



Ultramobile Robotic Platform

With the BIKE platform Inspection Robotics has realized a truly ultramobile inspection platform. Where existing inspection crawlers are reaching their limits in terms of accessibility and manouvability the BIKE platform is just beginning.

In the power generation market the platform is used for the inspection of gas turbine inlets on the first compressor stage by carrying videoscope probes. Other applications are visual inspection of pipes, exhaust, pressure tanks or heat exchangers.

In the oil & gas market the main tasks are visual pressure vessel and pipe inspections. The platform can be deployed through a 12" entryway and operated from a safe and remote location.

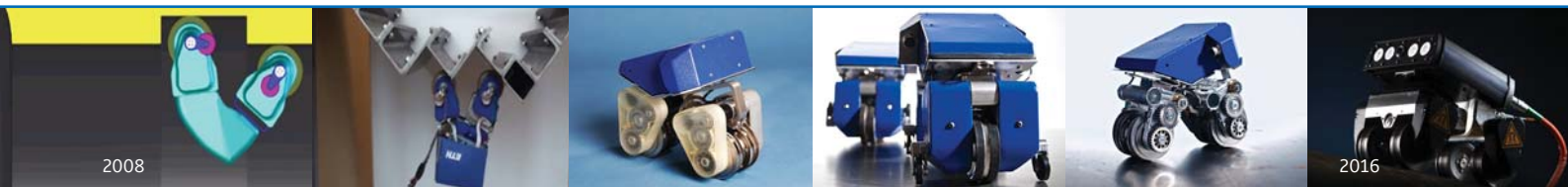
At a glance

- The BIKE platform is a lightweight (10kg) ultramobile robotic platform.
- Capable of passing convex and concave corners of up to 90 degrees (steps, opstacles, flanges, ...).
- Fully remote controlled and equipped with navigation aids (front & rear view cameras and 3D pose view).
- Payload of 5kg, can be equipped with NDT sensors (Ultrasonic / Phased Array, Eddy Current) and/or Pan-Tilt inspection camera

Robotic Evolution

The development of the BIKE platform was kicked off at the Swiss Federal Institute of Technology (ETH Zurich) as an industry research project. Inspection Robotics took over the patented locomotive design and developed it further for field service applications. During this industrialization

phase the concept changed from a the original two wheeled BIKE platform with small lifter wheels to an AWD four wheeled robot. This gives the platform more stability and payload to cover additional applications in the poer generation and oil & gas industry.



BIKE Basic platform (PTZ camera not mounted)

Dimensions	Length Width Height	264mm (10.4") 190mm (7.5") 217mm (8.5")
Weight	w/o cables & cameras	10kg (22lb)
Speed	fully adjustable	-60mm/s ... 60mm/s (-2.4"/s ... 2.4"/s)
Payload	overhead on clean ferromagnetic surface	5kg (11lb)
Drives	4 integrated drive units with 48V brushless DC motors (Maxon)	
Cameras	2 integrated cameras for remote navigation (front view & back view)	
Light	integrated LED bars, fully adjustable	
Power Supply	48V via umbilical cable from supply station	
Protection class	cables plugged	IP65
Motor Controller	integrated Inspection Robotics motor controller	
Communication	GigaBit Ethernet with power over ethernet	
Cable length	supply station to robot	33m (longer on request)

Supply Station (delivered in rugged hard shell case)

Control	Industrial Laptop/PC with touchscreen & industrial rugged joystick	
Power Supply	AC 50Hz/60Hz or DC	100V ... 240V 48V
Dimensions	Length Width Height	340mm (13.4") 350mm (13.8") 130mm (5.1")
Weight	w/o cables & accessories	14kg (31lb)

