

MISL Travels the Globe in Search of Unmanned Systems Partnerships

Dr. Gary Gilbert, Mr. Nathan Fisher and Ms. Rebecca Lee of TATRC's Medical Intelligent Systems Lab, along with several other representatives from the U.S. Army Medical Research & Materiel Command (MRMC), the Office of Naval Research (ONR), and Air Force 59th MDW, traveled to Israel in early September. The purpose of the trip was to better understand Israel's capabilities and requirements in military medicine, especially in the area of autonomous medical evacuation.

The first day of the trip included a tour of Israel's Aerospace Industries' Lahav Division, which develops several types of manned and unmanned aircraft followed by a visit to Tel Nof Airbase. At the airbase, the U.S. delegation met with representatives of the Airborne Rescue and Evacuation Unit, (Unit 669), which consists of highly trained special operators who undergo years of additional specialized training. The operators, alongside paramedics, nurses, and civilian doctors perform rescue missions for both military and civilian populations.

On the next day, the delegation toured the facilities of Urban Aeronautics Ltd., developer of the Cormorant Unmanned Aerial System (formerly known as the Airmule). The platform is an unmanned aircraft, propelled by tandem ducted fans and designed to meet the requirements of NATO STO TR-HFM-184 "Safe Ride Standards for Casualty Evacuation Using Unmanned Aerial Vehicles." This meeting was followed by a trip to Symbionix Ltd., which develops medical simulation systems for training, including the Virtual



U.S. Delegation touring Galilee Medical Center in Haifa, Israel, which treats both military personnel and war refugees.

Reality training module for the Intuitive Surgical da Vinci system.

The following day was spent in the northern part of Israel, starting with a visit to the Galilee Medical Center. At the hospital, the team was given a presentation on the care that the medical center provides to Syrian civilian casualties, followed by a tour of their underground emergency department which was built after being directly hit during the 2006 Lebanon War. Afterwards, the team went to the 91st "Galilee" Division, a territorial division of the Israeli Defense Force (IDF) Northern Command near the border of Lebanon.

The highly productive trip resulted in several potential collaborative projects between the U.S. delegation and LTC Ariel Furer, Chief Medical Innovation Officer of the IDF Medical Corp. There were many synergies and shared ideas



Cormorant Unmanned Aerial System at the Urban Aeronautics facility.

when it came to enabling the concept of unmanned patient evacuation that were briefed to the Armed Services Biomedical Research Evaluation and Management, Community of Interest, Senior Leader Advisory Group. As a result of that meeting, a working group including the attendees of the trip plus additional stakeholders will be established to better understand the proposed effort. "To me, the most valuable parts of the trip, were firstly, to share our ongoing and planned research with our Israeli counterparts and to have them share theirs with us in order to facilitate future collaboration; and secondly, to discuss the lessons learned among the other MRMC and ONR travelers in order to better shape the way forward," Dr. Gary Gilbert concluded. ■■■