43rd Annual J.P. Morgan Healthcare Conference

Rob Spignesi, President & CEO

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RAPID MICRO BIOSYSTEMS — NASDAQ: RPID

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This presentation has been prepared by Rapid Micro Biosystems, Inc. (the “Company”) solely for informational purposes. This presentation includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements contained in this presentation that do not relate to matters of historical fact should be considered forward-looking statements, including, but not limited to, statements regarding the Company’s guidance, including with respect to the fourth fiscal quarter and full year 2024; the benefits and features of the Company's products and technology, including its Growth Direct platform and rapid sterility offering; the integration of the Company's Growth Direct technology with Lonza's MODA-EM software system; the Company's goal to achieve positive cash flow by the end of 2027 without additional financing, including the revenue and gross margin drivers behind such goal; and the Company's efforts to drive sustainable, long-term growth and shareholder value.

In some cases, you can identify forward-looking statements by terminology such as “outlook,” “aim,” “anticipate,” “assume,” “believe,” “contemplate,” “continue,” “could,” “due,” “estimate,” “expect,” “goal,” “intend,” “may,” “objective,” “plan,” “predict,” “potential,” “positioned,” “seek,” “should,” “target,” “will,” “would” and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. Forward-looking statements involve known and unknown risks, uncertainties and assumptions which may cause actual results to differ materially from any results expressed or implied by any forward-looking statement, including, but not limited to risks related to, the Company's ability to achieve positive cash flow without requiring additional financing; the Company's ability to achieve its business objectives; the Company's significant losses since inception; the Company’s ability to meet its publicly announced guidance and other expectations about its business and operations; the effectiveness of the Company's sales processes; the Company’s need to develop new products and adapt to technological changes; the Company’s ability to establish and maintain its position as a leading provider of automated microbial quality control testing; the Company’s ability to maintain its manufacturing capabilities; the Company's ability to improve the gross margins of its products and services; risks related to third-parties; the Company’s ability to retain key management and other employees; risks related to regulatory and intellectual property matters; risks related to supply chain disruptions and the impact of inflation; the impact of macroeconomic volatility; and the other important factors outlined under the caption “Risk Factors” in the Company’s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission (“SEC”), as such factors may be updated from time to time in its other filings with the SEC, which are available on the SEC's website at www.sec.gov and the Investor Relations page of its website at investors.rapidmicrobio.com.

Although the Company believes that the expectations reflected in its forward-looking statements are reasonable, it cannot guarantee future results. The Company has no obligation, and does not undertake any obligation, to update or revise any forward-looking statement made in this presentation to reflect changes since the date of this presentation, except as may be required by law.

The Company has presented preliminary financial results for the fourth fiscal quarter and full year 2024 that have not been audited and are subject to adjustment based on the Company’s completion of year-end financial close processes.

Our vision

We are transforming a critical, regulated part of the global pharmaceutical manufacturing process, bringing microbial quality control into the 21st century.

The new standard in microbial quality control

The standard in automating microbial quality control

2024 REVENUE[1]

~$28M
Total Revenue

~25%
Year / Year Growth

~$15M
Recurring Revenue

GLOBAL SYSTEMS[1]

160+
Cumulative Placements

135+
Cumulative Validations

~20
Countries

CUSTOMERS

70%
Top 20 Global Pharma[2]

100%
Approved CAR-T Manufacturers

1 Preliminary and Unaudited for the year ended December 31, 2024
2 By revenue

2024 revenue guidance exceeded with strong fourth quarter

SELECT HIGHLIGHTS

- Record quarterly (Q4) and full year revenue; ninth quarter in a row exceeding / meeting revenue guidance
- Over 160 cumulative Growth Direct systems now placed globally
- Inflected to positive gross margins in Q3 & Q4
- Announced collaboration with Lonza implementing Growth Direct globally to enable end-to-end automation of MQC testing across cell & gene manufacturing network

RESULTS	Q4 2024[1]	FY 2024[1]
Total Revenue	**~$8.2M** ~30% growth	**~$28.1M** ~25% growth
Recurring Revenue	**~$4.2M**	**~$15.5M**
Systems Placed	**6**	**21**
Systems Validated	**4**	**16**

