

By utilizing Ayyeka's state-of-the art Industrial IoT technology, remote monitoring operations can benefit from greater efficiency, reduced system breakdowns and better regulatory adherence. With robust software integrated into the devices' systems, continuous monitoring provides powerful situational awareness that helps to ensure smooth operation and reduced site visits. It offers ruggedized IP68, NEMA6p hardware, and a powerful feature-rich AI-driven software platform that integrates with almost any 3rd party industrial data management platform.

FEATURES

- High compatibility - attach any sensor to any software system
- Efficient plug-and-play installation connects to new and existing infrastructure saving time and money
- High level security with encryption, authentication and remote updates
- Comprehensive with all required equipment and services
- Solar or AC Power Options

Wavelet 4R
Ultimate Scalability



Wavelet V2
Ultimate Versatility



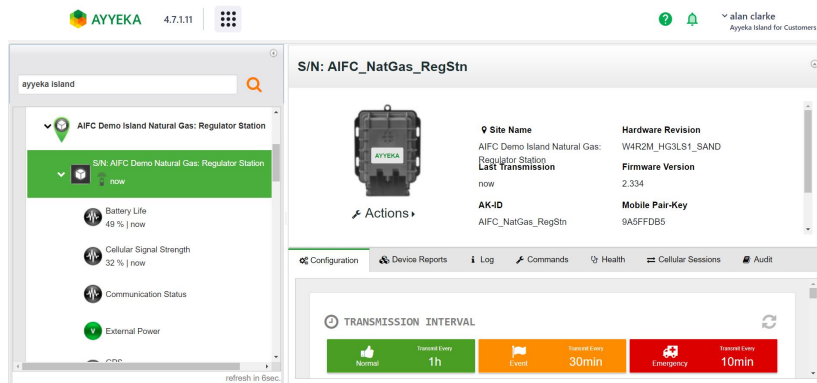
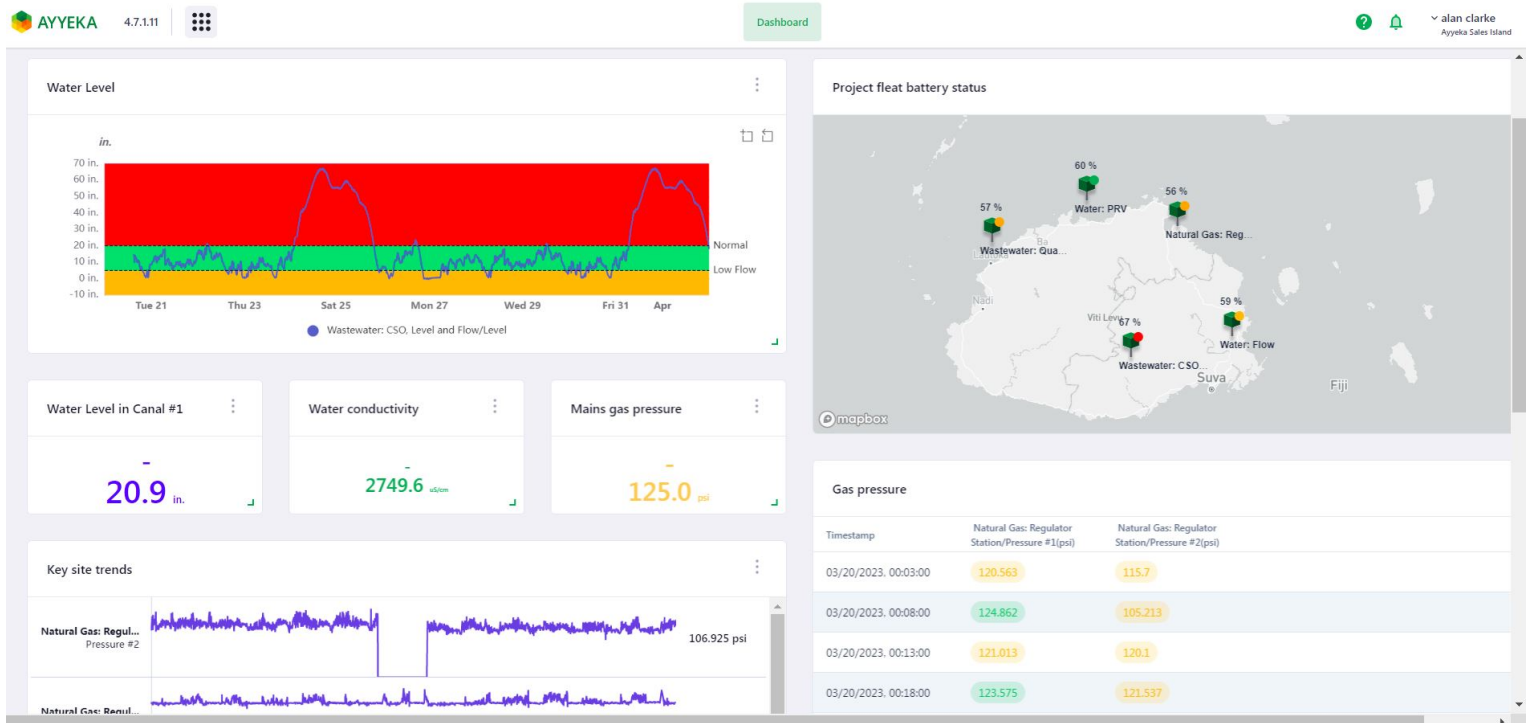
Wavelet Ex V2
Explosive Environment



