



Genetic Signatures

ASX: GSS

INVESTOR PRESENTATION

MAY 2018

GENETIC SIGNATURES DEVELOPS AND MANUFACTURES MOLECULAR DIAGNOSTICS KITS BASED ON ITS PROPRIETARY 3BASE™ TECHNOLOGY



The science behind **3base™** technology

**THE 3BASE™ TECHNOLOGY WAS PIONEERED BY GSS FOUNDERS
IT GREATLY REDUCES COMPLEXITY IN GENETIC TESTING
ALLOWS TESTING FOR MORE DISEASES WITH HIGHER ACCURACY**

3base™ technology

- **3base™** platform technology converts original 4-base microbial genome to 3-base
 - Reducing complexity in molecular testing
- Conversion occurs during standard procedures with no additional steps for the technician

3base™ MDx testing is focused solely on the detection of infectious diseases

- ✓ **3base™** MDx can identify a **wider array** of patient infections than current diagnostics
- ✓ Reduces **time to results** (5 vs 24+ hours for conventional methods)
- ✓ Provides greater testing **accuracy**

3base™ technology in the detection process

Regular cell Lysis and preparation steps

Original genome



1,048,576 combinations for a 10 digit number with 4-base

3base™ conversion

G	C	C	T	C	A	C	T	T	C
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
G	T	T	T	T	A	T	T	T	T

Converted **3base™** genome



59,049 combinations for a 10 digit number with 3-base

Standard Real-Time PCR instrument

EasyScreen™ products built on 3base™ technology

GSS is commercialising a range of **MDx tests** based on **3base™** and branded as **EasyScreen™**

EasyScreen™ kits offer faster and more effective detection of infectious disease

- ✓ Four product families available covering **enteric microorganisms, respiratory viruses (including influenza), ESBL & CPO “Superbugs” and STIs**
- ✓ Target customers are high-volume hospitals and pathology laboratories



- ✓ **Common Workflow** – all tests work under identical conditions
- ✓ **Platform agnostic** – compatible with common existing laboratory equipment
- ✓ **High specificity** – superior accuracy of results
- ✓ **Rapid time to result** (4 - 5 hours) – would traditionally take 4 - 5 days

EASYSscreen™ KITS IDENTIFY MORE PATHOGENS IN LESS TIME

Significant operational progress since IPO in 2015

Corporate

- Mar-15** IPO
- Apr-15** First installation of **3base™** respiratory virus kits
- Aug-15** Distribution deals in Ireland and Poland
- Nov-15** Collaboration with UCLA announced
- Jun-16** Launch ASR products in the USA
- Sep-16** A\$14m placement announced
- Mar-17** Launch and first sales of STI Genital Pathogen Detection Kit
- May-18** First USA sales of ASRs

May-14
Quality management system certified by TGA

Jul-15
FDA listing of *EasyScreen™* clinical concentrators

May-16
Quality management system certified for Health Canada

Jun-16
UCLA completes trial of **3base™** technology with successful results

Sep-16
Trial of STI Kit commenced

Oct-17
Beta-release 2nd-generation Respiratory Detection Kit

May-18
Australian and EU registration of ESBL & CPO Detection Kit

Clinical / regulatory

GENETIC SIGNATURES HAS A CLEAR FOCUS ON REVENUE GROWTH IN 2018 DRIVEN BY ITS INTERNATIONAL EXPANSION AND NEW PRODUCT RELEASES



Roll-out of expanded product suite

- Current expectations of 5 product groups to be approved in the near term across target regions
- Continued progress with international registrations



Targeted international sales expansion

- Sales expansion into North America (US\$4.6bn market) and Europe (US\$1.6bn market)
- Strong customer pipeline with +12 trials underway



Capitalise on the growing MDx opportunity

- Independent projections of total MDx revenue reaching >US\$12bn by 2022
- Substantial current corporate activity within the MDx sector several acquisitions underway

