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Breakthrough technology to reduce infant mortality licensed by UK firm

University of Tasmania-led research which developed breakthrough technology designed to reduce infant mortality has been licensed by a UK-based company.

A commercial licence for the technology – a closed-loop control algorithm which optimises oxygen concentration in the blood of preterm infants – has been granted to SLE Ltd.

SLE Ltd is a UK-based developer and manufacturer of infant life support devices which are used worldwide.

The ability to breathe normally is often the biggest challenge facing premature babies, many of whom need respiratory support, including oxygen therapy for some time after birth.

The technology developed in Tasmania automatically controls the concentration of oxygen in the gas delivered to a baby's lungs, while they are receiving breathing support.

"Conventionally, keeping a preterm baby's blood oxygen concentration at the right value is a challenging task that despite constant vigilance from bedside staff is difficult to achieve," research lead Professor Peter Dargaville said.

"This can now be done effectively and mostly automatically with the new technology, freeing staff to concentrate on care of the baby with only relatively rare interventions in regard to oxygen control.

"Cross-disciplinary projects like this one, where expertise from the University and the clinical experience of the Tasmanian Health Service comes together has produced this exciting innovation in neonatal respiratory support that everyone involved can be proud of."

The technology has been developed over the last nine years by a team of scientists led by Professor Dargaville, a clinical researcher with the University's Menzies Institute for Medical Research and the Tasmanian Health Service, and Dr Tim Gale, a biomedical engineer in the University's School of Engineering.

"The idea is to take human knowledge of how to control oxygen levels and embed this in a computerised control system," Dr Gale said.

"The system continuously monitors oxygen levels and makes appropriate adjustments as soon as they are needed.

"The system adapts to various states of the baby and responds very rapidly to keep oxygen levels stable, proving very effective in clinical trials."

SLE Ltd Managing Director Bernard Nelligan said the technology offered significant potential to further respiratory support to infants in neonatal intensive care.

"This is a very exciting breakthrough in infant respiratory support and the partnership with the University of Tasmania offers SLE an exciting opportunity to deliver this technology to the world," he said.

"The incorporation of the technology into our current and future respiratory devices will make our automated oxygen control accessible to many millions of infants worldwide."

University of Tasmania Deputy Vice-Chancellor (Research) Professor Brigid Heywood said the University is delighted that a major research collaboration has reached a critical stage in its development.

Professor Heywood said that the formation of an international partnership, underpinned by a new licence agreement, provides proof that the University's multi-disciplinary approach to critical health problems is providing real benefits.

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