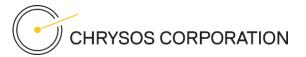


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# Who is Chrysos?



Chrysos Corporation Limited is an Australian-based provider of novel assay services through its proprietary PhotonAssay technology

### Chrysos at a glance

Chrysos PhotonAssay™ technology was originally developed by Australia's national science agency, CSIRO. It represents a major advancement in gold assaying technology, offering a unique solution to a range of operational, economic and ESG challenges facing mining companies



**Quantitative** results in as little as 2 minutes



2.5m samples processed to date



38 Units deployed or committed, TAM of 610<sup>1</sup> **Units** 



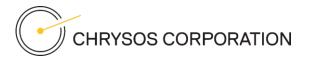
**Committed** TCV of \$559.8m



Contracted "annuity style" earnings

- Chrysos Corporation listed on the ASX in May 2022 under the ticker C79
- Raised \$183m via a fully-underwritten initial public offering with \$65m in new funds to support growth ambitions
- CSIRO continues as a 22% holder

## The Chrysos vision



To become the world's leading provider of innovative assay services and technologies



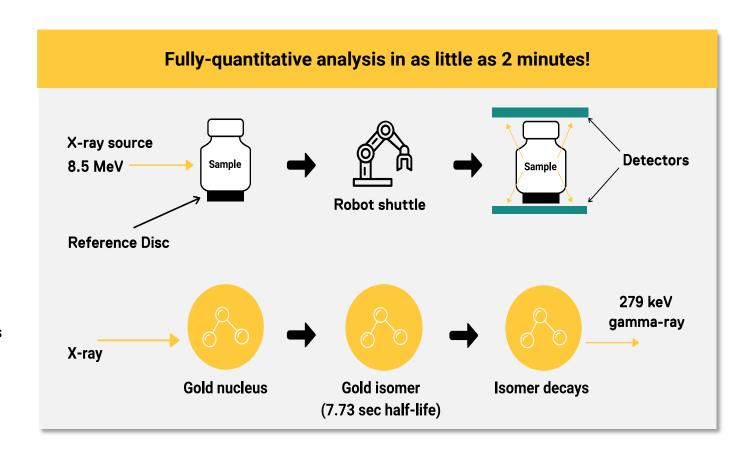
#### **Market Challenge:**

Traditional assay techniques are slow, labour intensive, complex, destructive to the assay sample, and involve dangerously high temperatures and toxic chemicals that are hazardous to both operators and the environment.

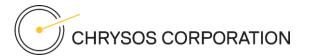


#### The Solution: Chrysos PhotonAssay™

- ✓ Provides faster and more accurate assaying
- ✓ Allows **real-time delivery** of information to support agile decision making
- ✓ Rapid decision making helps to improve operational efficiency, recovery and profitability
- ✓ Removes hazardous chemicals from the assay process protecting operators and reducing emissions
- ✓ **Is non-destructive** allowing for repeat testing and comparative analysis
- ✓ The process is **largely automated**, reducing labour requirements and the chance of human error