1 Preliminary and Unaudited for the year ended December 31, 2024

Challenges in a traditional microbial quality control (MQC) lab

- **High volume testing and mandated by regulators**
- **Insecure and lacking data integrity**
- **Subjective and prone to human error**
- **Manual, paper-based and slow**

MQC has not kept up with pharma industry innovation

FACTORS DRIVING CHANGE

Scientific and technology innovation + Growing demand for more complex therapies + Faster & leaner manufacturing + Data integrity & security focus + Regulatory scrutiny

TODAY

Discovery & research

High-throughput R&D automation

TODAY

QC & ANALYSIS

TODAY

Bioprocessing & manufacturing

Flexible single use technologies

Introducing the Growth Direct® platform

The only fully automated, high-throughput and secure MQC solution…

Proprietary Consumables

Data & Software

Global Validation & Support Services

…delivering a compelling value proposition

Data Integrity

Supports global quality **regulatory compliance** and improved data handling and management

Operational Efficiency

Enables **faster decision making** by accelerating time to results by 50% or faster compared to the traditional method

Insight & Accuracy

Eliminate human quality control errors, preventing costly recalls and regulatory interventions

THE GROWTH DIRECT® (GD) PLATFORM

Growth Direct® transforms and modernizes MQC

MANUAL WORKFLOW

1. PULL QC TEST FORM	2. FILL OUT ASSAY INFO	3. PREPARE SAMPLES	4. LOAD INCUBATOR	5. PULL SAMPLES	6. PERFORM COUNTS	7. RECORD COUNTS	8. RETURN SAMPLES
9. SHIFT SAMPLES	10. PULL SAMPLES	11. PERFORM COUNTS	12. PERFORM DUAL-READ	13. RECORD COUNTS	14. KEY INTO LIMS	15. DISCARD	RESULTS

- ✗ Manual & subject to error
- ✗ 15 steps
- ✗ 5-14 days to result / test
- ✗ Unsecured

GROWTH DIRECT® | AUTOMATED WORKFLOW

1. **Prepare sample & automated loading**

2. **Automated incubation and analysis & Data handling**

✓ **Results**

- ✓ Automated & accurate
- ✓ 2 steps
- ✓ Results in half the time
- ✓ Full data integrity

The Growth Direct® System brings MQC into the 21st Century

FACTORS DRIVING CHANGE

Scientific and technology innovation + Growing demand for more complex therapies + Faster & leaner manufacturing + Data integrity & security focus + Regulatory scrutiny

TODAY

QC & ANALYSIS

TODAY

Discovery & research

High-throughput R&D automation

TODAY

Bioprocessing & manufacturing

Flexible single use technologies

Market forces pushing pharma industry to automation

Large and Growing Market

$5B annual recurring revenue + $5B global system opportunity

Regulatory Pressure

Increasing regulatory scrutiny and enforcement around data integrity and quality

Industry Change

Growth in complex biologics, and cell & gene therapies which require faster, more accurate, higher throughput testing capabilities

Sources: FDA, EvaluatePharma, Alliance for Regen. Medicine

Growth strategy focused on
land and expand augmented by innovation

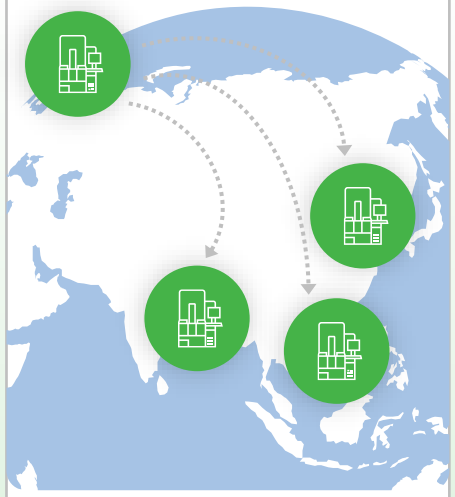
GROW NEW CUSTOMER ADOPTION

- BIO PHARMA (incl. cell & gene)
- CDMO
- STERILE INJECTABLE, VACCINE, & OTHER

DRIVE ENTERPRISE DEPLOYMENTS

- Site 1: EM + W/BB + Sterility
- Site 2: EM + W/BB + Sterility
- Site 3+: EM + W/BB + Sterility

