

# Genetic Technologies

Company Profile

3 April 2019

# Forward looking statements

This presentation may contain forward-looking statements within the meaning of Section 27A of the U.S. Securities Act of 1933 and Section 21E of the U.S. Securities Exchange Act of 1934 with respect to the financial condition, results and business achievements/performance of Genetic Technologies Limited and certain of the plans and objectives of its management. These statements are statements that are not historical facts.

Words such as “should”, “expects”, “anticipates”, “estimates”, “believes” or similar expressions, as they relate to Genetic Technologies Limited, are intended to identify forward-looking statements. By their nature, forward-looking statements involve risk and uncertainty because they reflect Genetic Technologies’ current expectations and assumptions as to future events and circumstances that may not prove accurate. There is no guarantee that the expected events, trends or results will actually occur. Any changes in such assumptions or expectations could cause actual results to differ materially from current expectations.

# Who we are

## Research and Development leader in the genomics sector

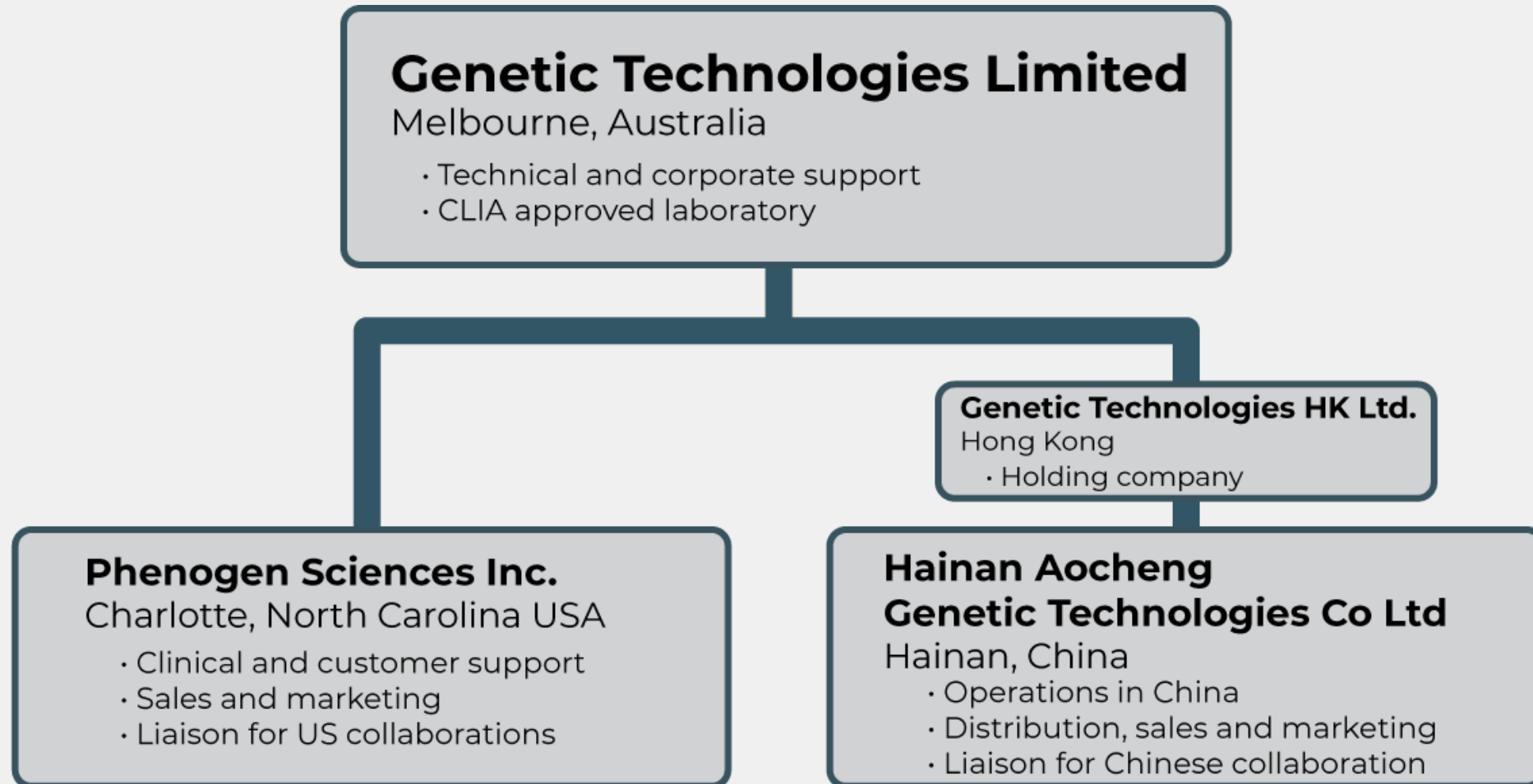
- Developing and commercialising a suite of genetic risk assessment products to prevent morbidity and mortality across a range of diseases
- 20 years experience bringing genomics products to market
- Progressive R&D and commercialisation partner to
  - Universities
  - Research organisations
  - Companies exploring new delivery technologies for genomic solutions

