

The Manager
Company Announcements Office
ASX Limited

LBT NEWSLETTER UPDATE

30 May 2017, Adelaide: LBT Innovations Ltd (ASX: LBT) is pleased to release the attached company newsletter.

Highlights:

- Company update and letter from Brent Barnes, CEO & Managing Director;
- Highlights, pictures and videos from the 27th European Congress of Clinical Microbiology and Infectious Disease, Peter Bradley, VP Business Development;
- Dr Steven Giglio, Scientific Director educates us on:
 - Why we should all be worried about antibiotic resistance; and
 - The role of automation in limiting the spread of multi-drug resistant organisms.

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About LBT Innovations

LBT Innovations (LBT) improves patient outcomes by making healthcare more efficient. Based in Adelaide, South Australia, the Company has two world class-leading products in microbiology automation: MicroStreak®, which provides automated culture plate streaking and Automated Plate Assessment System (APAS®). Based on LBT's intelligent imaging and interpretative software, US FDA-cleared APAS® automates imaging, analysis and interpretation of culture plates following incubation. LBT has entered into a joint venture Clever Culture Systems AG (CCS) with Hettich Holding Beteiligungs- und Verwaltungs-GmbH to commercialise APAS® products. LBT's third product WoundVue® is in early development; this is a proposed automated solution to assist in the management of chronic wounds.

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Brent Barnes

Letter from the CEO

2017 is shaping up to be an exciting one for LBT with key milestones having already been met in the first two quarters, setting our company up to successfully deliver on important activities to bring the APAS® Independence to market by the end of the year.

I was pleased to announce a Share Purchase Plan (SPP) restricted to eligible shareholders in May 2017. Getting our technology to the market is the motivation behind our recently announced SPP, which will allow the company to retain an appropriate level of cash. The intent of the SPP is to give shareholders an opportunity to invest in the company ahead of what we expect to be a very successful six months of hitting important milestones.

Shareholders should note that the March quarter 2017 Appendix 4C announcement on 26 April estimated cash outflows for the next quarter (April, May, June 2017) to be \$3.97 million, with a forecast ending cash position of \$2.34 million at 30th June. The forecast spend supports continued engineering and commercialisation activities as we drive towards delivery of an instrument to the market within the timeframe commitment made to our shareholders. In December 2016 we announced our decision to accelerate the engineering schedule for APAS Independence which has been successful with

respect to hitting forecast engineering milestones, although this has also come at a higher cost than what was originally expected.

The proceeds of the SPP will be used specifically to support the infrastructure required for distribution agreements such as service support, training and ongoing field service and maintenance. There is also a requirement to conduct market acceptance trials in reference laboratories. We expect to commence these trials in August 2017, most likely in Australia first, with plans to expand to other key markets and anticipate to provide specific details of this in the coming months.

All eligible Directors are committed to the SPP and will fully subscribe to the offer.

We have recently returned from showcasing the APAS® instruments at the European Congress of Clinical Microbiology and Infectious Diseases (ECCMID) in Vienna. I am pleased to report that stakeholders remain enthusiastic and impressed with our software technology, instrument footprint and design. These instrument characteristics remain unique in the marketplace, with no competing product and therefore meet an unmet need within the market. With its high throughput, consistency and reproducibility, the APAS® Independence instrument creates a more efficient laboratory workflow.

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With our focus largely on deliverables in association with our 50/50 owned Joint Venture Company Clever Culture Systems AG (CCS), we have made some great advancements during the Jan-May 2017 period.

LBT's investment in internal capabilities directly correlates to the successful accomplishment of key milestones. The achievements over the past six months have laid a solid foundation for continued success over the coming calendar year and our plans remain unchanged and on track.