# PhotonAssay technology

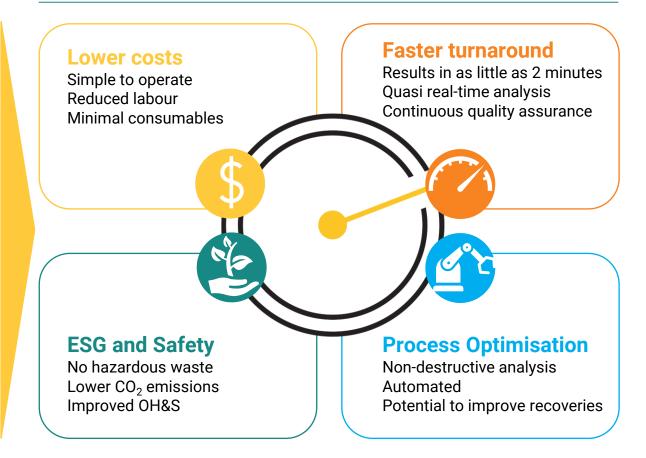


Best in class gold assaying with measurable benefits over incumbent methods

### PhotonAssay vs. Traditional Fire Assay<sup>1</sup>

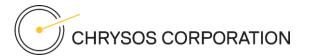
	Fire Assay	PhotonAssay
Time per sample <sup>2</sup>	~3-4 hours	~2-3 minutes $\checkmark$
Sample size	10-50 grams	250-650 grams
CO <sub>2</sub> per sample	0.91kg	0.455kg 🗸
Hazardous waste per sample	0.31kg	0kg 🗸
Energy use per sample <sup>3</sup>	1.3kWh	0.65kWh
Automation	×	<b>√</b>

### PhotonAssay value proposition

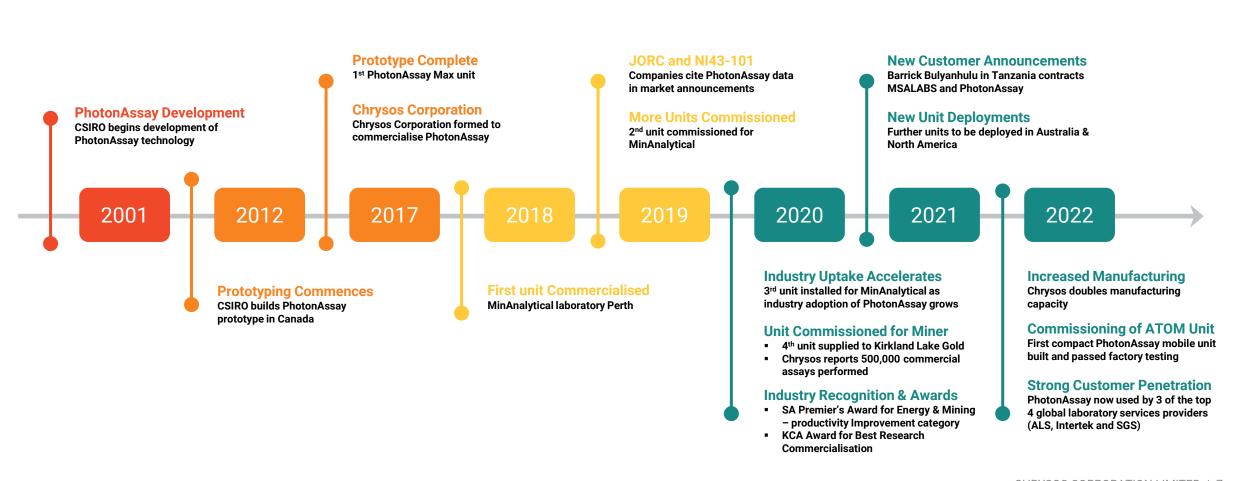


- Comparison of PhotonAssay and Fire Assay per Frost & Sullivan industry report
- Fire assay shown based on the minimum processing time. 24-hours is generally considered rapid turn-around time in practice.
- Assumes same electricity source is used

## Our commercialisation journey

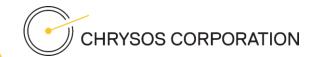


The product of +20 years of research and development





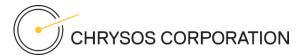
## **Business highlights**



Revolutionising the global mining industry by providing disruptive assay technology and solutions