3Q FY18 trading update

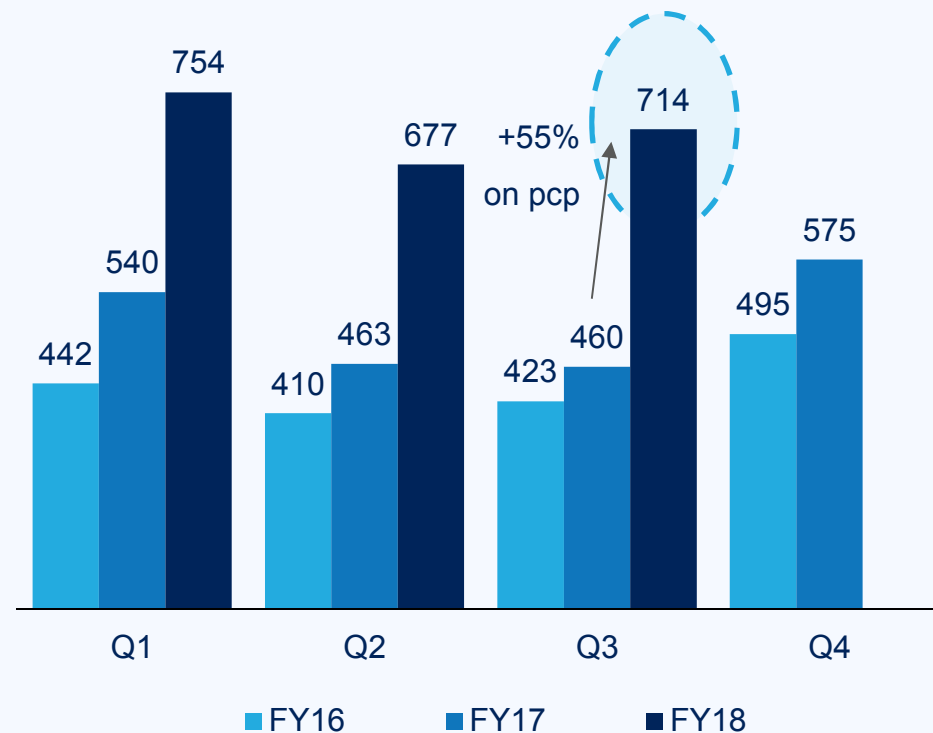
STRONG REVENUE GROWTH CONTINUES WITH SOME SEASONALITY

3Q FY18 Revenue Update

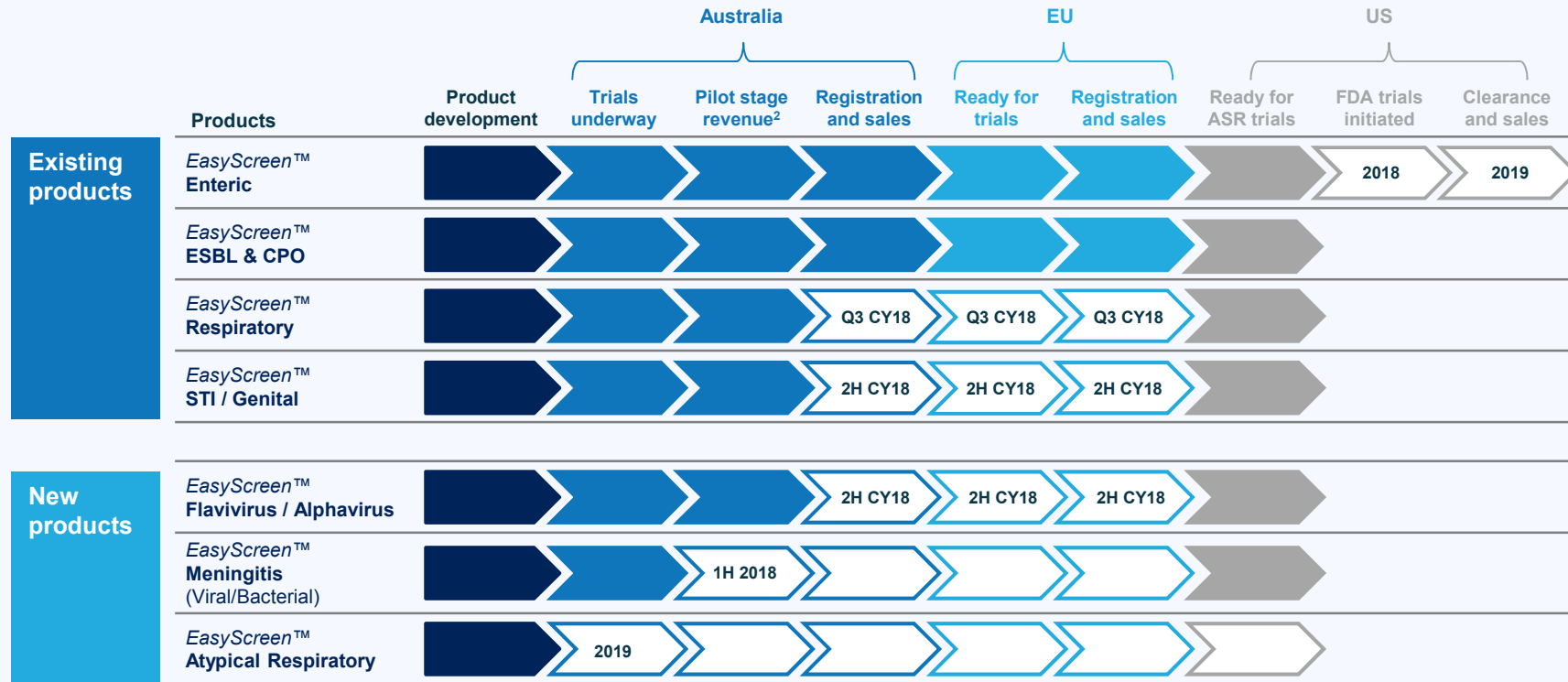
- ✓ **Strong quarterly revenue of A\$714k in 3Q FY18**, representing a +55% increase on pcp
- ✓ **Repeat orders of Flavivirus/Alphavirus (Dengue, Zika etc) and Respiratory kits** sold to the Kenya Medical Research Institute

3Q performance continues **consistent quarter-on-quarter revenue growth** since listing in 2015

Quarterly revenue (A\$000)



Clear path to global commercialisation for all products



Notes:

- 1: Each of the product suites may contain multiple different individual products, requiring multiple regulatory submissions and registrations for a suite of products
- 2: Pilot stage revenue generated from sales for research use only (medical professionals may use products for diagnosis only where they validate results with independent testing)
- 3: Sold as individual Analyte Specific Reagents (ASR) for a number of pathogens in the USA

GSS HAS MADE SUBSTANTIAL PROGRESS ON ALL PRODUCTS SINCE IPO

US\$1.2bn market opportunity for 3 existing products



ENTERIC

Commercialisation underway with full regulatory registration in Europe received

3base™ advantages:

- Tests for over 20 potentially deadly enteric pathogens including salmonella, *C. difficile* Bacteria and Protozoan
- Successful trials and validation with higher accuracy, sensitivity and detection rates

Market opportunity:

US\$380m

Global addressable market (2017)



RESPIRATORY

Significant growth opportunity with Registrations in Australia and Europe in progress

3base™ advantages:

- Simultaneously identifies 15 of the most common respiratory viral infections
- Rapid screening across high volume sample sets
- Detects significantly more respiratory infections compared to existing methods

Market opportunity:

US\$290m

Global addressable market (2017)



STI

Innovative STI detection kit testing pathogens contracted by 1 million people daily

3base™ advantages:

- Proven market (sales underway)
- Highly successful clinical trials and validation
- Rapid testing for 12 pathogens
- Uses existing lab equipment
- Higher accuracy, sensitivity and detection rates compared to existing techniques

Market opportunity:

US\$550m

Global addressable market (2017)

Sources:

1: World Market for Molecular Diagnostics, 5th. Edition (Infectious Disease, Oncology, Blood Screening, Pre-Natal and Other Areas) Kalorama Information, Published: 1/9/2013, page 168

