



INVITROCUE™  
Transforming bioanalytics

Personalised oncology treatments  
for better patient outcomes

February 2018

Invitrocue (ASX:IVQ)  
CEO, Steven Fang



# Disclaimer

This document does not, and does not purport to, address any or all issues which are or may be material or of interest to the Recipient in connection with its own due diligence review of the Company, or otherwise. The Recipient may not, and by receiving this document the Recipient acknowledges that it is not entitled to and agrees not to, rely on any part of this document (whether as to a matter of fact, forecast, opinion or belief) for any purpose whatsoever.

Certain statements in this document relate to the future. These forward looking statements involve known and unknown risks, uncertainties, assumptions and other important factors that could cause the actual results, performance or achievements of the Company and the Business to be materially different from future results, performance or achievements expressed or implied by such statements. Such forward looking statements are based on numerous assumptions regarding present and future business strategies and the environment in which the Company will operate in the future. No representation, assurance or guarantee is given that the occurrence of the events expressed or implied in any forward looking statements in this document will actually occur. The forward looking statements in this document reflect views held only at the date of this document.

Past performance information given in this document is given for illustrative purposes only and should not be relied upon as (and is not) an indication of future performance. By accepting this document, the Recipient agrees that it will make and rely solely upon its own due diligence investigations and enquiries and will not in any way rely upon any of the information in this document or use this document for any purpose other than as information to assist the Recipient and its advisers to undertake its own due diligence investigations and enquiries.

None of this statements, opinions, projections, forecasts or other forward-looking information contained in this document have been independently verified and no commitment, representation, or warranty, express or implied, is made in relation to their accuracy, reasonableness or completeness. Furthermore, where statements in this document are taken from or attributed to sources created by third parties, the Recipient should have regard to those sources and rely on its own enquiries.

Invitrocue has prepared this document based on information available to it at the time of preparation and subject to the qualifications in this document. To the maximum extent permitted by law, neither the Company nor any of its respective related bodies corporate or other affiliates, directors, officers, employees, representatives, agents, advisors or their respective advisors' affiliates or partners, directors, officers, employee or contractors (each a Limited Party and together with the Limited Parties) takes any responsibility for the contents of this documents or any action taken by the Recipient or any other person on the basis of any information in the document. The Limited Parties disclaim any obligation or undertaking to disseminate after the date of this document any updates or revisions to any forward looking statements to reflect any change in expectations in relation to those statements or any change in events, conditions or circumstances on which any such statement is based. To the maximum extent permitted by law any and all liability in respect of this document and the information contained within it is expressly excluded including without limitation any direct, indirect or consequential liability, expenses, losses, damages or costs incurred by the Recipient or any other person as a result of their receipt or use of this document or arising from the information in this document being inaccurate or incomplete in any way for any reason, whether by negligence or otherwise. No Limited Party makes any representation or warranty, express or implied, as to the currency, accuracy, completeness, reliability, fairness or correctness of the information contained in this document or about Invitrocue generally or any opportunity to invest in Invitrocue in the future.

# Investment Highlights

- **Addressing a massive market need** in personalised medicine – est US\$300 B for oncology analytics
- **First mover advantage** – limited number of global competitors
- **Disruptive platform technology** – potential for establishing a new standard of care to guide current oncology treatment procedures
- **Highly-scalable business model** – a versatile and powerful platform technology with wide applicability and low-cost implementation
- **Diversified operating risks** – multiple revenue streams with immediate go-to market
- **Strong patent protection** – patents granted in key markets such as the US, UK, Australia, Germany, Singapore, Japan and China
- **High caliber team** - led by Dr Steven Fang and an international Scientific Advisory Board



# Commercial Pathway & Value Inflection Points

## 2016

- Achieved triple-digit CAGR since 2015
- Fast-growing revenue stream
- International recognition of IP portfolio
- Global engagement with prestigious cancer centers

## 2017

- First revenue achieved for Onco-PDO
- Identified and engaged KOLs for each cancer type by country

