



Fiscal 2018 4Q & Full Year Financial Results

December 19, 2018

@TwistBioscience #WeMakeDNA

Welcome

Jim Thorburn
Chief Financial Officer

Recent Progress at Twist

Emily Leproust
Chief Executive Officer

Financial and Operational Performance

Jim Thorburn
Chief Financial Officer

Upcoming Milestones & Direction

Emily Leproust
Chief Executive Officer

Q&A Session

Safe Harbor Statement



This presentation contains forward-looking statements. In particular, statements regarding future economic performance, finances, and expectations and objectives of management constitute forward-looking statements. Forward-looking statements can be identified by the fact that they do not relate strictly to historical facts and generally contain words such as "believes," "expects," "may," "will," "should," "seeks," "approximately," "intends," "plans," "estimates," "anticipates," and other expressions that are predictions of or indicate future events and trends and that do not relate to historical matters. Although the forward-looking statements contained in this presentation are based upon information available at the time the statements are made and reflect management's good faith beliefs, forward-looking statements inherently involve known and unknown risks, uncertainties and other factors, which may cause the actual results, performance or achievements to differ materially from anticipated future results. Important factors that could cause actual results to differ materially from expectations include, among others: our estimates of the size of our market opportunity; our expectations regarding our ability to increase gene production, reduce turnaround times and drive cost reductions for our customers; and our ability to enter new markets. You should not place undue reliance on these forward-looking statements, which speak only as of the date hereof. We do not undertake to update or revise any forward-looking statements after they are made, whether as a result of new information, future events, or otherwise, except as required by applicable law.

This presentation also contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. Neither we nor any other person makes any representation as to the accuracy or completeness of such data or undertakes any obligation to update such data after the date of this presentation. In addition, projections, assumptions and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

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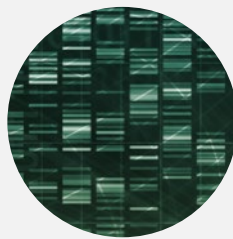


Writing Synthetic DNA on Silicon Platform

KEY ADVANTAGES OF WRITING DNA ON SILICON



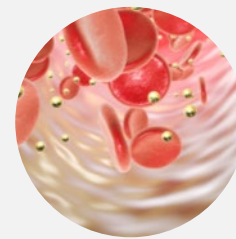
MINIATURIZATION
 10^{3-6} less volume of
required reagents