**Dual listed on the ASX (GTG) and Nasdaq (GENE)**

# Our vision

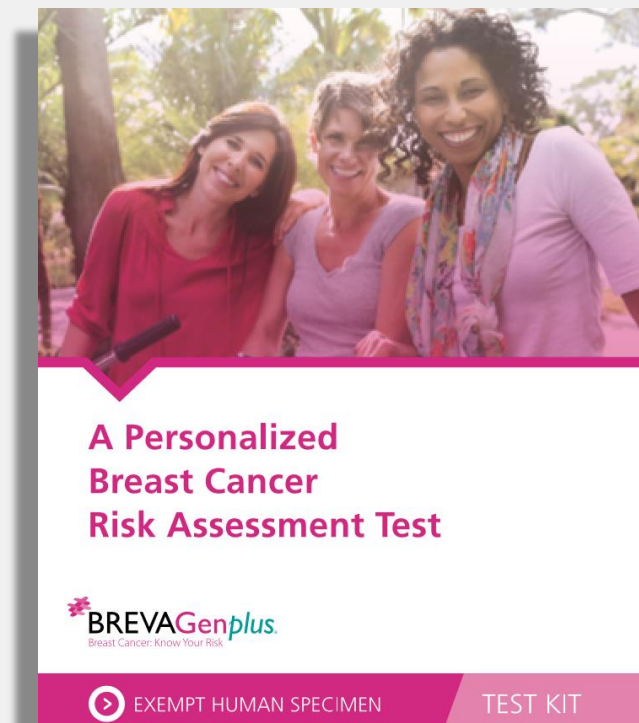
- **To empower individuals to manage and reduce their risk of contracting cancer and other chronic diseases**
- **We continually strive to maintain our standing as a global leader in genomics by investing in our own research capabilities and by forming partnerships with world-class/expert organisations**

# GTG corporate overview



# Our genetic test predicts a woman's risk of developing breast cancer

**BREVAGenplus®** is a first-to-market, clinically validated genetic risk assessment for non-hereditary (sporadic) breast cancer



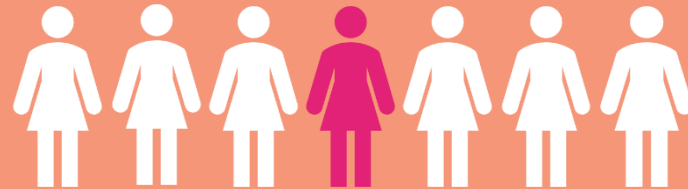
**Simple cheek swab** that helps determine a woman's risk of developing breast cancer

**First test of its kind** to be clinically validated to evaluate risk for sporadic breast cancer

**Validated** for use in Caucasian, African American and Hispanic women over age 35

# Precision medicine

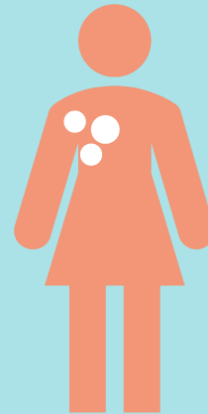
- 1 in eight women will get breast cancer in their lifetime
- Screening programs that test all women at the same intervals will be overscreening 7 women and underscreening 1 woman



- Our risk assessment test offers health policy regulators and clinicians the potential for more efficient use of screening resources

# Early detection = better outcomes

5 year survival rates dramatically improve when breast cancer is diagnosed before spreading to other parts of the body



**Localised**  
No sign of spreading  
beyond the breast area

**99%**

**Regional**  
Spread to nearby  
structures

**85%**

**Distant**  
Spread to other parts  
of the body

**27%**



# Early diagnosis = less expensive treatment

**First year  
treatment  
costs for  
breast cancer**

**Stage I**

**\$ 55,000**

**Stage II**

**\$103,000**

**Stage III and IV**

**\$127,000**

USD, study based on US patients, 2003-2010

# Targeted screening and prevention

**BREVA Genplus®**  
enables the  
targeting of limited  
resources to  
women who are  
most likely to  
develop breast  
cancer.



