Memphasys

ASX: MEM

Commercialising The Felix Device:

A unique device to treat male infertility

Investor Presentation

June 2020

Alison Coutts

Executive Chairman, *Memphasys Limited*

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Memphasys Value Proposition

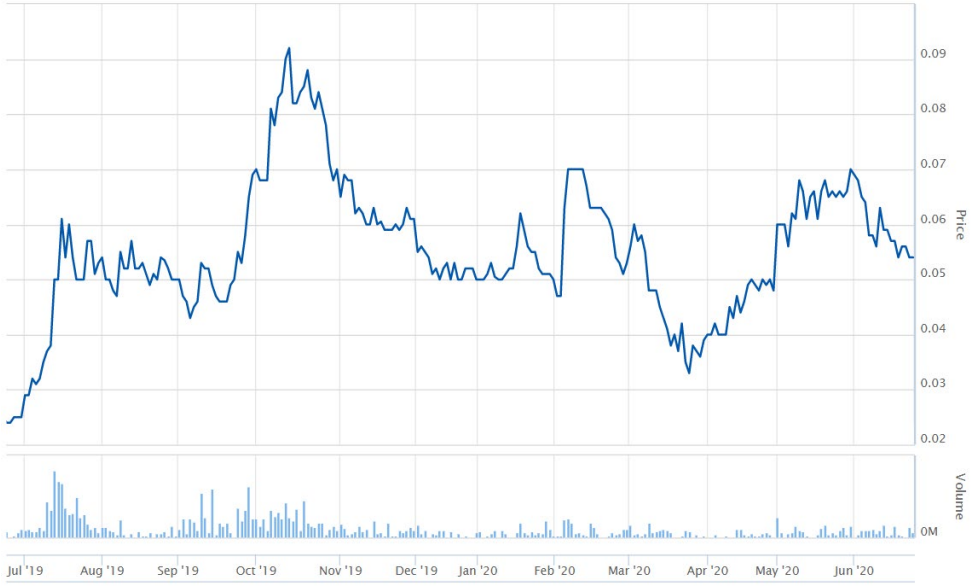
- Novel sperm selection technology for improved IVF treatments
- Addressing the significant global IVF market – anticipated to grow from ~ 2.3m live IVF cycles to ~4m live IVF cycles by 2026[1]
- Early markets for commercial sales represent ~24% of global IVF market[2]
- Collaborating with major industry partner (Monash IVF) and leaders in the field – including Global Fertility Expert Professor John Aitken (pictured)
- Potential 1st Felix commercial sales to early markets in Q4 CY2020[3]
- Opportunity to develop next-gen device for use in animals and expanded human applications
- Fully funded through to Q1 CY21 with ~$2.3M in cash reserves as at 1st June 2020

1. *Global IVF Services Market Revenue, By End User, 2018 – 2026, Global IVF Services Market Report – Allied Market Research (April 2019)*
2. *Based on 2018 figures for global fresh IVF cycles and fresh IVF cycles in early markets*
3. *See ASX Announcement 16 June 2020*

Corporate Snapshot

ASX Code	MEM
Share price (as at 23/6/2020)	$0.052
Shares on issue	753.97 million
Market capitalisation	$39.2 million
Cash & Cash Equivalents (as at 31/12/2019)	$3.8 million
Ownership structure – substantial shareholders (as at 31/01/20)	Peters Investments (27.2%) Mr Andrew Goodall (22.7%) Ms Alison Coutts (10.6%)

MEM Share Price for last 12 Months



Source: ASX website

Board of Directors

Alison Coutts – Executive Chairman

Extensive experience across a number of industry sectors and disciplines including international engineering project management with Bechtel Corporation in the UK, USA and New Zealand, strategy consulting with Boston Consulting group, executive search with Egon Zehnder International, investment banking at eG Capital, which she co-founded, technology commercialisation over the past 15 years and executive management, currently with Memphasys Ltd. Formerly Chair of CSIRO's Health Sector Advisory Council and was a co-founder and director of eG Capital.

Mr Paul Wright - Non-Executive Director

More than 30 years' experience as a highly skilled executive in strategic consulting and the development and sales of innovative medical devices and diagnostic tools. Mr Wright's background includes developing and implementing commercialisation strategies from early research and development through to developing global product sales channels. Mr Wright has experience in building distribution partnerships and the direct selling and marketing of highly innovative products internationally. For the past two decades, he has worked as CEO for three leading international Australian technology companies focussed on developing, manufacturing and marketing of medical devices and diagnostic instruments.

