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Helping to de-risk product development

The Small Technology Industry Uptake Program (STIUP) encourages product development and is helping to de-risk the process, according to voucher recipient Bluechiip.

“The vouchers are very useful for companies looking to expand their product range,” said Bluechiip’s Chief Technology Office, Dr Jason Chaffey.

Bluechiip have used the STIUP voucher program to advance the development of three separate products.

Bluechiip have developed a unique MEMS-based tag that both identifies samples, and monitors their temperatures throughout the biobanking cryopreservation process.

Bluechiip’s product represents a significant step forward from traditional barcoding and RFID technologies.

Conventional labelling methods such as handwritten or pre-printed labels and barcodes can deteriorate over time while Bluechiip’s tag has been proven to survive gamma irradiation and cryogenic storage.

Biobanks for human specimen acquisition, processing, storage and distribution are growing in scale and complexity.

Biobanks are being set up all over the world to store biological samples like tissue samples, DNA, tumour cells and blood, in the thousands and potentially millions.

These samples can then be used for, among other things, research into new treatments for diseases that have been linked to genes like certain cancers.

As innovative research and clinical translational technology develops, the need to store human samples in a methodical, quality compliant and systematic environment is becoming increasingly pronounced.

The ability to track a patient’s cells from derivation, through the cellular therapies process and back into the body requires a reliable and consistent identification system for tagging the cells in order to provide confidence for both patients and clinicians.

The Bluechiip® tracking solution will provide enhanced efficiencies and increased quality systems for all biological sample banking, while reducing the potential for human error in dealing with human tissues, which becomes increasingly important when dealing with IVF treatments, cellular therapies and transplantable donor patient tissues.

Using a STIUP Feasibility voucher, Bluechiip were able to conduct a freedom to operate (FTO) study. The results from the FTO gave Bluechiip confidence to improve their product portfolio and they are currently working towards building upon these improvements.

The voucher program provides SMEs like Bluechiip, with the opportunity to draw on outside resources and expertise, speeding up the development process.

"[The program] freed up our own manpower and allowed things to be done in parallel," Dr Chaffey said.

Through the voucher program Bluechiip have also developed a prototype of a product that combines their tracking and monitoring technologies with thin films designed to heat samples in a controlled way.

"This product can sense and inject heat as well," said Dr Chaffey.

It proposes an alternative to the often time-consuming, cumbersome and potentially inaccurate methods of heating samples by water baths or heating circuits.

Bluechiip are similarly undertaking a feasibility study for applications of their tracking and temperature monitoring technologies in a smart freezer that will enable racks and boxes to be audited and located, without opening the freezer.

Work leading towards the proof of concept for the smart freezer is being completed under a Technical voucher.

The vouchers have allowed Bluechiip to draw on the local expertise of Hydrix, an electronics engineering design consultancy, Design+Industry, an industrial design and product engineering company and of Phillips Ormonde Fitzpatrick, patent attorneys.

Dr Chaffey praised STC for the support provided to applicants and suppliers.

STIUP is an initiative of the Victorian Government.

"It's a very good program that brings immediate benefit to companies like Bluechiip," said Dr Chaffey.

For more information about the Small Technologies Industry Uptake Program (STIUP) please visit: <http://stc-melbourne.com/index.php/stiup>

For more information about Bluechiip please visit: <http://www.bluechiip.com>

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