## Screening

More frequent mammograms or MRIs



## Medication

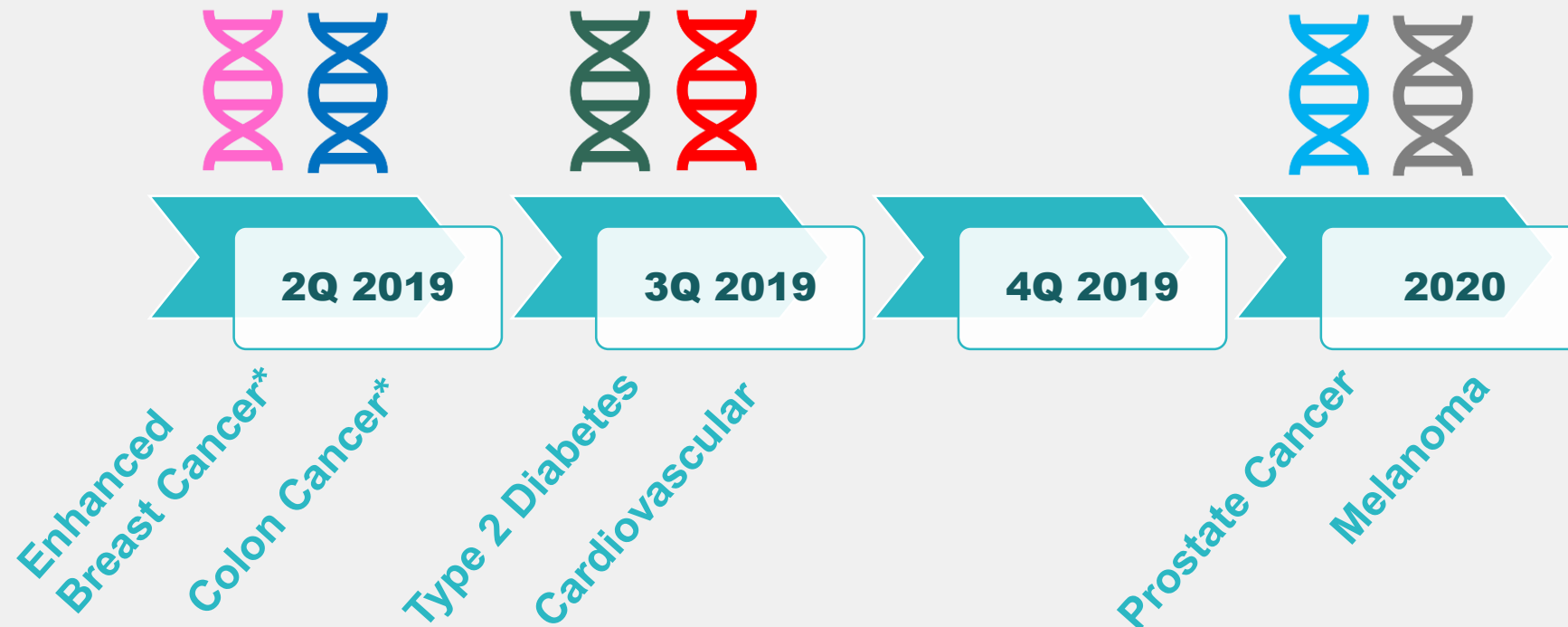
Selective estrogen receptor modulators (SERMs) or  
aromatase inhibitors (AIs)



