

# Choosing the right gateway for industrial monitoring success

**January 25, 2022, Tuesday,**  
SGT 4.30pm – 5.00pm

# Your Hosts



**Wei Ling, Teo**  
Marketing Manager,  
ACKCIO



**Summer Zhang**  
Senior Marketing Executive,  
ACKCIO

# Featured Speakers



**Arul Kumar**  
Software Technical Lead  
ACKCIO  
arul@ackcio.com  
Singapore



**Mobashir Mohammad**  
Co-Founder & Chief  
Technology Officer  
ACKCIO  
mobashir@ackcio.com  
Singapore



# Q&A Support



**Minh Phung Quang**

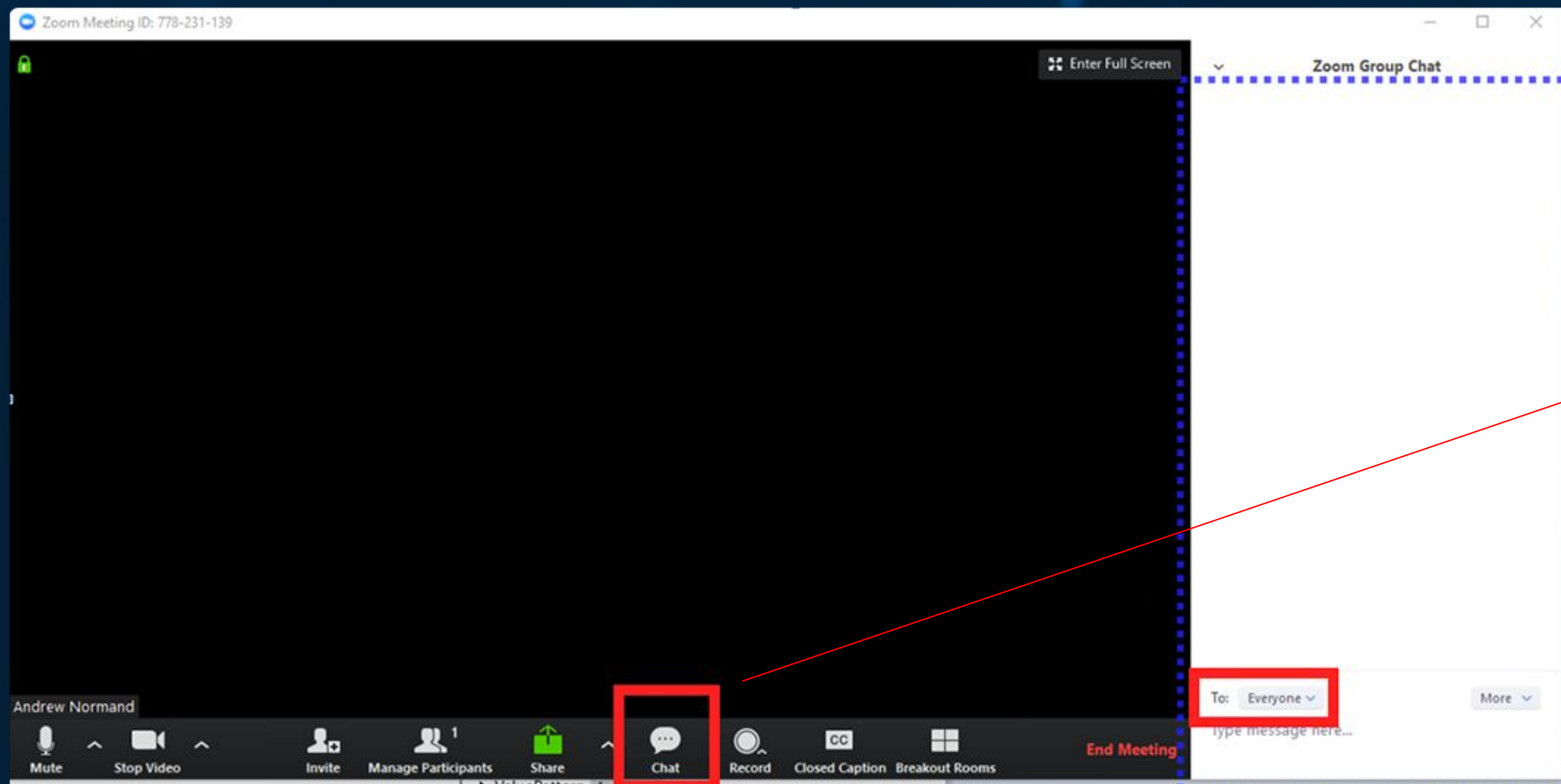
Software Architect

ACKCIO

[minh@ackcio.com](mailto:minh@ackcio.com)

Vietnam

# Housekeeping Rules



**We are live! Please do not unmute your mic.**

Pose questions to the speakers here. We'll get to these at the end.