THROUGHPUT
20M oligos/month



LOW COST
Driving adoption and new
applications

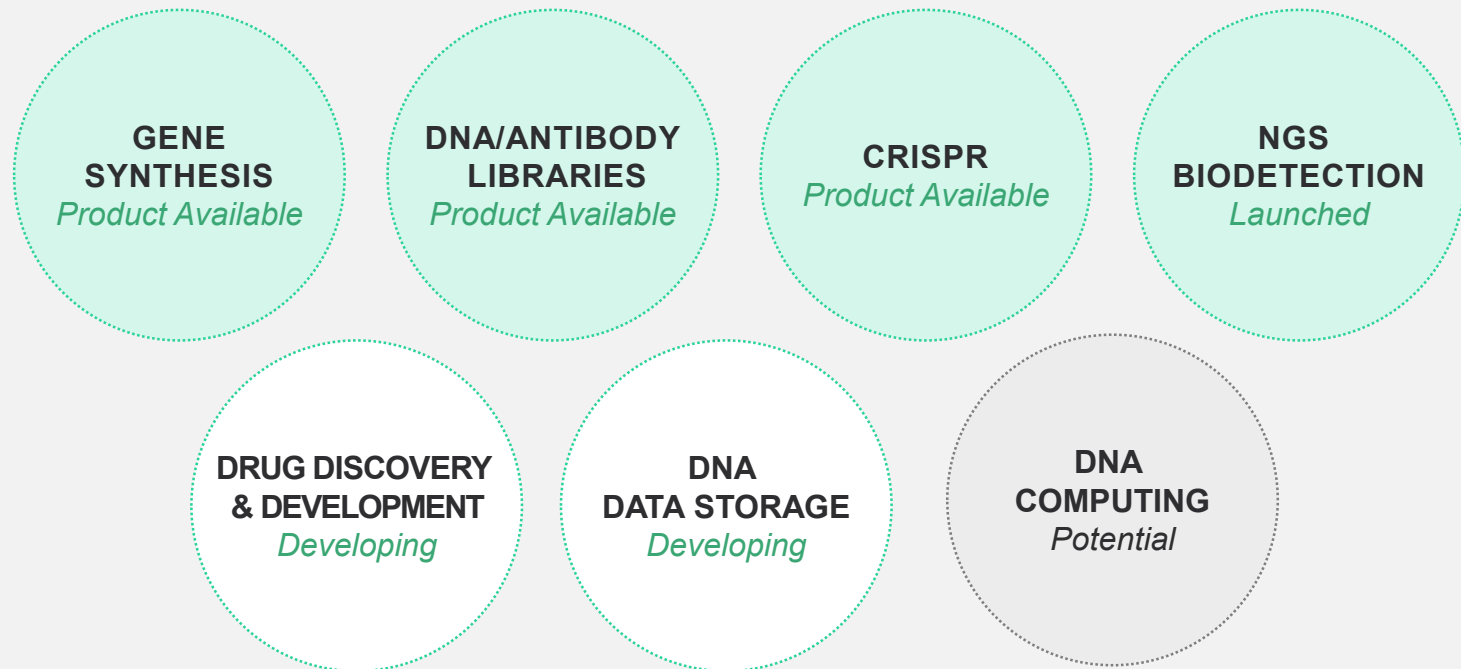


VERSATILE PLATFORM
Broad applications

Our Versatile DNA Synthesis Platform Has Broad Applications



Twist's versatile DNA synthesis platform has broad application across many enabling synthetic biology products, and we are just beginning...



Summary of Recent Accomplishments



• Fiscal 2018 (ended September 30, 2018)

- Sold DNA to more than 700 customers across a broad range of industries
- Reported record revenue of \$25.4 million, a 136% increase over Fiscal 2017

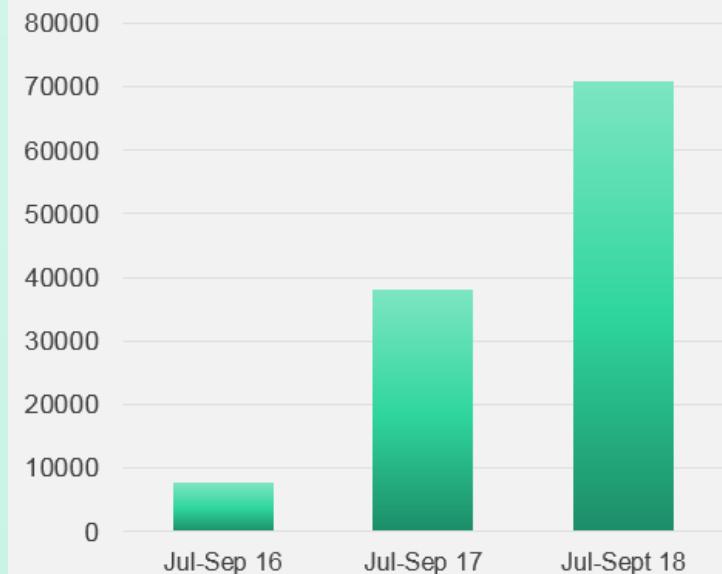
• Fiscal 2018 Fourth Quarter

- Record revenue of \$8.4 million, a 27% increase over the fiscal third quarter and 139% increase over fiscal 2017 4Q

• Synthetic Biology

- In FY 18, improved TAT for 1.8kb clonal genes with an average of 15-20 days, compared to an average of 25-30 days in FY 17
- Today, TAT genes at or slightly below industry average, significantly below average market price
- Shipped a record number of genes in 4Q – average of 23,600/month
- Launched e-commerce platform
- Launched Next-Generation Sequencing (NGS)