The past six months have been focussed on accelerating the engineering development of APAS® Independence, and a variety of associated company milestones have also been achieved that strengthen LBT's competencies:

- Successful placement of \$7 million completed in January 2017 which was necessary to fund LBT's contribution to CCS to support the accelerated engineering plan of APAS® Independence;
- Inclusion on the Australian Register of Therapeutic Goods (ARTG) as an In Vitro Diagnostic Device under registration number ARTG 287170 in March 2017;
- Key Launch at ECCMID: APAS® Independence working instrument along with APAS® Incubot concept instrument on display;
- Completed an external market assessment of wound care opportunity, specifically in the US and UK markets;
- Delivered a prototype device of the WoundVue® product, delivering the capability to assess wound surface area, volume and automatic classification of tissue types;

- Developing LBT core capability through recruitment of new staff:
 - Dr Steven Giglio as Scientific Director in December 2016;
 - Rhys Hill as Research Director in February 2017 (Rhys is the inventor of APAS);
 - Vaughan Wesson as Engineering Director in February 2017; and
 - Expanded the Laboratory and Machine Learning team by five people, who train the APAS(R) algorithm to deliver new analysis modules.

LBT's investment in internal capabilities directly correlates to the successful accomplishment of key milestones. The achievements over the past six months have laid a solid foundation for continued success over the coming calendar year and our plans remain unchanged and on track.

In addition to the numerous investor roadshows and meetings with brokers that take place, I've been pleased by some of the coverage LBT have had which aims to raise the awareness of our company. Some of these include:

- Interview on **Commsec Executive Series TV** in May 2017, to be made public in June 2017.
- **Biotech Daily** analyst review of LBT indicating a positive outlook in April 2017.
- Sneak peek viewing to investors and brokers of the first working APAS® Independence instrument on display prior to shipment to ECCMID in March 2017.
- **Merger Market** article published and distributed about MicroStreak sale or licensing strategy in March 2017.
- **Bioshares** analyst review of LBT, Publication edition #690 (March 2017), providing a Speculative Buy Class A recommendation.
- Keynote speaker giving a business update on LBT to around 60 investors and brokers at a Twilight Investor Forum in Melbourne February 2017.

I'd like to thank all shareholders for their continued support in LBT and hope you enjoy the articles and updates in this newsletter.

Brent Barnes
CEO & Managing Director, LBT Innovations



Photo L-R: LBT staff: Peter Bradley - Global VP Business Development; Dr Steven Giglio -Scientific Director, Brent Barnes -CEO & MD; Michael Summerford - Senior Microbiologist. Standing around the APAS Independence

Clever Culture Systems display APAS® instruments at ECCMID 2017

LBT's joint venture company Clever Culture Systems AG (CCS) has unveiled the APAS® Independence functional demonstration instrument, and APAS Incubot prototype at the 27th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID).

The event was held in Vienna, Austria from the 22-25 April and was attended by world leading experts and health specialists from 126 countries. Our major competitors were also present at the trade exhibition as part of the 200 plus companies demonstrating everything used in a microbiology laboratory from swabs to complex automation the size of a large room.

As you can see from the image(s) Clever Culture Systems was well represented from an industry perspective, with an appropriately sized booth to display both APAS® Independence and Incubot instruments. A constant stream of Laboratory Directors, Laboratory Managers and microbiologists attended the booth and kept our four representatives busy demonstrating and explaining the features and benefits of the APAS® Independence.

We were lucky enough to have a number of Key Opinion Leaders from Germany, USA, UK, Switzerland and Spain spend considerable time being educated on the potential benefits of the system.

