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THORNHILL MEDICAL
Inspiring Innovation

CASE STUDY

Thornhill Medical — A World Leader in Emergency Mobile Medicine

Windows 11

TOUGHBOOK

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CHALLENGE

A world leader in emergency mobile medicine, Thornhill Medical required a rugged versatile tablet to integrate with their flagship portable life-support system, MOVES® SLC™, designed to deliver critical care in extreme and unpredictable field conditions.

SOLUTION

Built for mobility, durability and unfailing productivity in the harshest working environments, the TOUGHBOOK G1 was chosen as a vital secondary remote screen interface allowing for increased care provider mobility and operational efficiency.

RESULT

The G1's unparalleled remote screen features, versatility, and groundbreaking modular design has enhanced overall operability and efficiency so much so that Thornhill Medical now looks forward to deploying the new TOUGHBOOK G2, Panasonic's innovative next-level, 2-in-1 tablet designed to tackle the toughest, mission-critical jobs and assignments.

Thornhill Medical

Thornhill Medical is the inventor, developer and supplier of ground-breaking medical devices that deliver emergency, mobile, and critical care support in austere or extreme conditions. Their expertise in pioneering science, engineering and medical product commercialization is the foundation of their novel medical systems that provide critical life-support functions to those deployed in challenging circumstances. These scenarios include emergency response, humanitarian and disaster relief efforts, medical transport and evacuation, public safety and military engagements, among others.

Challenge

Thornhill's technology solutions are designed to be compact, portable and highly rugged. Solutions focus on features and functionalities that expand care capabilities in environments with limited access to power, oxygen tanks or other traditional infrastructure.

Thornhill Medical was seeking a tablet device to integrate with their flagship product MOVES® SLC™ that would perform in the rugged, austere and often unpredictable conditions of their customers' environments. MOVES® SLC™ combines an oxygen concentrator, a unique O^2-conserving ventilator, suction and complete vital signs monitoring in a single, rugged, portable, battery-powered unit. The compact unit is used by field personnel delivering casualty and patient care amidst such harsh environments as active battlefields or disaster zones, field care facilities, air and ground transport vehicles, or emergency scenarios.

> "Our standards – and those of our customers – are demanding; after all, lives are at stake. TOUGHBOOK just keeps working. We're pleased to feature it in our MOVES® SLC™ life-support system."

Drew Miller
Chief Technology Officer
Thornhill Medical

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Solution

While the MOVES® SLC™ device has an embedded interface for displaying a wide variety of patient care data, having the option to add a separate, larger Remote Screen Interface tablet would enhance mobility and operational efficiency. But this tablet had to function successfully in the toughest conditions. When device options were evaluated against anticipated factors – such as operating temperature range, vibration environment and general bumps and drops – there was no other viable choice than Panasonic's fully rugged modular 2-in-1 tablet built for versatility – the TOUGHBOOK® G1.

Critical areas of performance were identified that shaped Thornhill's assessment of remote screen device options. Among these, the ability for the device to function in extreme environmental conditions was paramount, whether high or low temperatures, high vibration, or unexpected bumps and drops. The 10.1-inch display, backed by Intel® Core™ i5 vPro™ processors running Windows 10 Pro 64-Bit, ensured the powerful performance required by the advanced, technologically unique MOVES® SLC™ system.

The G1 remote screen features a standard 11-hour battery life with up to 22 hours of use with an optional long-life battery, as well as a bridge battery configuration which makes the batteries hot-swappable. The second battery allows the user to change batteries without having to power off the device.

TOUGHBOOK's touch screen is rugged yet sensitive enough to enable users to navigate the interface and select options with on-screen panel buttons – even while wearing medical gloves, flight gloves or other protective gear.

The TOUGHBOOK G1's strict certifications for heat, water, vibration and drop resistance meant critical care in remote disaster recovery areas or military operations would remain constant and uninterrupted.

Result

The TOUGHBOOK G1 proved to be an excellent fit for Thornhill Medical and their MOVES® SLC™ portable life-support system. The rugged and sturdy touch screen, the serial port, and the sleek design all complimented and enhanced the whole MOVES® SLC™ system. The tablet provides an important secondary interface enabling the operator to monitor the patient's vital signs (or additional monitoring information) and make adjustments to their treatment even in cramped or constrained situations such as a small medevac vehicle where there is limited maneuverability or access to the patient. In these conditions – where space is often at a premium – it's advantageous to be able to add a remote interface. The G1 meets this need while sustaining consistent, stable performance in demanding work environments.

Thornhill Medical now looks forward to deploying the TOUGHBOOK G2, the evolution of the groundbreaking, future-focused TOUGHBOOK G1. The G2 preserves all the original qualities Thornhill Medical values, now made tougher with added improvements to battery life, WIFI and network connectivity, expansion bays, and processing power to name just a few. Thornhill Medical anticipates the backward compatible G2 becoming part of an enhanced system with additional sensors and data tools which will enable improved connectivity, situational context tracking and data logging.

Toughness counts when delivering emergency mobile medicine in a complex casualty care operating environment. Offering a device that is well-recognized, proven, and widely accepted gave Thornhill Medical the confidence their technology would always remain mission ready.

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