

## GENEDRIVE PLC (LON:GDR)

### Overlooked Story Entering the Launch of their HepC Diagnostic Kit

#### KEY INVESTOR MESSAGES

- Genedrive (LON:GDR) on track to become a commercial stage, point-of-need diagnostics company
- Launch of Genedrive® Hepatitis C (HCV) test at IFCC World Lab October 2017, with commercial sales expected in the coming quarters (African markets)
- Distribution agreement signed for HCV test for Asia Pacific
- Collaboration with the US Defense Department (bio-hazard program) to generate further income (c. \$1.9mln) in the current fiscal year
- Re-launch of Genedrive® MTB (tuberculosis) test is being reassessed
- Management actively engaged in the disposal of the legacy service business (preclinical research and pharmacogenomics)
- Cash position of £4.2mln as of 30 September 2017, enough to finance the ongoing business well into fiscal year 2019
- Our SOTP valuation yields an equity value of c. £24mln, over 3x current market capitalization

#### COMPANY OVERVIEW

Genedrive (LON:GDR), an innovative diagnostic company, focuses on the development and commercialization of a novel, point-of-care diagnostic system, also called Genedrive® (in line with Company's policy, "genedrive" refers to the business, whereas "Genedrive®" indicates the diagnostic product).

Genedrive (LON:GDR) is the first firm to launch a decentralized Hepatitis C diagnostic kit, entering a large market at a time when new curative therapies for this severe disease are transforming opportunities for testing and treatment. We also note that the Company's diagnostic technology has a wide range of potential applications, ranging from the diagnosis of many other infectious diseases, to biohazard detection and applications in industrial settings (e.g. aquaculture).

Figure 1: Genedrive® diagnostic unit



**Technology platform brings the power of molecular diagnostics outside of the hospital**

- **Rapid Results Outside of a Hospital Environment**
  - Prompt clinical decisions are possible - sample to result typically in 50-75 minutes vs days from a service laboratory
- **Easy to Use**
  - Single use disposable reagent cartridge (razor/ razor blade model)
  - Limited training required for operation
- **Real World Robustness and Reliability**
  - Battery pack permits use in poor infrastructure settings
- **Versatile**
  - Core technology across a range of applications, including human health, animal health, and environmental testing
- **Affordable**
  - System and test price point accessible world-wide

Source: Genedrive investors' presentation (October 2017)

## PHARMA & BIOTECH

15/11/2017

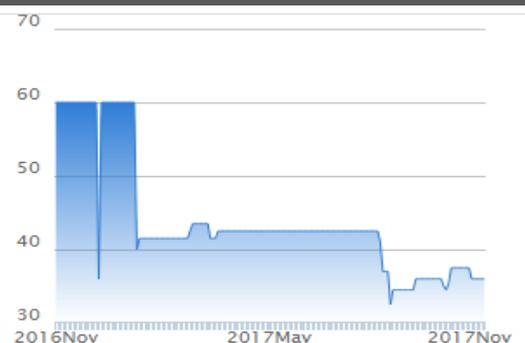
|                    |                     |
|--------------------|---------------------|
| <b>SHARE PRICE</b> | <b>52 WEEK LOW</b>  |
| ▲ <b>37.50p</b>    | ▲ <b>32.50p</b>     |
| <b>MARKET CAP</b>  | <b>52 WEEK HIGH</b> |
| ▲ <b>£7.01m</b>    | ▲ <b>62.50p</b>     |
| <b>CASH</b>        | <b>NET ASSETS</b>   |
| ▲ <b>£5.1m</b>     | ▲ <b>£3.44m</b>     |

#### MAJOR SHAREHOLDERS

|                                  |               |
|----------------------------------|---------------|
| 1) <b>Calculus Capital :</b>     | <b>17.80%</b> |
| 2) <b>Odey Asset Management:</b> | <b>10.69%</b> |
| 3) <b>Hargreave Hale:</b>        | <b>8.60%</b>  |

|                       |                                   |
|-----------------------|-----------------------------------|
| Shares in Issue       | 18.69m                            |
| Avg Volume            | 14,807                            |
| Primary index         | AIM                               |
| EPIC                  | LON:DGR                           |
| Next Key Announcement | -                                 |
| Sector                | Pharmaceuticals and Biotechnology |