Andrew Goodall – Non-Executive Director

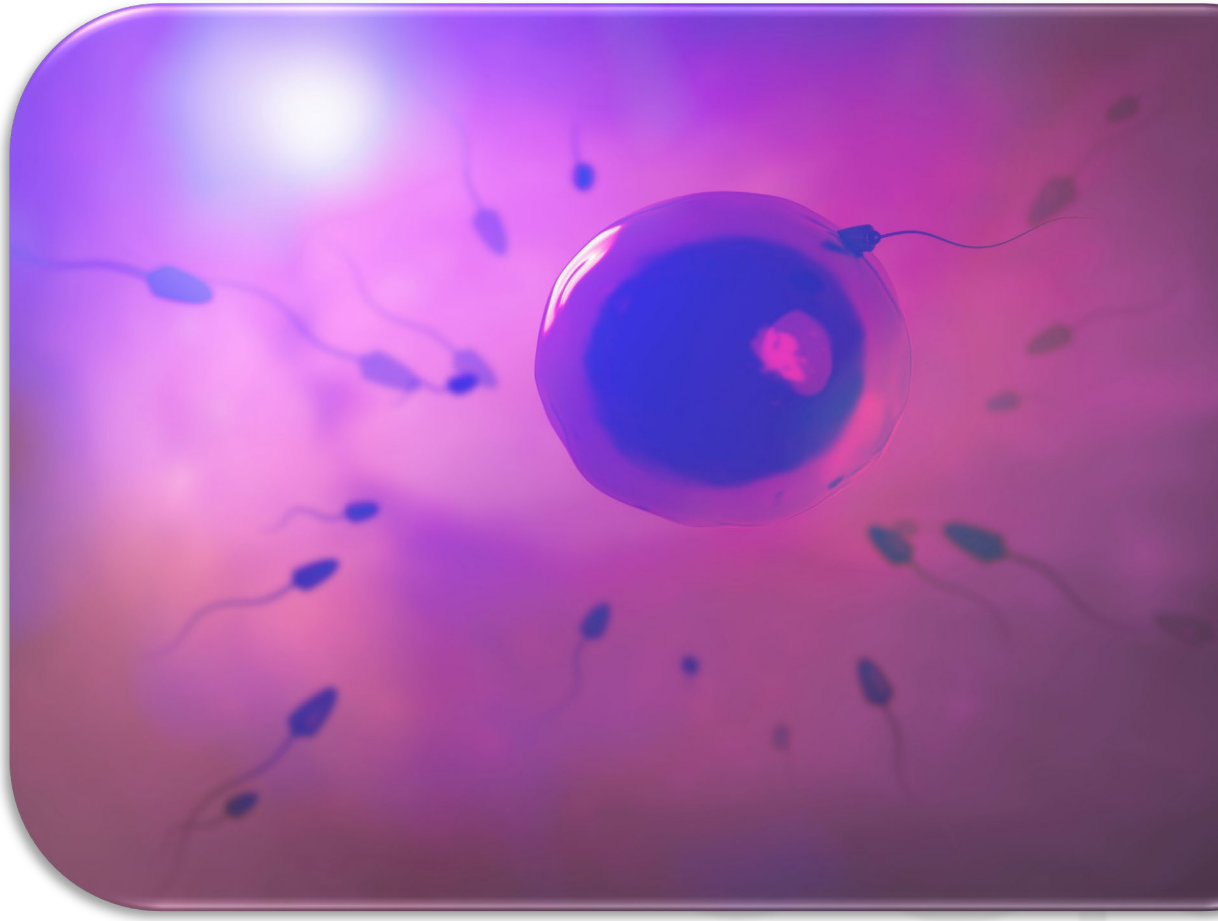
An entrepreneur with a wealth of business and commercial experience who has successfully established a number of businesses throughout his career in Australia and New Zealand. Having had extensive experience in Commercial Property Investment, Mr Goodall is currently involved in the management of his substantial commercial property interests in New Zealand. Mr Goodall has been a significant shareholder in Memphasys for many years.

Shane Hartwig – Non-Executive Director

Mr Hartwig has over twenty five years' experience in the finance industry both nationally and internationally with exposure to both the debt and equity capital markets. He is a Certified Practicing Accountant and Chartered Company Secretary and founder of Peloton Advisory corporate advisory firm.

The Problem: IVF tech insufficient to counter declining human fertility

- Human IVF fertility rates in decline
- IVF expanding fast but success rate remains low
- Average of 2.2 IVF cycles before success but no guarantee of success
- IVF increases risk of miscarriage *and genetic impairment of offspring*
- No meaningful advances in sperm preparation treatments since the advent of IVF approx. 40 years ago