## 2018

- Initial launch of services through clinical KOLs
- Move to kit-based sales of the same price point
- Commercial rollout of Onco-PDO to Asia Pacific and Europe

## Looking forward

- Launch of cancer-specific proprietary kits for scale-up in other labs in 2018-2019
- Continued revenue growth bases on commercial validation of core cell-based assaying business
- Expansion of Onco-PDO to the European market

# Achievements for 2017

## WHAT WE SAID WE WOULD DO

Grow Sales in cell base assay

Secure new / repeated orders

First Indications for PDO

Garvan Institute Trial

First Joint Lab to offer PDO service

Market expansion

## WHAT WE ACHIEVED

Strong continuous growth in FY2017

New customers / repeated contracts

OSCC + Colorectal Cancer

Secured ethics approval, awaiting validation trial

Launch July 2017 by Minister of Trade Hamilton Smith

Currently operate in 4 countries; Singapore, Hong Kong, China, Australia

# Core Services and Products

## Liver Cell Services and Products

- Lab based human liver models
- 3D cell culture platform and cell-based assay business
- Used for drug testing to reduce risk, cost and shorten time to market
- Used to assess safety and effectiveness of drugs in infectious diseases and wound healing

## Personalised Precision Oncology

- Use of proprietary **Onco-PDO™ technology** platform for the growth of tumor avatars to help reduce the guesswork and cost involved for cancer treatment



# Human Liver Services and Products

# Liver Cell Services and Product Offering

## Clinical liver assay services:

- Drug Metabolism (DMPK) assays
- Liver toxicity assays
- Infectious diseases assays testing for Hep B and C
- Liver disease modeling

## Humanised liver products:

- HepaCur fresh hepatocytes (liver cells)
- Mice carrying humanised liver cells





# Human Liver Products: Market Opportunity

Rising need for *in vitro* human liver models for screening for liver disease drugs due to:

- Growing geriatric population and increasingly unhealthy lifestyle patterns driving increase in global liver disease cases
- Current lack of an available effective cure for a number of liver diseases:
  - Hepatitis B
  - Fatty liver and non-alcoholic steatohepatitis (NASH)
- Global liver disease treatment market valued at \$12.4 billion in 2009



Most new  
drugs fail in  
clinical trials  
due to liver  
toxicity



# Personalised Precision Oncology: Onco-PDO™

# The Increasing Burden of Cancer

2013 - 2020

WORLDWIDE CANCER CASES are projected to increase by

↑ 50%

From 14 million to 21 million

WORLDWIDE CANCER DEATHS are projected to increase by

↑ 60%

From 8 million to 13 million

Source: American Cancer Society: Global Cancer Facts and Figures

# Rising Costs of Cancer Treatments


## CANCER TREATMENTS

35%  
are effective

## TREATMENT COSTS

ARE   
RISING

## TREATMENT OUTCOMES

HAS NOT IMPROVED  
  
SINCE 20 YEARS AGO

# The future of effective cancer treatments: Personalised medicine

We are focused on the development of personalised oncology drugs driving the best outcome for cancer survival.

