



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

EASYScreen™ 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

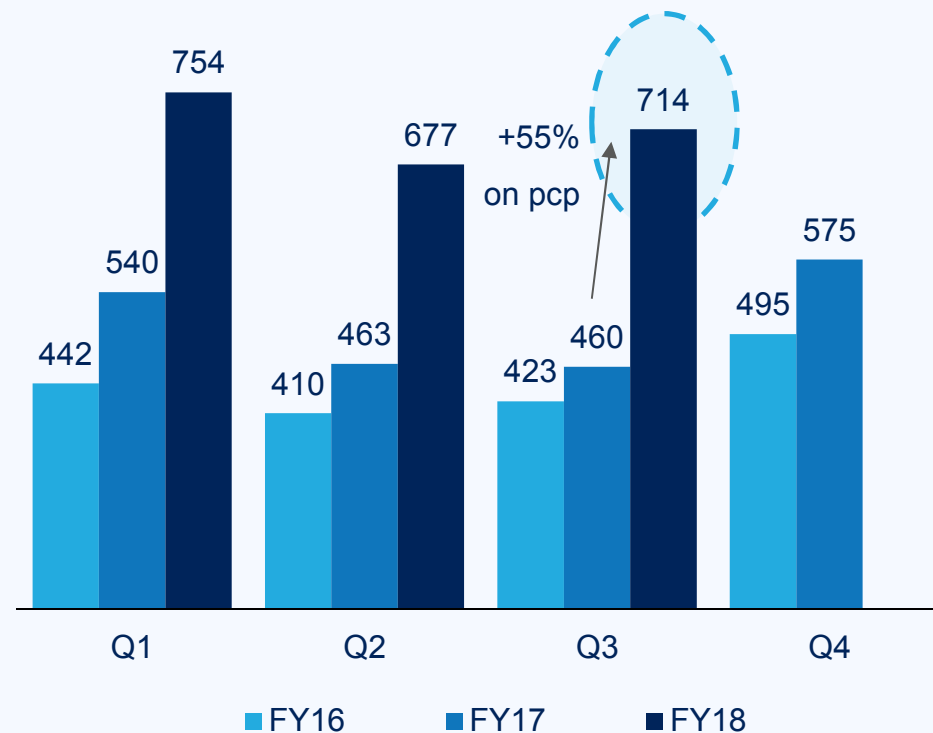
STRONG REVENUE GROWTH CONTINUES WITH SOME SEASONALITY

3Q FY18 Revenue Update

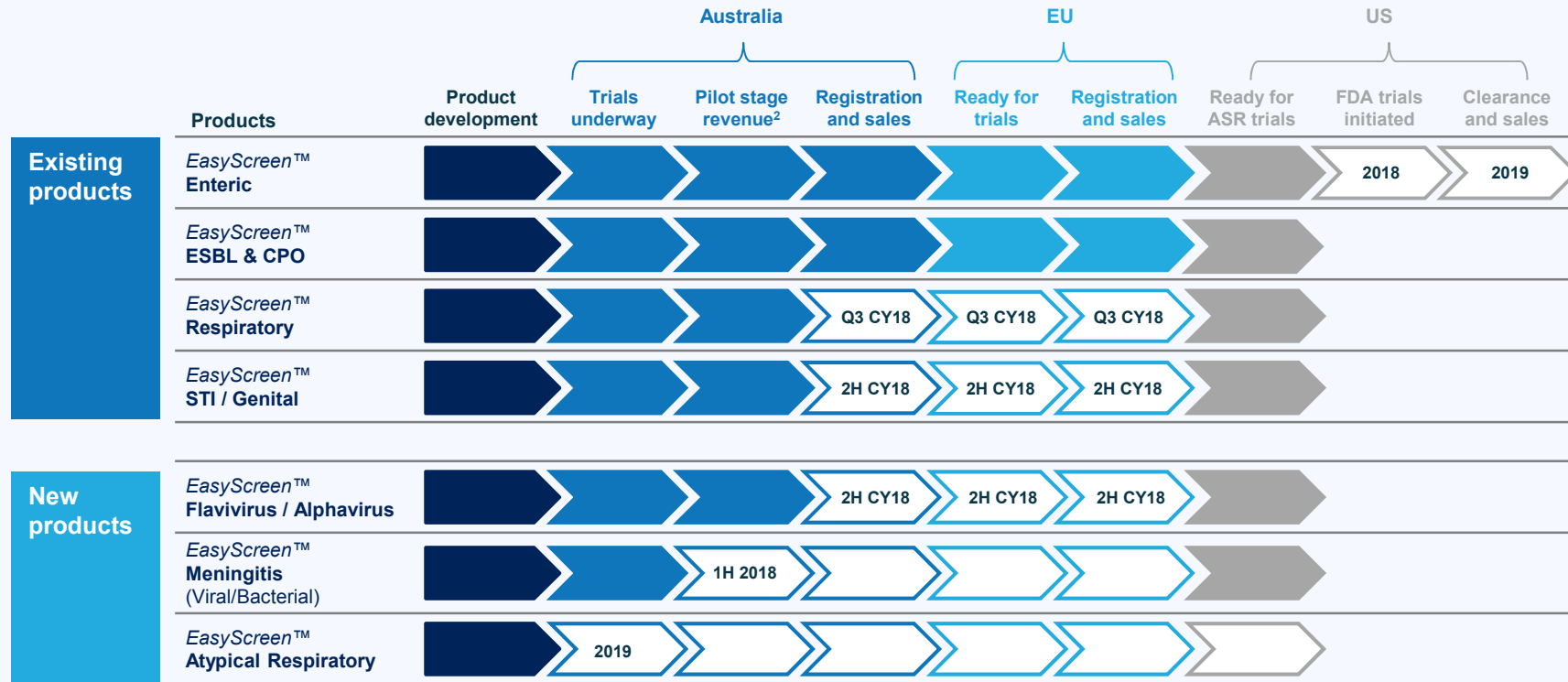
- ✓ **Strong quarterly revenue of A\$714k in 3Q FY18**, representing a +55% increase on pcp
- ✓ **Repeat orders of Flavivirus/Alphavirus (Dengue, Zika etc) and Respiratory kits** sold to the Kenya Medical Research Institute