## Lifestyle

Weight loss, alcohol consumption, physical activity

# We are developing new genetic screening tests

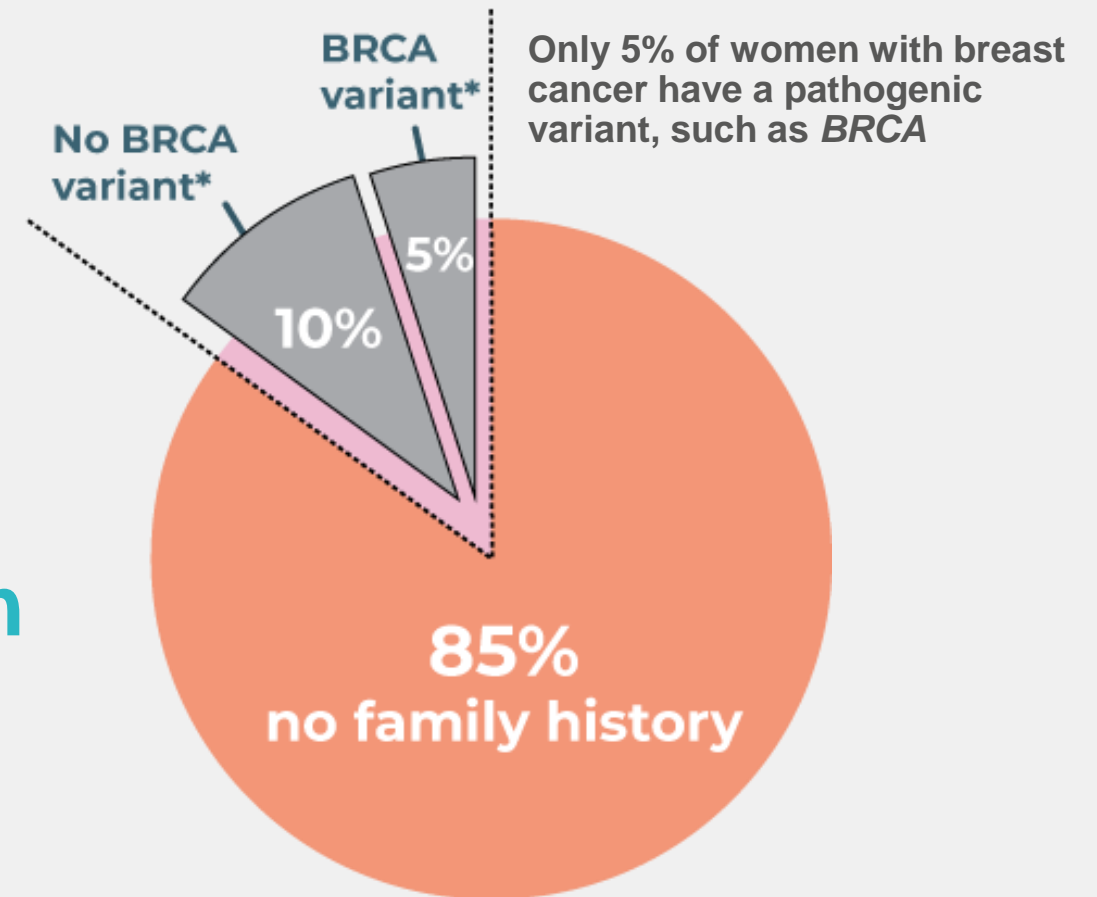


\* Tests are developed and market launch is scheduled.

# GTG's enhanced breast cancer test covers 95% of women

- 85% of women have no family history of breast cancer
- 10% have a family history but no pathogenic variants, such as *BRCA*

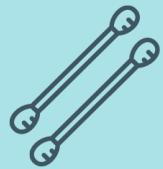
Our test covers 95% of women



# GTG has developed a world-first polygenic risk test for colon cancer

Risk stratification enables precision screening and personalised prevention

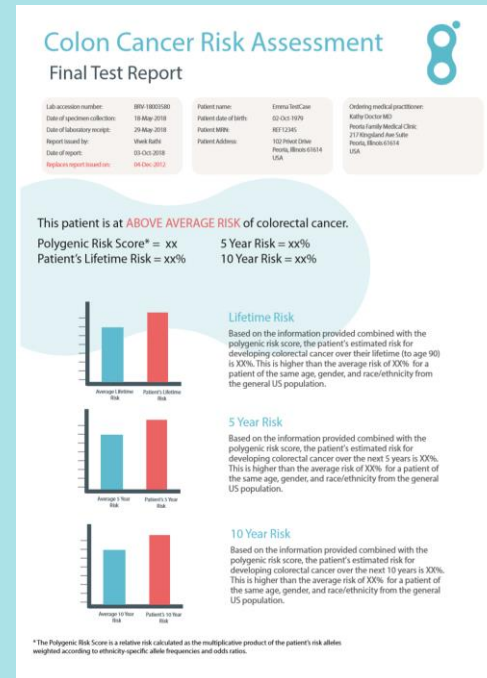
Easy-to-use test solves the compliance problem



Simple cheek swab test



Report sent to your doctor



Clinically actionable results

5-year, 10-year and lifetime risk

Informs screening and health monitoring for those most at risk

# Collaboration with world-leading partners



# Collaboration is a key market advantage

## The University of Melbourne

- Australia's peak research-intensive institution, ranked 32<sup>nd</sup> globally

## Our collaboration with The University of Melbourne was awarded an NHMRC grant

- Research investigation to assess the improvement in breast cancer risk prediction using polygenic risk
- Led by Professor John Hopper
- National Health and Medical Research Council is Australia's peak funding body for cutting-edge research

### ***Professor John Hopper***

- PhD in Mathematical Statistics
- NHMRC Senior Principal Research Fellow
- Director (Research) of the Centre for Epidemiology and Biostatistics in the School of Population Global Health at The University of Melbourne
- Published more than 700 papers

