HCROBOTICS
Innovation and Research

Titanium Mast
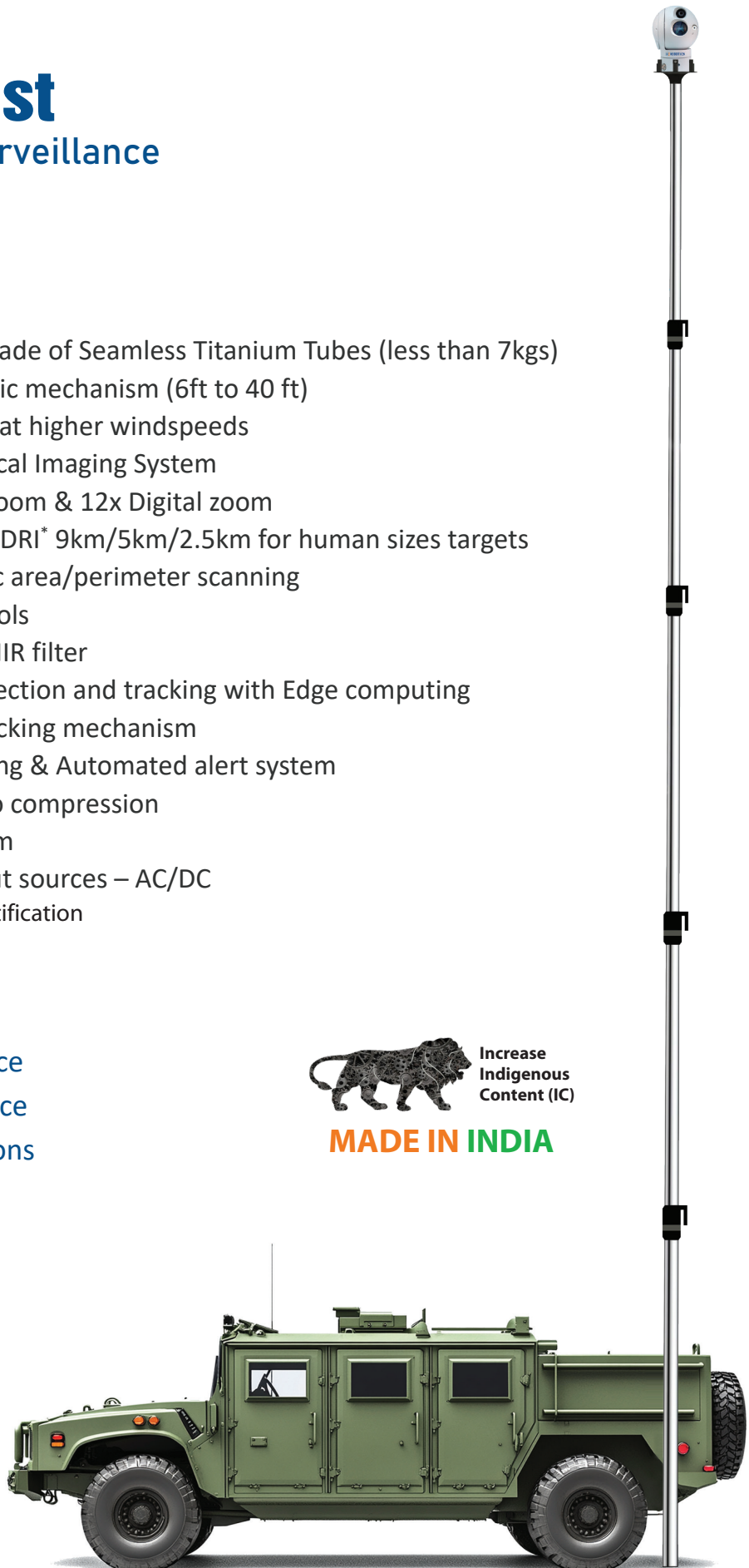## Long-range Mobile Surveillance System powered by AI

Key Features:

