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Getinge part of EU project to develop artificial placenta for neonatales

Despite big medical progress in the past 50 years, a high number of neonatal deaths occur every year. A consortium with members from academia and industry, including Getinge, have now received funding to develop an artificial placenta to keep supporting lung and kidney function development after birth – in an attempt to save the lives of more premature newborns.

The placenta is a temporary organ that develops in the uterus during pregnancy. While the baby is still in the womb, the placenta provides it with nutrients and oxygen while removing waste products from the blood. Following birth, the function of the placenta is taken over by the baby's organs. However, in many of the numerous premature deaths that occur each year, the body is not yet developed enough for a problem-free transfer.

"It's often due to fatal lung failure, and sometimes combined with kidney failure. We cannot reduce the death toll of premature babies by optimizing existing applications or enhancing existing products. Therefore, a new approach is needed and that is what this new research and development project will be looking at," explains Dr. Dieter Engel, Vice President Cardiopulmonary at Getinge.

Together with international partners from the medtech industry and academia in Canada, Netherland, Germany, and Ireland. Getinge will be part of conducting research and development of an artificial placenta. The research project is led by the University Hospital for Neonates, Children and Adolescents in Nuremberg, Germany and funded by *Horizon Europe, EU's key funding programme for research and innovation.

"The idea is to connect the artificial placenta to the baby's umbilical cord via cannulas. During the critical first weeks of life, it can provide natural support for breathing, feeding and blood purification," says Dr. Engel.

In today's intensive care, premature babies are often treated with devices primarily developed for adults and then adapted to younger patients. The highly invasive and high-risk procedures performed on premature babies, can result in high mortality or lifelong disabilities.

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"The approach we are taking with our partners uses the natural interface for care of premature babies - the umbilical cord. It's less invasive and reduces risk. With the support of an artificial placenta, we hope to be able to stop time, so to speak, for the premature baby to further develop outside the womb," said Ulrich Haag, Director Innovation & Technology Cardiopulmonary at Getinge.

Getinge's role in the project is to develop a module that combines oxygenation and dialysis.

"It is an exciting project - not only in terms of product development, but also because of the collaboration within the other partners in the project. We are expanding our network, gaining insight into the research activities of leading institutes in Europe, and when the solution eventually becomes available on the market we get the chance to help the youngest patients get a better start in life. We are very enthusiastic about the outcome," Ulrich Haag summarizes.

**Horizon Europe is the EU's Framework Program for Research and Innovation for 2021 to 2027, aiming to build a knowledge and innovation-based society and competitive economy and contribute to sustainable development.*

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About Getinge

With a firm belief that every person and community should have access to the best possible care, Getinge provides hospitals and life science institutions with products and solutions aiming to improve clinical results and optimize workflows. The offering includes products and solutions for intensive care, cardiovascular procedures, operating rooms, sterile reprocessing and life science. Getinge employs over 10,000 people worldwide and the products are sold in more than 135 countries.