**This work established GTG as a global leader in polygenic risk research and development**

# Research into clinical applications

**GTG has an agreement in place with Memorial Sloan Kettering (MSK) and University of Cambridge**

- The research is led by Mark E. Robson, MD, Chief of Breast Medicine Service, Memorial Sloan Kettering
- MSK is the world's oldest and largest cancer treatment and research institution
- Memorial Sloan Kettering was ranked second among hospitals specialising in cancer treatment in the US
- The University of Cambridge's UK Institute is a world leading cancer biotech centre

**GTG partners with world-leading research hospitals to develop the clinical use of polygenic risk scores in treatment decisions**



# Other key partnerships

## Ohio State University (Columbus, Ohio)

- Research collaboration exploring polygenic risk as a means to more informed decision-making for women with *BRCA* mutations
- Led by Amanda Toland, Director of Clinical Genetics and a leader in the field of breast cancer risk assessment

## Nurses' Health Study

- Harvard University prospective study of the risk factors for major chronic diseases in women
- Collaborating with principle investigators to validate new risk models for breast cancer

# Intellectual property is our advantage

## GTG has a strong patent portfolio covering the breast cancer risk assessment test

### 5 Patents granted in the US

- Patent Nos. 9,051,617; 9,068,229 and 9,702,011 covering three of the core genetic markers included in the BREVAGenplus® risk assessment test
- Patent No. 7,127,355 offering broad protection re: methods of genetic analysis (the concept of combining clinical risk assessment with genetic risk factors to improve predictability over clinical risk assessment alone)
- Patent No. 6,969,589 covering the identification of informative SNPs

### 5 Patents granted in China

- Patent Nos. 200680051710.0; 201310524782.4; 201310524916.2 and 201310524765.0 “Markers for Breast Cancer”
- Patent No. 201080033130.5 Methods for Breast Cancer Risk Assessment

### 5 Patents granted in Hong Kong

- Patent Nos. 09101235.4; 12112875.1; 12112368.5 and 12112874.2 “Markers for Breast Cancer”
- Patent No. 12109000.5 Methods for Breast Cancer Risk Assessment

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## 7 Patent families pending

- Methods for breast cancer risk assessment
- Methods for assessing risk of developing breast cancer
- Improved methods for assessing risk of developing breast cancer
- Markers for breast cancer
- Methods for genetic analysis
- Methods for genomic analysis
- Methods for assessing risk of developing colorectal cancer

# Scientific authority

## Dr. Richard Allman, Chief Scientific Officer

- Strong publication record in genetic epidemiology across multiple disease categories
- Collaboration for peer review and statistical validation



**BSc Microbiology, PhD Microbiology (Flow Cytometric Analysis of Bacteria)**

**Honorary Fellow, Centre for Epidemiology and Biostatistics, The University of Melbourne**

- Over 20 years of scientific and research experience
- Academic and commercial experience in research leadership, innovation management, and intellectual property strategy
- Academic career encompassed oncology research, drug development, and assay design, with a particular interest in the linkage between onco-genetic profile and treatment response

# Hainan Medical Pilot Zone

GTG has established its Asian operations with the formation of Genetic Technologies HK and Hainan Aocheng Genetic Technologies

- Part of the Hainan Free Trade Zone Initiative
- Best-in-class medical care, physicians, treatments, technology and cutting-edge medical product development
- Hainan Free Trade Zone allows foreign companies to safely introduce IP and repatriate profits

**Chinese healthcare market valued at US\$925B**



*GTG Chairman and CEO, Dr Paul Kasian proudly accepted the formal documentation to establish Genetic Technologies' operations in Hainan, China.*

# GTG's approach aligns with Healthy China 2030

**Healthy China 2030 is the Chinese Central Government's comprehensive healthcare policy for 1.5 billion people**

- Disease prevention is a means of controlling costs
- Chinese government can enforce compliance with preventive healthcare protocols

**GTG tests can be used to predict an individual's risk of developing disease**

- Screening and other healthcare resources can be directed to people most at risk
- This allows for early intervention and less costly treatment
- Screening every woman for breast cancer may be too costly, but it may be cost-effective to screen those with a mid-to-high 5 year risk

# Next Steps in China

## Develop collaborative relationships

- Clinical validation
- Regulatory approval
- Commercial channels
- Laboratory testing

## Deliver the benefits of genetic screening

- Go-to-market plan for additional genetic screening tests
- Engagement with key opinion leaders
- Collaboration with Chinese research organisations

# Thank you



**Paul Kasian**  
**Chairman and CEO**

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