

SATOK BRIDGE AREA
CONSULTING
ENGINEERS
SDN. BHD.



**HORNBILL
TECHNOLOGY**
SDN. BHD.

Smart AgriTech Solutions

Our Story

Young and aspiring engineers with strong desire to practice their engineering skills conjured and conceived an idea of a home where they can explore and challenge their knowledge to deliver sustainable design with the best economics, optimum use of construction materials, and efficient construction management. Satok Bridge Area Consulting Engineers Sdn. Bhd ("Satok Bridge") was born out of these core contentions and commitments .

Satok Bridge is led by experienced professional engineers that shall form the core team, around whom young engineers are nurtured to grow and develop their competencies and capabilities to realise their full potentials.

The present key personnel within Satok Bridge had wide experience in civil and structural design practices, contract strategies and projects management in many areas of civil engineering at both domestic and international fronts. Combined, they had cultivated and accumulated many hours of global engineering experiences through employment by internationally renowned engineering firms such as Ove Arup, Halcrow, CH2M Hill, AECOM, RPS Group or had undertaken engineering projects at international level.

Satok Bridge is committed to deliver to our client, partners and stakeholders the best engineering solutions with the best economics.



Our Services

Civil and Structural Engineering

- SBACE's core business
- Impressive track record of civil engineering solutions - *ranging from flood risk assessment, drainage studies to road design and airport*
- Combined civil and structural engineering services
- Pre-planning and planning, cost effective and specific to customer needs
- Complete range of structural engineering services – *for every type of buildings and structures i.e. O&G*

Oil and Gas – Upstream, Midstream & Downstream

- SBACE's Founder and Senior Directors have vast experience in Oil and Gas – *with average 38 years' worth of experience*
- Petrochemical strategy consulting *i.e. planning, design and execution of plants*
- Assist in the development of O&G related infrastructures *i.e. conceptual studies, Front End Design, Procurement Assistance, And Process Packages*
- Project Management Services



Our Services

Water and Wastewater Engineering

- Experience in layout and detailed design, design and modeling of water and wastewater treatment plants conceptual and detailed design and tendering, to construction and plant commissioning
- SCADA system and buildings

Renewable Energy

- Specialist support across lifecycle of renewables projects – *including planning, advisory, engineering and management*
- Services ranging from traditional engineering to data-driven tools to manage increasingly complex renewable systems
- Technical due diligence - *as Owner's Engineer or Lender's Technical Advisor*

Digital Services

- IoT specialist for any industry (Smart City/Utility/Oil and Gas/Agriculture/Environmental)
- Provide end to end digital services to provide organisations or projects a truly seamless experience to adopt new technology.
- Expanded to AI, Machine Learning, Big Data Analytics, Edge Computing and Video Analytics
- Provides Engineering & IT Smartplant solution



Smart Farm

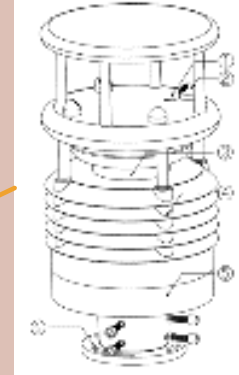
Suitable for :
Green House, Fertigation System,
Hydroponic, Enclosed Green Houses

Auto Fertigation System

- Automatically mixes and pumps fertilizer

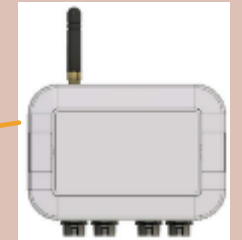


Monitor environment
inside or outside
Green House



Environment Sensor

- Wind Speed, Wind Direction, Temperature, Relative Humidity, Atmospheric Pressure, Noise, PM2.5 and PM10