Executing a global strategy for commercialisation

12+ TRIALS PLANNED GLOBALLY INCLUDING 3 DOMESTIC TRIALS



3 North America: Accelerate direct sales approach

Trials underway

- ✓ First ASR sales achieved in the US
- ✓ Sales permitted through US FDA listing and ASRs
- ✓ Certified for Health Canada

Immediate focus on securing trials with larger pathology labs

ASR product trials underway



2 Europe: Rapidly increasing footprint to be ready for product approvals

Trials underway

- ✓ Increasing direct sales and support staff
- ✓ Distributors appointed (Italy, Israel, Ireland and Poland)
- ✓ CE-IVD approvals granted (2 product groups: enteric and ESBL & CPO)
- ✓ Appointment of a field scientist based in Europe

Plan to appoint additional distributors in short term

Product trials underway

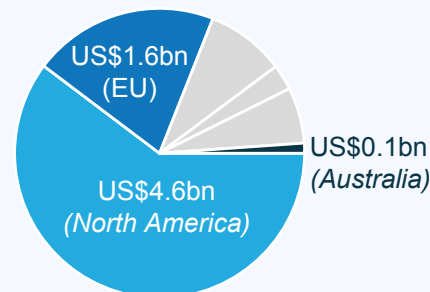


1 Australia: Continued rapid growth

Small base of customers with a number of trials underway

- ✓ Establish foothold
- ✓ Proven product traction

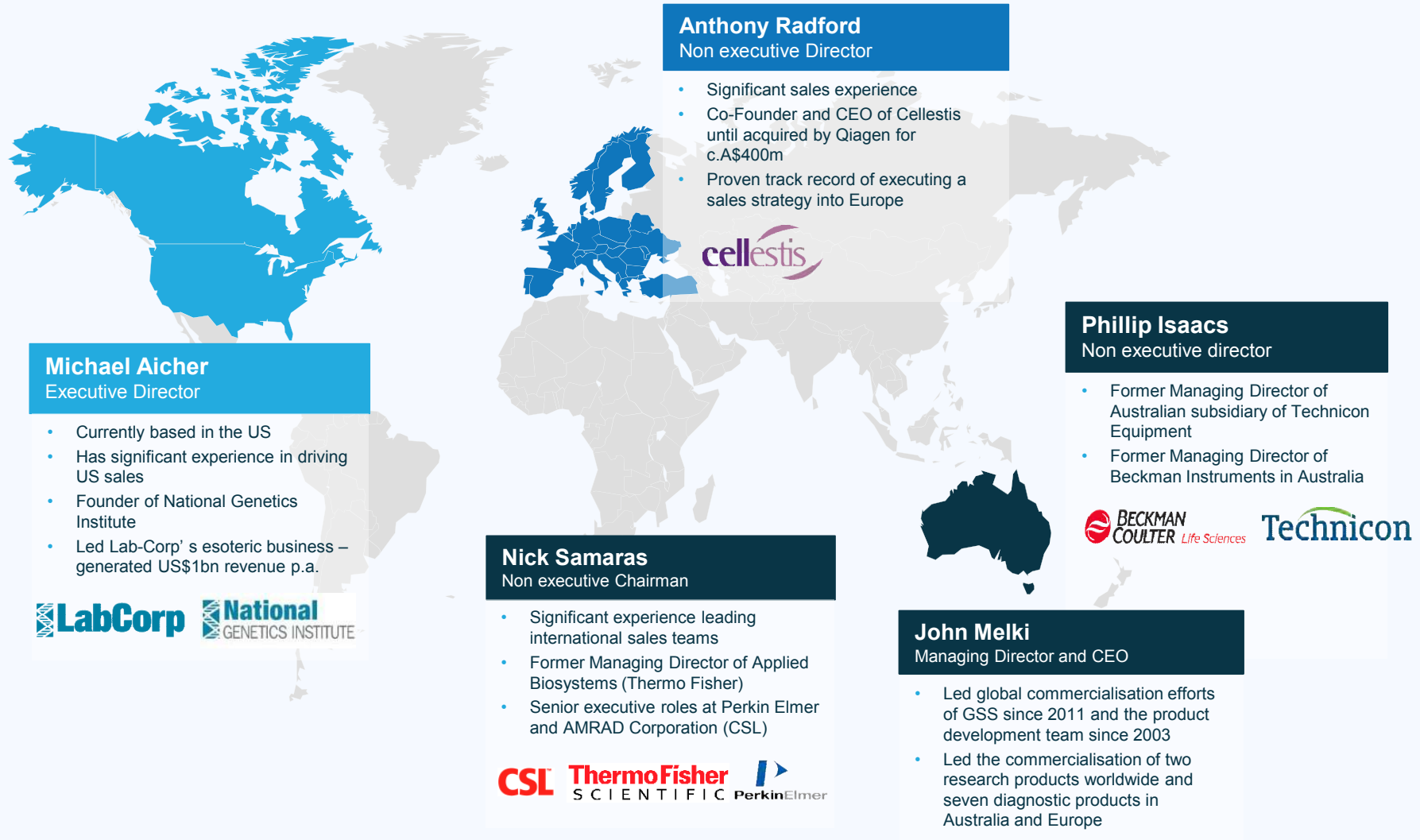
Further customer acquisitions planned in 2018



