

CYBERNETICS
HI-TECH SOLUTIONS

CYBERNETICS

Hi-Tech Solutions (Pvt) Ltd

A Specialized Venture of
**Spectrum Engineering
Consortium (Pvt) Ltd**

Background

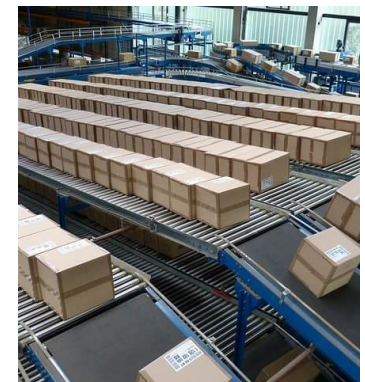
- An endeavor of Spectrum Engineering Consortium (Pvt) Ltd.
- Journey Started on January 2020
- Registered in 2024.
- First ever successful Made in Bangladesh Military Robot Development
- Robot Deployed to UN Peace Keeping Mission in Democratic Republic of Congo and Republic of Mali
- Venturing into Industrial Automation



Area of Operation

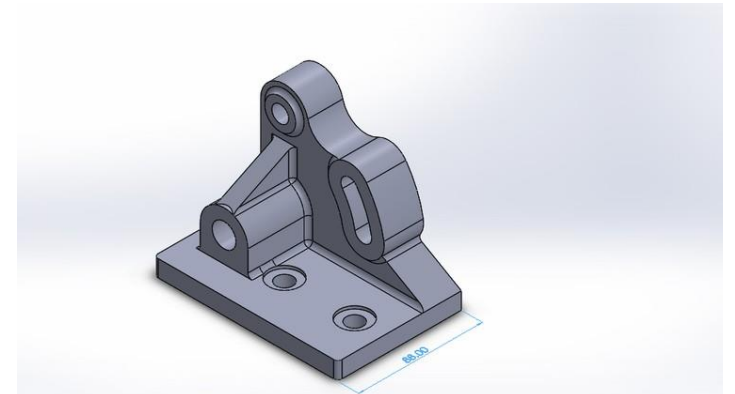
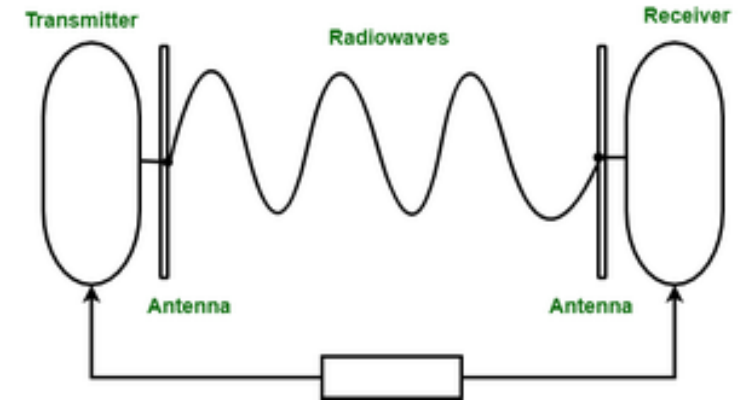


- Remotely Operated Vehicles (ROV)
 - EOD Operation
 - Fire Fighting
- Aerial Drones
 - Cargo Drones
 - Surveillance Drones
 - Fire Drones
- Unmanned Surface Vehicles (USV)
- Autonomous Underwater Vehicles (AUV)
- Industrial Automation Solutions
- Robotics and Automation Integration, Support, Maintenance and Service
- Agro and Food Automation
- Intelligent Transportation System and Smart Toll Management System



Technology Capabilities

- Mechanical Design and Manufacturing
- Embedded System
- RF and 5G Communication System Development
- Sensors and Systems
- Firmware Development
- Software of Robotic System Operation





Operation Methodology

**Product Development and
Manufacturing**

**Robotics and Automation System
Integration**

Maintenance Service and Support

Target Sector



Defense Sector



**Manufacturing and
Packaging Industry**



Agriculture



Security Sector



Health Sector

CYBERNETICS

Products



Smart Soinik 1.0

- High-performance 6-DOF arm offers precision and strength for various tasks, thanks to its durable aluminum and steel construction and high-load capacity actuators.
- Weather-resistant OCU provides real-time visual feedback and precise control, ensuring efficient and effective operation in diverse conditions.
- Dual battery packs enable up to 6 hours of continuous operation, with easy swapping for uninterrupted missions.
- Modular architecture facilitates customization and integration of advanced features
- Adaptable to evolving mission requirements and technological advancements.