# Large & unpenetrated TAM

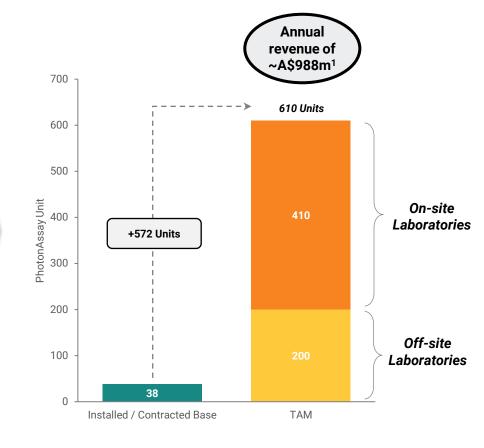


Assay expenditure is a non-discretionary operating cost

#### **Existing PhotonAssay Reach**



### **TAM for PhotonAssay Units**



# Delivering tangible benefits for miners



PhotonAssay enables timely decision making and additional gold recovery

#### The opportunity...

- Each year global miners are estimated to lose >\$2.0 billion worth of recoverable gold
- PhotonAssay provides miners with access to realtime data, helping to improve decision making through the value chain
- Enabling the optimisation of processes to generate potential productivity gains

### PhotonAssay is embedded in the mining value chain

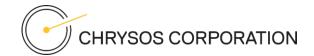


PhotonAssay Value Add				
Exploration Mine	Fast turnaround for mine planning and scheduling in-pit			
ROM Crushing	Assay-supported blending between pit & processing			
Stockpile	Stockpile sampling & optimised gold recovery			
Multi-stage concentration	Reduction in process reagents & consumables			
Tailings + Water recovery	Tailings grade monitoring			
Gold room	All samples retained for QA/QC			
Product	Buyer / seller assays			



Denotes PhotonAssay value add

# 2 An environmentally-friendly solution



Substantially better for the environment and significantly safer than the incumbent fire assay method

PhotonAssay has a substantial **positive environmental impact** that will continue to grow in tandem with the uptake of the technology

- PhotonAssay reduces CO<sub>2</sub> and eliminates lead contaminated waste
- Quantifiable benefit
  - 0.455kg of CO2 reduced per sample (compared to fire assay)
  - 0.31kg of hazardous lead contaminated waste reduced per sample (compared to fire assay)
- Improved OH&S through elimination of hazardous chemicals, lead exposure, and ultra-high temperatures used in conventional fire assay
  - Fire assayers require routine blood tests to confirm acceptable levels of lead
  - Fire assayers are routinely rotated through other laboratory tasks to prevent a build-up of lead

### LIKE TO TREAD MORE LIGHTLY THE PLANET?

Every sample analysed with Chrysos PhotonAssay™ means reduced CO2 emissions and less hazardous waste.



2,528,351 Chrysos PhotonAssay™ samples

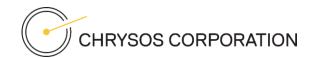


1163.04 tonnes Reduced CO2 emissions

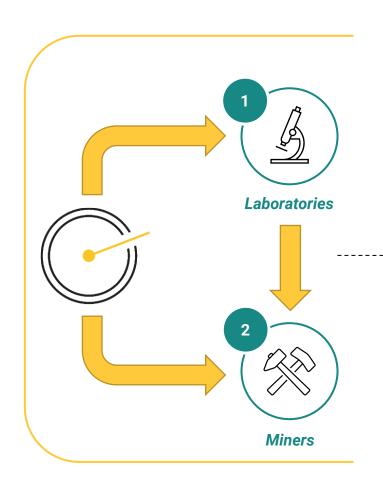


783.79 tonnes Hazardous waste reduction

### Attractive customer value proposition



Validated by existing customers including 3 of the 4 largest labs and, 2 of the 3 largest gold miners by market capitalisation globally