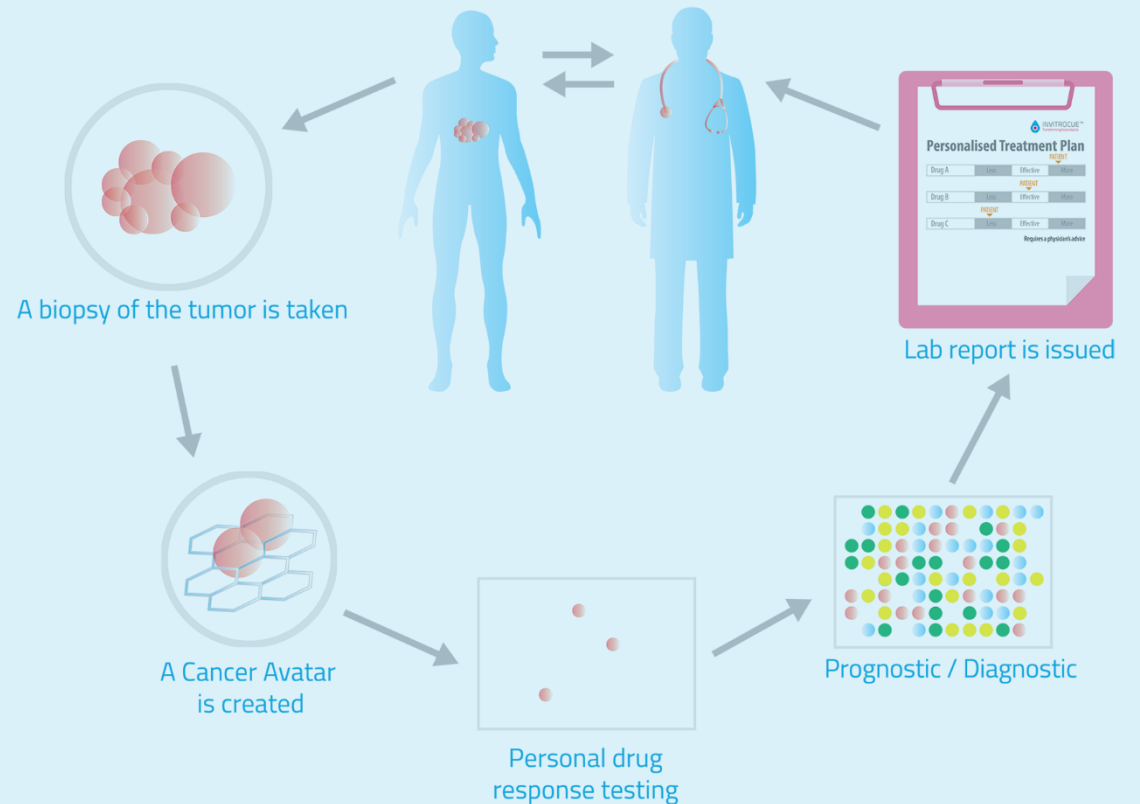
Our platform technology offers patient-specific cancer information to guide oncologists in their selection of drugs and therapies to achieve the best clinical outcome.

# Platform Technology: Onco-PDO™

Our proprietary 3D cell-scaffolding technology, Onco-PDO™ (Oncology Patient-Derived Organoid) enables:

- patient-derived cancer cells (organoids) to be cultured in laboratories
- Organoids used for testing against a panel of drugs to guide oncologist's clinical decisions specific to each patient