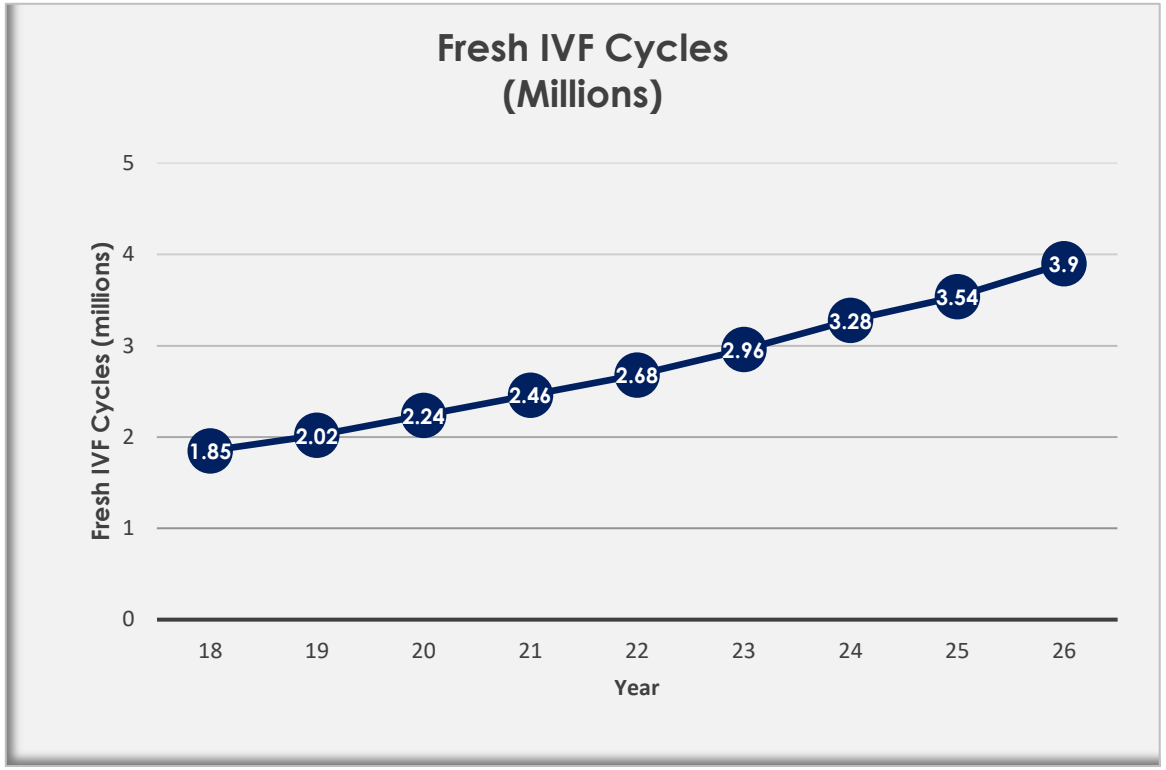


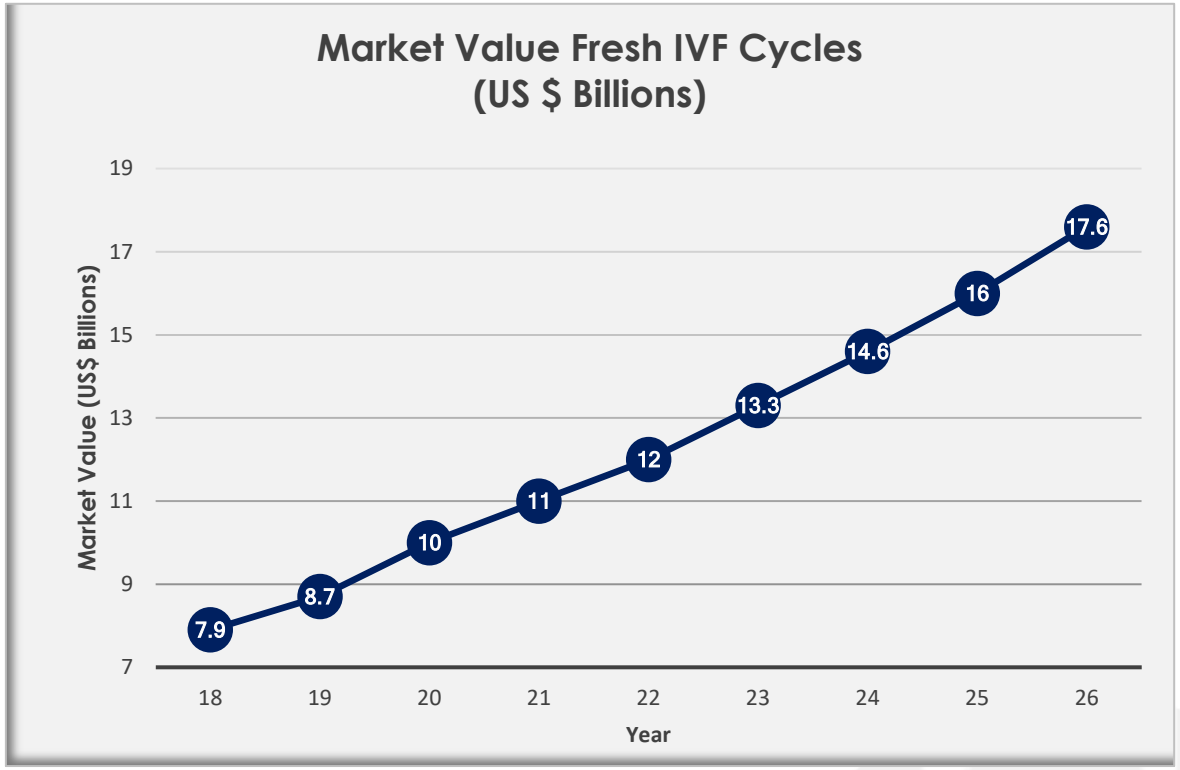
The Problem: Current IVF Methods

- No standard method for preparing sperm for IVF
- Common techniques are:
  - Swim-up
  - Density Gradient Centrifugation (DGC)

