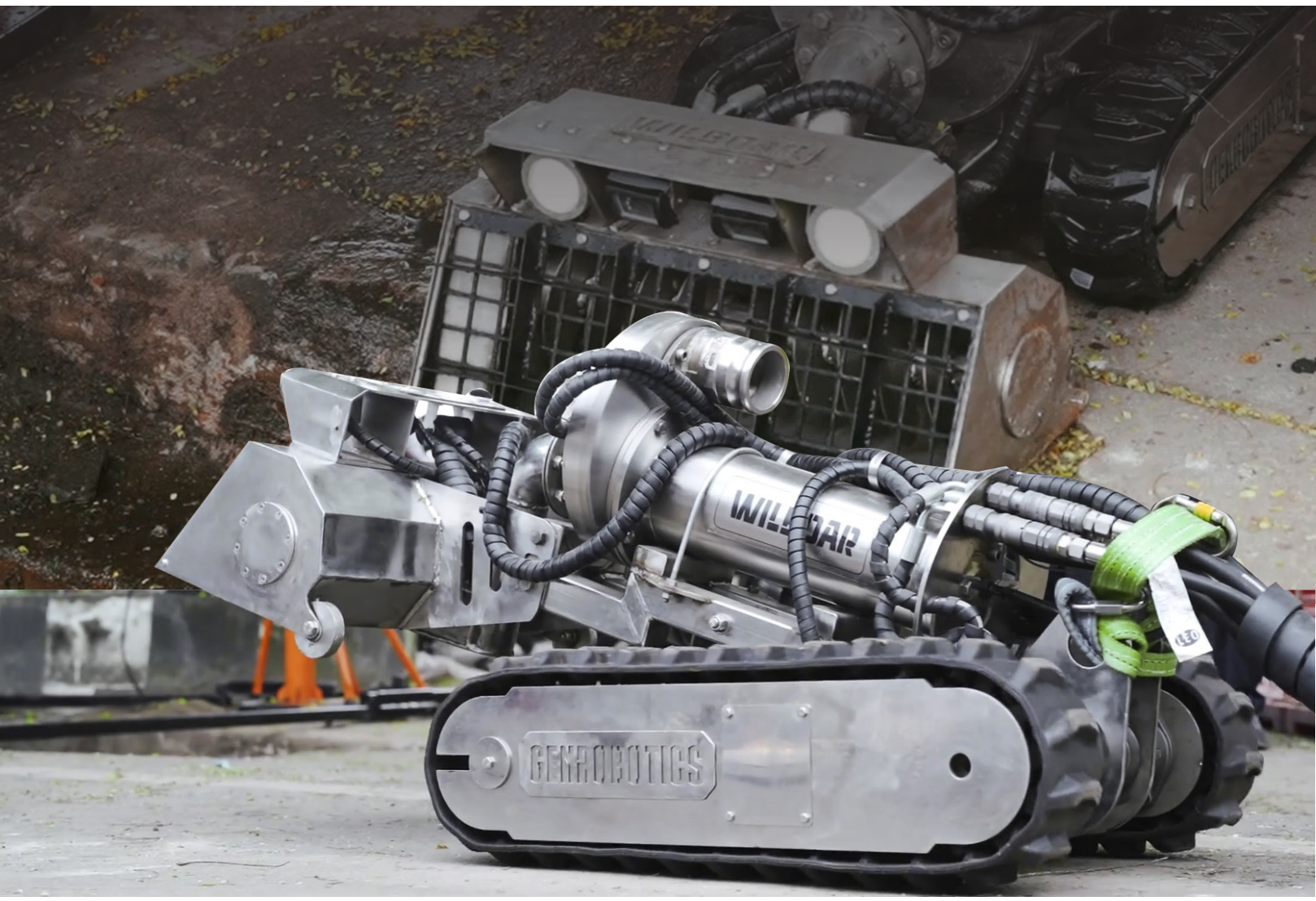
GENROBOTICS®

CASE STUDY –

WILBOAR AT

TRIVANDRUM INTERNATIONAL AIRPORT

Robotic Cleaning of Stormwater and Drainage Channels in an Aviation Hub



CLIENT :
Trivandrum International Airport
(Adani Group)

LOCATION :
Thiruvananthapuram, Kerala, India

SECTOR:
Airport Infrastructure / Drainage Management

ROBOTIC SOLUTION DEPLOYED:
Wilboar Robot*

*Designed for cleaning open stormwater drains and box-type channels

PROJECT BACKGROUND

Frequent clogging of stormwater and open surface drainage channels posed a recurring challenge at Trivandrum Airport, particularly during monsoon months. Traditional manual cleaning was slow, hazardous, and disruptive in secure and operationally active zones. To modernize the approach, the airport introduced Wilboar, Genrobotics' robotic drain-cleaning solution.

DEPLOYMENT HIGHLIGHTS

- Drain Types: Box drains, narrow storm channels, and curved pathways.
- Cleaning Length Covered (Phase 1): Over 2.5 km.
- Materials Cleared: Sludge, plastic waste, and decomposed organic matter.
- Special Conditions: Operations conducted in high-footfall and airside zones under supervision.

CHALLENGES ADDRESSED

- Drain access beneath runways and terminal zones.
- Waste accumulation causing overflow risks.
- Time-sensitive maintenance under flight schedules.
- Manual cleaning restricted due to safety and visibility issues.

TECHNOLOGY IMPACT

- Narrow Access Navigation: Wilboar traversed through bends and gradients.
- Efficient Waste Collection: Collected sludge directly into onboard waste module.
- Remote Operation: Ensured safety and minimal manpower.
- Weather-Resistant: Performed during light rain and waterlogged conditions.

OUTCOMES & BENEFITS

- Eliminated manual drain entry in all target zones.
- Reduced drain cleaning cycle time by 60%.
- Enhanced safety compliance in airside operations.
- Minimized flight zone disruptions.