GENES SHIPPED
247,000 genes shipped in FY 2018



MONTHLY AVERAGE IN

2016 Jul-Sept
2017 Jul-Sept
2018 Jul-Sept

2,544 genes shipped
12,675 genes shipped
23,611 genes shipped

E-Commerce - Unique Way to Order DNA Online



T

M

CLONAL GENES

My Genes Project

OVERVIEW > GENE IMPORT > PRICING & SCORE

Change Vector ▾

+ Flanks

Optimize

+ Genes

+ Custom Vector

Q

#	<input type="checkbox"/>	NAME ▾	SEQUENCE	BP	VECTOR	SCORE ⓘ	PRICE
1	<input type="checkbox"/>	gene-001	ACTCGACTGACTAGC...	1264	Select Vector ▾	●	\$113.76
2	<input type="checkbox"/>	gene-002	ACTCGACTGACTAGC...	1014	Select Vector ▾	●	\$91.26
3	<input type="checkbox"/>	gene-003	ACTCGACTGACTAGC...	978	Select Vector ▾	●	\$88.02
4	<input type="checkbox"/>	gene-004	ACTCGACTGACTAGC...	848	Select Vector ▾	●	Fix it
5	<input type="checkbox"/>	gene-005	ACTCGACTGACTAGC...	1200	Select Vector ▾	●	\$108.00
6	<input type="checkbox"/>	gene-006	ACTCGACTGACTAGC...	1124	Select Vector ▾	●	\$101.16
7	<input type="checkbox"/>	gene-007	ACTCGACTGACTAGC...	1200	Select Vector ▾	●	Fix it
8	<input type="checkbox"/>	gene-008	ACTCGACTGACTAGC...	1087	Select Vector ▾	●	\$97.83
9	<input type="checkbox"/>	gene-009	ACTCGACTGACTAGC...	1200	Select Vector ▾	●	\$108.00

32 GENES • 26,400 BP

All (240)

● Easy (24)

● Difficult (4)

● Error (2)

● Not Possible (2)

PRICING SUMMARY ⓘ

NAME	QTY	COST
Easy Genes	24	\$2,376.00
Cloning Fee	24	\$1,300.00

DELIVERY FORMAT

☒ Plate: 96 Well, Horizontal

☐ Tube [Edit](#)

Total\$3,676

Checkout

Targeted NGS value chain



Library Prep

- Enzyme, Buffer, Primers, Barcodes
- Kappa (acquired by Roche) has mind share

Capture

- Oligos (10s to 100,000s, pooled, high quantities)
 - **Catalog: All Exome (~20,000 known human genes)**
 - **Custom: panels of 1 to 1,000s of genes, customer specific**
- Buffer, beads, enzyme

Sequencing

- DNA sequencing
- Illumina dominant
- Ion Torrent, PacBio, ONT niche players

Analysis

- Primary, secondary and tertiary analysis
- Standardized (GATK)

Clinical Report

- Optional
- Biology intensive

Applications

- Research
- Translational
- Molecular Dx
- Microbiology
- Applied Markets



**\$0.5B
SAM**



Twist's Platform Extends to Other Growth Verticals



\$1.3B

SYNTHETIC BIOLOGY

- Competitive Turnaround Time
- Lower Cost
- High Throughput
- High Quality

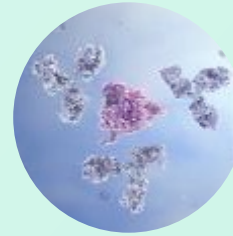
SHORT TERM GOAL
Grow Revenue

\$0.5B

GENOMICS: NGS ENRICHMENT

- Fast Customization
- Performance
- Full Kit
- High Quality

LARGE MARKET OPPORTUNITIES



LARGE MARKET

DRUG DISCOVERY/ DEVELOPMENT

- High Quality Diversity Hits / Leads
- Shorter Time and Cost from Target to IND

MID TERM GOAL
Develop novel therapeutics



\$35B+

DATA STORAGE

- Permanence
- Density
- Ease of Copying
- Universal Format

LONG TERM GOAL
Enter technology market

Source: BCC Report (2017), Markets and Markets (2014) DeciBio (2015)