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

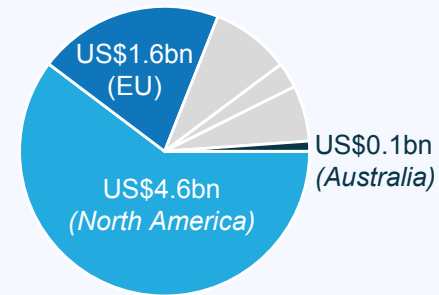
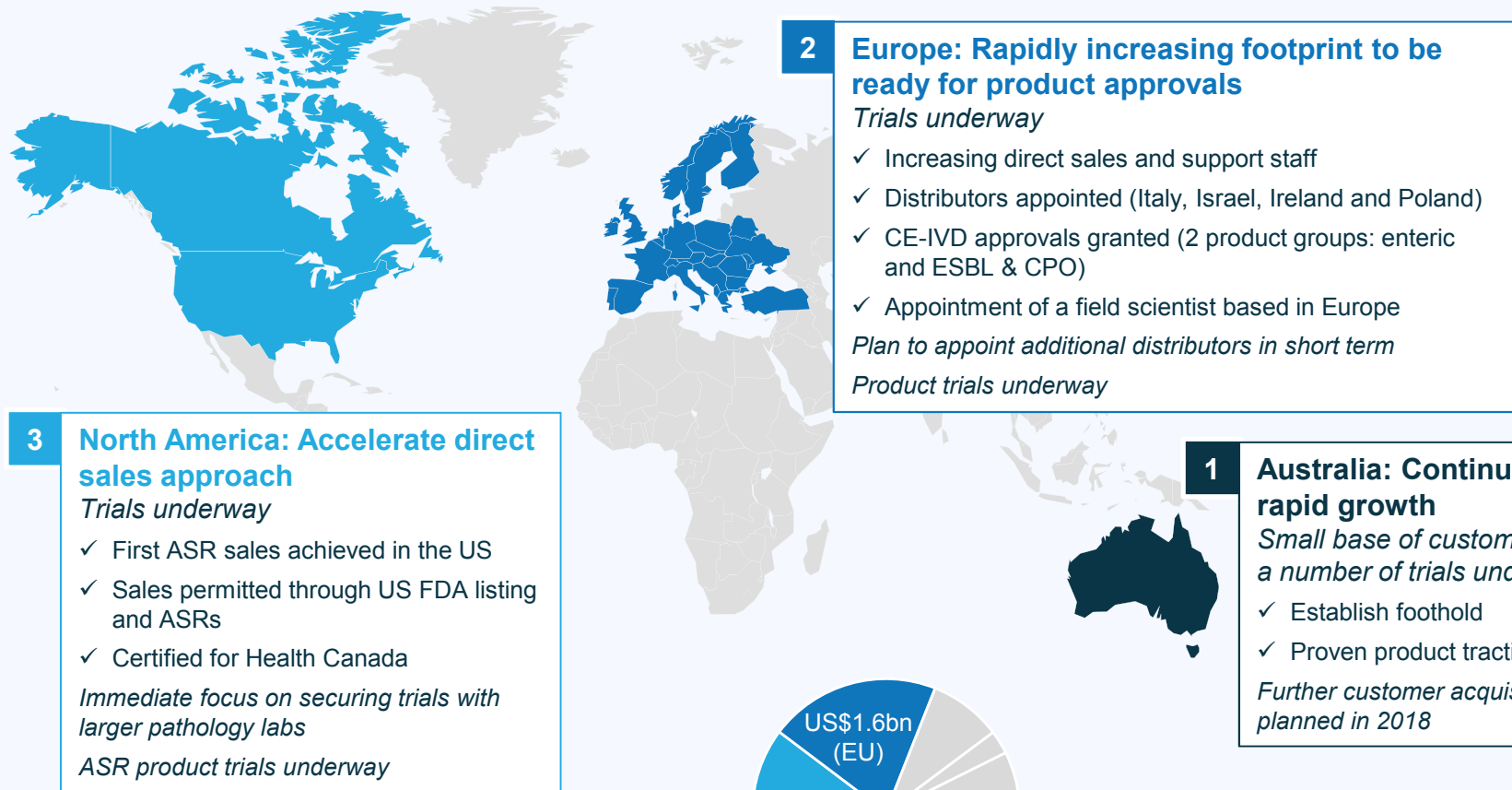
Global addressable market (2017)

