

Shell and PDENH are investing in Dutch sustainable datacentre technology scaleup Asperitas

Haarlem, The Netherlands – 4 September, 2019 - Asperitas has attracted an investment from Shell Ventures, the corporate venture arm of Shell, and the Participation Fund for Sustainable Economy North Holland (PDENH). The investment, led by Shell Ventures, supports the acceleration of Asperitas' mission to enable sustainable datacentres on a global scale.

Asperitas has developed a technology based on immersion liquid cooling to enable datacentres to become more energy efficient. Their solution is suitable for the most demanding datacentres, and allows for efficient cooling regardless of the datacentres' external environment. The award-winning technology, called Immersed Computing®, won the New Energy Challenge in 2018 and is already being used by multiple datacentres from cloud providers, banks and universities in Europe.

Rolf Brink, CEO, Asperitas: "Shell Ventures and PDENH's investment supports us on our mission to enable sustainable datacentres on a large and global scale. We are building a long-term strategic partnership with Shell, including the development of liquids for our technology, which has already led to optimisations."

"We are very excited with this Investment," says Maurice Benning, Investment Principal Shell Ventures. "Asperitas is providing a technology that offers an immersed liquid cooling solution for fast growing energy intensive applications. The liquid used is a Shell product and together with the Asperitas Technology, we can offer cleaner energy solutions to our customers to help them to reduce their emissions and lower their energy consumption."

Bart Blokhuis, Director, PDENH: "The rapidly increasing worldwide use of data is associated with many energy challenges. Datacentres consume an enormous amount of energy in a low-efficient manner. By contributing to technology developed by Asperitas, PDENH is investing in a revolutionary method to reduce energy consumption and make better use of residual energy."

About the technology

Datacentres can become more energy efficient using Asperitas' cooling technology, while at the same time reducing the space needed for the same IT capacity by directly cooling the hardware with an optimised liquid developed by Shell. The completely closed solution can be directly applied to existing datacentres. Asperitas' solution is the only pumpless immersion cooled system, based on the natural convection concept, resulting in plug and play enterprise ready solutions.

The technology also makes it possible for energy-intensive (future) hardware of chip manufacturers to continue to function at the highest possible utilisation rate. The latter makes the technology interesting for users of high-performance computing systems. A unique aspect of Asperitas' solution is its ability to offer hot water-cooling, which makes it possible to cool datacentres, even in warm areas. The solution converts all electricity used for the hardware into a usable energy form: warm water of at least 55 degrees Celsius. This would allow datacentres to transform into suppliers of residual heat on a large scale, catering to the needs of many European regions where many datacentres are housed, including the Amsterdam region.

About Asperitas

Asperitas, a Dutch clean and high-tech scale-up, developed and marketed a technology based on immersion liquid cooling to enable datacentres to function in a sustainable manner, even for the

most demanding users and environments. Asperitas was the winner of the international competition New Energy Challenge in 2018, organised by Shell, Rockstart and YESDelft and in the same year was named "Hottest Greentech Start-up of Europe" and "Global Changemakers" by other award competitions.

About Shell Ventures

Shell Ventures is the corporate venture capital arm of Royal Dutch Shell plc ("Shell"). With major offices in Europe, the USA, India and China, Shell Ventures invests in innovative technology companies, business models and growth plays to further the development of energy solutions and new technologies that have the potential to create substantial deployment value in Shell. Continuing Shell's tradition in venture capital since 1998, Shell Ventures' investment focus includes oil & gas technologies, renewable energy technologies and mobility solutions. Shell Ventures co-invests with other corporate investors, venture capital funds and angels and will invest in both early stage and late stage (growth capital) companies. For more information, visit www.shell.com/shell-ventures

About PDENH

The Durable Economy Participation Fund North Holland invests in both start-ups and established enterprises which have a sustainable business model or project and contribute to the economy of North Holland province. Specifically with regards to – though not limited to – energy transition, sustainable mobility and circular economy. The fund is based in and funded by North Holland province and is managed by [KplusV](#) and [StartGreen Capital](#).

For more information

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