Estimated MDx market size (2017)


Source: World Market for Molecular Diagnostics, 5th. Edition (Infectious Disease, Oncology, Blood Screening, Pre-Natal and Other Areas) Kalorama Information, Published: 1/9/2013, page 94 .

Board of Directors have a track record of success




Michael Aicher
Executive Director

- Currently based in the US
- Has significant experience in driving US sales
- Founder of National Genetics Institute
- Led Lab-Corp's esoteric business – generated US\$1bn revenue p.a.




Anthony Radford
Non executive Director

- Significant sales experience
- Co-Founder and CEO of Cellestis until acquired by Qiagen for c.A\$400m
- Proven track record of executing a sales strategy into Europe




Phillip Isaacs
Non executive director

- Former Managing Director of Australian subsidiary of Technicon Equipment
- Former Managing Director of Beckman Instruments in Australia



Nick Samaras
Non executive Chairman

- Significant experience leading international sales teams
- Former Managing Director of Applied Biosystems (Thermo Fisher)
- Senior executive roles at Perkin Elmer and AMRAD Corporation (CSL)



John Melki
Managing Director and CEO

- Led global commercialisation efforts of GSS since 2011 and the product development team since 2003
- Led the commercialisation of two research products worldwide and seven diagnostic products in Australia and Europe

1 Australia: continue rapid growth

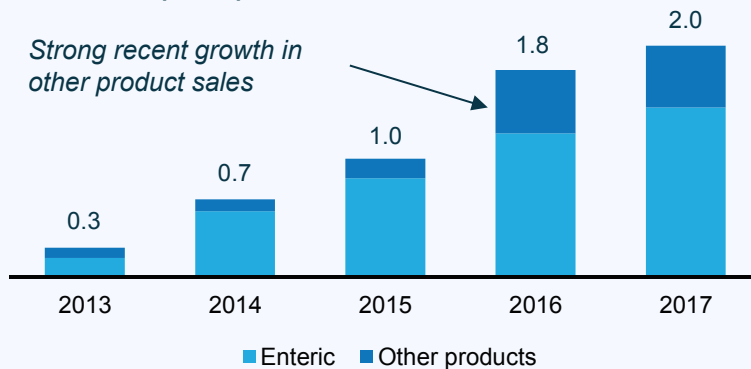
AUSTRALIA IS THE PLATFORM FOR INTERNATIONAL SALES

Commercialisation progress

Established foothold

- Recent relocation to larger facilities to accelerate next phase of operational growth
- Secured relationships with **top tier customers in NSW and Victoria**
- Established customer relationships **increase ease of new product sales**
- Platform in NSW and Victoria has driven **strong revenue growth over last 4 years**

