teleMax is arguably the most advanced EOD robot available today. Its unrivaled agility enables it to maneuver and operate in narrow, confined spaces where other large robots can not. The aisles of mass transit vehicles, such as trains, planes and buses are easily negotiated by teleMax. With a vertical reach of 2600 mm (over 8 feet) operation in overhead storage bins can be easily performed.

Features Include:

- Excellent mobility and agility
- Programmable manipulator arm with TCP (tool center point) control
- 7-Axis manipulator with turret, linear axis, and safety clutches
- Automated tool changing system
- Embedded and Remote Diagnostic Systems
Excellent mobility and agility

The running gear: This is the first robot of its size equipped with a 4-track running gear system. This allows for advanced mobility to easily traverse stairs and other steep inclines of 45°. Obstacles measuring up to half a meter (19.685 inches) can be overcome without difficulty, as can 600 mm (23.622 inches) wide gaps in the surface. Separately suspended and spring mounted, each of the four running gear units can be operated individually, in pairs, or together. At the touch of a button, an intelligent control system presets the running gear configuration to match the given situation. This makes the operator’s task much easier, especially when the vehicle has to negotiate obstacles such as a narrow stairwell or high steps.

An added feature is the Incline Sensor System that ensures the teleMax vehicle always maintains its equilibrium. Slopes and uneven surfaces can be compensated for in every conceivable direction, transforming the vehicle into a stable platform.

Programmable manipulator arm with TCP (tool center point) control

In order to appreciate the remarkable advantage of the teleMax manipulator, it is important to take a quick look at how conventional EOD robots work. When using one of these to approach a suspicious object, the manipulator can only move along one single axis at a time. By contrast, the teleMax is the world’s first EOD robot that features TCP (tool center point) control. TCP automatically computes the axes necessary for attaining the desired target point. This enables the operator to move the tool (gripper, disruptor, etc) towards a target (point in space) directly via the simultaneous movement of multiple axis.

What does this mean for the bomb disposal engineer? First and foremost, he saves precious time by more easily negotiating complicated routes to suspicious objects. It also allows incredibly smooth handling of highly volatile substances such as liquids for example.

7-Axis manipulator with turret, linear axis and safety clutches

The teleMax’s manipulator is equipped with an additional linear axis. This extends the system’s reach as well as enables the operator to realize linear movements. For example, this is a big help in positioning a disruptor, inserting a key into a lock, or during operations under a vehicle.

Built in safety clutches prevent overload of the mechanical assemblies and possible damage to the respective motor gearbox units. When a safety clutch is triggered, e.g. after the inadvertent collision with an obstacle, the manipulator’s position is automatically recalculated.

Automated tool changing system

teleMax is the only vehicle in its class to have two tool magazines integrated in the chassis. This means that up to two additional tools or disruptors can be carried on an operation, eliminating the need to return to base to pick up new equipment. Once again, the operator saves valuable time, allowing him to concentrate on the actual task at hand. At the touch of a button, the manipulator arm automatically withdraws a new tool from the magazine.

Embedded & Remote Diagnostic Systems

The teleMax features the same diagnostic system as the tEODor. Making an important contribution to ensuring long-term operational readiness, the control unit is able to display the full range of system states on a laptop monitor. If a malfunction occurs, a trained operator or a Kuchera service engineer can locate the defect based on the data displayed and take immediate corrective action. For remote diagnostics, this service is also available via the internet.