
Evidence-Based Design Drives New Finnish ICU



An intensive and intermediate care unit due to open in 2018 at [Seinäjoki Central Hospital](#) in Finland is the result of extensive evidence-based design research and virtual modelling. The facility with 24 single patient rooms will be the first ICU with single patient rooms in Finland.

Design

The [EVICURES project](#) included research carried out by [VTT Technical Research Centre of Finland Ltd](#) on evidence-based design and user orientation. Hospital staff and patients were surveyed in order to gauge views on such issues as architecture, indoor conditions, durability, functionality, safety, accessibility and usability.

VTT evaluated the individual thermal sensation and comfort of both the staff and patients, using the [Human Thermal Model tool](#) to set new limits for ideal temperature. They were used in the heating ventilation and air-conditioning design, to adjust thermal conditions to the best level for staff and patient satisfaction. (Image at left shows Wired skin temperature measurement arrangement of a seated person at the Seinäjoki Central Hospital).

[Seinäjoki University of Applied Sciences](#) modelled a 3D virtual space. From this VTT developed a Unity3D game for computer and tablet, allowing the staff to move around virtually in the ICU facilities and to experience realistic interactive care situations in the new working area in advance. This helped in designing suitable facilities that support actual working practices and increase job satisfaction. In addition, the staff became familiar with their future work premises in the design phase.

"VTT produced the technical research data, which was combined with medical knowledge, practices and future visions contributed by the hospital. This enabled transforming theory into practice," said Kari Saarinen, Project Manager of the EVICURES project and Chief Physician at ICU, Hospital District of South Ostrobothnia.

See Also: [The Intensive Care Unit of Tomorrow](#)

"Operations will be more cost-efficient and of higher quality, when the equipment and nursing staff are concentrated into one place. We also expect the solution to have remarkable effects on patient healing," added Saarinen.

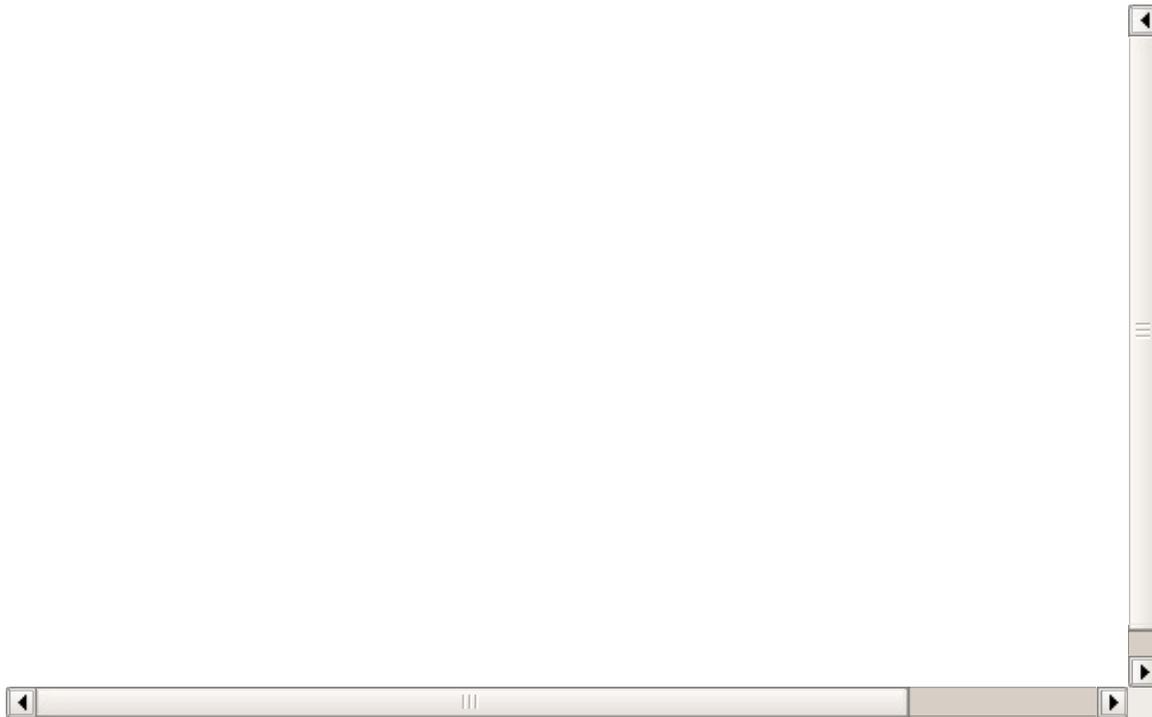
"A user-oriented approach was an essential foundation for the whole project. This way we can all together make the major change about to happen easier, when the nursing staff is moving from facilities for multiple patients to working alone in single rooms," says Tiina Yli-Karhu, Design

Coordinator, Hospital District of South Östrobothnia.

The EVICURES project began in October 2014 and ended in April 2016. It was funded by the Hospital District of South Ostrobothnia, Tekes, Saint-Gobain rakennustuotteet Oy/Ecophon, Granlund Pohjanmaa Oy and the architectural office Jääskeläinen Oy. Participants in the project were VTT, the Hospital District of South Ostrobothnia, Granlund Pohjanmaa Oy, Saint-Gobain rakennustuotteet Oy, the architectural office Jääskeläinen Oy, Seinäjoki University of Applied Sciences, Laurea, Väinö Korpinen Oy, Firstbeat, the University of Tampere, Kainuun sote (the Kainuu Joint Municipal Authority for Social and Health Care), the Southwest Finland Hospital District, Pirkanmaa Hospital District, Vaasa Hospital District, and Chalmers University of Technology, Sweden.

Source and images credit: [VTT](#)

Watch 3D walk-through model of the future intensive and intermediate care and cardiac unit facilities, the architectural office Jääskeläinen Oy



Published on : Sat, 11 Jun 2016