

EXPERT

EXPERT designed specially to be used in all means of transport such as airplanes, buses, trains, ships, and inside small and cramped places. The robot is equipped with a gripper, able to reach up to 3 meters.



Unique features of EXPERT robot

- The construction combines two contradictory needs: small mobile platform enables manoeuvres in tight places and simultaneously the manipulator has big range and load.
- Front caterpillars (remote control of tilt angle) ensure stability of the structure during surmounting high obstacles and stairs.
- Foldable lateral stabilizers enable solid lock of the mobile platform, what allows safe lifting of considerable loads and precise operation of the robot manipulator even during maximum lateral reach of its arm. Stabilizers can be dismantled what makes the mobile platform 8 cm thinner.
- Range of the manipulator with the gripping device amounts to 3 meters. Exceptionally long reach of the upper arm allows inspection of space both at the level of overhead lockers for passenger luggage and under passenger seats.
- EXPERT is equipped with 6 cameras. Four color cameras are placed on the gripper, in back and front of the robot and on the manipulator (the main camera which may be turned completely around by 360° and 90° up and down). Additionally two color cameras are placed on the sides of the front caterpillars, what enables the inspection of, e.g. place under seats.
- Control system of robot enables to control of its all drives at the same time.
- Auto diagnosis system constantly checks if there are any faults and shows special warnings on an supplementary LCD screen.
- Most of the robot's and manipulator's cables are routed inside the structure, thus reducing the risk of damage.

Technical data:

No	Parameter	Value
1	Dimensions	750/450/460 mm (length/width/height)
2	Gross weight	~180 kg
3	Maximum time of operation on battery power supply	4 – 8 hours
4	Climbs stairs of maximum tilt	30°
5	Remote control	over the radio/by cable
6	Radio transmission (control data)	digital
7	Method of data protection	spread spectrum and/or encoded
8	Radio transmission (vision)	analogue
9	Range of radio transmission: - outdoor - indoor	800 m 80 m
10	Cable (control, vision, battery charge)	- cable length: 5 m and 100 m - cable roll up device - cable runner mounted on the robot