XPLORE
TECHNOLOGIES

The Customer:

SAAB TRAINING SYSTEMS

Saab Training Systems develops world-leading systems and services for military training.

BACKGROUND

Saab Training Systems develops world-leading systems and services for military training. The company offers a total concept with reliable systems that through their realism and precision create optimum conditions for soldiers and officers to improve their abilities in a cost-effective way. The company employs approximately 400 people at sub-sidiaries located in the USA, UK, Germany, Norway, Finland, the Netherlands and Canada and almost 95% of its profitability is reflected in exports to nearly 20 countries.
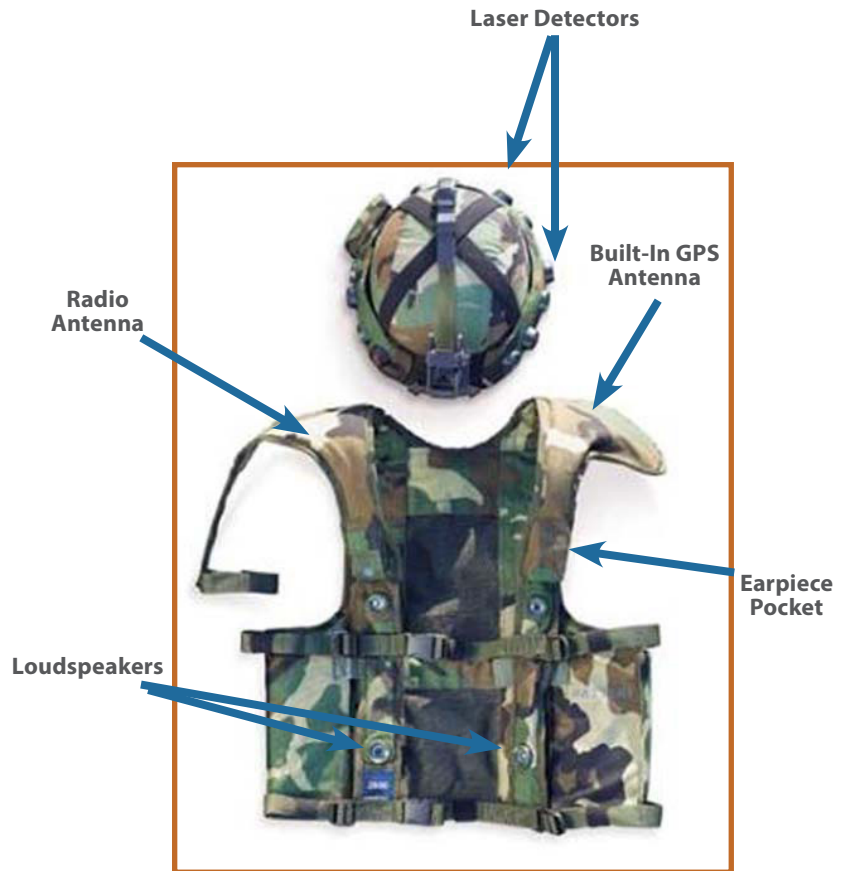
THE CHALLENGE

Tactical training is the most complex of the different categories Saab Training Systems offers. The key element in tactical training is that the entire training session is recorded on a computer. Saab Training Systems began its operations in 1975. Prior to that time, a computer-aided recording method was utilized. The training session was supervised and evaluated based on the training commander's observations.

THE SOLUTION

A few years ago, the first vehicle-mounted computers were deployed, followed by rugged tablet PCs, which are mainly used out in the field.

"Before we found Xplore's rugged tablet, we tested various devices, which looked good on paper, but failed in reality. It was a challenge to find a truly ruggedized tabet", Erik Nilsson, the project manager from Saab Training Systems explains.

"In addition to surviving in rigorous conditions, we also require fast data processing capabilities to run our complex software smoothly on the system. It's the combination of robustness and

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power that Saab and our customers demand from the mobile computing solution", Nilsson continues.

Each soldier, who participates in the training session, wears a vest which has small loudspeakers, radio antenna and built-in GPS. Additionally, the helmet has integrated laser detectors and reflectors. The GPS sends location information via a radio network to the tablet and the commander, who is the primary user of the tablet PC. The commander can supervise the movements of the troops and give commands to soldiers, which are communicated via the Saab-developed Radio Communication System architecture called DAN (data acquisition network). Regular wLAN does not meet the required data transfer rates and GPRS is too slow for this purpose.

The supervisor can monitor the geographic position of the troops from the tablet.

In addition to the real-time supervision on the field, the entire training session is recorded on the tablet and used for a post maneuvers review. For the feed-back session, the recorded training data is often screened on a large canvas, as the size of the exercise session can be anything from platoon-level through brigade combat team size – between ten to a thousand participants.

Xplore's iX104C2 tablets are mainly used by the supervisor of the training session, who is typically on the field close to the troops. Training sessions are conducted in various weather conditions, which can vary consid- erably. In Scandinavian countries, where Saab Training Systems and its customers currently deploy Xplore tablets as part of the combat training systems, the temperature can reach +30°C on a sunny summer day while in winter it can drop down to -20°C.

"The operating temperature range for the tablet was also a deciding factor for us, when we selected the best computing solution for Saab", Nilsson stated, emphasizing the importance

of this environmental factor. Xplore's iX104C2 tablets have no problem surviving in extreme temperatures, since the tablets can be used at temperatures between -20°C and +60°C. In addition, the AllVue™ display that is readable in bright sunshine and is ideal for outdoor use.

Another important feature was the battery life. Nilsson clarified: "A training session can last half-an-hour, a whole day or any timeframe in-between. The rugged tablets are used to record the training data and to communicate throughout the training session. Therefore we needed reliable, long-lasting batteries to be able to work in the field for the duration of the exercise."

To take full advantage of the Xplore tablet, Saab Training Systems programmed the most common functions needed when using their software behind the programmable function keys on the keypad of the tablet. The user can switch between a map view, which shows the location data of each soldier and vehicle participating in the training session, and a task panel view, which shows messages communicated between each participant and the commander. Another function button was programmed for magnifying, enabling the user to enlarge individually-selected areas of the map.

As the training systems become more complex and advanced, the need for rugged, durable and sophisticated equipment grows exponentially. In addition there are other user groups for similar types of systems such as the public safety sector. Xplore's rugged Tablet PC systems are powerful solutions ready for future expansion whether it's for a more versatile software application or another harsh environment.

Two function buttons on the keypad have been programmed to zoom the display and to switch between the map view and task panel view.