.
VP & Technical Director, Matrix Sports Co. Led company to global leadership in composites sporting goods manufacturing. Matrix Sports is a JV between Force Industries and Heli Group China.

Simon Marriott : Executive Director | Industry & Technical Adviser
20 years' pioneer in advanced manufacturing, established Australia's 1st 3D printing service bureau in 1993
Former VP of 3D Systems – Asia Pacific, MD of Amaero Engineering, Director of Advanced Manufacturing Cooperative Research Centre. Current Director of Innovative Manufacturing Cooperative Research Centre

Richard Wilson : Independent Non-Executive Director
20 years' experience as CFO, Company Secretary, Director within resources, agricultural sectors for ASX listed, private and MNCs. Company Secretary for Wilgena Resources and Beston Global Food Company, Non Executive Director for Aus Tin Mining and Unity Housing Company.

Richard Fox : Non-Executive Director
Co-founder of Force Industries, leading manufacturer of composite sports board.
Former Chair and Director of Meditech Research, Director of Research at St Vincent's Hospital, Director of Clinical Haematology and Medical Oncology, Royal Melbourne Hospital. Inaugural Chair of the Cancer Research Centre for Cancer Therapeutics. Awarded the Order of Australia in 2007.

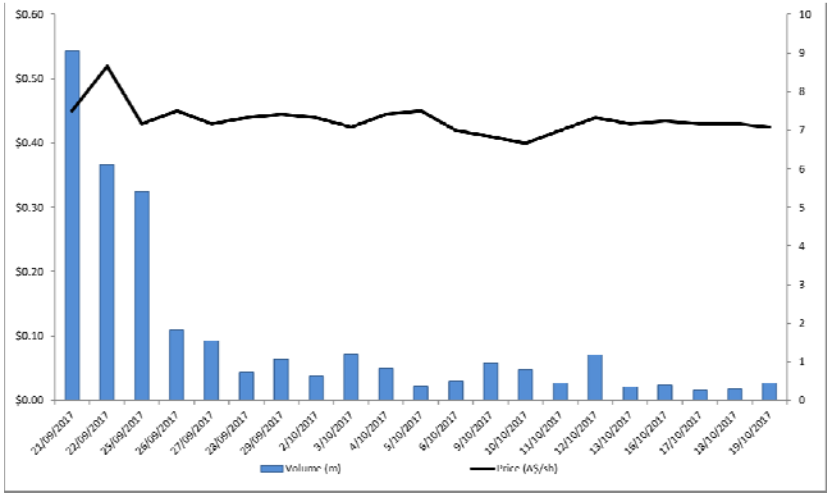
Capital Structure

Ordinary Shares on Issue	113,298,217
Class A Performance Shares*	10,000,000
Class B Performance Shares**	10,000,000
Options	2,005,000
IPO Funds Raised	$6.5m
Market Capitalisation (20/10/2017)	$48.2m

Major Shareholders

Holder	Shares	%
Richard Fox (*Founder*)	27,944,012	24.7%
Jeff Lang *(CEO)*	10,004,342	8.8%
Tim Fox *(Founder)*	8,626,646	7.6%
PAC Partners	5,819,050	5.1%
Innovyz *(Founder)*	5,375,000	4.7%
Founders and Board		***46.5%***

Share price performance



*** Milestone 1:** Share price must be more than 150% of IPO price and quarterly revenues must be at least $1m for two consecutive quarters, within 3 years of IPO.

**** Milestone 2:** Market Capitalisation more than $100m, and quarterly revenue must be at least $2m for two consecutive quarters, and must have issued at least 30 product licences, within 3 years of IPO.