EXPAND INTO NEW GEOGRAPHIES



LAUNCH NEW PRODUCTS AND SERVICES

- Sample automation
- Additional test types (e.g. sterility)
- **Core Growth Direct Capabilities**
- Automated microbial ID
- Data services and SaaS

PURSUE ADJACENT MARKETS

LAND AND EXPAND STRATEGY

Customer base includes 70% of the top 20 global pharma companies[1] with significant growth potential

CUSTOMER SEGMENTS WITH ESTABLISHED USE

Biologics Cell & Gene Therapy / CAR-T CDMO

Personal Care Products Small Molecules

160+
cumulative systems placed

70%
of top 20 global pharma are customers

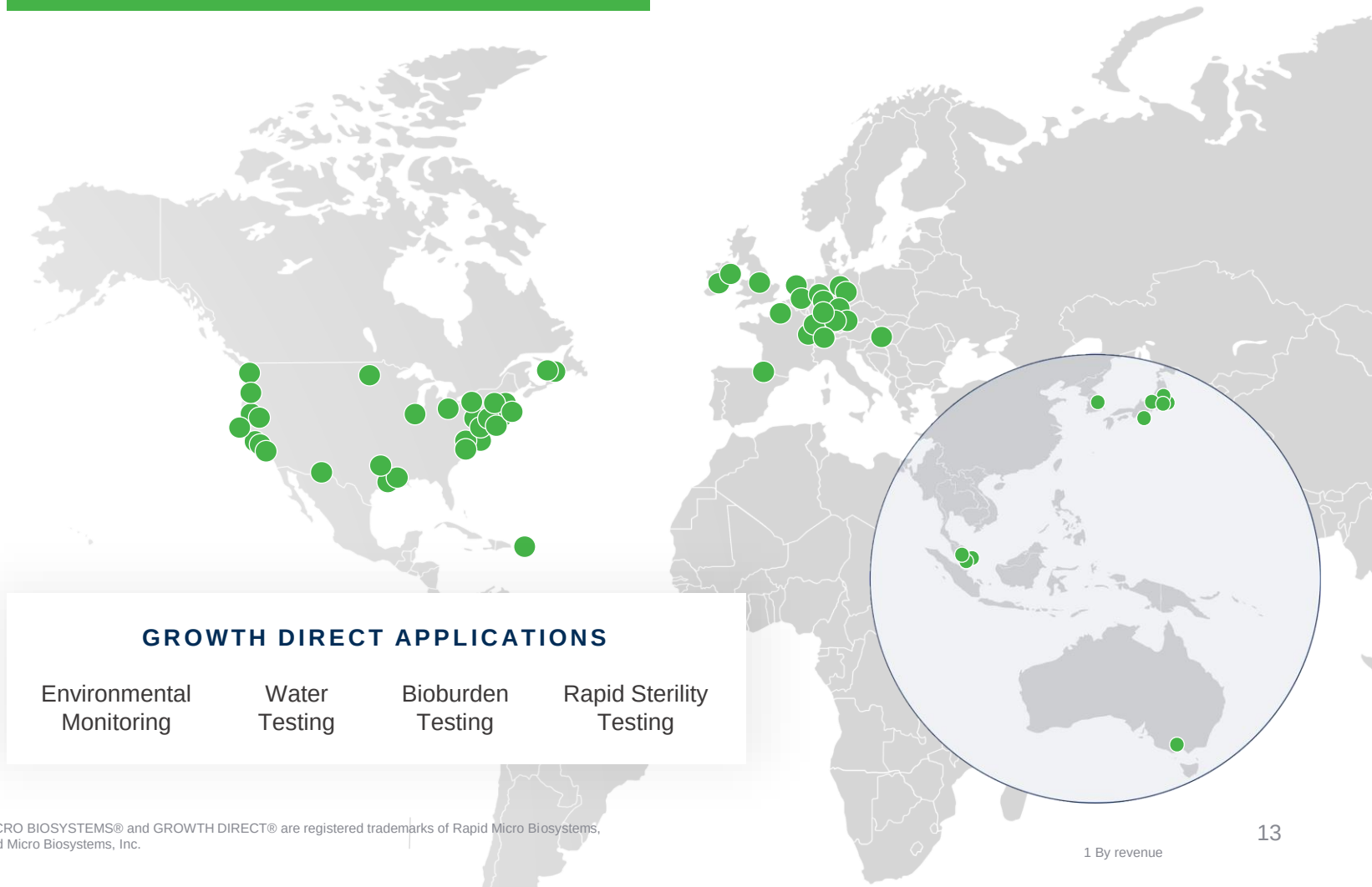
100%
of approved CAR-T manufacturers have GD system placed

