

HALCON

MARS SMART WHEEL (MSW)

ESTABLISHING
SPACE
EXPLORATION
CAPABILITIES.



The Mars Smart Wheel (MSW) project is the first space-related project initiated at HALCON. The project's main objective is to design and develop a high-tech Mars rover wheel capable of traversing on the harsh Martian surface.

The MSW project paves the way for future collaboration between fellow UAE-based space entities and HALCON, with the common goal of inaugurating and contributing to forthcoming national Mars exploration missions.

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S P E C I F I C A T I O N S

FEATURES

Allows the rover to traverse through Martian terrain.

Implements terrain adaptability measures

Tolerate loads, vibrations, and stresses associated with the launch & landing phases.

Resists rugged terrain, thermal cycling, winds, and dust deposition on Mars

PERFORMANCE OBJECTIVE

Allows the rover to traverse unobstructed, level, and sloping terrain

Allows surmounting small obstacles and benign terrain features

Allows surmounting hazardous obstacles and traverse hazardous terrains

COMPONENTS

Adaptive Plates

Outer Flexible Wheels

Shaft

Spokes