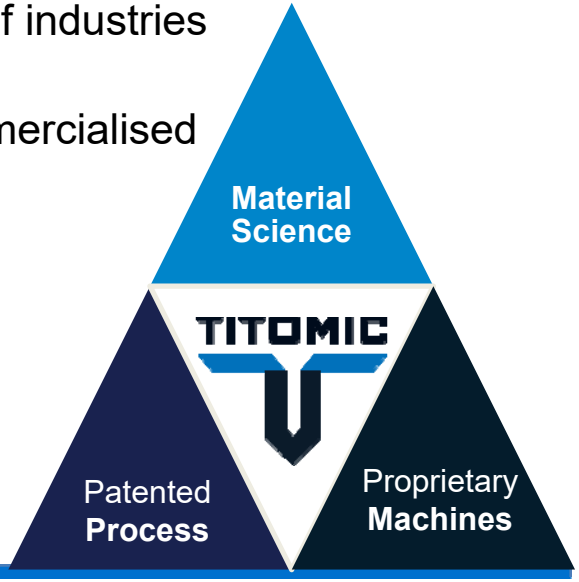
Peers

Company	Business Description	Cap. | Sales | P/S
PyroGenesis NASDAQ: SGLB	Supplies titanium and other metal powders using patented Plasma Atomisation Process	$54m | $5.4m | 10x
Aurora Labs ASX: A3D	Designs, develops & manufactures 3D printers, 3 different models of printers intended Build Size: 20x20x50cm (0.02m^3)	$30m | $0.2m | 150x
Voxeljet NYSE: VJET	Manufacturer of 3D printers and prototyping services, Offers 6 different printers. Build Size: 30x20x15cm (0.01m^3) to 4x2x1m (8m^3) Max speed 0.12 m^3 /hr	$117m | $32.6m | 3.5x
ExOne NASDAQ: XONE	Designs, develops & manufactures 3D printers, Offers 5 different printers. Build Size: 17x7x7cm (0.001m^3) to 2.2x1.2x0.7m (1.8m^3) Max speed 0.4m^3/hr	$210m | $66m | 3.2x
SLM Solutions DB: AM3D	Develops & manufactures 3D printers, supplies powders, Offers 3 systems. Build Size: 13x13x8cm (0.001m^3) to 50x28x33cm (0.05m^3) Max speed 0.001m^3/hr	$944m | $123m | 7.7x
Materialise NASDAQ: MTLS	Materialise primarily provides additive manufacturing software solutions (60%) for the medical sector, and prototyping services (40%)	$957m | $167m | 5.7x
Stratasys NASDAQ: SSYS	Offers complete manufacturing solutions; designs & develops 3D printers, supplies powders, and other services. Offers 20 printers for various uses. Build Size: 49x39x20cm (0.04m^3) to 1x0.8x0.5m (0.4m^3)	$1.4bn | $930m | 1.5x
3D Systems NYSE: DDD	Designs & manufactures 3D printers, supplies powders, software and manufacturing services. Offers 5 classes of printers, each with several models. Build Size: 10x10x10cm (0.001m^3) to 28x28x42cm (0.03m^3)	$1.65bn | $875m | 1.9x
Renishaw LSE: RSW	Diversified advanced manufacturer, predominantly related to metrology, also designs & develops 3D printers. Offers 3 types of printers. Build Size: 25x25x30cm (0.02m^3) to 25x25x35cm (0.02m^3)	$5.9bn | $909m | 6.5x
Titomic ASX: TTT	Commercialisation of 3D printer, and prototyping services. Build Size: 9x3x1.5m (40.5m^3) Max speed, intended 200kg /hr	$60m | $-m | -x

Source: PAC Partners

Summary

- The Titomic is one of the fastest manufacturing process for metal parts and products and uses low cost raw materials
- 3D printing of large metal components is more efficient
- super alloys and smart materials = superior products
- International patented process developed with CSIRO
- Highly experienced advanced manufacturing board & team
- R&D production facility online in 1Q CY2018
- Applications across a very broad range of industries
- The TKF process is being currently commercialised
- USA & Chinese Patents granted



Titomic

Industrial Scale Additive Manufacturing

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Connect with Titomic:

Machines

Titomic machines can manufacture products **without shape or size constraint.**

Machines made for Titomic Kinetic Fusion

1. Build rates that are much faster than any conventional metal 3D printer. Cuts production time from days to hours.

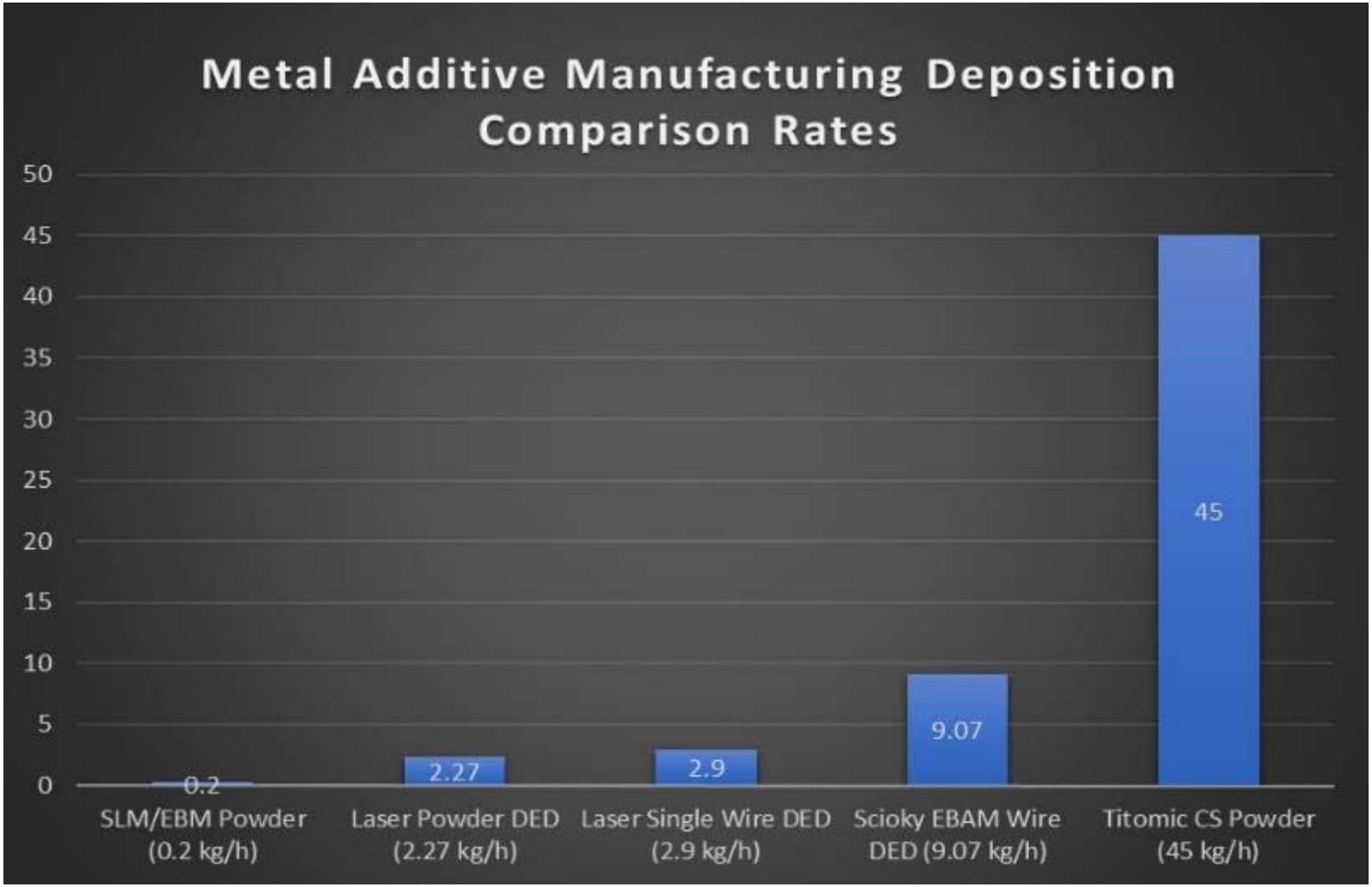
2. the first additive manufacturing process to mitigate oxidation issues; there is no melting involved as particles travel at supersonic speeds, impact to mechanically fuse.

