INTRODUCING THE WAVELET

Ayyeka's Wavelet is an Industrial Internet-of-Things (IIoT) system, created in order to bring modularity and flexibility to the world of remote data acquisition.

The Wavelet is a discreet, robust device that autonomously operates best-of-breed, third-party sensors, using battery, solar power, or a permanent power source. The sampled sensor data is collected, transmitted securely, and then stored on Ayyeka's cloud-server and/or a customer's on-premises server. Data can be visualized and managed via Ayyeka's web-based graphical data management system, and integrated into SCADA and higher-level software analytic systems.

With its introduction to the infrastructure market, the Wavelet is becoming a dominant IIoT solution for setting up cyber-secure, plug-and-play, affordable smart infrastructure networks.

SCADA & Software
From cloud-based hosting and an intuitive user-interface to secured and streamlined SCADA connectivity, the Wavelet delivers data directly where it is needed. Integrating with models, analytics, and business intelligence solutions has never been easier.

Autonomous Operation & Redundant Communication
Low-power and predictive analysis algorithms result in up to 30% extended battery life. Redundant communication concurrently supports LTE (4G), 3G, 2G, LPWAN, Bluetooth, and satellite connectivity.

Rugged Design
Molded polycarbonate enclosure with IP 68 / NEMA 6P waterproofing rating allows for installation in the most corrosive and aggressive of environments, in both industrial and commercial applications.

Cyber-Security & Alerts
Wavelet Kits are embedded in every layer from the ground up with the most advanced cyber-security technology, including sensor authentication and data encryption. Receive alerts in case of an urgent event.

Reduced Cost of Ownership
As an integrated, modular, and preconfigured solution that allows for plug-and-play installation and requires minimal maintenance, Wavelet Kits deliver an attractive total cost of ownership.

Rapid Deployment & Scalability
Wavelet Kits are sensor-agnostic, utilizing various configurations of sensors and samplers. Easily installed and operating within minutes, Wavelet Kits can be used to build or extend smart networks.

Data & Software

Data Hosting	Private Cloud or On-Premises Server
Cyber-Security	TLS Protocol (including AES-256 Encryption)
Software Integration	REST API, SOAP API
SCADA Integration	OPC-UA, DNP3, CSV
Ayyeka Data Hub Software	Web-Based from Desktop, Tablet, Mobile
Data Export Options	CSV
Device Memory	8 GB
Data Communication	Bidirectional
Alarm Notification	SMS, Email, Voice
Alarm Threshold	Up to 4 per Data Stream
System Health Check	Included

Power

Primary Power Supply	Internal Lithium Battery, 3.9 V DC 3A, Field-Replaceable and Military Grade
Battery Capacity	32Ah
Operational Run Time	3,500+ Transmissions per Battery Pack; 4+ Years*
Battery Status Notifications	Included
External Power	Solar and Line Power Compatibility, Automatic Power Source Switching
Voltage Input	5-28 V DC

Sensor Integration

Sensor Ports	3 Ports; Supports up to 10 Sensors Using Cable Splitters
Sensor Position	External Hard-Wired
Serial Interfaces	RS485, RS232, SDI-12
Serial Protocols	Modbus RTU, ASCII, Custom
Serial Channels	Up to 16
Analog Channels	Up to 4 (4-20 mA, 0-24 V)
Discrete Channels	Up to 3 Inputs, Up to 1 Output
Sensor Power Supply Output	350 mA, 12 V

Connectivity

Communication Network	4G (LTE), 3G, 2G, LPWAN; Bluetooth Low-Energy and Satellite (pending)
Dual SIM Cards	Multi-Network, Non-Steered
Cellular Roaming	Data Plan Included Supporting Over 140 Countries
Configuration & Upgrades	Remotely (over-the-air), USB PC Connection
Data Transmission Profile	Periodic, Data Dependent
Antenna	Simultaneous Internal/ External Antenna Support
Built-In GPS	Included

Mechanical Enclosure**

LED Indicator	Included
Dimensions (W x H x D)	13.2 cm x 16.5 cm x 7.3 cm (5.2 in. x 6.5 in. x 2.9 in.)
Weight	0.85 kg (1.9 lbs)
Enclosure Material	Molded Polycarbonate
Waterproofing Rating	IP 68 / NEMA 6P
Hazardous Location	Class I Div 1, ATEX, IECEx Certifications (pending)
Operating Temperature	-40°C to 80°C (-40°F to 176°F)
Storage Temperature	-40°C to 80°C (-40°F to 176°F)

* Assumes operation of one pressure sensor sampling once every 15 minutes and transmission once every 4 hours.

**Complies with: Radiated emission standards (ETSI EN 301 489-1/ -17 Class B and CFR 47 FCC Part 15 Subpart B Class B), Immunity per ETSI EN 301 489 1/-17 EN 61000-4-2, 3, 4, 5, 6, RoHS, Directive 2002/95/EC and $C\epsilon$.

Installation of Wavelet Sewer Overflow Kit in San Francisco, CA.

Ayyeka provides cyber-secure, plug-and-play, remote monitoring solutions designed for various markets. Ayyeka has an installed base in challenging locations and earned a reputation for excellent customer service. Bringing together a state-of-the-art hardware and cloud-based software package, Ayyeka's solutions are leading the infrastructure monitoring sector into the future.

Distributed by:

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