Revenue (A\$m)

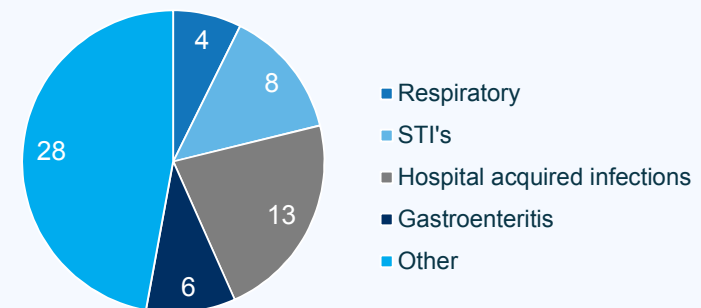


Next steps

Rapid customer acquisitions

- Targeting trials with large hospitals and clinical labs in Australia to provide **significant domestic revenue growth**
- Focus on **new customer acquisitions**
- New Australian Sales Marketing and Support manager appointed
- Target customers include **pathology labs, hospitals** and large **research laboratories**

Australia MDx market potential (US\$m)



Sources:

1: World Market for Molecular Diagnostics, 5th. Edition (Infectious Disease, Oncology, Blood Screening, Pre-Natal and Other Areas) Kalorama Information, Published: 1/9/2013, page 94.

2 Europe: strong progress on multiple fronts

ACTIVELY INCREASING FOOTPRINT TO BE READY FOR PRODUCT APPROVALS

Commercialisation progress

Distributors hired and testing underway

- Currently adding to European team
- **Field scientist appointed** based in Europe
- Recent **CE-IVD registration for ESBL & CPO “superbug”** Detection Kits
- **Sales logistics being finalised** with EU-based warehouse in final legal review
- Building traction with customers with **sales order received** across a number of products
- Established VAT deferment program

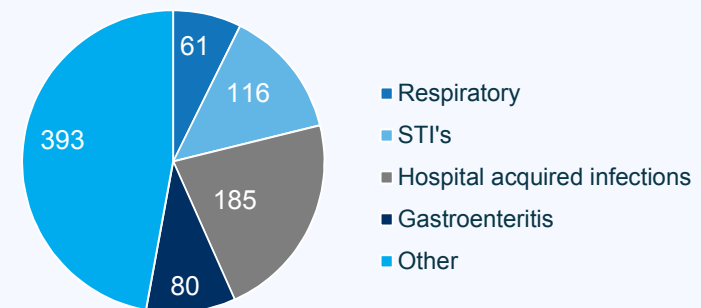
Genetic Signatures is developing a mix of direct sales and partnerships with distributors across Europe to optimise the sales network

Next steps

Strategic market with large opportunity

- Europe has an addressable MDx market of **c.US\$435m** - *c.20% of the global market¹*
- Continue to drive revenue growth and regulatory registration for STI and respiratory products in Europe
- **Actively recruiting for sales and support staff** in multiple countries
- Advanced discussions with new distributors in other European countries

European MDx market potential (US\$m)



Sources:

1: World Market for Molecular Diagnostics, 5th. Edition (Infectious Disease, Oncology, Blood Screening, Pre-Natal and Other Areas) Kalorama Information, Published: 1/9/2013, page 94.

3 North America: accelerate direct sales approach

SALES STRATEGY TO ACCELERATE FOLLOWING FDA CLEARANCE

Commercialisation progress

Increasing traction with ASR approach

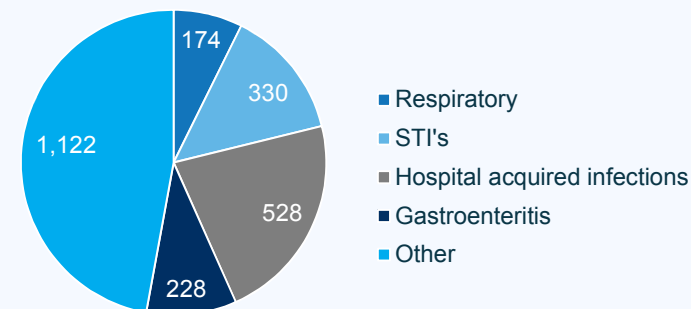
- **First ASR sales contract received** with US pathology laboratory
- Several **labs assessing the potential for ASR products** available for sale in the USA
- **Initial trials established** with local clinical labs using GSS supplied products in FY17
 - Trials reaching conclusion
- Also progressing towards **securing FDA clearance** for Enteric Protozoan Detection Kit
- **3base™** technology has patents issued in the US
- Quality Management System **certified for Health Canada**