Jontro Soinik 1.0

Upgraded version of Smart Soinik 1.0

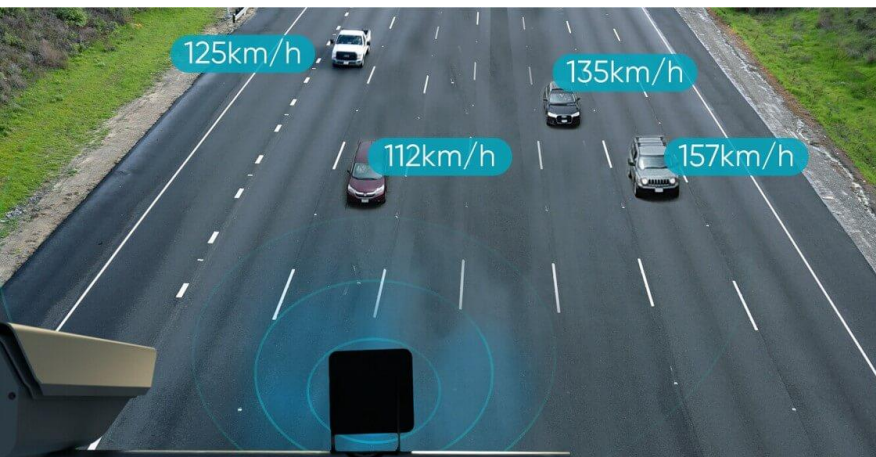
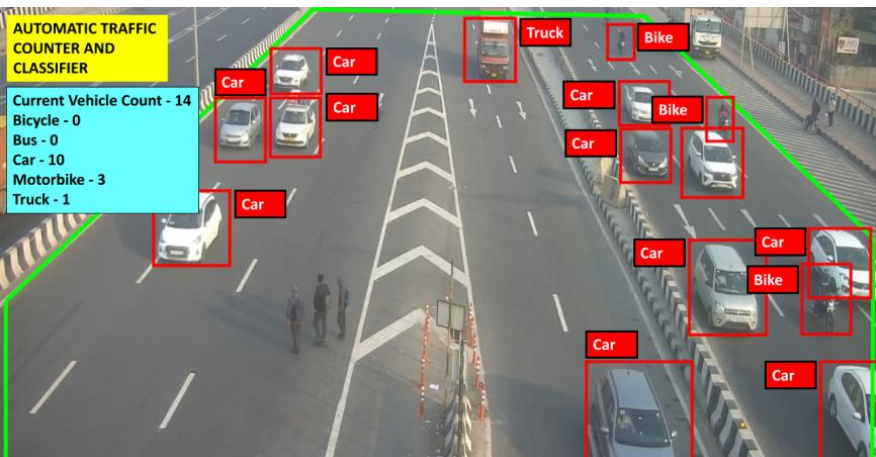
- **High-Speed Navigation:** Capable of reaching speeds of 5 km/h for efficient and rapid deployment in various terrains.
- **Weatherproof Design:** Equipped with IP55 protection, ensuring reliable operation in harsh weather conditions, including rain and dust.
- **Temperature Resilience:** Operates effectively in temperatures up to 50°C, suitable for challenging environments.
- **Versatile Manipulation:** The 360° rotating claw joint allows for precise and flexible handling of objects in different orientations.
- **Powerful Grip:** The 40 kg grip force enables secure and reliable handling of heavy or delicate payloads.
- **Obstacle Avoidance:** The 30 cm vertical and 35 cm horizontal obstacle clearance capabilities allow for safe navigation in complex environments.
- **Heavy-Duty Lifting:** The 20 kg lift capacity allows for the transportation of substantial payloads.
- **Enhanced Imaging:** The robot features a versatile camera system with a pan-tilt-zoom color camera for high-resolution visuals, all the cameras are IR-capable camera for low-light operation, and a thermal camera for detecting heat sources and targets in challenging environments.

CARGO DRONE

- **Robust Construction:** Designed to withstand demanding conditions and operate in challenging environments.
- **Exceptional Payload Capacity:** Can carry up to 50 kilograms of supplies or equipment, making it ideal for critical missions.
- **Extended Flight Time:** Offers a flight time of 30 minutes, allowing for longer missions and wider coverage.
- **High-Altitude Capability:** Reaches a maximum altitude of 300 feet, providing excellent aerial perspective and surveillance capabilities.
- **Reliable Communication:** Maintains a communication range of 15 kilometers, ensuring consistent connectivity even in remote areas.
- **Superior Performance:** Boasts a thrust-to-weight ratio of 1.5:1, delivering exceptional maneuverability and power.