#### SHARE PRICE CHART



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#### Company Information

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But first, let's take a brief look at the Company's history. Genedrive was originally founded as Epistem in 2000 and was then listed on London's AIM in 2007. Epistem operated as a niche contract research organization (CRO), providing pre-clinical research services in areas such as stem cell regeneration and pharmacogenomics. At the same time Epistem kept investing in internal R&D, building up a significant expertise in biomarkers and assays. To compliment this internal expertise, the Company bought Visible Genomics in 2010 to acquire the Genedrive® diagnostic platform. Genedrive® was first launched in 2016 in India, as a point of care test for the diagnosis of tuberculosis and the simultaneous assessment of rifampicin resistance (MTB/RIF test).

Unfortunately the launch of Genedrive® MTB test in India was compromised by a technical issue (a specific sample preparation problem arose that was unique to the MTB assay and isolated to one of the smallest components in the assay kit). Whilst the technical fault is now largely resolved, genedrive is re-assessing the best way to reengage this potentially large MTB opportunity – with the existing solution that is suitable for MTB instances in India or a second product that will satisfy both India and the wider global market where MTB burdens require more sensitive diagnostic tests. We also note that the Company has recently announced the termination of the commercial agreement they had in place with Xcelris for India and other Southern Asia markets. Accordingly, we don't forecast revenues from the MTB program, at least until fiscal year 2020.

The Hepatitis C test development is a significant step in a strategic realignment of the company to exploit the opportunities Genedrive® presents in point-of-care applications. The Company estimates a diagnostics market worth over \$1bn for its infectious disease pipeline but, at present, this is delivered from expensive, hospital-based settings. In Hepatitis C, new drugs which have the potential to cure the disease are now being made genericized in certain low and middle income countries at affordable prices, opening up a significant diagnostic market opportunity to find patients eligible for the new therapies. The Genedrive® test is uniquely positioned to support a strategy of testing and treatment in these markets.

Three significant milestones were achieved in recent weeks for Genedrive® HCV test: the CE mark obtained in September and a distribution agreement with Sysmex Europe GmbH announced in October. Those milestones opened the door for the launch of Genedrive® HCV test during fiscal year 2018, and were followed in November by the announcement of a distribution deal with Sysmex APAC for the Asia-Pacific region (with the exclusion of India). Both agreements will leave genedrive in charge of product development and manufacturing, whereas Sysmex European and APAC subsidiaries will lead distribution and marketing efforts for the Genedrive® platform.

The Genedrive® HCV test was launched to the market at the IFCC World lab in Durban, South Africa. Initial efforts will be directed towards market entry in several African markets. It is expected that the increased availability of new and highly efficacious Hepatitis C therapies will drive demand for point-of-care diagnostics in decentralized (rural) laboratories in emerging markets. Given the Company's aspirations to launch the products globally, we would expect further distributor agreements in the coming months.

We also note that the collaboration with the US Defense department (biohazard program) is progressing well and is expected to deliver \$1.9m in income in fiscal year 2017/2018 (\$1.4m of development income and \$0.5m of product sales). Ongoing revenue is expected, but the quantum of this is unknown to management as the DoD is not forthcoming with details owing to the nature of the product.

Source: Genedrive investors' presentation (October 2017)

Figure 2: Genedrive® diagnostic technology compared to centralized methodologies

**As a point of need solution, Genedrive® is uniquely positioned to support FIND<sup>™</sup>'s HCV strategy**

|                                  | Lab-based PCR  | Genedrive®   |
|----------------------------------|--|--|
|                                  |                                   |                   |
| <b>Approach</b>                  | Lab-based PCR based tests for viral DNA run on blood samples. High-cost platforms in centralised, high-resource labs | Field-based PCR based test in development for viral DNA to be run on blood samples at patient location |
| <b>Providers</b>                 | Numerous providers: Abbott/ Qiagen/ Roche/ Siemens/ Cepheid  | Genedrive  |
| <b>Diagnosis</b>                 | ✓  | ✓  |
| <b>Viral Detection</b>           | ✓  | ✓  |
| <b>Diagnose Active Infection</b> | ✓  | ✓  |
| <b>Decentralised use</b>         | ✗  | ✓  |
| <b>Service Turnaround Time*</b>  | Slow (weeks/ days)   | Fast (90 mins)   |
| <b>Price</b>                     | \$20-30  | \$20-35  |
| <b>Sensitivity at LOD</b>        | 100%   | > 99%  |