Next steps

Largest market for MDx globally

- Addressable market of approximately **US\$1,265m**, c.55% of the global market
- Over 5,600 registered hospitals in the USA and 11,000 CLA certified laboratories
- FDA listings of Clinical Concentrators in place to allow initial sales

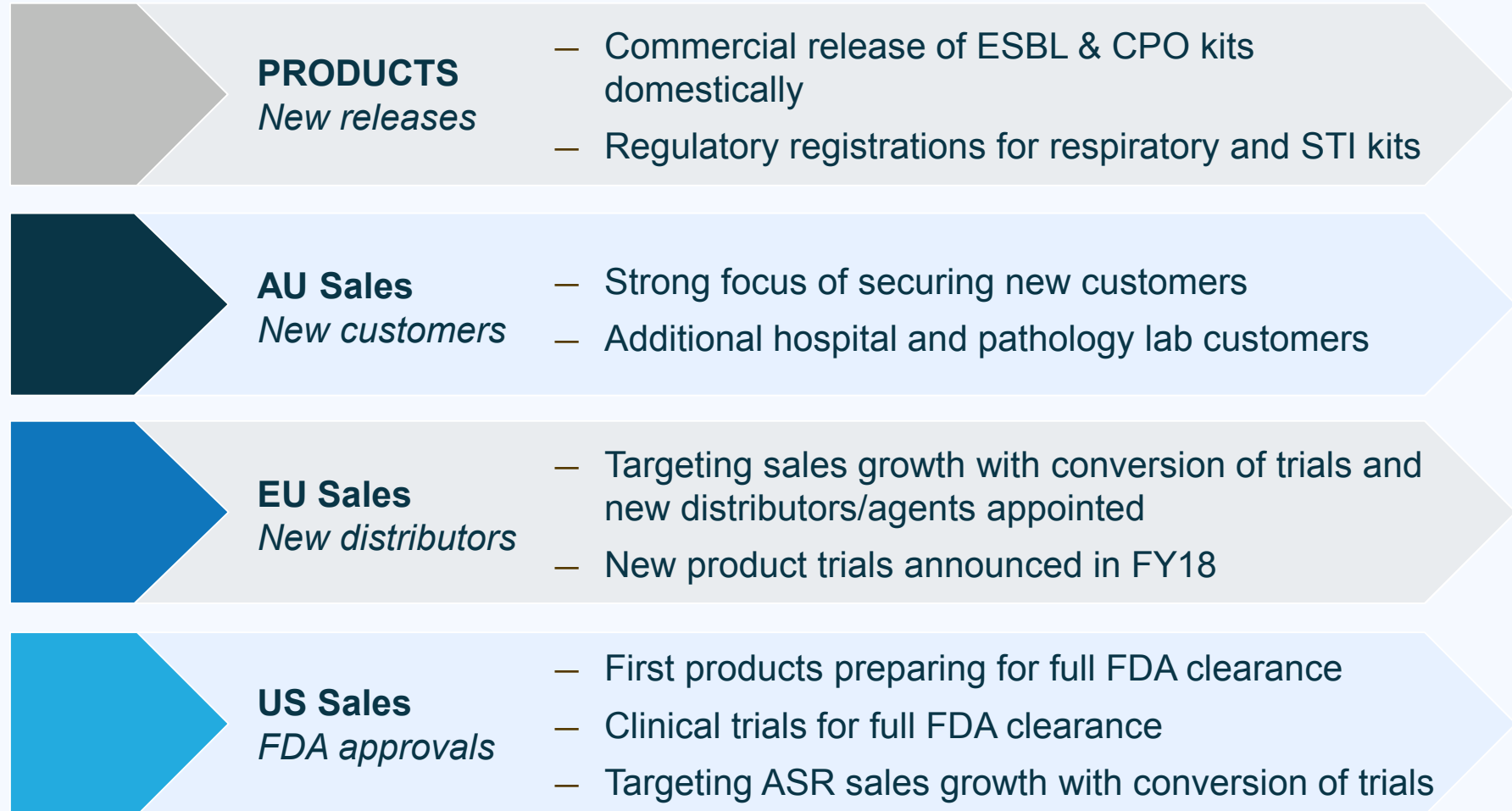
North American MDx potential¹ (US\$m)