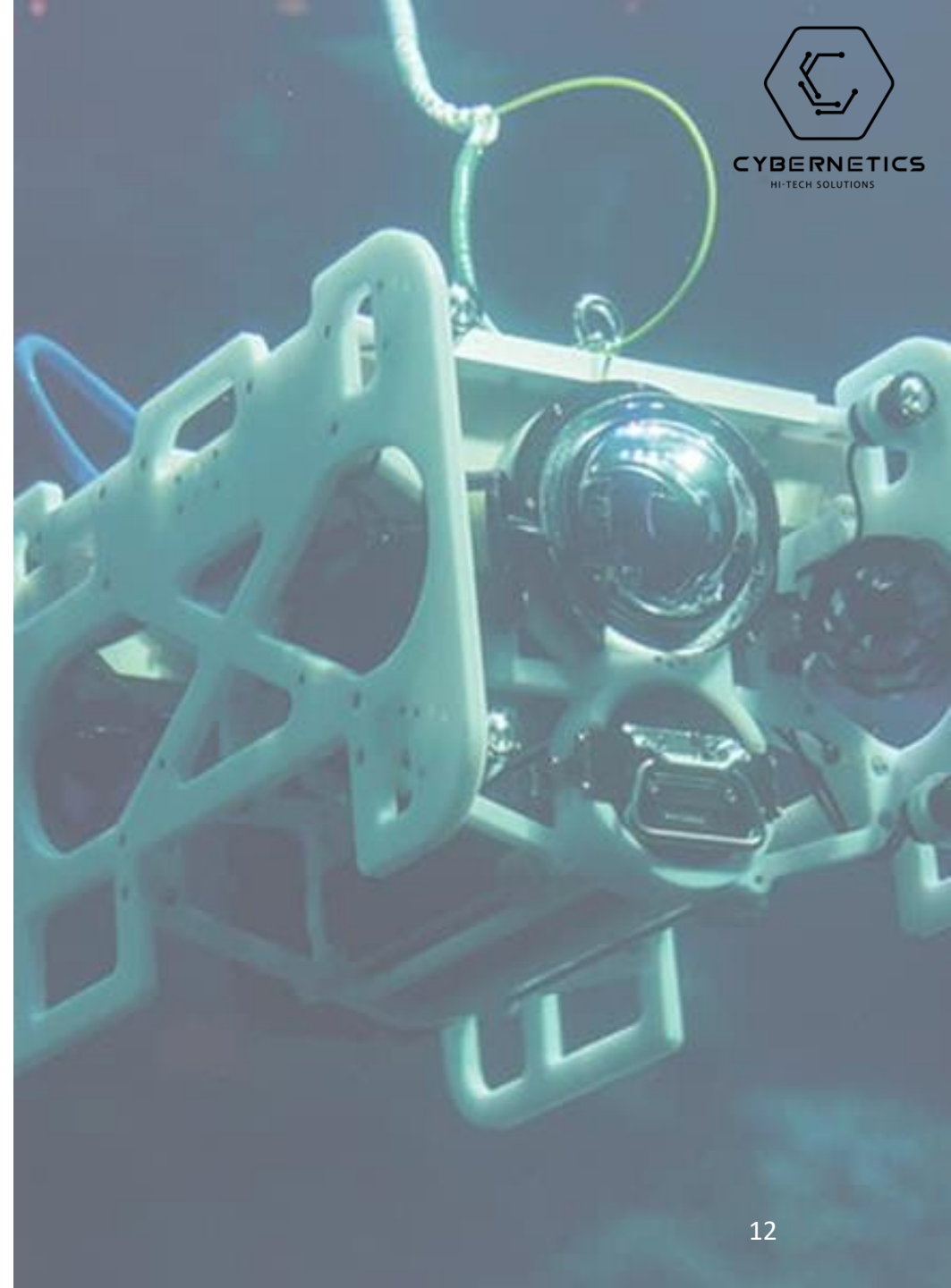
Security and Area Monitoring System (SAMS)



- Advanced Surveillance: Real-time video analytics, ANPR, and sensor integration for comprehensive monitoring.
- Vehicle Management: Automated entry-exit tracking, unauthorized vehicle detection, and penalty enforcement.
- Incident Detection: Proactive alerts for intrusions, unauthorized access, and suspicious behavior.
- Access Control: Facial recognition for human inclusionary/exclusionary detection.
- Centralized Command: Comprehensive control and oversight from a single interface.
- Scalability: Modular architecture for easy expansion and adaptation.
- User-Friendly: Intuitive interface for efficient operation.