3. No heat-related distortion, materials retain their properties and are comparable to cast and wrought material.

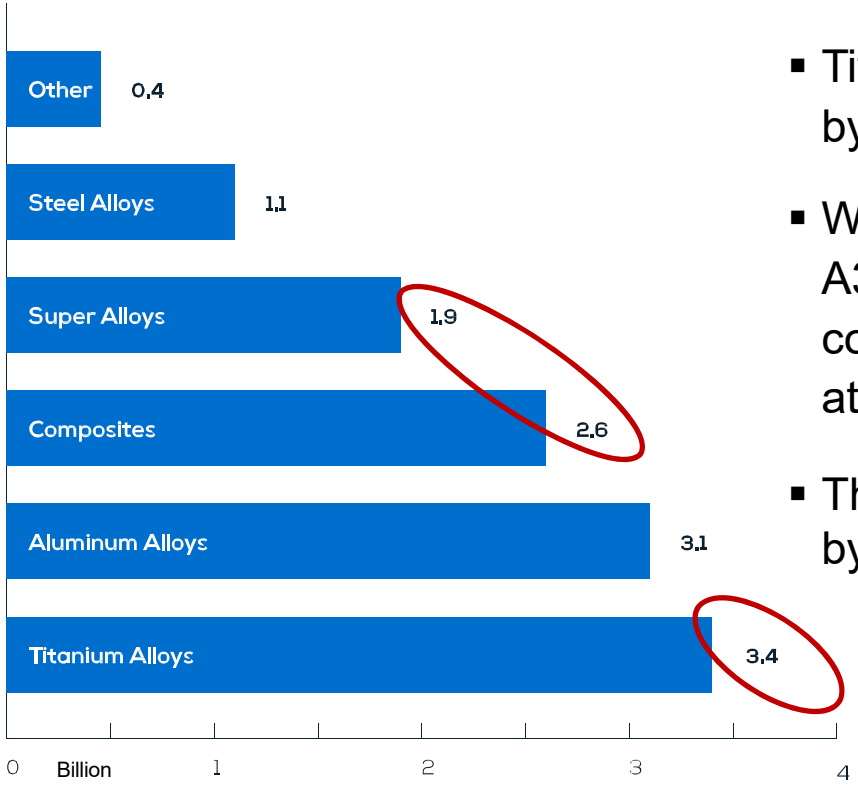
4. Automated production lines which do not require welding, folding, bending and tooling, reducing production time

Titomic partners with industry-leading robotics and equipment manufacturers to create bespoke Titomic machines.

Titomic is the fastest metal 3D printer



Targeting $8bn out of $12.4 bn Aerospace market



Source: ICF Analysis

- Titanium is the largest material market by value at $3.48B
- With 787 production ramping up, and A350 long-lead items under production, composites are the third largest category at $2.68B
- The value of superalloys is $1.98B driven by aero-engine production