  ↕ Or Combination
- Costs between A$80 to $100 (for each technique) per cycle
- Each method takes 30 minutes or more to complete
- Laborious process involving centrifuges, special media, extensive dexterity and expertise
- Process can inadvertently select DNA-damaged cells, reducing effectiveness and/or passing on genetic damage

Robust Demand for IVF



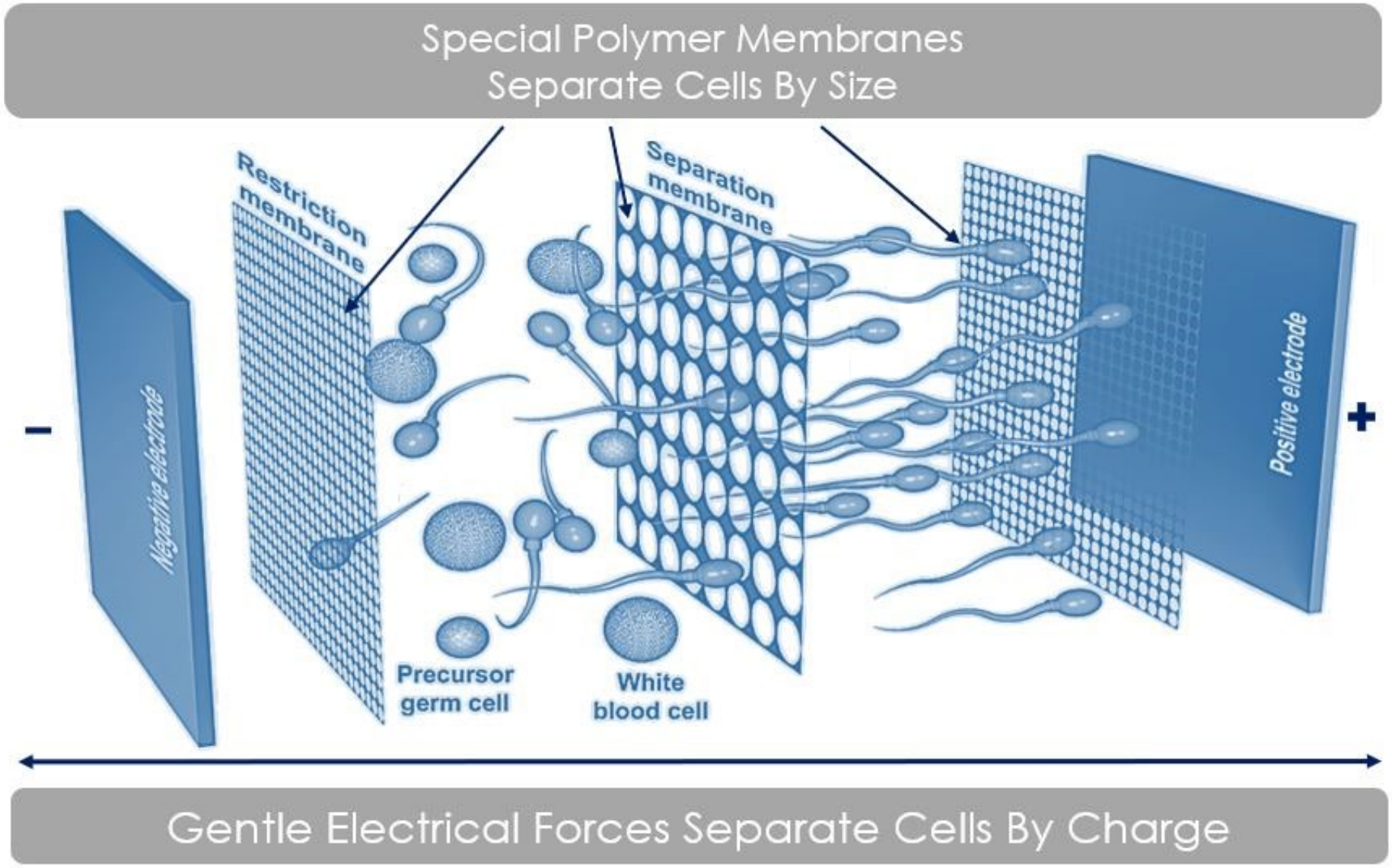


Global IVF Services Market Revenue, By End User, 2018 – 2026, Global IVF Services Market Report – Allied Market Research (April 2019)

A Solution: Memphasys Felix Device

- A world-first technology to separate best quality sperm with potential to increase:
  - The likelihood of pregnancy
  - Live birth
  - Having a healthy baby
- Quick, efficient and operator independent (6 minutes, fully automated)
- Uses patented intellectual property

How Does the Felix Device Work?