CALL GEOTECH TODAY
(800) 833-7958

Geotech Environmental Equipment, Inc.
2650 East 40th Avenue Denver, Colorado 80205
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FIELD ASSET INTELLIGENCE PLATFORM (FAI) MANAGING REMOTE DATA & DEVICES



- Monitor all devices using a powerful mapping technology that transforms data into meaningful visual insights.
- Intuitive UI providing full control over real time alerts via SMS, email, or phone call, allowing for quicker response for troubleshooting and secures project assets.
- Instant access to remote assets, creating a connected infrastructure with unparalleled ease. Support for standard protocols ensures reliable integration in existing systems such as SCADA or business intelligence solutions.
- On-demand oversight over devices ensuring their configurations are up to date and firmware remains current.

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Technical Specifications			
Device	Wavelet 4R	Wavelet V2	Wavelet Ex V2
Data Hosting	Cloud or on-premises		
Cyber-Security	TLS 1.3 Protocol (AES-256)		
Software Integration	REST API, CSV		
SCADA Integration	CSV, DNP3, OPC-UA		
IoT Platform Software	Web-base from Internet Enable Device		
AyyekaGo Mobile App	iOS, Android		
Data Export Options	CSV, FTP		
Device Memory	16 MB	8 GB	
Data Communication	Bidirectional		
Alert Notification System	Up to 4 per Data Stream (email, SMS, voice)		
Health Check	Included		
Primary Power Supply	Internal Lithium Battery (Field replaceable and non-rechargeable), 3.9V DC 3A		
Battery Capacity	32 Ah		
Battery Life	Up to 10 Years (usage dependant)		Up to 5 Years
Battery Notifications	Included		
External Power Supply	6-24VDC auto power source switching		6-12VDC Auto power source switching
Sensor Ports	1 port; supports up to 4 sensors using cable splitters	3 ports; supports up to 12 sensors using cable splitters	3 ports; each accepts serial, analog, a digital inputs
Sensor Connection	Wired with M12 Connectors		
Serial Interfaces	RS485 or RS232 or SDI-12		
Serial Protocols	Modbus, SDI-12, ASCII Text, Custom		Modbus RTU, ASCII, custom
Serial Inputs	16		
Analog Inputs	2 (4-20 mA, 0-24 V)	4 (4-20 mA, 0-24 V)	3 (4-20 mA, 0-24V)
Digital Inputs	2 dry contact, open drain Pulse counting: up to 2 at 39Hz max pulse frequency	5 dry contact, open drain Pulse counting: up to 2 at 39Hz max pulse frequency	3 dry contact, open drain Pulse counting: up to 2 at 39Hz max pulse frequency
Digital Outputs	2 at 0V/2.8V	5 at 0v/2.8V, Up to 3 simultaneous	3 at 0V/2.8V
Sensor Power Supply Output	200mA, 12V or 3.6V		12V, 350mA
Cellular Communications	WA4000-31 (US) - CAT-M WA4000-82 (Global) - CAT-M, NB-IoT, 2G WA4000-61-E (Global) - 4G, 3G, 2G	4G/3G/2G	
LoRa Connectivity***	No support	Factory Installed Option	No support
SIM Card	Single SIM slot, 4 FF	Dual SIM slots, 3FF	
Global Roaming	Global multi-network SIM(s) data plan included for up to 180+ countries		
Configuration/Updates	Bluetooth Low Energy (BLE), remote (over-the-air), USB connection		
Data Transmission	Periodic, data-dependent		
Antenna	External	External & Backup internal	External
Built-In GPS		Included	