Recording of the webinar will be sent out in the next few days after the webinar.

# AGENDA

- 1 Gateway, a central point of failure
- 2 Capabilities of Ackcio's central receiver, Ackcio Gateway
- 3 Capabilities of Ackcio Snape software which runs on the Gateway
- 4 Live demonstration of Ackcio Snape software
- 5 Q&A session
- 6 Closing



# IIoT paving digital transformation of many traditional industries





# Benefits of real-time monitoring



## **WORKFORCE SAFETY**

No more manual readings in dangerous and remote areas requiring minimal workforce requirement on-site.



## **RISK MANAGEMENT**

Reactive to proactive using real-time data and analysis and move towards preventive maintenance



## **REDUCE COST**

Reduce manpower dependency and expenses due to vandalism and extensive maintenance routines



## **INCREASE EFFICIENCY**

Frequent and real-time data collection leads to deeper insights, quick actions and allows us to capture long-term trends

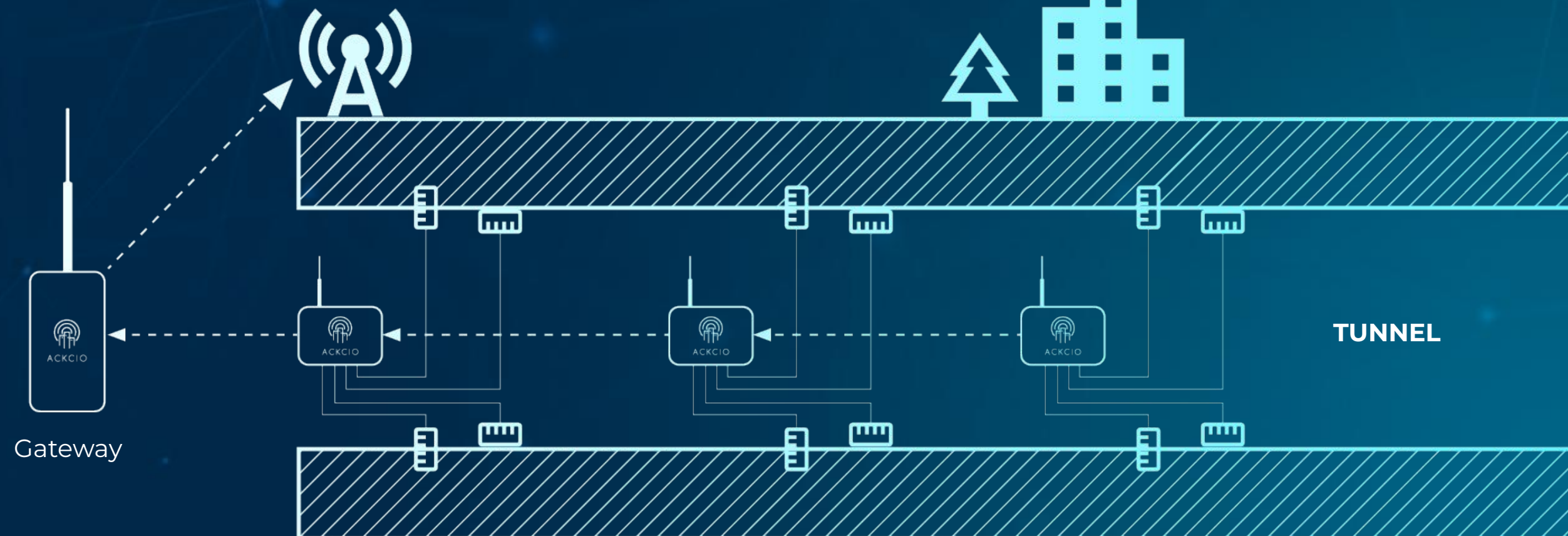


## **DATA INTEGRITY AND SECURITY**

High quality and secure data availability through reduced manual interventions and end-to-end data encryption