- Gentle electric force applied to cartridge sample
- Best quality (negatively charged) sperm* attracted to positive electrode
- Sperm separates through polymer membranes to:
  - Separate by their cell size
  - Eliminate white cells & other debris

** Indicative of properly functioning DNA which has instructed the cell to form a cytoskeleton with an intact cell membrane.*

Semen Sample Before & After Felix Treatment

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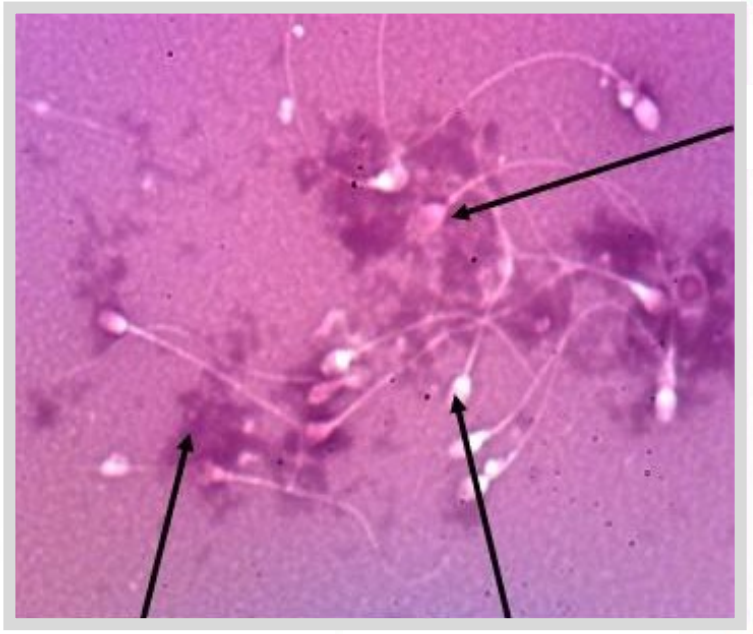
Prototype cartridge performance on healthy human ejaculate