#### **Example customers**

SGS Intertek ALS

Alfred H Knight **MSALABS** 

**Britannia Life Sciences** 

### **Value proposition**

Higher volume, improved efficiency



Reduced preparation steps



Unique, fully automated labs



Reduced human error



Enhanced QA/QC

**Barrick Gold Corporation** 

**AGNICO EAGLE** 

**Kirkland Lake Gold** 

**Novo Resources Corp** 

Eliminates volume bottleneck



Improve reliability and accuracy



Rapid turn around time



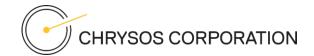
Optimised plant operational settings



Reduce gold lost to dumps and tailings



### Scalable business model

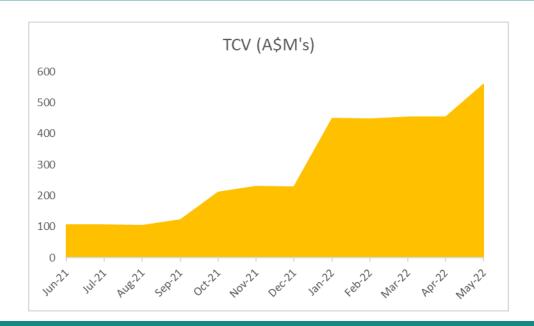


Underpinned by long-term infrastructure-like recurring revenue

#### Advantages of Chrysos' strategic revenue model

- Typically structured as long-term leases (5+5) with a guaranteed annual minimum and upside leverage to assay volumes
- Leasing model with no upfront capital burden minimises barriers to customer adoption and enables scalability
- Encourages high usage by customers embedding the technology at site
- Provides Chrysos with high visibility and contracted, recurring revenue
- Competitively priced relative to traditional fire assay (with added efficiency, safety and environmental benefits)

#### Total Contract Value<sup>1</sup>

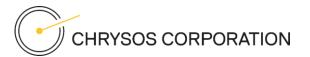


\$559.8m of Total Contract Value committed under existing contracts

PhotonAssay is critical infrastructure, embedded in the lab / miners value chain, resulting in infrastructure-like, annuity earnings

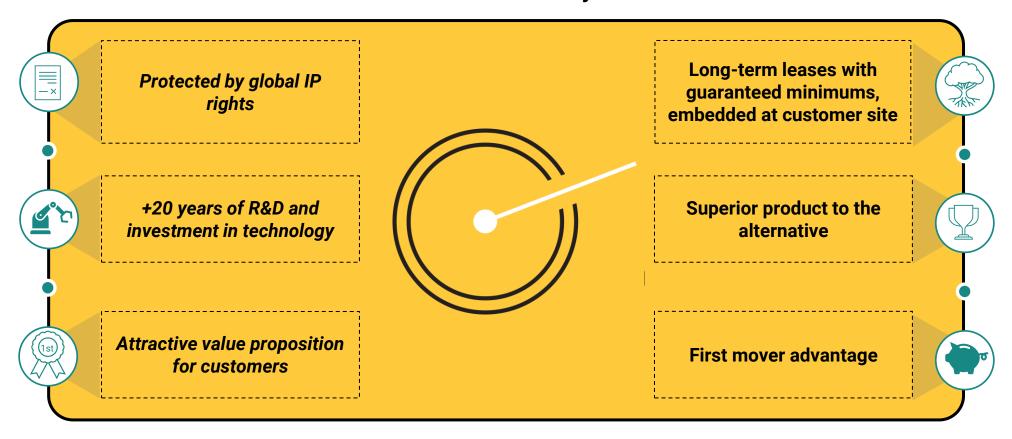


# **5** High barriers to entry

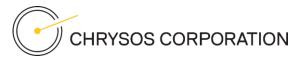


High barriers to entry supported by global IP rights

### **Barriers to entry**



# Clear growth pathway



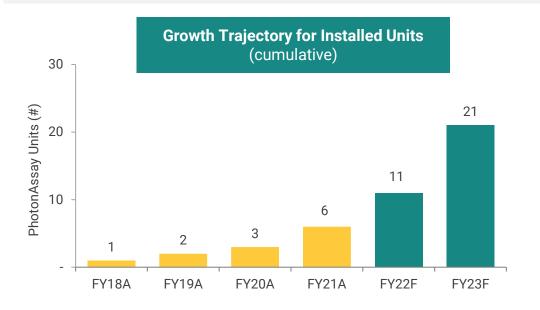
Clear organic growth plan with potential to expand TAM through additional commodities