# Gateway is the central point of failure



# Gateway is the central point of failure

## 1 HARDWARE FAILURE

- Power outage
- Internet outage
- Physical damages





# Gateway is the central point of failure

## 2

## SECURITY LAPSES

- DOS attack
- Data encryption
- Data leakage

### Advantech Suffered Conti Ransomware Attack – Hackers Demand 750 BTC Ransom

written by Abeerah Hashim | November 29, 2020



The IoT giant Advantech has become the latest victim of a severe cyber attack. Reportedly, Advantech has fallen prey to the infamous Conti ransomware attack where the hackers have demanded a whopping 750 BTC as ransom.

### IoT Cyberattacks Escalate in 2021, According to Kaspersky

Some 1.51 billion IoT breaches occurred from January to June, most using the telnet remote access protocol.

Written by Callum Cyrus 17th September 2021



IoT cyberattacks more than doubled year-on-year during the first half of 2021, according to anti-virus and computer security service provider Kaspersky.

From January to June this year, some 1.51 billion breaches of Internet of Things (IoT) devices took place, Kaspersky reported, an increase from 639 million in 2020.

# Gateway is the central point of failure

## 3 ENVIRONMENTAL FACTORS

- Physical obstructions
- Signal interferences
- Weather conditions





# Industrial Gateway Requirements

- ✓ 24/7 availability
- ✓ Easy to configure and troubleshoot
- ✓ Global compliance
- ✓ High performance
- ✓ Open standards



# ACKCIO GATEWAY

## An industrial centralised data aggregation device

Ackcio Gateway acts as a central receiver that collects data from Ackcio Nodes. It has been designed in a way that it is robust enough to deploy in the harsh climate and tough terrain.





# ACKCIO GATEWAY BENEFITS

## ACKCIO GATEWAY BENEFITS

# Industrial design

- ✓ Rugged die-cast aluminium build
- 👍 IP67 rating for outdoor deployment
- 🕒 Backup power supply for 24x7 availability during a power outage
- 🔧 16GB internal memory to store data for large projects





ACKCIO GATEWAY BENEFITS

# Multiple access points

## CELLULAR

- 3G/4G connectivity
- Global compatibility



## LAN

- High-speed p2p connection

## WIFI (Hotspot)

- WPA enabled secured connection



# Global compliance

- ✓ Configurable to any region & frequency
- ✓ Ackcio Mesh  
ISM Band 863 - 870MHz, 902 - 928MHz
- ✓ Cellular Model  
LTE, WCDMA, and GSM