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

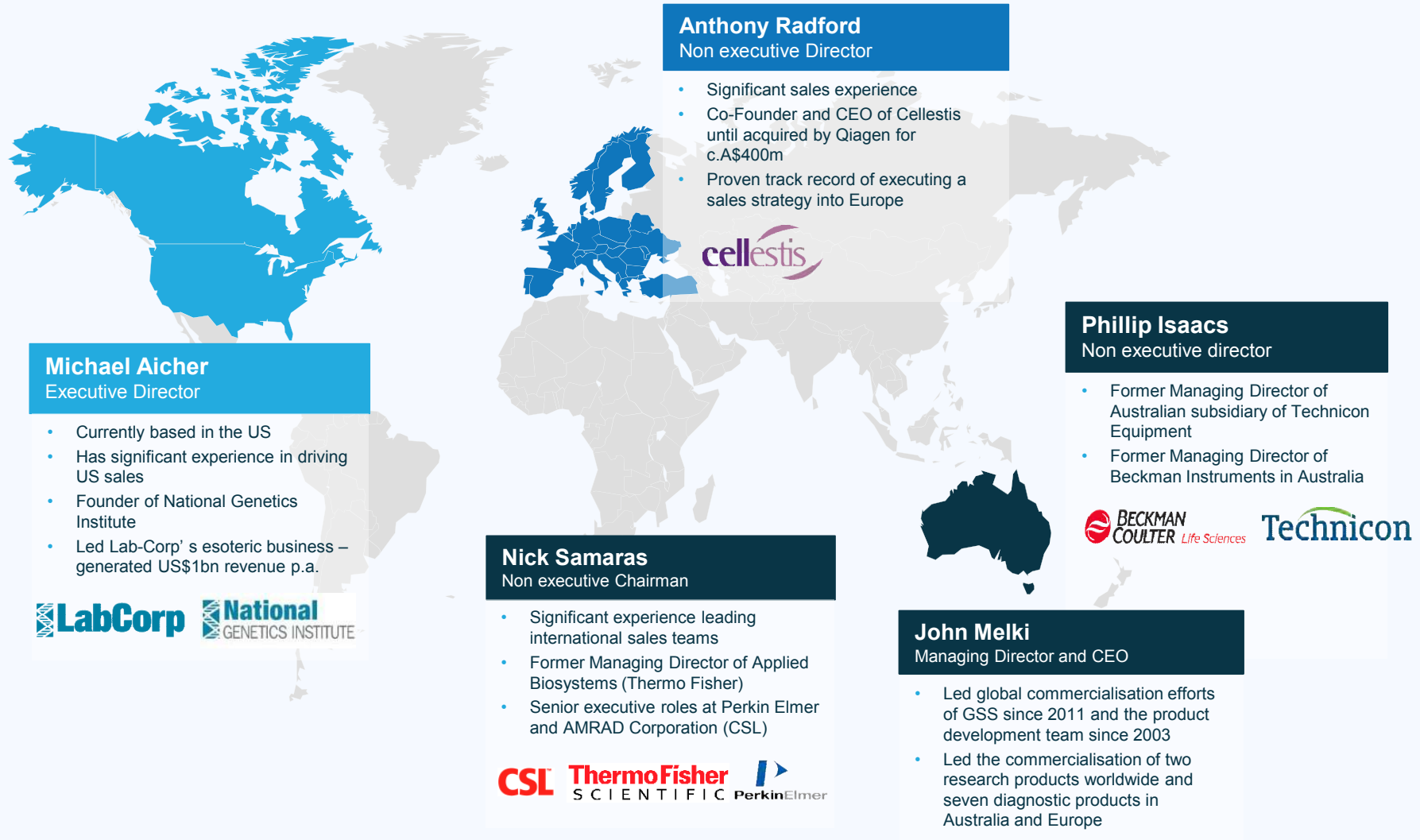
12+ TRIALS PLANNED GLOBALLY INCLUDING 3 DOMESTIC TRIALS



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

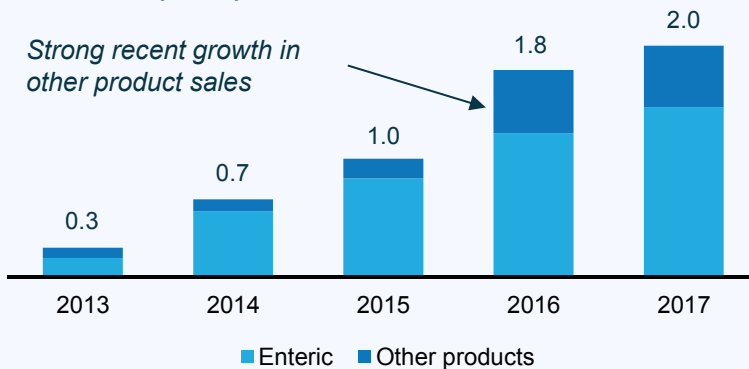
AUSTRALIA IS THE PLATFORM FOR INTERNATIONAL SALES

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)

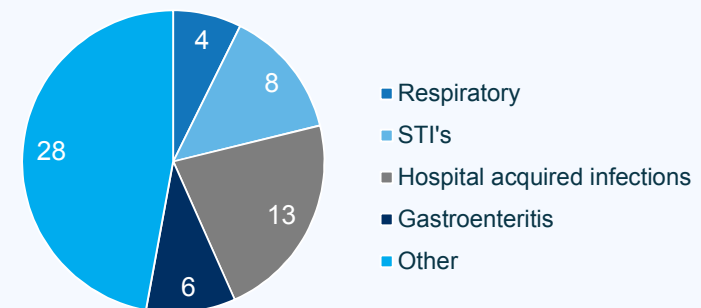


Next steps

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

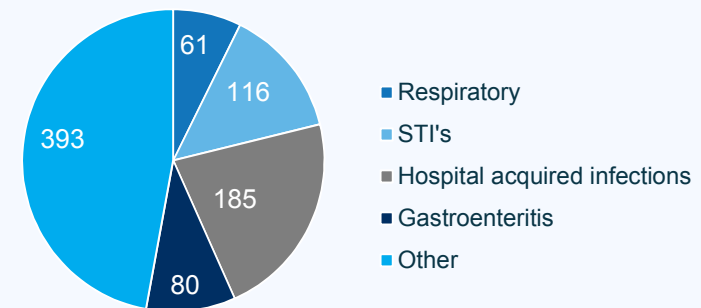
Genetic Signatures is developing a mix of direct sales and partnerships with distributors across Europe to optimise the sales network

Next steps

Strategic market with large opportunity

- Europe has an addressable MDx market of **c.US\$435m** - *c.20% of the global market*¹
- 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

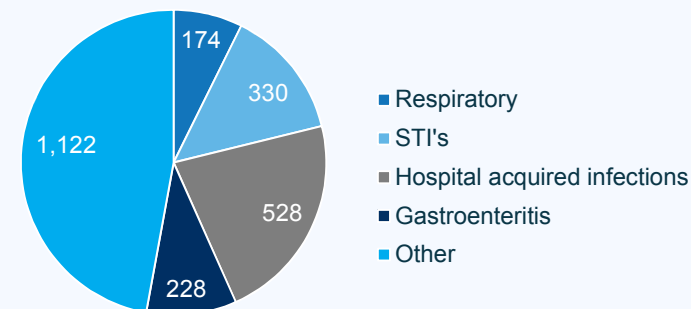
- **First ASR sales contract received** with US pathology laboratory
- Several **labs assessing the potential for ASR products** available for sale in the USA
- **Initial trials established** with local clinical labs using GSS supplied products in FY17
 - Trials reaching conclusion
- Also progressing towards **securing FDA clearance** for Enteric Protozoan Detection Kit
- **3baseTM** 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