As the market opportunity for Genedrive® became clearer in its size and appeal, the company's board was of the view that keeping two increasingly different businesses under the same roof wasn't any longer in shareholder's best interests. As such they decided to concentrate their efforts on the launch of Genedrive® diagnostic system and, at the same time, to explore strategic options for the legacy CRO operations.

The company plans to commercialize their Genedrive® platform with a classic razor-razorblade model, largely implemented through distribution agreements, such as the one recently signed with Sysmex.

Figure 3: Genedrive® technology can address a broad range of applications



Source: Genedrive investors' presentation (October 2017)

Although the development of Genedrive® has been largely focused on infectious diseases, it is worth noting that its technology is potentially suitable for a wide range of applications, as testified by the ongoing collaborations with the UD Department of Defense (battlefield biohazards testing) and with CEFAS (fish cultures water testing).

## GENEDRIVE®: HOW IT WORKS

Genedrive® is a small, portable device for the diagnosis of infectious diseases, based on the analysis of body fluids samples.

It is a CE-marked, lower cost option for the diagnosis of infectious diseases at point-of-care. It is based on polymerase chain reaction (PCR) technology, which has so far been confined to larger desktop analyzers. By contrast Genedrive® is about the size of a book, weighs 1kg and works on either grid or battery power. As such, it represents an ideal option for small and medium size rural labs and clinics in developing countries. As the average clinic using Genedrive® is likely to run about 10-15 tests per week, it would likely be uneconomical for them to purchase a sophisticated desktop analyzer.

The system can run one test at the time, with results ready in about one hour.

Genedrive® ease of use and affordability make it an ideal tool for rural clinics and labs serving communities that would otherwise be left out of any other molecular diagnostic option.

From patients' perspective, the cost of a test conducted with Genedrive® is comparable to the cost of a test done with traditional desktop analyzers at large hospitals' centralized laboratories (\$20-\$30 in emerging markets).

However Genedrive® use at point-of-care allows for treatments to start straight away, rather than waiting a few days or longer for test results. That is assuming access to larger diagnostic centers is available, which is rarely the case in emerging countries rural communities.

## MARKET OPPORTUNITY

The global market for HepC testing is estimated by the WHO at around \$500mln, of which approx. 25% or \$125mln in high-burden developing countries. Given the current lack of point-of-care diagnostic options we believe that the launch of Genedrive® may significantly expand this market over time.