## Onco-PDO™ PERSONALISED DRUG TESTING

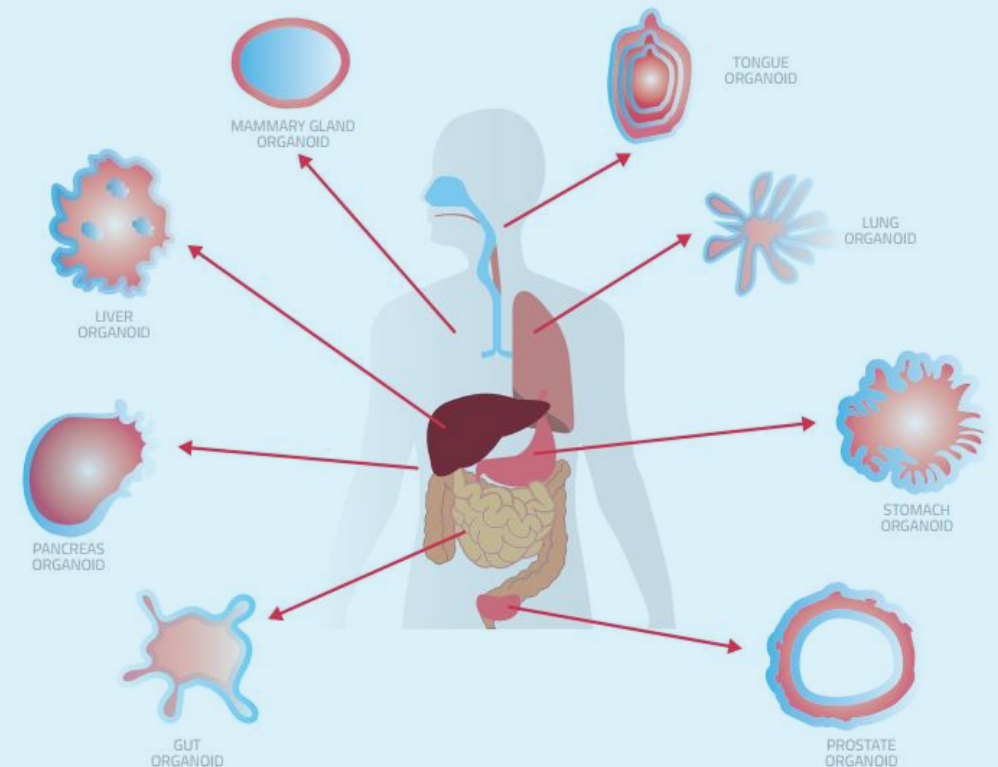


# Onco-PDO™: Value Proposition

Onco-PDO™ disrupts current oncology treatment processes through the creation of tumor avatars (organoids), allowing:

- Real-time guidance for improved preclinical testing
- New cancer drug validation
- Enables effective clinical outcome prediction
- Providing personalised medicine at a more affordable price

## Tumor Avatars Are Now a Reality



# Onco-PDO™: Ahead of the Competition

Current competition utilises Patient Derived Xenographs (PDX) which uses mice models for the growth of patient-derived tumors.

## Advantages of Onco-PDO™:

- Is significantly more cost effective
- Allow for faster turnaround time (within 2 weeks vs 3 months)
- Provide higher scalability
- Not required to use mice models (limited to only 2-3 drugs lines per mice)





# Reasons to Invest

- Important and existing unmet market needs
  - Growing cancer market
  - Technology to disrupt current cancer treatments
- Novel, innovative and patented products and services
  - Initial launch of services through KOL clinical lab in 2018
  - Launch of cancer specific kits for scale up in all other labs 2018-2019
- Diversified operating risks
  - Fast growing and significant revenue stream
  - Achieving 3 digit CAGR since 2015
  - Diversified revenue stream
  - Immediate go to market model with low regulatory hurdles
- Attractive exits and IRR
  - Potential dual listing/relisting within next 24 months
  - Strong interest from big pharma
  - Strong licensing potential for specific cancer tests



# Management Team & Advisory Board

## Board of Directors

Dr Steven Fang,  
Executive Director and Founder

Mr Chow Yee Koh,  
Non Executive Director  
and Company Secretary

Professor Harry Yu,  
Non Executive Director  
and Scientific Mentor and Advisor

Ms Jamie Khoo Gee Choo,  
Non Executive Director

Ms Ee Ting Ng,  
Non Executive Director

Dr Andreas Lindner,  
Non Executive Director

## Management Team

Dr Steven Fang,  
Executive Director and Founder

Martin D. Bach,  
Vice President of Operations

Dr Ramanuj Dasgupta,  
CSO (Non-Exec), Onco-PDO

Dr Sunny Tan,  
Senior VP, Scientific Affairs and  
Business Development

Tony Adams,  
Senior VP, Investor Relations

## Advisory Board

Prof Alex Matter MD

Dr Ram Dasgupta PHD

Prof Joseph King-Tak Lee MD FACR

Associate Prof Soo Yong Tan MBBS  
FRCPath DMJ Dphil

Prof Shervanthi Homer-Vanniasinkam  
BSC, MBBS, MD, FRCSEd FRCS

Prof Chng Wee Joo MB CHB PHD FRCP  
(UK),

Associate Prof Narayanan Gopalakrishna  
Lyer MBBS PHD FRCSEd



INVITROCUE™  
Transforming bioanalytics

Thank You

For more information please contact  
Steven Fang  
[steven.fang@invitrocue.com](mailto:steven.fang@invitrocue.com)