135+
cumulative systems validated

6M+
cumulative consumables sold

~100
customer manufacturing sites

GLOBAL SITES WITH GROWTH DIRECT SYSTEMS



GROWTH DIRECT APPLICATIONS

Environmental Monitoring | Water Testing | Bioburden Testing | Rapid Sterility Testing

1 By revenue

Collaborating in automated MQC


Enabling a Healthier World

Lonza

Building a Digitalized End-To-end Process for Environmental Monitoring

Growth Direct® System: the only fully automated non-destructive growth-based platform for QC microbiology testing.

The Challenges and Importance of Environmental Monitoring

Rigorous and comprehensive EM is crucial for good quality control in pharmaceutical manufacturing, helping to minimize the risk of microbial contamination, and to help ensure the highest levels of product quality and safety.

However, EM can be immensely challenging. Perhaps the biggest obstacle is that sample incubation and analysis for microbiological EM is labor-intensive; sampling is performed and EM contact plates are incubated, transferred, counted, read out and disposed of by hand, and data capture, review, and reporting for EM is largely manual, too. As a result, microbial testing can be time-consuming, tedious, and prone to error.

While there has long been demand for proven digital solutions to alleviate these challenges, industry-wide-pressure to improve operational efficiency has now created a valid business case for these solutions. This is especially the case in the cell and gene therapy (CGT) space, since processes here are long, complex, and costly, while patients have often exhausted other therapeutic options and need treatment quickly.

- Lonza sought an end-to-end, automated solution to streamline MQC testing and get critical cell and gene therapies to patients faster
- Implemented the Growth Direct with Lonza's MODA-EM software module across their cell and gene therapy manufacturing network in North America, Europe and Asia
- Lonza achieved:
  - More accurate testing
  - Faster processing (TTR <72 hrs vs up to 8 days previously)
  - Improved compliance
  - Cost savings
- Sets a clear standard for the industry to emulate
- Lonza publication available on RPID website Link HERE

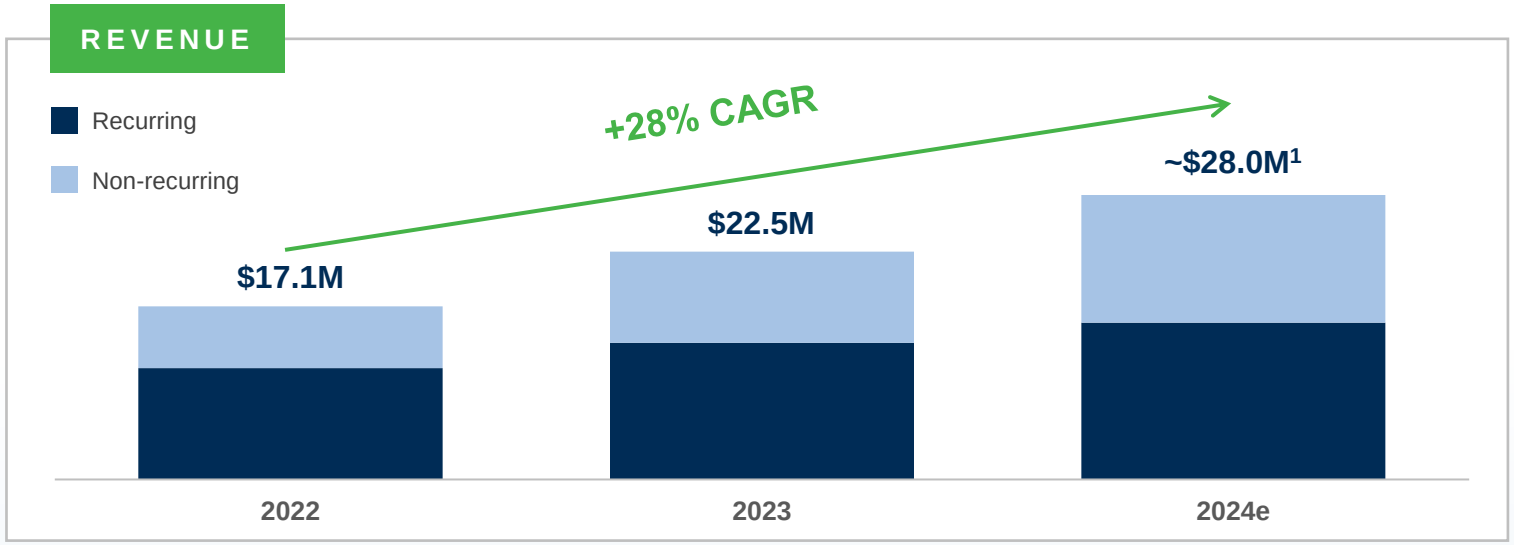
Growth through innovation:

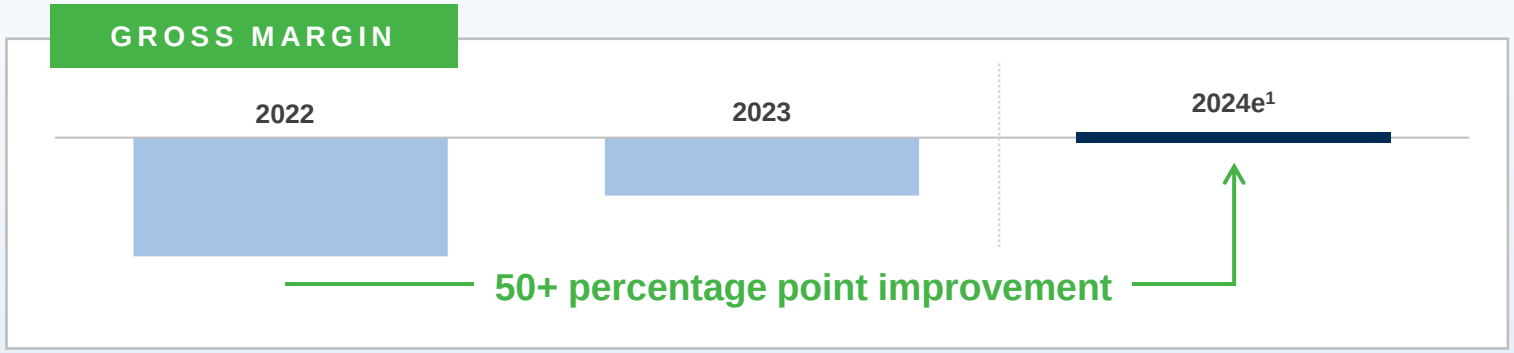
Growth Direct® Rapid Sterility System

Rapid Sterility System

	RAPID STERILITY SYSTEM	COMPENDIAL METHOD
Time to Detection (TTD)	As little as **12 hours**	**3 – 5 Days**
Time to Results (TTR)	As little as **1 - 3 Days**	**14 Days**

Strong and consistent revenue growth and margin improvement





Revenue Growth Drivers

- New customer wins
- Drive global deployments at existing customers
- Launch new products and services
- Strong consumable and service growth

Gross Margin Expansion Drivers

- Reduce product costs
- Improve manufacturing efficiency
- Increase service productivity

Focused goal of achieving positive cash flow by the end of 2027 without the need for additional financing

1 Preliminary and Unaudited for the year ended December 31, 2024

Creating the future of rapid, secure MQC automation to drive sustainable, long-term growth and shareholder value

Growth Direct® is the industry-leading platform

Chosen by 70% of the top 20 global pharma companies[1] with significant commercial runway

Operating behind strong barriers to entry

First mover advantage, little competition & robust patent portfolio

Enabling advanced pharmaceutical manufacturing

Growth Direct systems placed with 100% of approved CAR-T manufacturers

An expanding $10B+ market

Dominated by manual, legacy processes that face increasing FDA scrutiny

Attractive, high-growth business model

Driving high-yield recurring revenue

1 By revenue

Thank you