Sample before treatment

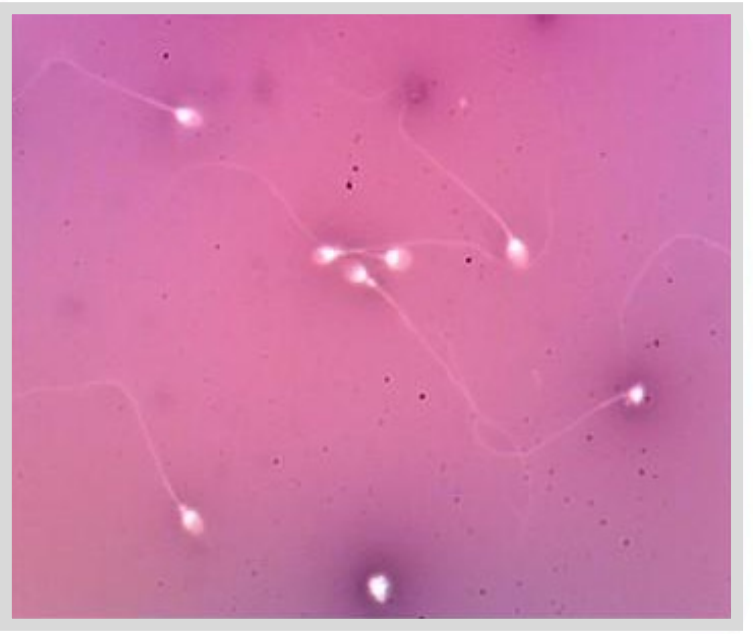


Dead sperm

Viable sperm

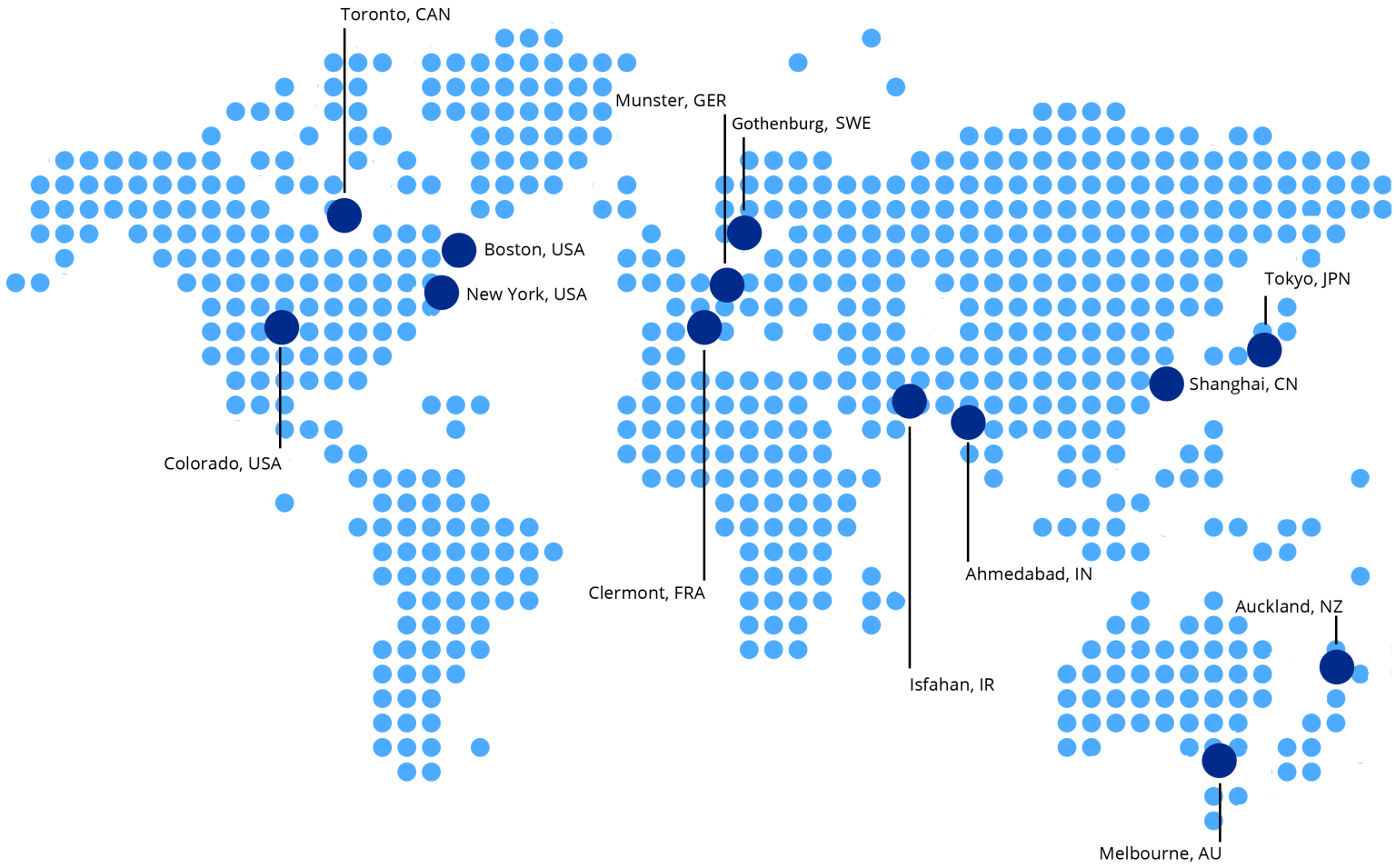
Macrocephalic (large head)

After treatment – 6 minutes



- Separation of Viable Sperm; no debris
- Intact membranes and acrosomes
- Higher average motility
- Reduced DNA damage

KOL Program Underway



- Key Opinion Leaders (KOLs) are international leading andrology centres and laboratories in the IVF industry
- Selected for
  - technical and academic expertise
  - geographic market positioning
  - value to commercialisation strategy
- Devices already received by KOLs in Japan, India, Canada, USA, Iran and China, with remainder to be delivered throughout 2020
- KOLs provide ready-made potential initial customer base
- Outcomes to provide feedback on device performance on real clinical samples with a range of fertility issues

**Memphasys is rationalising the no. of initial KOL sites, with the Italian site and the second Swedish site to join the program later.*

KOL Feedback To-Date

- Highly positive initial feedback from the KOLs
- Testing so far has shown:
  - ✓ Successfull separation of sperm from samples
  - ✓ Improved average progressive motility
  - ✓ Quick (6min), faster than swim-up/DGC (30 min each)
  - ✓ Easy to operate
- Protocol A assessments underway at initial sites, with COVID affected KOL sites (N America, India & Europe) to commence on re-opening.

Memphasys MD Alison Coutts attending initial Felix device testing at Japanese KOL

Pathway to Market

- Commercial sales expected to occur in Q4 CY2020, following successful V&V [1, 2]
- Initial commercial pathway to focus on selected countries aligned to the Company's objectives to get early sales in relatively low regulatory markets
- Most likely initial markets include:

Country	Fresh IVF Cycles in 2018	Expected fresh IVF cycles by 2026	% growth rate	KOL engaged in market	% of global market[3]
Japan	269,110	699,110	+160%	✓	14.5%
India	169,800	489,840	+188%	✓	9.2%
Canada	6,360	21,140	+232%	✓	0.3%
New Zealand	5,300	11,190	+111%	✓	0.3%

