

# MOVES<sup>®</sup> SLC<sup>™</sup>

## API DATA-BRIDGE

**THORNHILL  
MEDICAL**  
Inspiring Innovation

### Advancements in

- Remote Monitoring
- Data Transfer
- Interoperability



MOVES<sup>®</sup> SLC<sup>™</sup> is a micro-integrated, mission-ready, portable life support system for complex domains, to modernize casualty damage control, prolonged casualty care and evacuation.





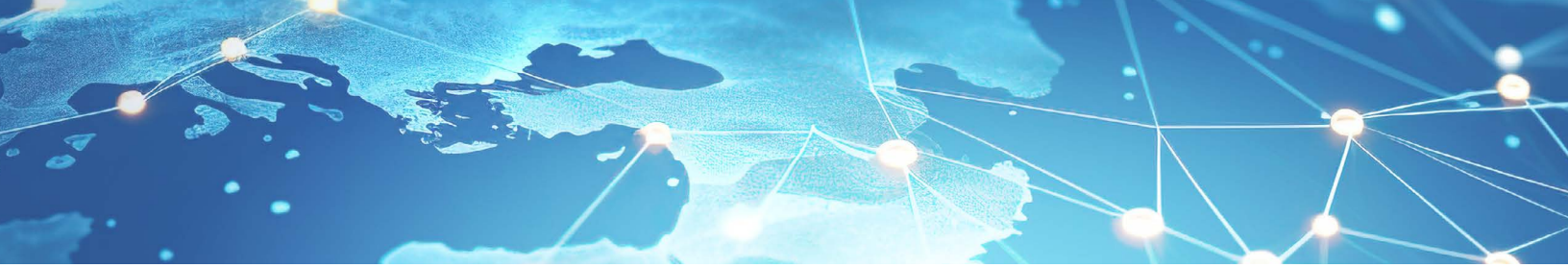
MOVES<sup>®</sup> SLC<sup>™</sup> combines an oxygen concentrator, a unique O<sub>2</sub>-conserving ventilator, suction and complete vital signs monitoring in a single, rugged, portable, battery-powered unit without the need for heavy, dangerous oxygen tanks.

## Introducing the MOVES<sup>®</sup> SLC<sup>™</sup> API Data-Bridge

- Allows transfer of at least 25 critical care data points (and supporting info) including oxygenation, ventilation and vital signs monitoring, from a single source connection, over time.
- Allows commands to be sent to the MOVES<sup>®</sup> SLC<sup>™</sup> to adjust the device settings.
- Is a conduit to partner CYPHER-compliant systems with data being encrypted and protected by the partner, according to their needs and specifications.

MOVES<sup>®</sup> SLC<sup>™</sup> and the MOVES<sup>®</sup> SLC<sup>™</sup> Remote Screen are FDA Cleared.

The MOVES<sup>®</sup> SLC<sup>™</sup> API Data-Bridge, when used for Remote Assist, AI, Remote Control, Alternate Control, Autonomous Control or similar purposes, is not currently FDA cleared (TRL 6 or 7) and is intended for use only in collaborative or research initiatives that are governed by appropriate agreements and approvals.



## MOVES® SLC™ Remote Screen

Connected to the MOVES® SLC™, the Remote Screen tablet provides operators with flexibility of patient and casualty care.

### The Benefits:

- Control the MOVES® SLC™ from up to 10' away from the bedside or transport litter.
- Have full visibility of the MOVES® SLC™ display parameters should the on-device screen become obscured in a challenging operational circumstance.
- Once set up, the Remote Screen provides full replication of the "run functionality" of the MOVES® SLC™ for remote control.
- Designed for human touch, or use a stylus. Your choice.
- Full sized button and menus.
- Coming soon: Download a Summary Record of Care\* in PDF format, directly via the Remote Screen tablet USB port.