#### **Business development pipeline**

Global networks of laboratories

#### Intertek ALS SGS **MSALABS**

- PhotonAssay unit commitments extend out to 2024
- Existing customers offer additional deployment opportunities



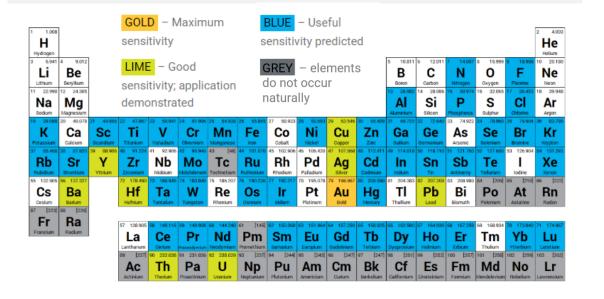
### **Multi-commodity assaying**

#### Potential to expand TAM

- Base metals
- **Energy metals**
- Electronics recycling

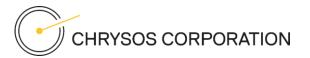
#### Potential to increase profitability

- Add-on analyses
- Concurrent moisture





## **Experienced management team**



Supported by a well respected and tenured board

#### Management team



#### **Dirk Treasure Founding CEO & Managing Director**

- Metallurgist with a background in both technical and commercial mining aspects spanning 15 years in the industry
- 7 years in novel metallurgical process development and commercialisation prior to becoming Chrysos' founding CEO



**Brett Coventry Chief Financial Officer** 

- Experienced in taking high growth technology start-ups from inception through to maturity
- 20 years in various roles encompassing international expansion, capital raising and listing through IPO

#### **Board of Directors**



Rob Adamson Founder & Chairman

- 20+ years' experience in mining and finance
- **Executive Chairman of RFC Ambrian**



#### **Kerry Gleeson** Director

- Experienced executive and nonexecutive director in mining and associated industries
- Qualified Australian and English Lawyer: M&A, debt & equity funding & commercialising technology



**Brett Boynton Founding Director** 

- Co-founder of AI data analytics business and founder of London listed gold exploration technology co.
- 20+ years' investment banking experience in London, New York, Sydney



#### **Eric Ford** Director

40 years of strategic, management, commercial, operating and engineering experience in resources and energy



Ivan Mellado **Founding Director** 

- 20 years' experience in technology commercialisation and development ventures
- Business and Law qualifications; experienced executive and NED



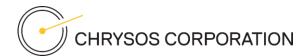
## Financial highlights



Attractive unit economics underpinned by recurring, contracted revenue

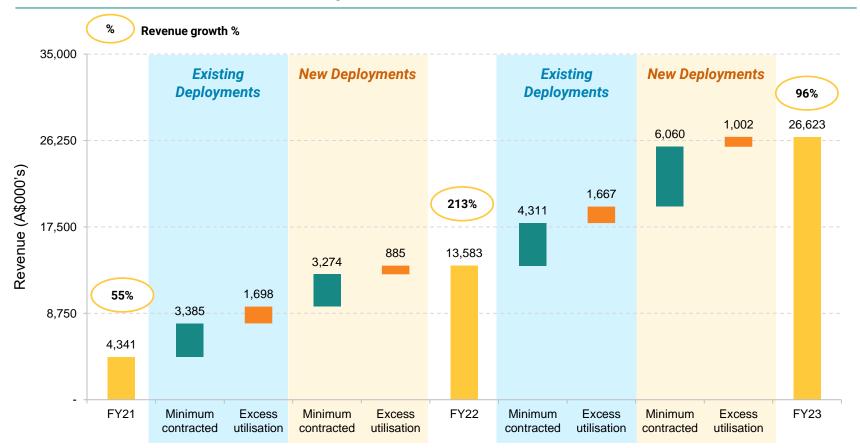
- 1 Strong growth in units deployed and contracted orders extending out until 2024
- 2 Recurring revenue model with ~80% of forecast revenue contracted
- 3 Strong gross margins drive attractive unit economics
- 4 Investment in fixed cost base and headcount has business well positioned for growth
- 5 Scalable business model with expected benefit from operating leverage in medium term