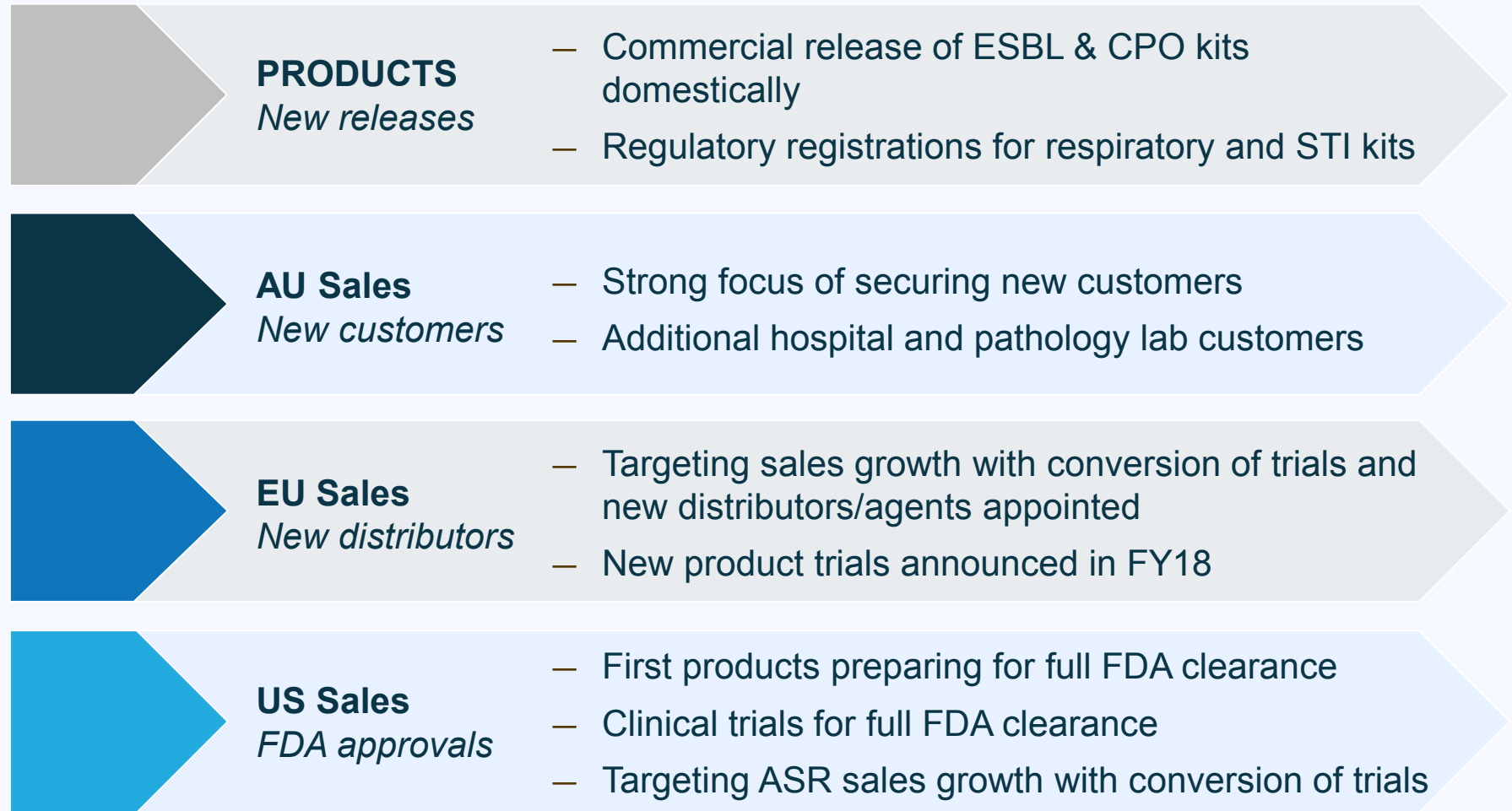
North American MDx potential¹ (US\$m)



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

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