## MOVES® SLC™ API and Remote Control of Medical Devices for Virtual Disaster Care

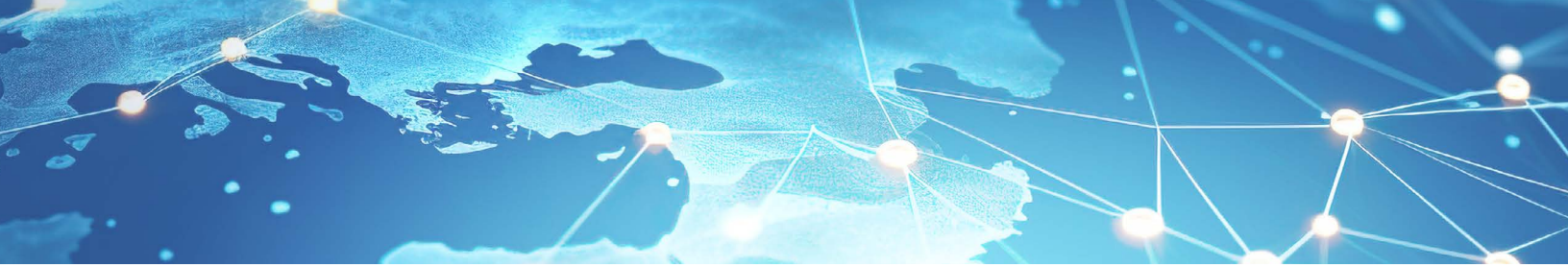
Beginning in 2021, through an MTEC award, MOVES® SLC™ was deployed in a collaborative research project that explores technologies that can safely meet critical care demand using remotely controlled and eventually autonomous medical devices, in preparation for mass casualty, disaster and emergency management environments. Collaborators included Cognitive Medical Systems, NeuroWave, DocBox, Uniformed Services University of the Health Sciences, Henry M Jackson Foundation for the Advancement of Military Medicine, and Massachusetts General Hospital, and others.



Toronto EMT - MOVES® SLC™ with Remote Clinical Decision Support

### The Collaboration:

The MOVES® SLC™ API was incorporated into a web-based deployment, allowing subscribers to securely connect to all MOVES® SLC™ data streams via DocBox. Select subscribers were also permitted to make settings adjustments to specific fields on the MOVES® SLC™. The MOVES® SLC™ API communicated and allowed communication via industry accepted technologies, like JSON and web sockets, to accomplish the task.



In 2022, in a demonstration of “Remote Control of Ventilators & Infusion Pumps to Support Disaster Care” organized by the U.S. Telemedicine & Advanced Technology Research Center (TATRC), clinical professionals located in Seattle, WA remotely operated a MOVES® SLC™ located in Toronto, Canada, a distance of more than 2,500 miles away from the patient, simulating a successful patient evacuation scenario.

**Far Remote Control During Evacuation of Patient  
Remote control of Thornhill MOVES SLC  
(ventilator, monitor, O<sub>2</sub> concentrator)  
Madigan AMC -> Toronto**



**Scenario**

Toronto EMT at Thornhill Patient Transport. MD in Seattle  
**Toronto EMT:** uses Omnicure NETCCN app to find remote MD  
**Toronto EMT:** “Ready to transport. Pt is on vent. O<sub>2</sub> sat is low. Help”  
**Remote MD:** Increase Ventilator O<sub>2</sub> concentration to MAX. Not effective  
**Remote MD:** Increases Ventilator PEEP setting. Sat increases.



Watch the full demonstration



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## MOVES® SLC™ API and the U.S. Army Institute of Surgical Research (USAISR)

### NEXT TECH SPOTLIGHT:

Physiological Closed-Loop  
Control of Mechanical  
Ventilation for the  
Future Battlefield

Dr. Evan Ross, MD,  
Research Scientist

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Dr. Evan Ross, Research Scientist at the U.S. Army Institute of Surgical Research (USAISR) recently spoke about how MOVES® SLC™ when configured for alternate control as a research tool, is allowing the USAISR team to make significant progress in closed-loop control algorithms for ventilation and oxygenation control.

“When we began this project, the MOVES® SLC™ was the only ventilator on the market that we could identify that was configured for alternate control, meaning that the ventilator could be controlled from an input other than from the device itself. Without this alternate control configuration, we would not be able to develop, test, and refine closed loop control algorithms for ventilation and oxygenation control. In a very real sense, Thornhill’s partnership makes our entire research effort in this space possible.” Dr. Evan Ross, MD

### The Collaboration:

Because the MOVES® SLC™ API employs open standards for all data activity the USAISR team could easily connect their solution to the MOVES® SLC™, without having to write any special code. The MOVES® SLC™ API immediately supplied the USAISR process with patient telemetric data and receiving commands back to change the operating parameters.

## MOVES® SLC™ API and the Medweb Translating Encryption Gateway (TEG)

# Medweb®

Integrating the MOVES® SLC™ API with the Medweb TEG creates an ATO-approved interface that connects health care providers within cyber sensitive DoD networks to robust and real-time critical care information from casualties in austere environments, across the continuum of care.

The integration allows secure connectivity to and configuration with remote monitoring systems, clinical decision support, AI applications and sharing of data to EMRs.



### The Collaboration:

The MOVES® SLC™ API integrates easily with the TEG OpenICE protocols, allowing straightforward advancement for both parties.

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Visti our website for more on our Next Tech Collaborations  
**Pursuing the Unimaginable**



Interested in partnering on our next collaboration?  
Reach out [info@thornhillmedical.com](mailto:info@thornhillmedical.com)