Source: LDC Market Analysis, LTO Program Technology Provider Companies

Novel Protein Libraries for Drug Discovery

To Enable Efficiency in Drug Discovery



From **Needle**
in a Haystack



- Random diversity
- Biased representation
- >99% inefficiency
- Lengthy optimization cycle
- Expensive process

To **Stack**
of Needles

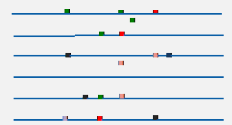


- Explicit
- Even representation
- Human repertoire based
- Fast
- Affordable

Precise Introduction of Variants,
Diversity that **Enables Screening**
Efficiency



```
gt catctcAccc tActtg  
gt catctcGGcc ttGttg  
gt catctcCAcc tCAttg  
gt catctctTcc tGTttg
```



Gene Synthesis



Single Site



Multi-Site



Stretch



Multi-Domain



DNA: Nature's Choice for Data Storage



MAN-MADE,
NOT PERMANENT



20,000
Years ago

40,000
Years ago

560,000 - 780,000
Years ago

STABLE FOR 1000s of YEARS

Sequencing the nuclear genome of the extinct woolly mammoth

Webb Miller¹, Daniela I. Drautz¹, Aakrosh Ratan¹, Barbara Pusey¹, Ji Qi¹, Arthur M. Lesk¹, Lynn P. Tomsho¹, Michael D. Packard¹, Fangqing Zhao¹, Andrei Sher^{2,3}, Alexei Tikhonov³, Brian Raney⁴, Nick Patterson⁵, Kerstin Lindblad-Toh⁵, Eric S. Lander⁵, James R. Knight⁶, Gerard P. Irzyk⁶, Karin M. Fredrikson⁷, Timothy T. Harkins⁷, Sharon Sheridan⁷, Tom Pringle⁸ & Stephan C. Schuster¹

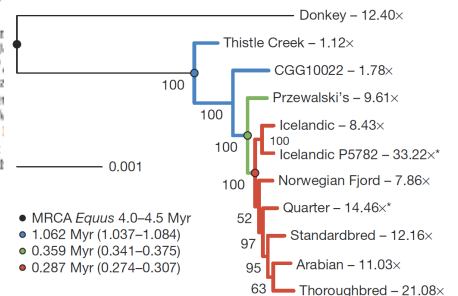
A Draft Sequence of the Neandertal Genome

Richard E. Green^{1,4,†}, Johannes Krause^{1,†}, Adrian W. Briggs^{1,†}, Tomislav Maricic^{1,†}, Udo Stenzel^{1,†}, Martin Kircher^{1,†}, Nick Patterson^{2,†}, Heng Li^{2,†}, Weiwei Zhai^{3,†}, Markus Hsi-Yang Fritz^{4,†}, Nancy F. Hansen^{5,†}, Eric Y. Durand^{5,†}, Anna-Sapfo Malaspinas^{5,†}, Jeffrey D. Jensen^{6,†}, Tomas Marques-Bonet^{7,13}, Can Alkan^{7,†}, Kay Prüfer^{7,†}, Matthias Meyer^{7,†}, Hernán A. Burbano^{7,†}, Jeffrey M. Good^{7,13}, Rigo Schultze^{7,†}, Ayinuer Aximu-Petri^{7,†}, Anne Butthof^{7,†}, Barbara Höber^{7,†}, Barbara Höffner^{7,†}, Madlen Siegemund^{7,†}, Antje Weihmann^{7,†}, Chad Nusbaum^{7,†}, Eric S. Lander^{7,†}, Carsten Russ^{7,†}, Nathaniel Novod^{7,†}, Jason Affourtit^{7,†}, Michael Egholm^{7,†}, Christine Verna^{7,†}, Pavao Rudan¹⁰, Dejana Brajkovic¹¹, Željko Kucan¹⁰, Ivan Gušić¹⁰, Vladimir B. Doronichev¹², Liubov V. Golovanova¹², Carlos Lalueza-Fox¹³, Marco de la Rasilla¹⁴, Javier Fortea^{14,†}, Antonio Rosas¹⁵, Ralf W. Schmitz^{16,17}, Philip L. F. Johnson¹⁸, Evan E. Eichler^{7,†}, Daniel Falush¹⁹, Ewan Birney^{4,†}, James C. Mullikin^{7,†}, Montgomery Slatkin^{7,†}, Rasmus Nielsen^{7,†}, Janet Kelso^{7,†}, Michael Lachmann^{7,†}, David Reich^{7,20,†}, Svante Pääbo^{7,†}