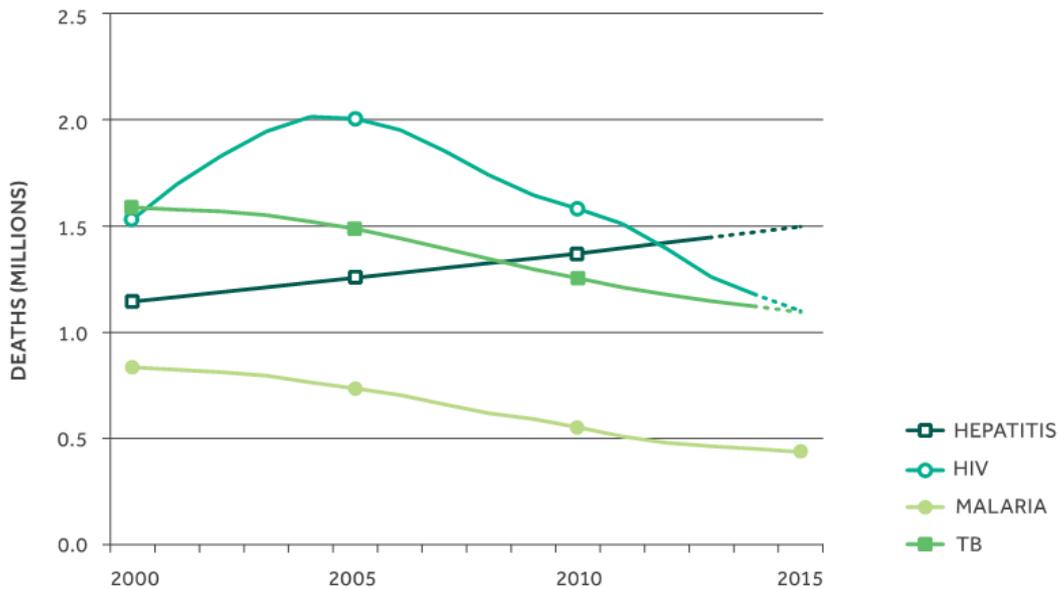


Figure 4: Global number of death from selected infectious diseases (Source: GLOBAL HEALTH SECTOR STRATEGY ON VIRAL HEPATITIS, 2016-2021, WHO, 2016)

Of course having a diagnosis is only important as long as treatments are available. In this respect it is important to highlight the increasing access to latest generation HepC medicines in emerging markets. A 12-week treatment course for the cure of HepC still fetches a price close to \$100,000 (per patient) in US and Europe but is now being made available in emerging markets for \$300-\$900.

According to the WHO, tuberculosis remains a top killer in emerging countries, with over 10 million cases every year and almost 2 million deaths. Almost 80 million sputum smear microscopy tests are performed each year, but market share is progressively being gained by molecular diagnostic systems that are able to test both for the disease and for the antibiotic resistance profile.

## VALUATION

As the Company has announced their intention to dispose the services business, we value Genedrive using a SOTP approach, as follows:

- Diagnostic business: following the launch of the HCV test in FY2018 and the expected re-launch of the MTB test in FY2020, we forecast this segment to generate revenue of approx. £15m in FY2025. Three years after launch we expect the growth rate to progressively decrease and reach a low-double digit level in FY2025. All in, this would represent a c. 34% revenue CAGR for the diagnostics business between FY2018 and FY2025. In line with diagnostic companies valuation, genedrive could then be valued at about 3x sales, yielding a £45m valuation in 2025. Using a discount rate of 10% we obtain a present value of c. £24m
- Services business: we believe that a niche research services and pharmacogenomics business should be sold at a sales multiple in the 0.5-1.5 range. However, given the length of time the Company has been trying to secure a disposal, it is likely that they will be at the lower end of this range, so we obtain a valuation of £2.0m
- Based on current cash burn rate, we estimate a net debt position of £1.4m as of 31 December 2017
- This leads to an equity value of c. £24m, versus a current market capitalization of about £7m

**Figure 5: genedrive SOTP valuation**

| <i>genedrive SOTP valuation</i>                                      |                               |                       |                             |                       |                         |
|--|-------------------------------|-----------------------|-----------------------------|-----------------------|-------------------------|
|  | <i>EV (£m, present value)</i> | <i>Discount rate</i>  | <i>EV (£m, 2025)</i>        | <i>Sales multiple</i> | <i>Sales (£m, 2025)</i> |
| <i>Diagnostics (Genedrive®)</i>                                      | 23.8                          | 10%                   | 46.3                        | 3.0                   | 15.4                    |
|  | <i>EV (£m, present value)</i> | <i>Sales multiple</i> | <i>Recurrent sales (£m)</i> |                       |                         |
| <i>Services</i>  | 2.0                           | 0.6                   | 3.2                         |                       |                         |
| <i>genedrive EV</i>  | 25.8                          |                       |                             |                       |                         |
| <i>Cash (CN estimate as of 31/12/2017)</i>                           | 3.9                           |                       |                             |                       |                         |
| <i>Debt (CN estimate of convertible bond value as of 31/12/2017)</i> | 5.3                           |                       |                             |                       |                         |
| <i>Net debt</i>  | 1.4                           |                       |                             |                       |                         |
| <i>genedrive equity value</i>  | 24.3                          |                       |                             |                       |                         |
| <i>Latest market cap</i>   | 7.0                           |                       |                             |                       |                         |

Source: CN analysis

## KEY FINANCIALS

Genedrive® HCV: in order to estimate the revenue potential of Genedrive® HCV test, we have built a simple model covering the first 3 years of launch. It is based on the following assumptions:

|                                    |                              |
|------------------------------------|------------------------------|
| Genedrive® diagnostic price / unit | £2,000                       |
| Assays run per unit / quarter      | 150 (approx. 10-15 per week) |
| Assays price / unit                | £15                          |

Assuming the launch trajectory shown below, this would lead to revenues of approx. £200k, £2.2m and £6m in FY2018, FY2019 and FY2020 respectively.