### Recurring, contracted revenue



~80% of revenue in forecast period is contracted providing high degree of visibility

### Pro forma forecast revenue bridge



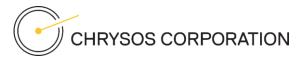
#### Commentary

- 5 new units deployed in FY22 and further 10 units expected to be deployed in FY23 driving strong revenue growth
- Other key driver is an increase in utilisation on deployed units as they approach 12 months of operations and benefit from continuity at customer site
- Average utilisation<sup>1</sup> of ~64% and ~55% assumed for FY22 and FY23 respectively
- Potential upside to forecast from higher than expected utilisation



Average utilisation shown exclusive of one unit which has a contracted minimum utilisation of 100% under the MMAP and therefore does not benefit from any additional utilisation upside.

### **Attractive unit economics**



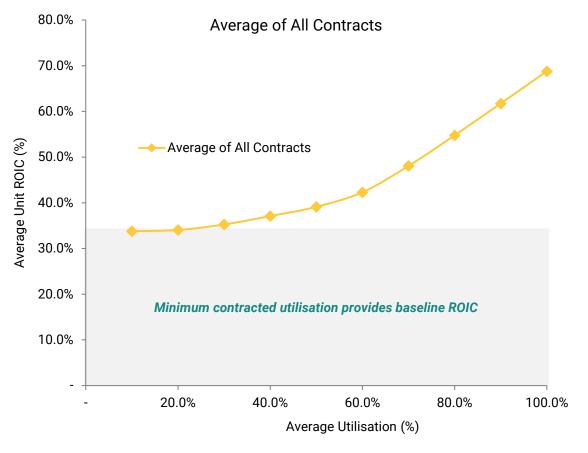
Robust baseline returns with significant upside from higher utilisation

### Illustrative worked example of unit economics

Assumptions	Illustrative example
Upfront capex (approx.)	\$3,650,000
Max samples per month	40,000
Weighted average rate per assay	\$6.18
Assumed Utilisation	70%
Monthly revenue	\$177,419
Annual revenue	\$2,129,031
Annual unit PhotonAssay costs (approx.) <sup>1</sup>	\$(375,000)
Annual gross profit	\$1,754,031
Gross margin <sup>2</sup> %	82.4%
ROIC <sup>3</sup> %	48.1%

#### Note:

### Attractive baseline return on invested capital ("ROIC")<sup>3</sup>

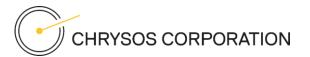


<sup>1.</sup> Annual unit PhotonAssay costs is an estimate based on the average annual cost over a five year lease

Calculated as annual gross profit / annual revenue

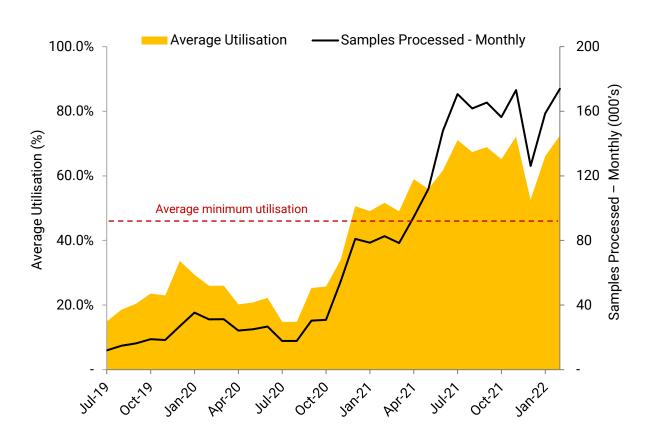
<sup>3.</sup> ROIC calculated as unit gross profit / upfront capex as at February 2022