***Wavelet V2 must be configured with LoRa Connectivity at time of manufacturing.

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Device	Wavelet 4R	Wavelet V2	Wavelet Ex V2
Dimensions (WxHxD)	13.2 cm x 16.5 cm x 7.3 cm		
Weight	0.7 kg (1.5 lb)		1.0kg (2.2 lbs)
Enclosure Material	Polycarbonate w/ ABS (UL 94V-0 and UV Resistant)		
Ingress Protection	IP 68/NEMA 6P		
Operating Temp.	-40° to 80°C (-40° to 176°F)		
Storage Temp.			
Data in Transit Security	TLS 1.3		
Device Authentication	Hardware Based		
Bluetooth	ECC key exchange, AES-256 encryption		
Firmware/Security Updates	Full-over-the-air (FOTA)		
Physical Access	Restricted to diagnostics only		
Safety	EN 61010-1: 2010, IEC 61010-1		
Ex approvals			Class I Division 1 Zone, 0 ATEX Zone 0, IECEx
FCC	FCC Part 15 Subpart B		
EMC	EN 301 489-1 V2.1.1 2017, EN 301 489-7 V1.3.1 2005		
Spurious Emissions	EN 301 511 V12.5.1 2017		
Radiate Emissions	EN 301 908-1 V11.1.1 2016		
Radiate Emissions	EN 60529:1992 + A2:2013, EIC 60529:1989/AM1:1999		
CE	Approved		

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FAI Cloud Tiers - Annual Service Subscription Plans

Service Subscription Plans ¹	Essential	Professional	Enterprise
Scheduled transmissions (per wavelet) ²	✓ Max 6/day ³	✓ Max 24/day ⁴	✓ Real time ⁵
Limited Event Triggered Transmissions (per wavelet) ²	Max 1k/year	Max 4k/year	
Scheduled Samples (per wavelet) ²	✓ Max 60/hour ⁶	✓ Max 360/ hour ⁷	✓ Unlimited ⁵
Limited Event Triggered Transmissions (per wavelet) ²	Max 100k/year	Max 500k/ year	
LoRaWAN connectivity ⁹	✓	✓	✓
Historical Data Retention for Active Plan	Subscription includes up to 36 months of data storage. Contact our Sales team for extended storage options and pricing.		
Integrations			
CSV & SFTP	✓	✓	✓
DNP3			
OPC UA			
REST API ¹⁰			
Platform			
Users	Unlimited		
Remote Sensor Configuration	✓	✓	✓
Data Visualization			
Data Report & Export			
Remote Device & Fleet Management			
Alerts & Notifications			
Email Alerts	✓	✓	✓
SMS Alerts ¹¹	✓ Max 365/year	✓ Max 730/year	✓ Max 1,460/year
Voice Alerts ¹¹		✓ Max 730/year	✓ Max 1,460/year
FAI Plus - Value Added Apps (Data Utilization)			
Device Data Replication		✓	✓
Scheduled WaveCam Pictures (per wavelet) ¹²	✓ Max 2/day	✓ Max 12/day	✓ Max 144/day
Limited Event Triggered WaveCam Pictures (per wave- let) ¹²	Max 500/year	Max 3k/year	Max 15k/year
Online Weather Data (tomorrow.io) ¹³			
3rd Party Dataloggers to be used with Ayyeka Apps ¹⁴	Requires additional fee.		