Titomic technology can fuse metals and composites to create hybrid materials

TITOMIC

Table 6: Summary of key investment decisions from FY 2016–17 to FY 2025-26

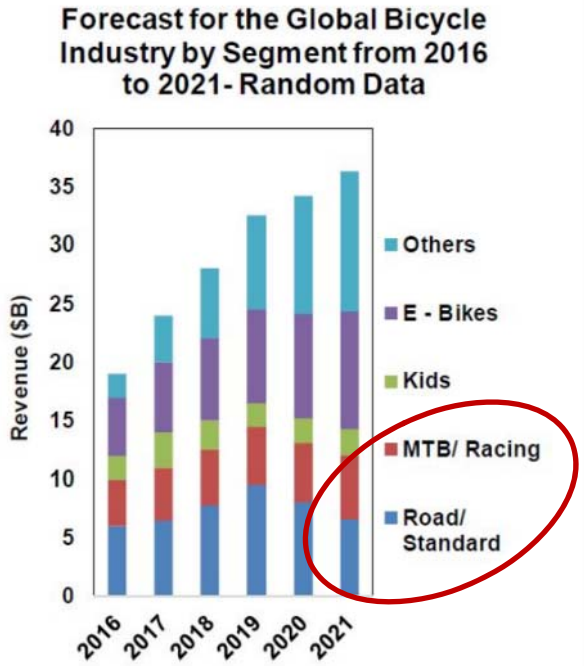
Program title	Program Timeframe	*Approximate investment value
Hobart Class Air Warfare Destroyer (3 ships)	Approved	$9.1bn
P-8A Maritime Surveillance and Response Aircraft (8 aircraft) and facilities	Approved	$4.8bn
MH-60R Naval Anti-Submarine Warfare Helicopter (24 helicopters)	Approved	$1.9bn
Additional Maritime Surveillance and Response Aircraft (4 aircraft)	Scheduled for approval†	$1bn–$2bn
Maritime Communications Modernisation	Approved	$410m
Sea Sparrow Missile Upgrade	Approved	$330m
Anzac Class Frigate Electronic Support System Improvement	Approved	$210m
Future Frigate Program – Evaluation	Scheduled for approval†	$100m–$200m
Collins Submarine – Sonar Replacement	Scheduled for approval†	$100m–$200m
Future Submarine Program – Evaluation	Scheduled for approval†	Less than $100m
Offshore Patrol Vessel – Evaluation	Scheduled for approval†	Less than $100m
Future Submarine Program – Design and Construction	2018–2057	>$50bn
Future Frigate Program – Design and Construction	2017–2040	>$30bn
Future Submarine Program – Weapons and Systems	2018–2045	$5bn–$6bn
Destroyer Program – Combat System	2017–2028	$4bn–$5bn
Maritime Anti-Ship Missiles and Deployable Land-based Capability	2018–2037	$4bn–$5bn
Offshore Patrol Vessel – Design and Construction	2016–2033	$3bn–$4bn
Maritime Area Air Defence Weapons Program	2025–2040	$3bn–$4bn
Future Frigate Program – Weapons	2020–2044	$3bn–$4bn

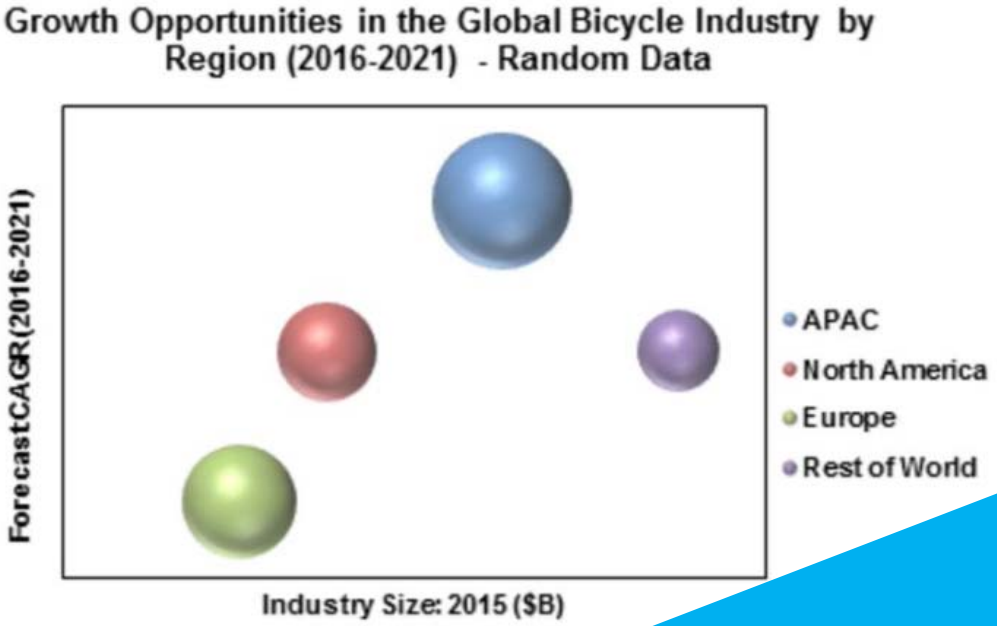
Defence opportunities

- Australia will invest $195 billion over the next decade to upgrade defence capabilities – a large part of it would be for our naval forces
- Incorporating Titomic in just 1 submarine, 1 future frigate and 1 offshore patrol vessel is already a **$7.25bn** market.
- The government announced $50 million funding for defence and industry to develop autonomous systems
- **Titomic has identified key defence capabilities:**
  - Superior material for ballistics protection
  - Large seamless fuselage or monocoque wing
  - Structures with highest strength to density ratio
  - High temperature resistance
  - Corrosion resistance for aggressive environments
  - Anti-fouling