Recalibrating *Equus* evolution using the genome sequence of an early Middle Pleistocene horse

Ludovic Orlando^{1*}, Aurélien Ginolhac^{1*}, Guojie Zhang^{2*}, Duar Enrico Cappellini³, Bent Petersen⁴, Ida Moltke^{4,7}, Philip L. F. Johnson⁸, Thorfinn Korneliussen¹, Anna-Sapfo Malaspinas⁵, Josef Vogel⁶, Andrei Dolocan¹², Jesper Stenderup¹, Amhed M. V. Velazquez Grant D. Zazula¹³, Andaine Seguin-Orlando^{13,14}, Cecile Morter Jacobo Weinstock¹⁶, Kristian Gregersen¹⁵, Knut H. Roed¹⁸, Douglas F. Antczak²⁴, Mads F. Bertelsen²², Søren Brunak^{24,25}, John Mundy²⁶, Anders Krogh^{1,4}, M. Thomas P. Gilbert¹, Kurt Jesper V. Olsen¹⁶, Michael Hofreiter²⁷, Rasmus Nielsen²⁸, Beth



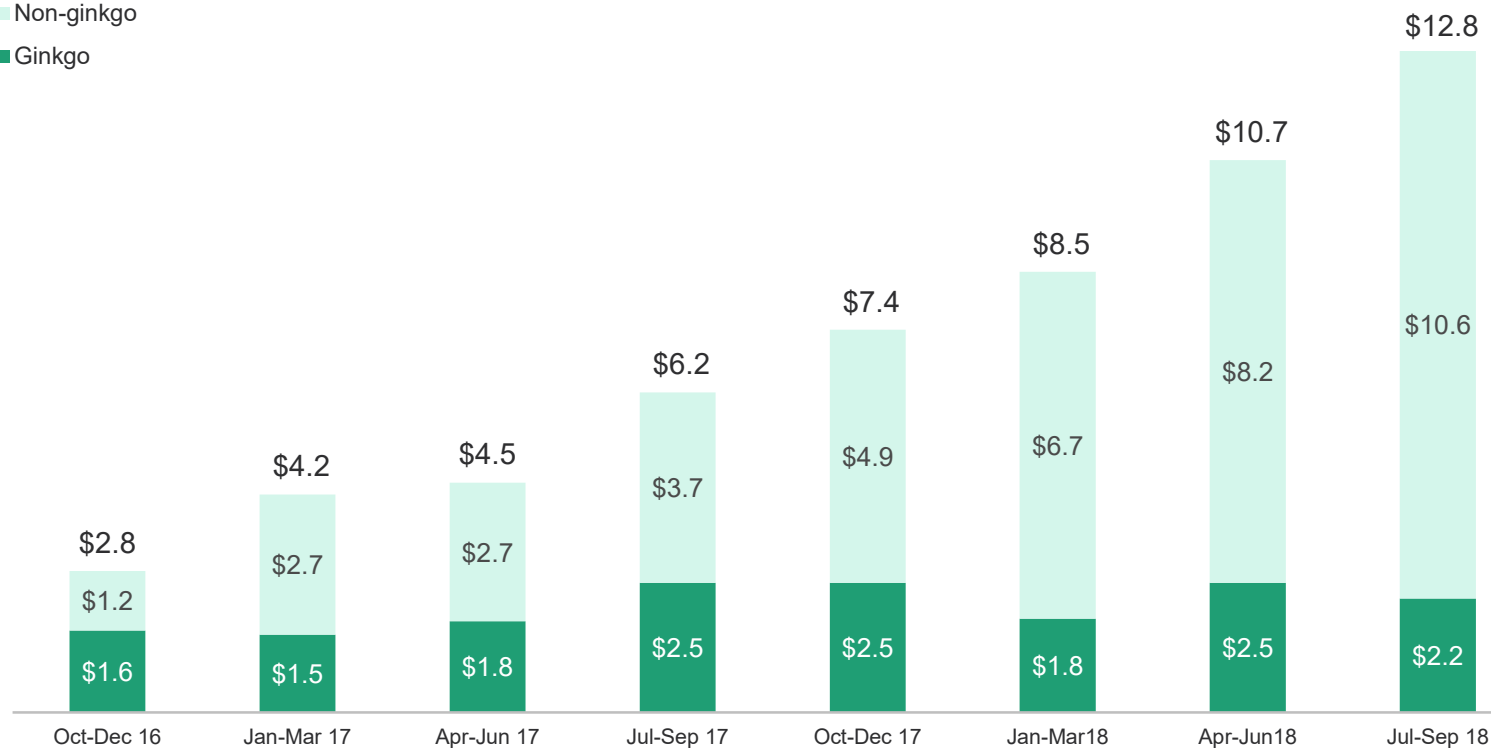
Strong Orders Growth



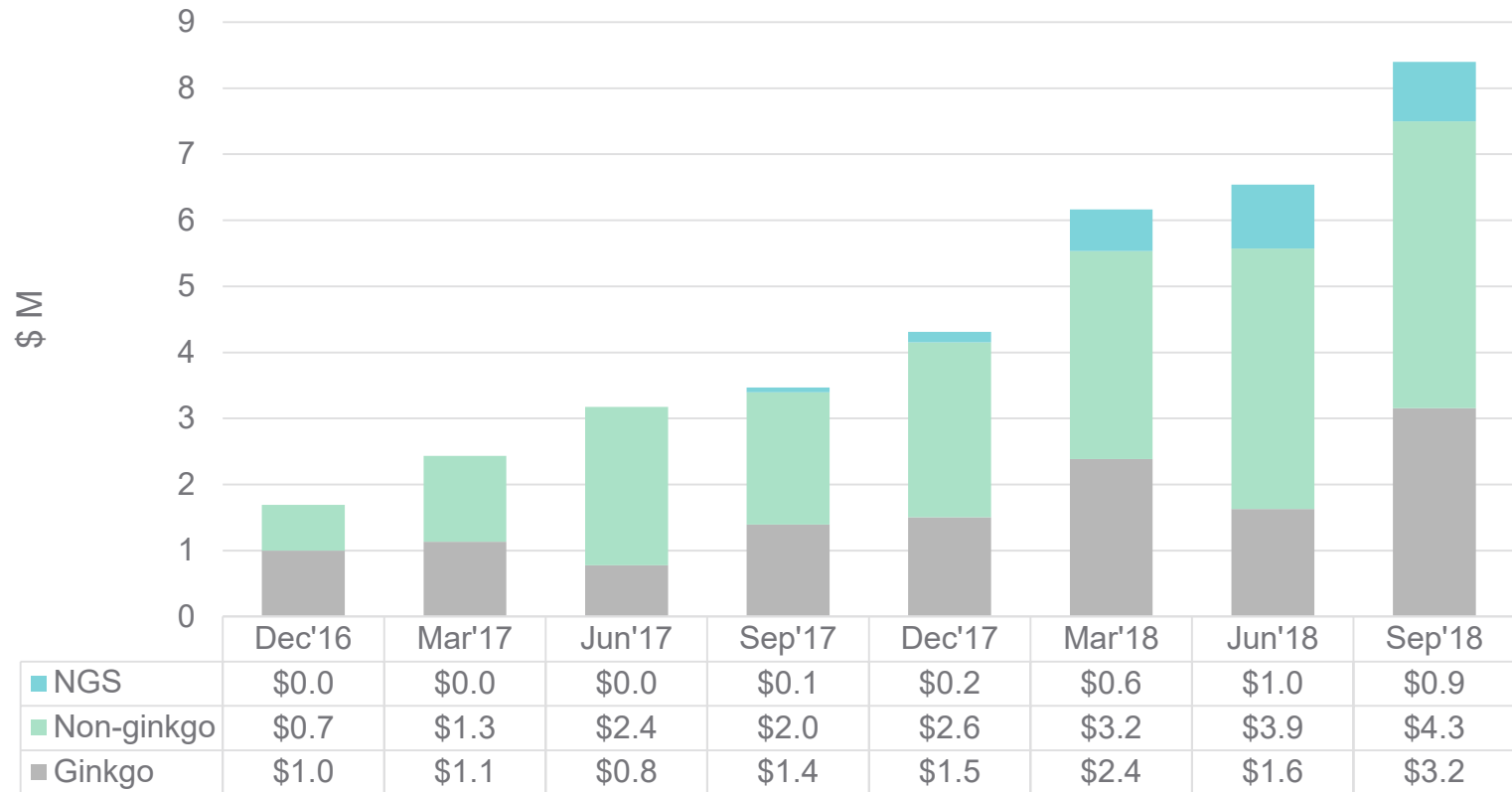
QUARTERLY ORDER VALUE (\$M)

