



# Case Study: RTLS For Staff Safety

## Department of Psychiatry and Psychotherapy at The University Hospital of Innsbruck in Austria

The University Hospital of Innsbruck in Austria, which is managed by TILAK (Tiroler Landeskrankenanstalten Ges.m.b.H) was seeking a way to deploy an emergency alert system to protect more than 200 individuals working throughout two seven-story buildings that make up its Department of Psychiatry and Psychotherapy. The hospital recently deployed the ProAct® emergency call system that was developed by systems integrator ITH icoserve using real-time location tracking solutions from Ekahau Inc.

### The Challenges

There are people of all ages with psychiatric illnesses, who are often prone to unpredictable and aggressive behavior. Ensuring the safety of other patients and hospital staff has become more difficult in recent years as legislation has required the elimination or reduction of physical restraints used on mentally ill patients. In addition, even as the size of the patient population continues to increase, hospitals are often forced to reduce staff because of budgetary concerns.

These factors have combined to result in potentially dangerous situations for staff and patients alike in the University Hospital's psychiatry and psychotherapy wards. Specifically, when a patient tries to escape or becomes violent and attacks another patient or staff member, there is often not enough time to call for help by conventional means, such as a telephone or a paging system. Additionally, with the University Hospital's facility that spans 90,000 square meters in two, seven story buildings, a broadcast alert system wasn't effective in summoning personnel nearby, who could respond to the incident quickly, or assuring the staff member involved in the incident that their alarm had been heard and help was on the way.

### The Solution

TILAK selected the ProAct multi-application software platform from ITH icoserve, which has



integrated the Ekahau RTLS software and hardware into the solution. Key to the selection of this platform was that Ekahau's technology enabled it to deliver location tracking over the hospital's existing Cisco WLAN. This eliminated the need to install a proprietary network with readers or chokepoints, which would have resulted in a time-consuming construction project disrupting the daily care within the hospital. In addition, the Ekahau solution included a site survey software for verifying the performance of the hospital's network to support real-time location tracking. Ekahau also provided purpose-built T301BD Wi-Fi pager tags that are worn as badges by staff, which provide an easy way to locate staff and deliver messages to the staff.

### How it Works

When the hospital was preparing to launch the ProAct emergency call system, the Ekahau Site Survey reported that renovation work in the hospital had caused some of the existing WLAN access points to become inoperable or only work partially. With the site survey results, ITH icoserve was able to fix the network and optimize it for room-level accuracy.

The Ekahau RTLS software was used to define several zones on each floor of the hospital, so that employees located in the same or nearby zones would be summoned first if an incident occurs.

Once the system was set up, staff members were given their Wi-Fi badges, which can be clipped to a staff member's uniform or worn on a lanyard. The badges are equipped with a pull switch, audible alarm and text display. Staff can easily trigger an alarm simply by pulling down on the badge and engaging the alarm switch. An alarm also could be transmitted if a patient were to take the badge from a caregiver's uniform. To alert other staff members of an emergency situation, the badge emits an audible notification and transmits the emergency zone information the text display of other staff member badges.

"Psychiatric units can be dangerous for hospital staff, as patients are sometimes violent and unpredictable. So, when an attack or an escape attempt occurs, there is often not enough time to call for help by conventional means, such as the telephone," said Franz Gruber, chief nurse of the Psychiatric Clinic at University Hospital Innsbruck. "The ProAct solution using Ekahau RTLS technology enables us to trigger an alarm with the simple push of a button on a staff badge, or even faster by just pulling the tag's lanyard, and quickly and simply convey information about where assistance is needed so those employees who are closest to the incident can respond."

### The Results

The ProAct system with Ekahau real-time location capabilities was first used only by night shift employees, when fewer staff members are present. Because the solution was very positively received



by employees, who praised the ease of use, simplicity and reliability of its operation, the hospital is expanding it for use during the day shift. The hospital is also considering other ProAct applications that can be supported by Ekahau's real-time location tracking technology.

"Ekahau RTLS was a perfect foundation for our ProAct system because it not only supports our initial staff safety application, but it provides us with the flexibility to add other applications in the future that require real-time location tracking – such as asset management, workflow improvements and temperature monitoring," said Andreas Gereke, head of Innovation and Research Solutions at ITH icoserve.

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