Source : Australian Government Department of Defence 2016 Integrated Investment program

Targeting $11bn out of $24bn Bike market





Global Bicycle market expected to reach $59.9 billion by 2021

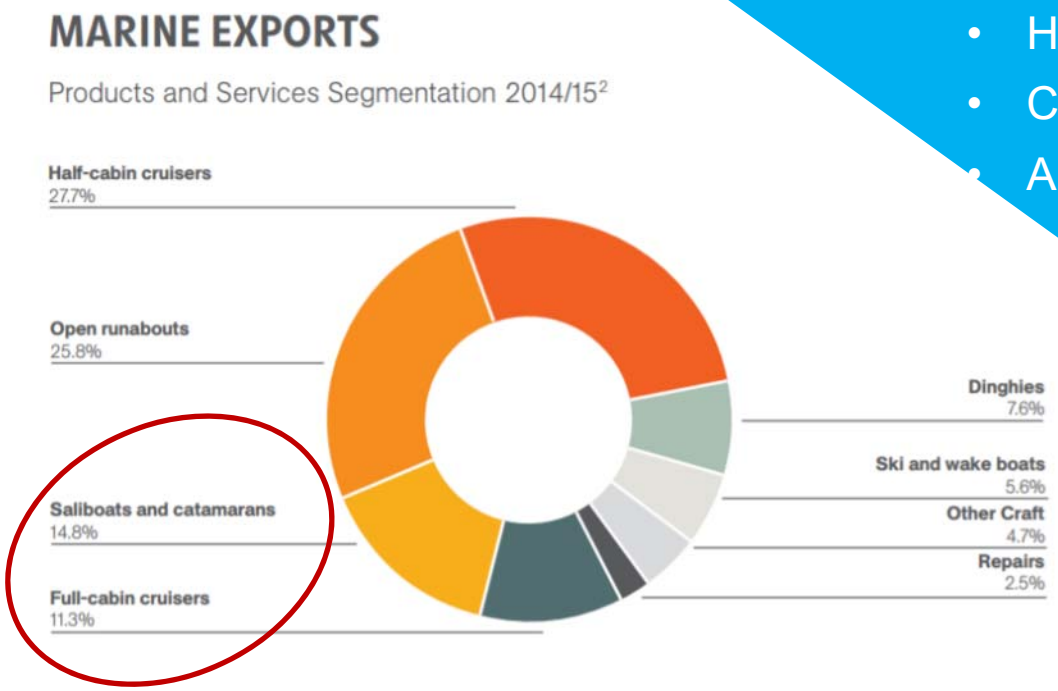
Source: Lucintel

Titomic is in the process of producing a fully monocoque Titanium bike frame.

Targeting $2bn out of $8bn AU marine industry

Titomic's key marine capabilities include:

- Large seamless fuselage
- High strength to density ratio structures
- Corrosion resistance
- Anti-fouling



The Australian marine industry includes shipbuilding and boatbuilding and repair, marine equipment manufacturing, and marina operations with $1.7bn added to the Australian economy and an annual export market of $575m[2]

Source : [1]Boating Industries Alliance Association 2014 [2]ABS, Australian Industry 2014-15, OECD ANBERD database.

TITOMIC

Taking manufacturing to a whole new level

Build rates of 45 kg p/hr. Significantly faster than existing 3D printers = speed to market

World's largest metal 3D printer L x W x H
9 x 3 x 1.5 m = 40.5 m^3
No shape or size build constraints
Industrial scale volumes without extensive tooling
The bigger the product, the more economies of scale

Up to 80% savings in material wastage compared to traditional machining of billet
No melting & no oxidation
Fusion of metals to create super alloys
Fusion of metals & composites = hybrid materials