# **Utilisation trending higher**

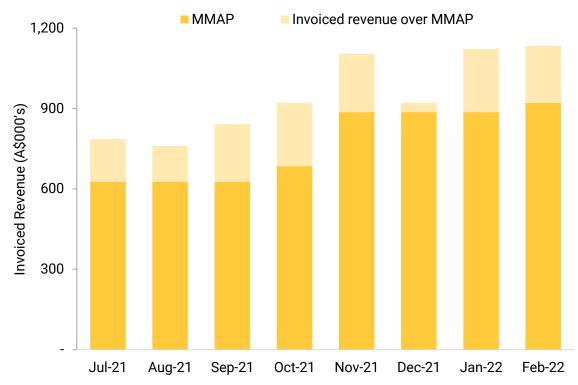


Average utilisation is trending higher, driving invoiced revenue above the MMAP and higher returns

### Average utilisation is trending higher

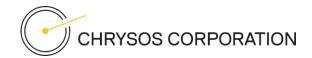


### Driving invoiced revenue over the MMAP (FY22 YTD)<sup>1</sup>



Note:

## **Investment for growth**



Investment in headcount and admin to support accelerated unit deployment and global expansion

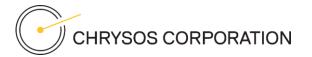
#### Pro forma historical and forecast profit and loss

A\$000's	FY20	FY21	FY22	FY23
Revenue and other income				
Revenue	2,794	4,341	13,583	26,623
Other income	194	127	156	
Total revenue and other income	2,988	4,468	13,739	26,623
PhotonAssay costs	(456)	(791)	(2,130)	(4,840)
Gross profit	2,532	3,677	11,609	21,783
Operating expenses				
Employee benefits expense	(1,595)	(3,182)	(8,123)	(15,621
Administrative expenses	(398)	(396)	(1,030)	(1,171
Legal fees	(120)	(176)	(241)	(314
Travel and marketing costs	(317)	(271)	(529)	(727
Other expenses	(288)	(344)	(762)	(766
Total operating expenses	(2,718)	(4,369)	(10,684)	(18,599
EBITDA	(186)	(692)	925	3,18
EBITDA margin %	(6.2%)	(15.5%)	6.7%	12.09

#### Commentary

- Significant growth in employee expenses as the business invests in required headcount to support global unit roll out
  - Operations employee headcount increasing by 55 (or 550%) from FY21 to FY23, including 24 new maintenance engineers
  - In addition to operation employees, business is also investing in R&D, business development, HR, finance and administration headcount to support growth
- Administration expenses also expected to increase in the forecast period as Chrysos sets up international offices and 'hubs' to deploy units in North America and Africa
- Management expect the business to be EBITDA positive in FY22 and profitability to continue to improve into the future as more units reach steadystate utilisation and the deployment of new units accelerates

# **Cash flow summary**



Leasing model results in large cash deficit upfront driven by capex relating to new units

### Pro forma historical and forecast cash flow summary

\$000's	FY21A	FY22F	FY23F
EBITDA	(692)	925	3,184
Non-cash items	575	771	1,627
Changes in working capital	(344)	41	(1,009)
Operating cash flows	(461)	1,737	3,801
Sustaining capital expenditure	(477)	(3,312)	(4,700)
Growth capital expenditure	(6,622)	(24,757)	(47,758)
Capitalised R&D	(973)	(1,405)	(2,159)
Total capital expenditure	(8,073)	(29,474)	(54,617)
Free cash flow before financing and dividends	(8,534)	(27,737)	(50,816)

### Commentary

- Positive cash flow at the operating line offset by growth capex
- Leasing model results in significant capex upfront before unit is deployed after which cash flow is generated over the life of the lease
- Almost all of the growth capex in the forecast period relates to new PhotonAssay units, with a small amount for new office fit out
- Majority of sustaining capex relates to spare parts and testing and R&D equipment

# Thank you

For more information, please visit **chrysos.com.au** or contact us at **investors@chrysos.com.au** 