---

CE FCC IC

---





## ACKCIO GATEWAY BENEFITS

# Advanced communication



**REDUNDANCY**  
Multi-gateway support



**RELIABLE**  
Frequency hopping



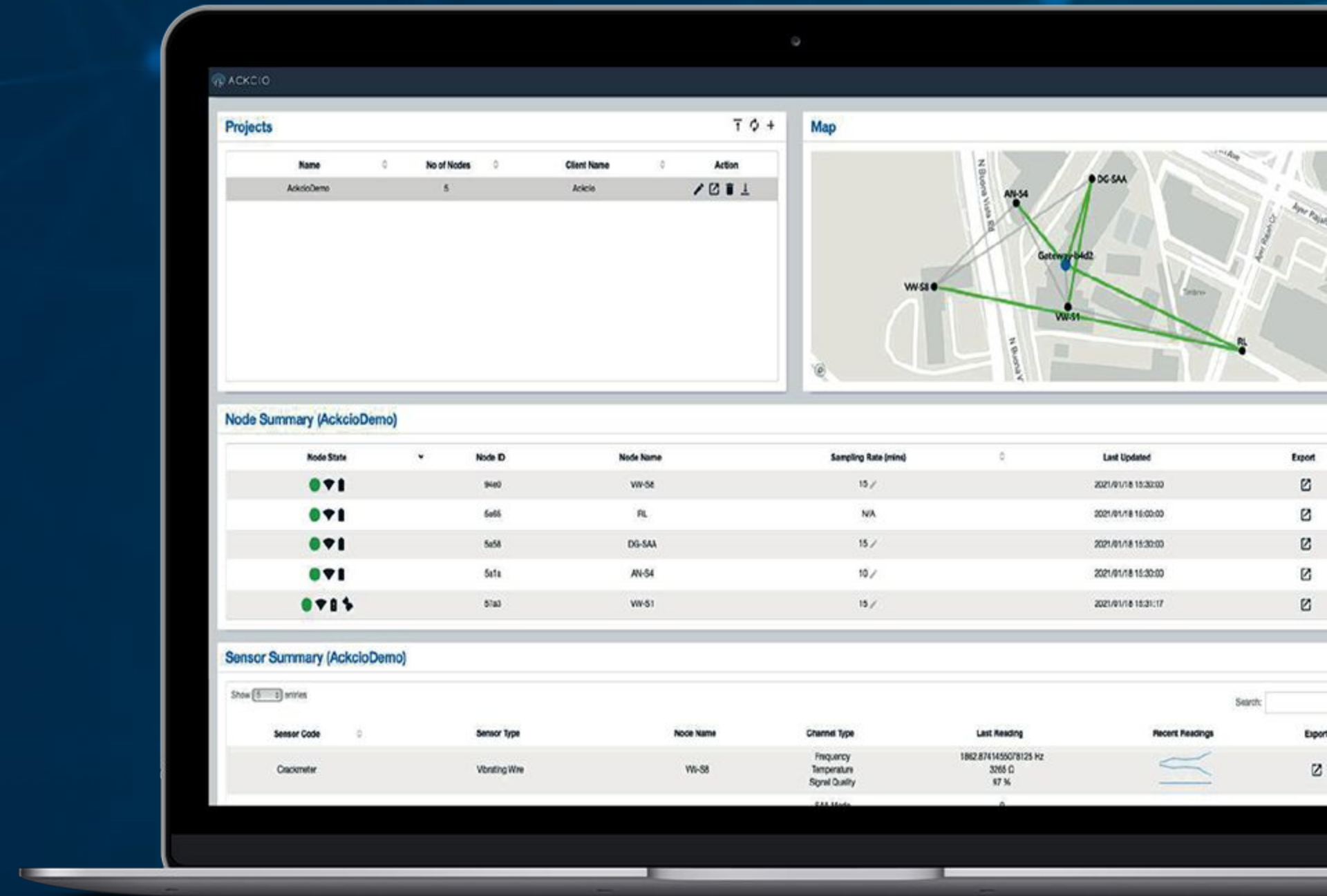
**SECURE**  
AES 128-bit encryption



# ACKCIO SNAPE SOFTWARE

Secure and private on-Gateway data and device management software

Ackcio's Snape software, which runs on the Ackcio Gateway, helps to configure deployments and manages sensor data collected by our monitoring system securely and conveniently.