Liquid Fertilizer Monitoring

- pH, EC and DO



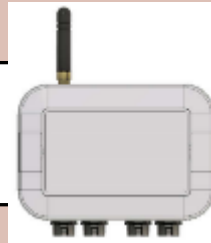
Auto Temperature Control

- Automatically Control Temperature in Farm



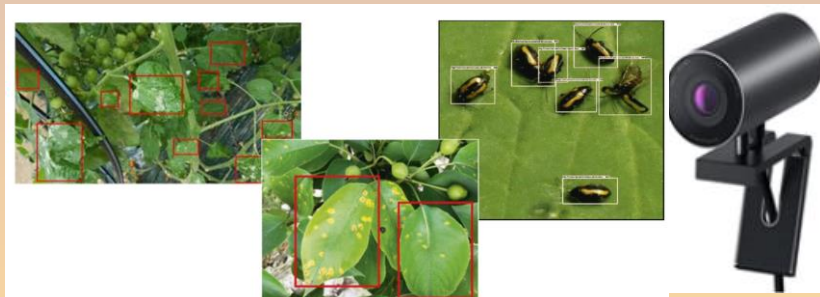
Soil Quality

- pH, EC and Temp/Moisture



Water Flow and Quality

- Water flow and On/Off Valve



AI Cameras

- Plant Health
- Growth Analysis
- **Plant flowering**

Aquaculture

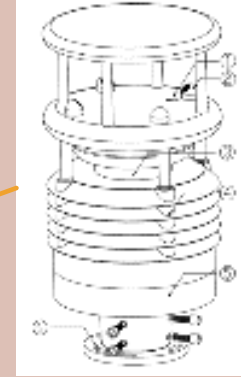
Suitable for :
Inland Fish or Shrimp Farm
Can also apply to Udang Kara

Auto Feeder

- Automatically disperse fish/shrimp food and remotely controlled



Monitor environment
inside or outside
Green House

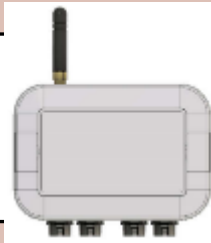


Environment Sensor

- Atmospheric Temperature and Humidity

Water Quality Sensors

- pH, EC, DO, Temp and Water Level



Remote Values

- Automatically control water level



Water Flow and Quality

- Water flow and On/Off Valve



AI Cameras

- Aquaculture Growth Rate and Health

Smart Sapi

Beef Cows

- Identify Location
- Daily Reports (after hours)
- Geo Alerts (Geo Fencing)
- Identify Cow Health – total travel time
- Identify Sick and Artificially Inseminated Ready Cows



Milking Cows

- Identify Location
- Daily Reports (after hours)
- Geo Alerts (Geo Fencing)
- Identify Cow Health – total travel time
- Identify Sick and Artificially Inseminated Ready Cows
- Temperature Controlled Environment in Barn/Kandang
- Environmental Sensors – Temp and Amonia





Smart Agri

CHALLENGES

- Unable to remotely monitor soil quality of the farm – Many farmers do not continuously monitor soil quality throughout the years in order to understand and collect data of their soil. 70% of farm cost is fertilizers, with EC sensors farmers can reduce this cost significantly.

SOLUTION

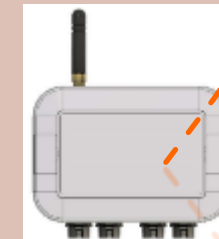
- Remote EC, Moisture & Temperature and pH monitoring solution with Device (non-intrusive/no-wiring & self-powered by long lasting battery), Application and Connectivity for remote soil monitoring.
- Reports on soil EC, pH and Temperature & Moisture quality periodically per day. Can also be connected with different sensors for other purposes.

BENEFITS & KEY FEATURES

- Visualization/Dashboard – soil quality data.
- Analysis and Insights of Access & Utilization of soil quality throughout time
- Maintenance-free and Non-intrusive, fast and easy installation solution.
- Device lifespan monitoring – battery up to 1 year without recharging
- Highly customizable – different sensors can be used, can be customized with solar solution

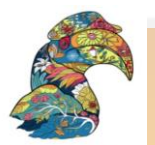
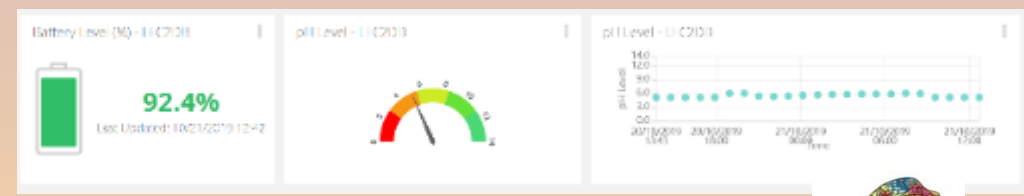


Actual device deployed in Nenas Plantation



Agriculture Solution

Online Monitoring Platform

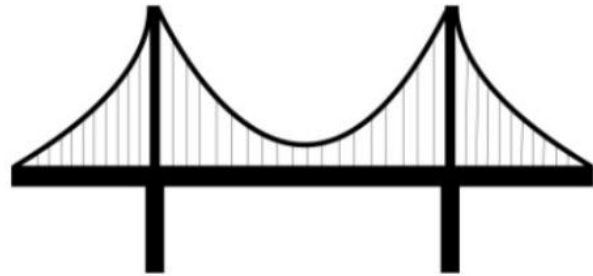


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What's Next?

1. Accounting System for Farmers
2. Data Warehousing
3. Food Security

Thank You



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