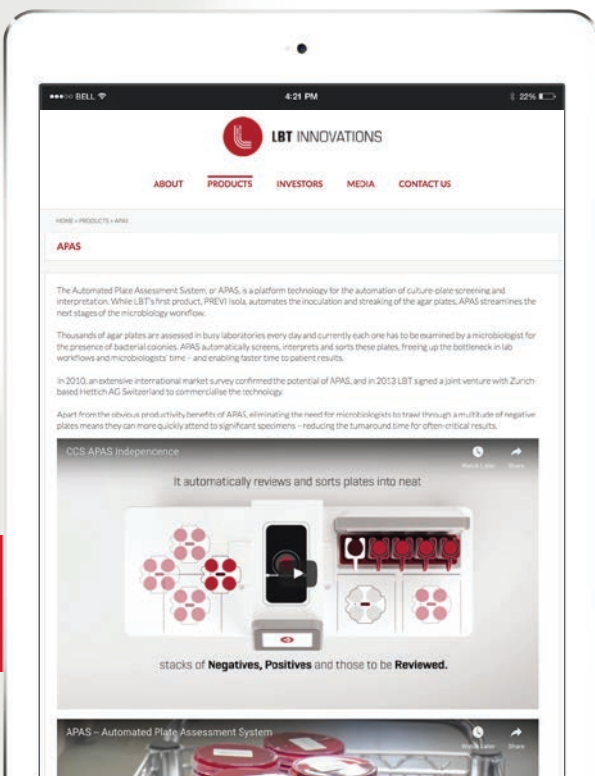
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Potential customers discuss the APAS Independence on the Clever Culture Systems booth.



Dr Steven Giglio - Scientific Director standing in front of the APAS Incubator during a rare lull in booth traffic.



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Stakeholders were enthusiastic and impressed with both the software technology and instrument footprint and design. Some of the highly regarded instrument features and feedback are;

- The unique level of detailed morphological interpretation from the software, and the replicating of the thought process of a microbiologist
- Triaging of negative samples with the added level of flexibility, especially with introducing efficiencies into the laboratory workflow
- Agreement by all that there is a niche in the marketplace for the instrument and its application
- The importance of features such as the bi-directional interface with laboratory information systems and the ability to tailor reporting to specific laboratory protocols

Stakeholders were enthusiastic and impressed with both the software technology and instrument footprint and design.

- The high throughput, consistency, and reproducibility of the instrument clearly introduces efficiencies into laboratory workflow
- No other competitor product is able to image and interpret plates like APAS®
- The small footprint of the instrument lends itself to easy implementation within many laboratories and is unique in the market

In addition to the potential customers a number of potential distributors, numerous stakeholders expressed significant interest coupled with a desire to sell the instrument in their territories. Our primary focus will now be on the task of selecting our distribution in the coming months.

VIEW THE PROMOTIONAL APAS INDEPENDENCE VIDEO USED AT ECCMID AND ASM: LBTINNOVATIONS.COM/PRODUCTS/APAS



Why we should all be worried about antibiotic resistance

In 1929 Florey and Chain pioneered the use of the antibiotic Penicillin for the treatment of bacterial infections, initially restricted to the military use before civilian use. Australians were the first people in the world to have general access to Penicillin and from 1944 it was made at the CSL.

Not long after the generalised use of Penicillin that resistance to the antibiotic emerged. It has since been an arms race with Pharmaceutical companies putting more drugs into the armoury, with bacteria developing ways to neutralise or avoid the drugs and continue to multiply.

This rise in antibiotic resistance is a direct result of the wide, and in many cases inappropriate use of antibiotics. In Western society we have approached the antibiotic as a “cure all” and even insist on our doctors giving us antibiotics for treating viral illnesses in humans. In the agricultural sector there are enormous quantities used as disease prophylaxis to boost animal production.

In recent years we have seen an increase in infection rates caused by some bacteria that were, even a decade ago, easily treated by common antibiotics. It is now at the stage where our armoury of antibiotics is being depleted to the point that we have nothing left in the locker. In January this year a Nevada woman died from an infection that was resistant to all available antibiotics.

So why should we worry? The answer really lies in two key points;

- If patients become infected with antibiotic resistant bacteria they are at increased risk of bad clinical outcomes. Bad clinical outcomes can be loss of a limb, prolonged illness or in many cases death.
- Patients with antibiotic resistant bacteria require more healthcare resources than patients infected with non-resistant strains of the same bacteria. This can lead to extra medical and nurse care, treatment with more expensive and dangerous antibiotics and extended hospital stays.

The rise of the antibiotic resistant bacteria in our clinics and hospitals has driven home the point that indiscriminate use of antibiotics, whether they are efficacious or not, comes at a cost. It is highly unlikely we will be able to develop new antibiotics to match the pace of antibiotic resistance.