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Service Subscription Plans ¹		Essential	Professional	Enterprise
Support				
Remote Firmware Updates				
Knowledge Base Access				
Email Support				
Phone Support				
Wavelet hardware warranty ¹⁵				
Out of Scope Professional Services ¹⁶				
Data & Sensor Integration Support ¹⁷	Requires additional fee.			
Certifications & Cyber Security Support ¹⁷	Requires additional fee.			

1. Contact us for a solution tailored to your needs.
2. For explanation about the "Scheduled", "Event-Triggered", "Transmissions", and "Samples" terms, see section 10.1. Glossary of Terms.
3. The number of Scheduled Transmissions is limited to 6 transmissions per day, or to 1 transmission per 4 hours.
4. The number of Scheduled Transmissions is limited to 24 transmissions per day, or 1 transmission per 1 hour.
5. Real-time transmission mode is defined as a mode where the modem is always on and continuously transmitting data.
Max 1/minute, technology limitation may apply.
6. The number of Scheduled Samples is limited to 60 samples per 1 hour.
Examples:
If a single sensor is connected, Max 1 sample every minute per sensor.
If two sensors are connected, max 1 sample every 2 minutes per sensor.
7. The number of Scheduled Samples is limited to 360 samples per 1 hour.
Examples:
If a single sensor is connected, Max 60 samples every minute per sensor.
If two sensors are connected, max 30 samples every minute per sensor.
8. Unlimited samples means that Ayyeka doesn't limit the sample settings. However, the sample number is limited to sensor frequency - technology limitations may apply.
9. LoRaWAN connectivity is enabled in specific Wavelets that support LoRa only.
10. The number of API-Keys is limited to 100 per account.
Data coming from devices in the "Essential" plan cannot be retrieved via REST API.
11. Ayyeka will notify the Account Owner and Account Subscription Manager when reaching 80%, 90% and 100% of the annual allowance (i.e. of SMS alerts, Voice alerts and of event-triggered Samples, Transmissions and WaveCam pictures), and also monthly if reaching the monthly-average (annual / 12) allowance.
If reaching the annual allowance of SMS or Voice alerts, Ayyeka will limit the alerts to emails until the end of the subscription-year.
12. For more information about WaveCam Pictures, see section 10.1 Glossary of Terms.
13. Limited to one virtual data site per wavelet, and connected to it.
14. Using 3rd Party Data Loggers with Ayyeka Apps requires an additional fee.
3rd-party data loggers are subjected to the Ayyeka data retention policy.
15. The warranty for the Wavelet device starts from the delivery date and is not connected to the service subscription plan.
For more information, please visit our Warranty Policy.
16. The out-of-scope professional services are based on the Ayyeka Support Guidelines defined in the Ayyeka Help Center.
17. Out-of-scope support for data and sensor integration requires an additional fee per hour.
18. To meet your organization's security standards, the Account Security Settings include:
 - Two factor authentication (2FA)
 - Session absolute time
 - Session inactivity time
 - Forcing reset password by absolute time
 - Forcing reset password by inactivity time

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