**Figure 6: Genedrive® HCV sales model**

| <i>Genedrive® HCV</i>                     | <i>FY2018</i> |           |           | <i>FY2019</i> |           |           | <i>FY2020</i> |           |           |           |           |
|---|---------------|-----------|-----------|---------------|-----------|-----------|---------------|-----------|-----------|-----------|-----------|
|   | <i>2Q</i>     | <i>3Q</i> | <i>4Q</i> | <i>1Q</i>     | <i>2Q</i> | <i>3Q</i> | <i>4Q</i>     | <i>1Q</i> | <i>2Q</i> | <i>3Q</i> | <i>4Q</i> |
| <i>Diagnostic units sold (new)</i>        | 5             | 10        | 20        | 40            | 60        | 75        | 90            | 99        | 109       | 120       | 132       |
| <i>Diagnostic units sold (cumulative)</i> | 5             | 15        | 35        | 75            | 135       | 210       | 300           | 399       | 508       | 628       | 759       |
| <i>Price per unit (£)</i>                 | 2000          | 2000      | 2000      | 2000          | 2000      | 2000      | 2000          | 2000      | 2000      | 2000      | 2000      |
| <i>Diagnostic units sales</i>             | 10,000        | 20,000    | 40,000    | 80,000        | 120,000   | 150,000   | 180,000       | 198,000   | 217,800   | 239,580   | 263,538   |
| <i>Assays per unit/quarter</i>            | 150           | 150       | 150       | 150           | 150       | 150       | 150           | 150       | 150       | 150       | 150       |
| <i>Assays sold</i>                        | 750           | 2,250     | 5,250     | 11,250        | 20,250    | 31,500    | 45,000        | 59,850    | 76,185    | 94,154    | 113,919   |
| <i>Price per assay (£)</i>                | 15            | 15        | 15        | 15            | 15        | 15        | 15            | 15        | 15        | 15        | 15        |
| <i>Assays sales</i>                       | 11,250        | 33,750    | 78,750    | 168,750       | 303,750   | 472,500   | 675,000       | 897,750   | 1,142,775 | 1,412,303 | 1,708,783 |
| <i>Total Genedrive® HCV sales (£)</i>     | 21,250        | 53,750    | 118,750   | 248,750       | 423,750   | 622,500   | 855,000       | 1,095,750 | 1,360,575 | 1,651,883 | 1,972,321 |

Source: CN analysis

As Genedrive has announced their intention to divest the services business, we show our revenue forecast split between the diagnostic and the soon-to-be disposed services businesses. We also note that the services business generates an EBITDA contribution of approx. £0.2-0.3mIn a year (on c. £3.2mIn sales).