▸ Ultra-lightweight structure made of Seamless Titanium Tubes (less than 7kgs)
▸ Variable-height with telescopic mechanism (6ft to 40 ft)
▸ Aerodynamically stable even at higher windspeeds
▸ 3-Axis Gimbaled Electro-Optical Imaging System
▸ 4K camera with 25x Optical zoom & 12x Digital zoom
▸ Long-range surveillance with DRI[*] 9km/5km/2.5km for human sizes targets
▸ Custom presets for automatic area/perimeter scanning
▸ Automatic/Manual PTZ controls
▸ Day & Night operation with NIR filter
▸ AI based real-time target detection and tracking with Edge computing
▸ AI based Smart zoom and tracking mechanism
▸ AI based Smart video recording & Automated alert system
▸ Supports H.265+/H.265 video compression
▸ Portable, plug and play system
▸ Supports variable power input sources – AC/DC

*DRI - Detection, Recognition & Identification

Applications:

▸ Modern Warfare Surveillance
▸ Temporary Camp Surveillance
▸ Search and Rescue Operations
▸ Perimeter Surveillance
▸ SWAT Operations
▸ Crowd Monitoring
▸ VIP Meetings

Increase Indigenous Content (IC)

MADE IN INDIA

Camera Features:

▸ 4K resolution with 8.51 MPixels
▸ 20x Optical Zoom & 12x Digital Zoom
▸ 70.2 degrees Angle of view (H)
▸ Super resolution zoom and Auto focus
▸ Defog & Visibility Enhancer
▸ Video output - 2160p @ 29.97

AI Features:

▸ Inhouse Deep Learning Algorithms
▸ Person & Vehicle detection
▸ Smart object tracking
▸ Real-time AI inference
▸ Smart video recording & alerts
▸ Custom object detection

Gimbal Features:

▸ Small & Light weight (<500g)
▸ Pan axis: +330° to -330°
▸ Tilt axis: +135° to -45°
▸ Roll axis: +45° to -90°
▸ Continuous 360° Panning
▸ User defined presets

Product Specifications

MODEL	HCR 4K CAMERA
Auto ICR function	Yes (adjustable threshold)
ICR function	Yes
Signal system	QFHD : 2160p/29.97, 2160p/25, 2160p/23.98 FHD : 1080p/59.94, 1080p/50, 1080p/29.97 (2-2), 1080p/25 (2-2), 1080i/59.94, 1080i/50, HD : 720p/59.94, 720p/50, 720p/23.98 SD : 480p/59.94, 576p/50
Picture elements	8.51MPixels
Lens	x20 Zoom f = 4.4 mm (Wide), 88.4 mm (Tele) F2.0 to F3.8
Digital zoom	Super resolution zoom: 1.5x QFHD, 2.0X FHD Digital zoom: 12x
Angle of view (H)	Approx. 70.2 degrees (Wide end, Image stabilizer Off) Approx. 4.1 degrees (Tele end, Image stabilizer Off)
Min. working distance	80 mm (Wide end), 800 mm (Tele end)
Image stabilizer	Yes
Recommended illumination	100 to 100000 lux
Electronic shutter speed	1/1 to 1/10000 sec. (22 steps)
White balance	Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp Fix/Auto/outdoor, One-push, Manual
Gain	Auto/Manual/Max gain limit/High Sensitivity (0 to 48dB, 16 steps)
AE control	Full Auto, Shutter Priority, Iris Priority (26 steps), Manual, Bright, Exposure Compensation, Slow AE, Back Light Compensation, Slow Shutter - Auto/Manual, Max/ Min shutter limit
EV compensation	-10.5 to +10.5 dB (1.5 dB steps)
Noise reduction	6 steps (3DNR, 2DNR 3DNR separate mode)
Spot AE	Yes
Focusing system	Auto (Sensitivity: Normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom Trigger AF, Spot AF, Near Limit, Focus Compensation with IR lighting
Picture effects	Defog (Auto, 3 levels), Visibility enhancer, Black & White, E-Flip, Mirror, Colour enhancement, Black level, gamma, Sat/Hue Adjust, HLC, Colour Bar
Privacy zone masking	Yes (with Spherical Pan/tilt) (24 mask, 8 on screen, 160x90 matrix)
Aperture control	16 steps, Bandwidth, balance and limit adjustment
Video output	Digital Y/Cb/Cr 4:2:2 8 bits component, R/G/B 4:4:4 8bits component, similar to CEA-861-F HDMI1.4b
Storage temperature/ Humidity	-20 to 60°C/20 to 95 %
Operating temperature/ Humidity	-5° to 60°C/20% to 80%
Power Consumption	Approx 3.0W
Voltage	6 to 12 V DC
Weight	Approx. 650gms
Dimensions	50 × 60 × 93.3 mm