Sources:

1: World Market for Molecular Diagnostics, 5th. Edition (Infectious Disease, Oncology, Blood Screening, Pre-Natal and Other Areas) Kalorama Information, Published: 1/9/2013, page 94.

Near terms focus on product range and sales growth



Corporate summary

REVENUE STAGE HEALTHCARE COMPANY LISTED ON THE ASX

Genetic Signatures Limited (ASX: GSS)

A specialist molecular diagnostics company

- Focused on becoming a global leader in the supply of molecular diagnostic solutions
- Developing and commercialisation its proprietary platform technology, **3base™**
- Implementing its commercial strategy through a team of 30+ across Australia, Europe and North America



Financial information

Share price (21-May-18)	A\$0.410
Shares on issue	103.9m ¹
Market capitalisation	A\$42.6m
Cash (31-Mar-18)	A\$10.6m
Debt (31-Mar-18)	Nil
Enterprise value	A\$32.0m

Notes:

1: Excludes 1.05m unquoted options (various expiration dates and prices)

Top shareholders

	%
Asia Union and Christopher Abbott	39.6
Deutsche Bank AG	14.2
Directors, management & advisors	>6.0

Investment highlights

A REVENUE-STAGE HEALTHCARE COMPANY ACCELERATING THE GLOBAL COMMERCIALISATION OF ITS UNIQUE DIAGNOSTIC PRODUCTS

- Genetic Signatures (GSS) designs and manufactures Molecular Diagnostic products that have **substantially greater efficacy** than traditional solutions
- **Domestic customer base generated A\$2m+ revenue** in FY17
- **Scalable business model with high gross margins**
- Strong revenue growth pipeline driven by **sale of existing products to new customers** and supported by **complementary new product releases**
- Sales expansion planned in FY18 across North America and Europe to capture part of the **US\$2bn addressable global market opportunity**
- Valuable intellectual property portfolio with **100%-owned 3base™ technology and key patents issued, some expiring 2031**
- **Strong balance sheet** with cash of A\$10.6 million at 31 March 2018

Notes:

All Medical Diagnostics (MDx) tests are solely focussed on the identification of infectious diseases

Disclaimer

This presentation was prepared by Genetic Signatures Limited known as “Genetic Signatures“, (“GSS” or “the Company”), in order to discuss its business with various interested parties. This presentation in its entirety has been released to the market via the Australian Securities Exchange Limited (“ASX”).

This presentation contains statements that involve estimates, risks and uncertainties. Although the Company believes these statements to be reasonable at this time, Genetic Signatures can give no guarantee that the expectations reflected in these statements will prove to be accurate. Actual results could differ materially from those expected for any of a multitude of risks including, but not limited to, those inherent in regulatory or market environments or more generally. In preparing this presentation, the Company has relied upon and assumed, without independent verification, the accuracy and completeness of all information available from public sources, or which was otherwise reviewed by it.

The presentation is proprietary to Genetic Signatures and may not be disclosed to any third party or used for any other purpose without the prior written consent of the Company.

This document does not constitute an offer, solicitation or recommendation in relation to the subscription, purchase or sale of securities in any jurisdiction and does not and will not form part of any securities subscription, purchase or sale contract.