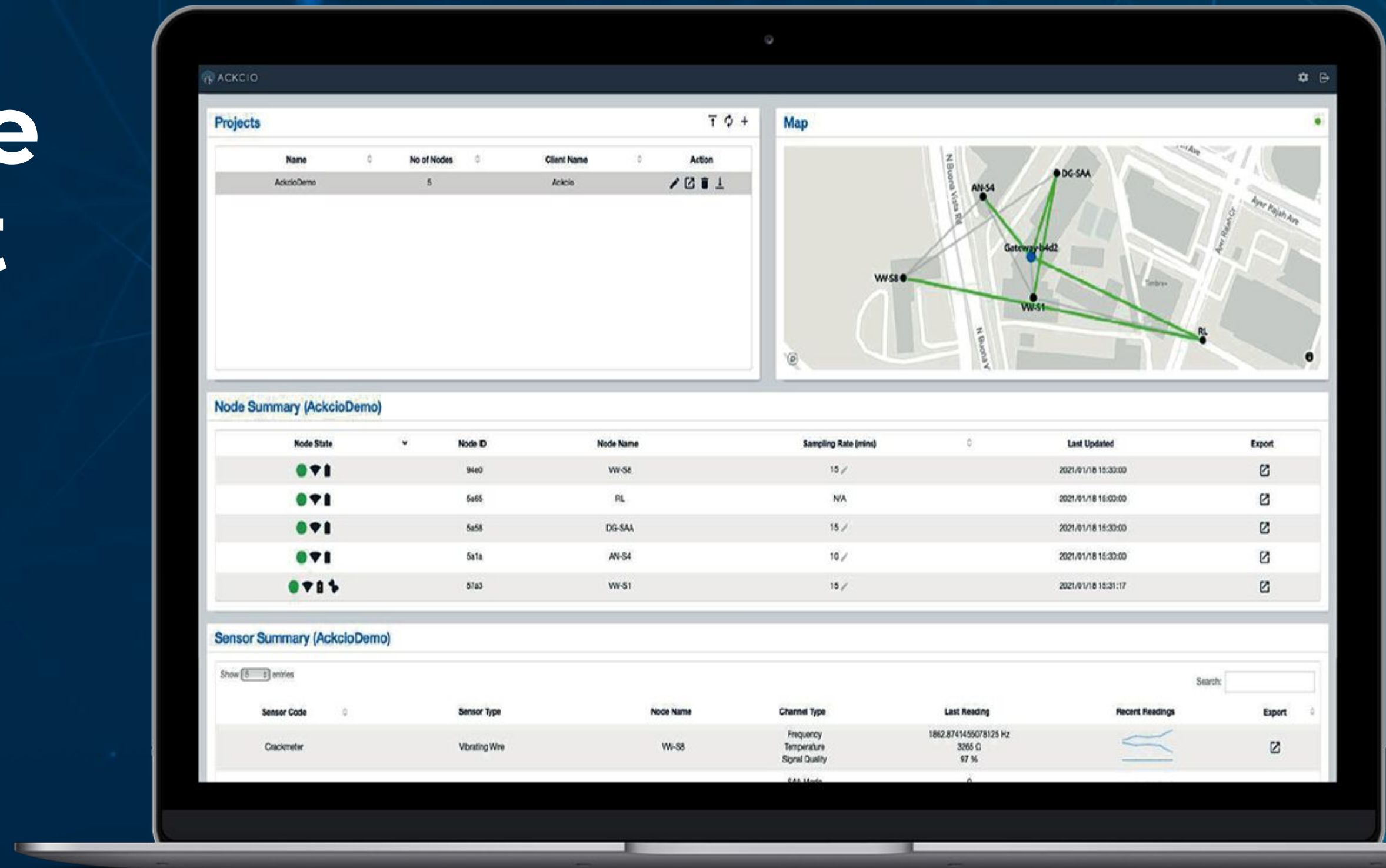




# ACKCIO SNAPE SOFTWARE BENEFITS

# Data & Device Management

- ✓ Modern dashboard for easy management
- ✓ Companion Android application for easy setup
- ✓ Remote troubleshooting
  - Device activity status
  - Device health metrics
  - CSV data export





