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(57) Abstract :

An autonomous disaster management system, comprising a convertible vehicle 101 with an inbuilt processor to analyze and determine the accessibility of the location, the vehicle 101 is equipped with motorized propellers 102 for flight mode and GPS for real-time navigation, a long-wave infrared thermal imaging unit 103, ground-penetrating radar, and a LiDAR sensor for detecting heat signatures, subsurface anomalies, and generating 3D maps, upon landing, the vehicle 101 deploys multi-jointed links 201, sets geo-fencing boundaries, and utilizes robotic arms 202 with cutting blade 203, guided by a holographic projector 104, to safely cut through debris and expose buried victims, a hydraulically operated bar 204 with electromagnetic spring 205 and plates 206 applies force to lift concrete and relieve pressure on trapped survivors, a CO2 sensor 209 detects if the victim is alive, while the vehicle 101 also dispenses paint balls to guide following rescue teams.

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