



HELIOS

TRACKED MOBILE PLATFORMS FOR URBAN SEARCH AND RESCUE OPERATIONS



Helios-IX is a mobile platform for operations in hazardous environments. It is equipped with a dexterous manipulator that can be used for a wide variety of tasks, including: search and rescue missions over debris, identification and handling of unidentified objects, remote inspection in dangerous areas, and more.

The manipulator can also be used in coordination with the crawlers to increase the mobility of the platform.

Helios can be guided remotely from a portable control unit, therefore providing a robotic tool for the teleoperation of hazardous and stenous operations.

The Helios Carrier is a robust auxiliary platform, commonly employed in support missions. It may be equipped with cameras and other sensors, such as laser range finders, thermal imaging devices, chemical compound sensors and more.

The Helios Carrier is equipped with a tail device that stabilizes it even in steep, uneven terrain, therefore increasing the mobility of the platform.



Developed in cooperation with:



New Energy and Industrial Technology
Development Organization



Tokyo Institute of Technology



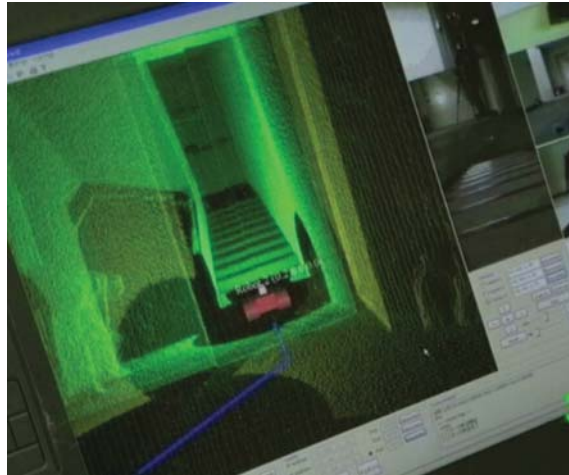
九州大学
KYUSHU UNIVERSITY



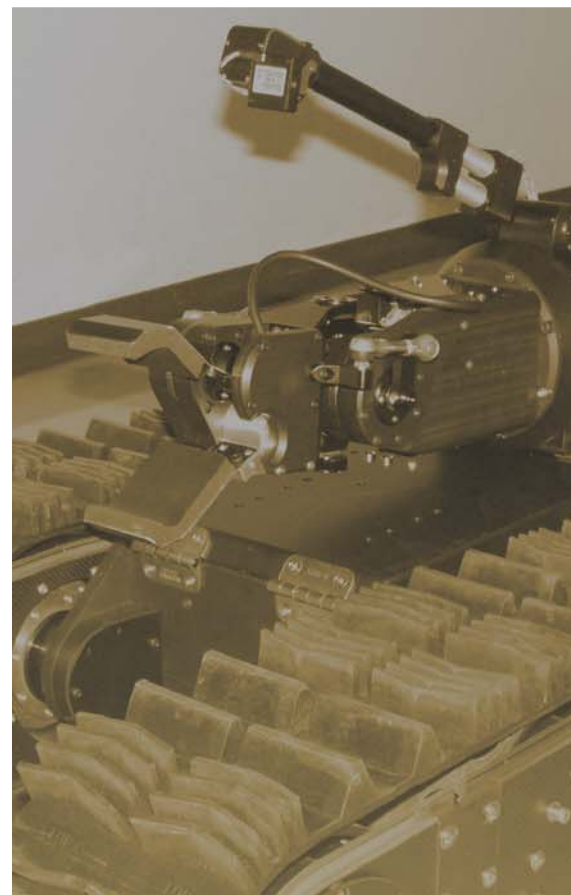
Topy Industries, Ltd.



The tail-like mechanism adjusts its angle to the terrain automatically and allows the Helios Carrier to climb steep obstacles in a stable way, even while carrying heavy payloads



The platforms scan the environment, and the tridimensional data is integrated in the remote control unit, generating a 3D map with the position of each platform



Helios-IX

dimensions: 550mm x 500mm x 350mm
(folded configuration)
mass: 38kg
max. speed: 2m/s
lighting devices: 2 LEDs (at gripper
and rod camera)
manipulator length: 950mm
manipulator payload: 10kg
cameras: 2 (gripper and rod)

Helios-IX is equipped with powerful white-light LEDs that are used when operating the machine in dark environments



Helios Carrier

dimensions: 550mm x 500mm x 350mm (with no payload)
mass: 18kg
max. speed: 2m/s
carrier payload: 15kg
additional sensors (optional):
-cameras
-laser range finder
-inertial sensors/compass
-thermal imaging camera
-chemical compounds sensor

In the compact configuration, both Helios-IX and the Helios Carrier have a height of 350mm. The width of 500mm was designed so that the platforms can pass through the gates of train and subway stations



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