**Figure 7: genedrive key financials**

| <i>Summary Financials</i>                  |               |               |               |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <i>Year to 30 June (GBPm)</i>              | <i>2016 A</i> | <i>2017 A</i> | <i>2018 E</i> | <i>2019 E</i> | <i>2020 E</i> | <i>2021 E</i> | <i>2022 E</i> |
| <i>Diagnostics segment (Genedrive®)</i>    | 1.9           | 2.6           | 1.9           | 2.4           | 6.5           | 8.7           | 10.9          |
| <i>Services segment (legacy)</i>           | 3.2           | 3.2           | 3.2           | 3.2           | 3.2           | 3.2           | 3.2           |
| <b>Revenue</b>                             | <b>5.1</b>    | <b>5.8</b>    | <b>5.1</b>    | <b>5.5</b>    | <b>9.7</b>    | <b>11.9</b>   | <b>14.1</b>   |
| <i>Growth</i>                              |               | 14.3%         | -11.9%        | 8.7%          | 75.7%         | 22.3%         | 18.6%         |
| <b>Contract costs</b>                      | <b>(3.3)</b>  | <b>(3.0)</b>  | <b>(3.1)</b>  | <b>(3.2)</b>  | <b>(4.9)</b>  | <b>(5.8)</b>  | <b>(6.4)</b>  |
| <i>Margin (% of sales)</i>                 | 64.9%         | 51.8%         | 61.7%         | 58.5%         | 49.9%         | 48.9%         | 45.4%         |
| <b>R&amp;D</b>                             | <b>(4.8)</b>  | <b>(5.1)</b>  | <b>(4.8)</b>  | <b>(3.9)</b>  | <b>(4.0)</b>  | <b>(4.2)</b>  | <b>(4.4)</b>  |
| <i>Margin (% of sales)</i>                 | 95.5%         | 87.9%         | 94.8%         | 69.8%         | 40.9%         | 35.1%         | 31.1%         |
| <b>SG&amp;A</b>                            | <b>(2.4)</b>  | <b>(2.6)</b>  | <b>(2.7)</b>  | <b>(3.0)</b>  | <b>(3.3)</b>  | <b>(3.7)</b>  | <b>(3.8)</b>  |
| <i>Margin (% of sales)</i>                 | 46.8%         | 45.2%         | 53.9%         | 54.5%         | 34.1%         | 30.7%         | 27.2%         |
| <b>EBIT</b>                                | <b>-5.4</b>   | <b>-7.3</b>   | <b>-5.6</b>   | <b>-4.6</b>   | <b>-2.4</b>   | <b>-1.8</b>   | <b>-0.5</b>   |
| <i>EBIT adjusted for exceptional items</i> | -5.4          | -4.9          | -5.6          | -4.6          | -2.4          | -1.8          | -0.5          |
| <b>Pre-tax profit</b>                      | <b>-6.5</b>   | <b>-7.5</b>   | <b>-5.9</b>   | <b>-4.9</b>   | <b>-2.8</b>   | <b>-2.2</b>   | <b>-0.7</b>   |
| <b>Net income</b>                          | <b>-5.9</b>   | <b>-6.4</b>   | <b>-5.0</b>   | <b>-4.1</b>   | <b>-2.4</b>   | <b>-1.9</b>   | <b>-0.6</b>   |
| <b>EPS (GBP)</b>                           | <b>(56.1)</b> | <b>(34.9)</b> | <b>(27.0)</b> | <b>(22.4)</b> | <b>(12.8)</b> | <b>(10.1)</b> | <b>(3.1)</b>  |
| <b>Cash &amp; cash equivalents</b>         | <b>1.1</b>    | <b>5.1</b>    | <b>1.1</b>    | <b>(2.0)</b>  | <b>(3.9)</b>  | <b>(5.1)</b>  | <b>(4.7)</b>  |
| <b>Change in cash</b>                      | <b>(3.8)</b>  | <b>4.0</b>    | <b>(4.0)</b>  | <b>(3.1)</b>  | <b>(1.9)</b>  | <b>(1.2)</b>  | <b>0.4</b>    |
| <b>Working Capital</b>                     | <b>1.3</b>    | <b>0.2</b>    | <b>0.5</b>    | <b>0.5</b>    | <b>0.9</b>    | <b>1.1</b>    | <b>1.3</b>    |
| <b>CapEx</b>                               | <b>0.2</b>    | <b>0.1</b>    | <b>0.1</b>    | <b>0.1</b>    | <b>0.1</b>    | <b>0.1</b>    | <b>0.1</b>    |

Source: CN analysis

Based on our forecasts, Genedrive will be self-funded into FY2019 but likely to require some injection during 2019. This assumes no contribution from the expected sales of the services business.

## NEXT STEPS

In the coming quarters we expect Genedrive to update the market on several key fronts:

- Genedrive® HCV launch trajectory, following the distribution agreement signed with Sysmex Europe
  - Further distributor agreements for other territories
  - Divestment of the services business (estimated value in the £1.6-4.8mIn range)
  - Reassessment of the commercial strategy for Genedrive® MTB test in India
- Further developments for other Genedrive® applications (bio-hazards, aquaculture, etc.)

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