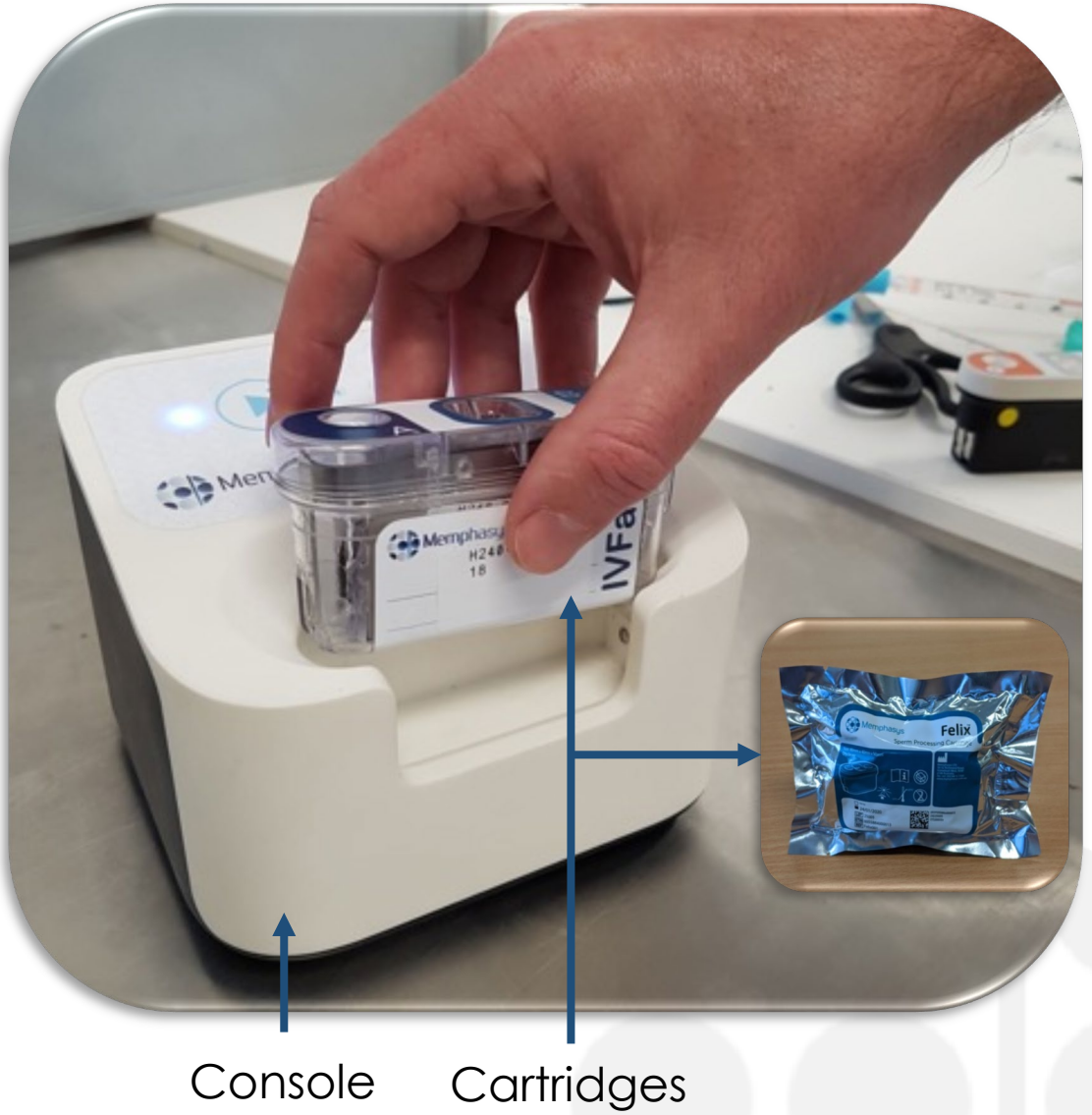
1. Device verification and validation processes, which are required before the device can be commercially available

2. Subject to meeting any requisite legal and regulatory certifications and gaining market support by KOLs in specific targeted jurisdictions for the use of the Felix device in their clinics/ andrology centres

3. Based on 2018 figure for fresh IVF cycles (1.85 million)

Memphasys' Business Model

- The device consists of a console and single use cartridges
  - The console supplies the electricity and operates the device
  - The cartridges contain the cell separation technology
- When the device is sold commercially, IVF practitioners will require an ongoing supply of cartridges
- Cartridges are single-use per cycle and are positioned to be the source of recurrent revenue



