

Second Quarter Report FY 16/17: ePAT Technologies Ltd

30th January 2017

ePAT is developing a point of care mobile App which utilises novel facial recognition technology to detect micro expressions that indicate the presence of pain.

Highlights:

- Pilot implementation study results demonstrate good ePAT App inter-rater reliability.
- Product roadmap has been refined based on market feedback and development is now focused on iOS App for Dementia.
- ePAT App new features planned for introduction - based on customer and user feedback.
- Operating processes between ePAT and its technology partners nViso and Darwin Digital have been fully aligned to achieve the product roadmap and *go to market* timetable.
- All company key commercial and regulatory milestones are on track for completion in 2017.
- Expenditure for half year is in line with original plans.

• ePAT pilot Implementation study outcomes:

In December 2016 a pilot implementation study was conducted at the Brightwater aged care facility in Western Australia. The study aimed to examine the user experience and inter-rater reliability of the ePAT App by independent pain assessors for people with moderate-to-severe dementia in residential aged care facilities.

Two facility staff members independently rated the same residents for pain using the ePAT App whilst at rest and during mobilisation (e.g. repositioning or walking). Raters were paired to simultaneously assess pain but were blind to each other's scoring. A total of 76 assessments (Rest =19 pairs, Movement =19 pairs) were undertaken by 11 raters over a period of 2 weeks.

Results: When used to assess residents at rest, inter-rater pain agreement was achieved in 100% of cases and 84% overall when combining both residents at rest and during movement.

This initial pilot implementation study confirms **good inter-rater reliability** for the ePAT instrument as **an objective measure of clinical pain in people with moderate-to severe dementia**. These results build on the recent validation studies that confirmed accuracy compared to the Abbey Pain Scale.

Full results of the implementation study will be presented at the **Australian Pain Society Conference in Adelaide during April 9-12th 2017** where ePAT will also be presenting as a company for the first time.

ePAT has also received ethics approval to expand clinical studies with Mercy Health and BUPA, on a multi-site basis in Australia. The goal of these studies is to provide a wealth of user experience and testimonials to support our go to market strategy.

- **ePAT on target for CE Mark and TGA regulatory approval by Q3 2017**

Having completed the validation testing and pilot implementation studies we are now compiling the Technical file that ensures the ePAT product complies with the Essential Requirements of the CE Mark and TGA Directive. **As ePAT is considered a Class 1 medical device**, we will then provide a written **self-declaration statement** of compliance with the regulatory requirements to obtain the approvals.

- **iOS/Apple ePAT App: the preferred version for initial entry into the residential aged care market:**

Market feedback from our prospective 3rd party aged care software partners confirms the iOS/Apple version of the ePAT App is the preferred version for the initial product launch. The beta version iOS/Apple App is scheduled for delivery in May 2017 and will be incorporated into the next phase of implementation studies in Q2 2017.

The focus on iOS/Apple for initial launch has significant benefits: It fits the market needs and it allows ePAT to focus our initial development on a single global integrated software and hardware platform reducing complexity at a critical stage in our development as a business

Once we have established the ePAT App with our healthcare professional carers, we will then make the iOS App and subsequently an Android App available for the direct to carer (consumer) market via the respective Apple and Google Stores.

- **ePAT App new features:**

The iOS App will incorporate additional features;

- an automated lighting guidance system to optimise the user experience during the facial analysis.
- the option to use either a front or back facing camera to allow the carer the option of assessing the resident in front of them or side by side.

These two additional features were the result of a focus group feedback in December 2016 with Brightwater after the completion of the pilot implementation study. These additional features, which will be built into both the IOS and Android version Apps, will further enhance the carer user experience and resident participation during the facial pain analysis.

ePAT has a strong philosophy of listening to and acting rapidly on user feedback through ongoing usability testing. We also have a flexible product design and software platform that allows us to make these user driven changes quickly and efficiently with our technology partners and keep us on track with our core company 2017 milestones.

We will keep the market updated regularly on the progress of ePAT's all company goals and key milestones.

About ePAT:

ePAT Technologies Limited is an Australian based company which is developing mobile medical applications that are intended to provide pain assessment for individuals that are unable to communicate verbally with their carers.

The ePAT business:

The ePAT business has evolved from research undertaken by Curtin University in Western Australia over the past 3 years. ePAT now owns the intellectual property resulting from Curtin University's research on the ePAT Apps.

ePAT's technology, a mobile application (**ePAT App**), uses cameras in smartphones and tablets to capture a brief video of the person, which is analysed in real time using facial recognition software to detect the presence of facial micro- expressions that are indicative of the presence of pain.

This data is then combined with other indicators of pain, such as vocalisations, behaviours and movements captured through the ePAT App to calculate a pain severity score.

Due to its ease of use and its reproducibility, it is intended that the ePAT App will be able to be used in the first instance to detect and measure a person's pain, and then further measurements can be used to monitor the effectiveness of pain management provided to the person.

The ePAT App is being developed and will be rolled out globally in two phases: first, the ePAT App for Dementia for persons who have lost the ability to communicate with their carers, and the second, the ePAT App for Children who have not yet learnt to speak.

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