## ACKCIO SNAPE BENEFITS

# Private & Secure Edge OS



**Runs completely on the edge,  
providing 100% data privacy**

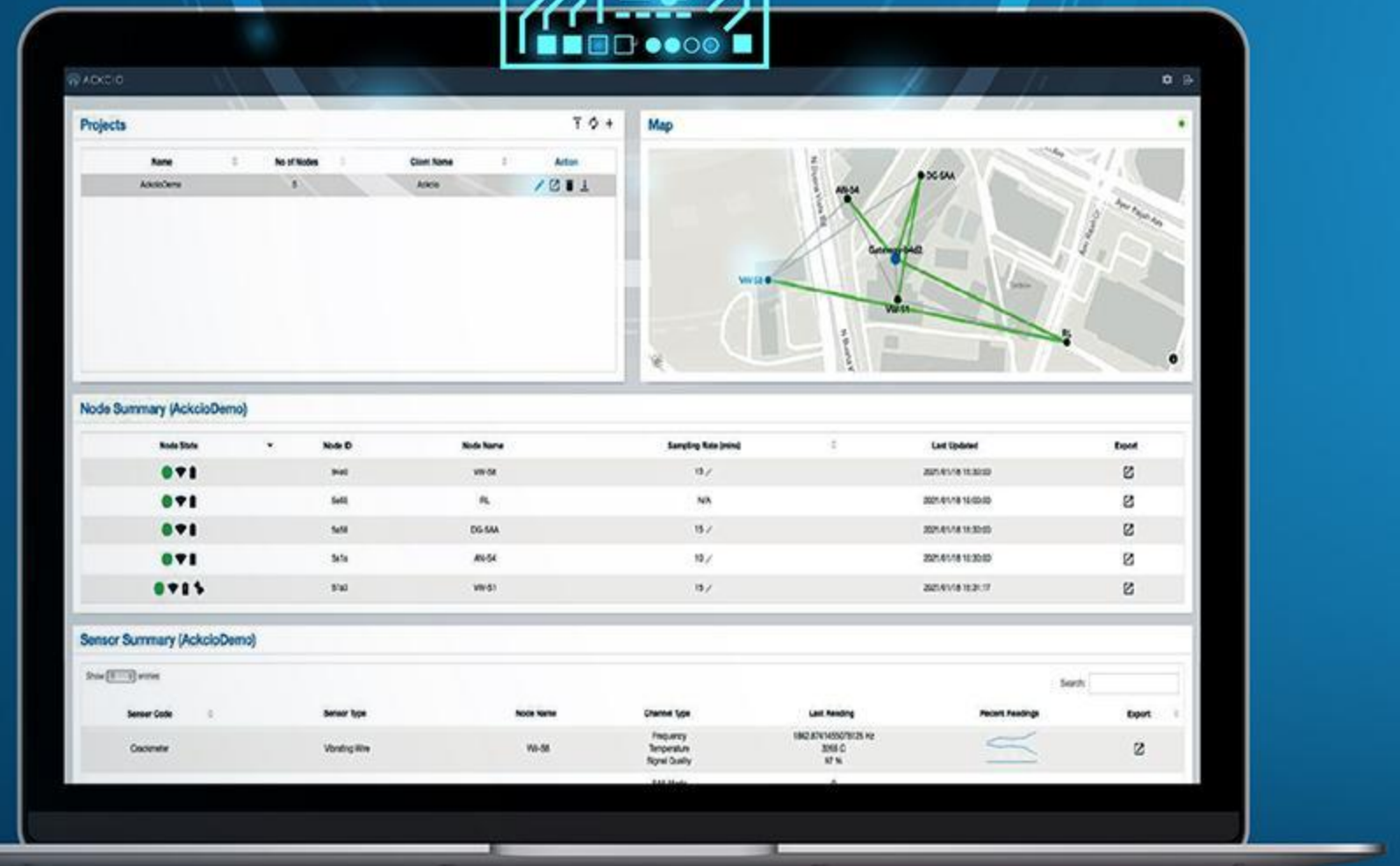


**Secure data push**

- API integration with JWT and API key authentications
- FTP integration with implicit and explicit authorization



**Authenticated remote access**



# Compatible with leading data analytics platforms

## Supported Data Analytics Software Platforms



& more



# Data Processing

## Real-time data processing on the edge

- Duplicate data detection
- Dynamic data transformation using engineering formulas
- Add virtual sensors

Configure Engineering Formula ( Node: VW-S1)

Sensor Code :
StrainGauge
Formula :
MicroStrain (Relative)

### Parameters

$$L_{Eng} = ((R_{Base}^2 - R^2)/1000) * G$$

where,

$G$  is gauge factor( $\mu\epsilon/Digit$ ),

$R$  is current reading(Hz),

$R_{Base}$  is base reading(Hz),

and,  $L_{Eng}$  is reading in engineering unit( $\mu\epsilon$ )

G :

Save changes

# Over-the-air Updates

Keep software updated remotely by applying

- Patch bugs
- Apply optimizations
- Add new features

Update Software

Online ☒

Software ☐ Mesh ☒ Snape

Installer File 

Version

No File Selected

Download and Install



# DEMO

Ackcio's Snape software provides you with real-time access to every data point collected from your projects, allowing you to make informed and collective decisions that manage risks and increase productivity and safety.



# Q&A



**Mobashir Mohammad**

Co-Founder  
& Chief Technology Officer  
ACKCIO



**Arul Kumar**

Software Technical Lead  
ACKCIO



**Minh Phung Quang**

Software Architect  
ACKCIO



# Thank you



Help us complete a short survey

Stand a chance to win one of the three US\$50 Amazon gift cards.

**Follow Us  
on LinkedIn:**