FY'18: \$39.4M
Y/Y growth 107%

Non-ginkgo
Ginkgo



Revenue Trend 2017 -18



Additional Financial Commentary



FY'18 Results:

U.S. Revenue: \$17.7M
Y/Y growth **100%**

EMEA Revenue: \$6.6M
Y/Y growth **224%**

APAC Revenue: \$1M
(recently established)

NGS Revenue: \$2.7M
(\$11% of total FY'18 revenue)



Healthcare Revenue: \$4.2M
Y/Y growth **244%**

- Revenue coming from both SynBio and NGS products
- Growth due to the launch of NGS targeting the rapidly growing genomics field

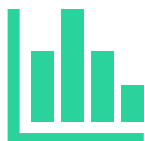


Quarterly Results:

Total Loss from Operations: \$19.8M
Gross Margin: -9% margin or loss of \$0.7M

Cash Balance as of September 30, 2018: \$80.8M

- Completed IPO in October 2018, adding \$69M net proceeds to balance sheet



Financial Guidance:

Projecting revenue in the range of \$46-48 million and net loss \$80 to \$82 million for fiscal 2019

Twist Bioscience Pipeline & Milestones



MARKET OPPORTUNITIES	EXPLORATION	PROOF OF CONCEPT	BETA	COMMERCIAL	NEXT STEPS
Synthetic Biology: Synthetic Genes, DNA Libraries and Oligo Pools ¹					<ul style="list-style-type: none"> • Continue to drive growth, add market share • 5kb genes, Twist API • NPI roadmap
Genomics: Targeted NGS ²					<ul style="list-style-type: none"> • Convert NGS pilot accounts to production • Launch NGS e-commerce platform • ISO 14385 certification • Backend in China
Biological Drug Discovery and Development ³					<ul style="list-style-type: none"> • POC GPCR library and Ab optimization solution • Establish partnerships
Digital Data Storage in DNA					<ul style="list-style-type: none"> • Continue to develop partnerships to explore digital data storage in DNA

¹ Products addressing this market include clonal, non-clonal genes (gene fragments), oligo pools and DNA libraries

² Products addressing this market include NGS exome capture and NGS custom capture

³ Products addressing this market include custom DNA libraries, our proprietary GPCR-targeting antibody library and our antibody optimization solution



Q&A

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