EXPECTED DEVELOPMENT PLAN - FLOW CHART

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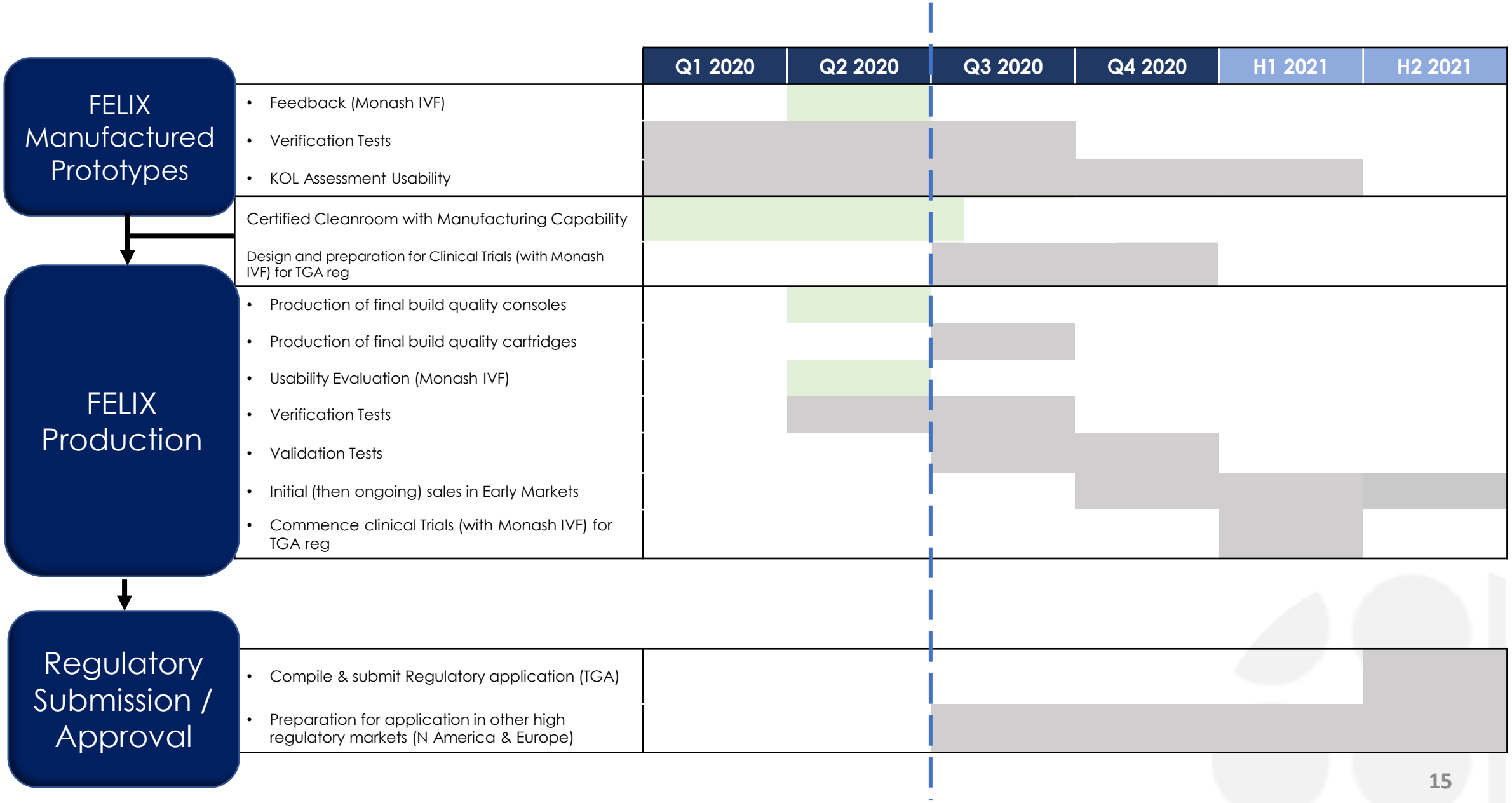

Assisted Reproduction: Strategic Focus

Human ART

- The major focus is to commercialise Felix and to launch it into the human IVF market.

Animal ART/AI

- The parallel and growing focus is positioning to develop a next generation device for artificial insemination (AI) for selected livestock.

Equine AI: The Initial Livestock Focus

Memphasys is working on novel designs of a new device to prepare sperm for AI, the main way that assisted reproduction is commercially performed in livestock*

New device needed to handle much larger volumes and higher sperm density than that of humans

Rationale for choosing equine AI as the initial focus:

- Although AI is illegal in thoroughbreds, there is a large market for equestrian AI
- Pregnancy rates are relatively poor (~60%) from equine AI and worse from frozen semen straws (~30%)
- Uni Newcastle has particular equine biological knowledge and access to pony semen samples
- Horses are a useful animal model for the next generation device with potential application to a wide range of animals (e.g. cows, sheep and pigs)
- It could also provide the basis for a next generation Felix device

*AI is illegal in thoroughbred racing horses but can be used on other horses (ie polo, equestrian, etc) .

Investment Highlights

- Novel sperm selection technology for improved IVF treatments
- Potential to counteract male infertility and disrupt IVF industry
- International commercial product roll out from Q4 2020
- Addressing the significant global IVF market – anticipated to grow from ~ 2.3m live IVF cycles to ~4m live IVF cycles by 2026[1]
- Device in hands of KOL clinics (potential purchasers), with initial feedback positive
- Collaborating with major industry partner (Monash IVF) and Global Fertility Expert Professor John Aitken
- Opportunity to develop next-gen device for use in animals and expanded human applications

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Thank you

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