Underwater Remotely Operated Vehicle (UROV)

- **Hydrodynamic Design:** Optimized for efficient movement and maneuverability in underwater environments.
- **Advanced Propulsion Systems:** Equipped with powerful and reliable propulsion systems for high speeds and long-range capabilities.
- **Robust Construction:** Built to withstand the harsh conditions of underwater operations, including extreme pressure and corrosive environments.
- **Versatile Payload Capacity:** Can carry a variety of payloads, such as sensors, weapons, or scientific equipment.
- **Comprehensive Sensor Suite:** Features a range of sensors, including sonar, cameras, and environmental sensors, for underwater exploration and data collection.
- **Autonomous Operation:** Capable of operating autonomously or under human control, providing flexibility and reducing operator risk.
- **Secure Communication:** Employs advanced communication systems for reliable and secure data transmission and control.
- **Modular Design:** Allows for easy customization and adaptation to various mission requirements.



Unmanned Surface Vessel (USV)

- **Hydrodynamic Design:** Advanced computational fluid dynamics modeling for optimized maneuverability and minimal drag and maximum speed.
- **Advanced Propulsion Systems:** High-strength, corrosion-resistant materials to withstand the demanding underwater environment.
- **Versatile Payload Capacity:** Modular design for easy integration of various payloads, including advanced sensors, weapon systems, and scientific equipment.
- **Comprehensive Sensor Suite:** State-of-the-art sonar systems for accurate underwater navigation and target detection and high-resolution cameras and imaging sensors for real-time visual data collection.
- **Autonomous Operation:** Robust autonomy capabilities to reduce operator workload and enhance mission efficiency.
- **Secure Communication:** Integrated cybersecurity measures to protect against unauthorized access and cyber threats.
- **Modular Design:** Flexible and adaptable design to meet evolving mission requirements.



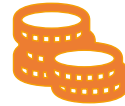
Why Us



**Made in
Bangladesh**



**Development of
Local Technology
Capability**



**Foreign
Currency
Preservation**



**Prospect of
Foreign
Currency
Earning**



**Maintenance, Service
and Support of Out of
Order Robotic
Technology**



**Opening a new
Industry
Opportunity**





Team



Forkan Bin Quasem
Chairman
Cybernetics Hi-Tech Solutions (Pvt) Ltd

Managing Director, Spectrum Engineering Consortium (Pvt) Ltd
Chairman, CoKreates Ltd
Chairman, Techno Global Ltd
Former General Secretary, BASIS

BSc in EEE, BUET

Rashed Noman
Managing Director
Cybernetics Hi-Tech Solutions (Pvt) Ltd

Country Head, Augmedix Bangladesh Ltd
Director, American Chamber of Commerce, Bangladesh
Adjunct Faculty, BRAC University

BSc in Mechanical Engineering, BUET
MSc in Mechanical Engineering, University of South Carolina, USA
MBA in Project Management, New York Institute of Technology, USA





Mushfiqur Rahman
Director
Cybernetics Hi-Tech Solutions (Pvt) Ltd

DMD, Spectrum Engineering Consortium (Pvt) Ltd
MD, Spectrum Software Consulting (Pvt) Ltd
MD, Techno Global Ltd
Former Vice-President, BASIS

BSc in Mechanical Engineering, BUET



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Team

Aminul Quader Khalili
Director of Business Development
Cybernetics Hi-Tech Solutions (Pvt) Ltd

29 Years Experience in IT Industry
Experience in working in Fortune 500 Company

MBA, University of Dhaka





Team



Raihan Ur Rashid
Director and Lead Engineer
Cybernetics Hi-Tech Solutions (Pvt) Ltd

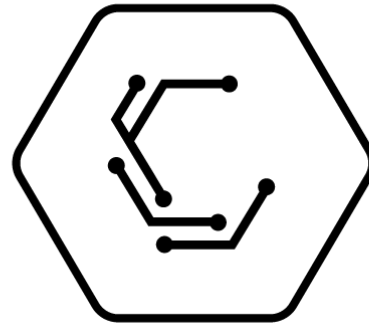
Treasurer, IEEE Bangladesh Section
Former Secretary, IEEE Bangladesh Section

BSc in EEE, BUET
MBA from IBA, University of Dhaka

Fiaz Ahmed
Director and CTO
Cybernetics Hi-Tech Solutions (Pvt) Ltd

BSc in Biomedical Engineering, BUET





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