Professor John Turnidge senior advisor to the Australian Commission on Safety and Quality in Health Care states unequivocally that, “Overuse of antibiotics is dangerous, as it can lead to situations where antibiotics that once worked effectively no longer do. We should all be very concerned. We are already seeing superbugs in the community ... and outbreaks in hospital wards, where the amount of time and energy just to save those people’s lives is huge.”

“Overuse of antibiotics is dangerous, as it can lead to situations where antibiotics that once worked effectively no longer do.”

The rise of antibiotic resistant bacteria has forced the international community to develop and promote strategies to try to curb the acceleration of the super bug. In Australia these are encapsulated in the Australia’s First National Antimicrobial Resistance Strategy 2015–2019. This is a seven point plan of particular interest to LBT Innovations, specifically the following two objectives;

- Develop nationally coordinated One Health surveillance of Antimicrobial Resistance (AMR) and antimicrobial usage.
- Improve infection prevention and control measures across human health and animal care settings to help prevent infections and the spread of AMR.

The use of automation will play a crucial role in the monitoring of infection control programs. This will improve hygiene and surveillance in healthcare settings and protect patients from exposure to antibiotic resistant pathogenic bacteria.

Dr Steve Giglio



The role of automation in limiting the spread of multi-drug resistant organisms

As a result of the indiscriminate use of antibiotics, several strains of bacteria resistant to multiple antibiotics have emerged where a simple infection may become untreatable. These organisms are referred to as Multi-drug Resistant Organisms, or MROs.

The problem is so severe that the World Health Organisation has launched a global initiative to tackle antimicrobial resistance, with the intent to implement a disciplined approach to the use of antibiotics, and curb the development and spread of MROs.

Healthcare facilities have implemented procedures to screen a large number of patients for MROs. Predominantly these are tested using agar plates where the detection of significant growth is required by a microbiologist. These screens are extremely important, time-sensitive, and directly influence patient management. In this respect, the laboratory plays an important role, where highly accurate results must be reported in a timely manner.

Laboratories currently screen agar plates manually, where a large percentage of these plates are not significant. This is an onerous task and utilises skilled microbiologist time in an inefficient manner. This inevitably delays the microbiologist from acting on a patient sample that is significant, therefore delaying appropriate actions.

APAS[®] Independence can automate this task and significantly reduce the time to reporting by being able to read and interpret the plates, much like a microbiologist would, in an accurate

and reproducible fashion, and in less time than a microbiologist. If you consider that APAS[®] Independence can be linked directly to the laboratory reporting system, a large proportion of negative samples may be reported in a short period of time, triaging microbiologists to act on the remaining significant samples which are of high importance.

The world is now firmly focussed on limiting the spread of these super-bugs, and automation in the clinical microbiology laboratory contributes to these efforts in a positive way.

Additionally, the rapid reporting of a negative result is equally as important. A negative result can lead to the lifting of restrictions on patients who have had specialist nursing techniques administered as a precaution. This has a positive effect on patients' mental well-being, and also delivers cost savings to the facility by reducing material costs and nurse handling time.

The world is now firmly focussed on limiting the spread of these super-bugs, and automation in the clinical microbiology laboratory contributes to these efforts in a positive way. As these super-bugs continue to emerge and evolve, it is important for laboratories to be well positioned for a rapid response.

Dr Steve Giglio

¹ Report by the Secretariat A70/12. Antimicrobial Resistance. In: Seventieth World Health Assembly. Geneva, 22-31 May 2017. Geneva: World Health Organization; 2017 (http://apps.who.int/gb/ebwha/pdf_files/WHA70/A70_12-en.pdf, accessed 11 May 2017).

² Global Framework for Development and Stewardship to Combat Antimicrobial Resistance – Draft Road Map. World Health Organisation, 2017.

³ Global Action Plan on Antimicrobial Resistance. Geneva: World Health Organization; 2015. (http://apps.who.int/iris/bitstream/10665/193736/1/9789241509763_eng.pdf?ua=1, accessed 30 April 2017).