



## MIMOS Wireless Atmosphere for Integrated Systems (Mi-WARIS)

Wireless communication forms the backbone of IoT (Internet of Things) realisation and is fast becoming prevalent in everyday life. MIMOS Mi-WARIS further enhances wireless communication through its proprietary intelligent bandwidth management, security and multi-protocol adaptation.

### Sensors: Applications to Enhance Quality of Life

Via Mi-WARIS, enhancement of human wellbeing and environment awareness are served by a network of smart sensors that can immediately respond to changes and aid efficient allocation of resources toward a safer and greener environment. More than a convergence of physical and virtual worlds, Mi-WARIS aims to enhance and protect the quality of life through 9 key areas:



### Overview

MIMOS Mi-WARIS is a wireless fabric which utilises a line of wireless broadband infrastructure (MIMOS Mi-MESA) that includes variants such as HybridHSPDA and Multimesh and smart sensors such as temperature and humidity. Mi-WARIS can be adapted for a multitude of industries with many settings and purposes, is cost-effective and flexible to cover a variety of requirements.

### Features

Mi-WARIS offers:

#### ■ High Availability

Mi-MESA Multi-Mesh proprietary bandwidth management allows Mi-WARIS to ensure uninterrupted operation through smart redundancy implementation.

#### ■ Robust for Indoor and Outdoor Usage

Mi-Sensor can be deployed in harsh outdoor or stringent indoor environments to ensure seamless communication and transmission of crucial sensor data from the field to the user via real-time and remote monitoring.

#### ■ Scalability

MIMOS UI Dashboard with Intelligent Decision Support System (UI Dashboard) allows uninterrupted access to all sensor data on any smart device. UI Dashboard also prevents any technology lock down through the use of non-proprietary and non-licensed bandwidth.

### Technology Summary

#### Mi-WARIS

*(Wireless Atmosphere for Integrated Systems)*

A robust and reliable wireless atmosphere that integrates smart sensors, wireless communications and a management system for environment monitoring and management.

**Industries:** Environment, Medical & Healthcare, Agriculture, Aquaculture, Utilities, Automotive, Oil & Gas

#### Features

- High availability
- Robust for indoor and outdoor usage
- Scalability

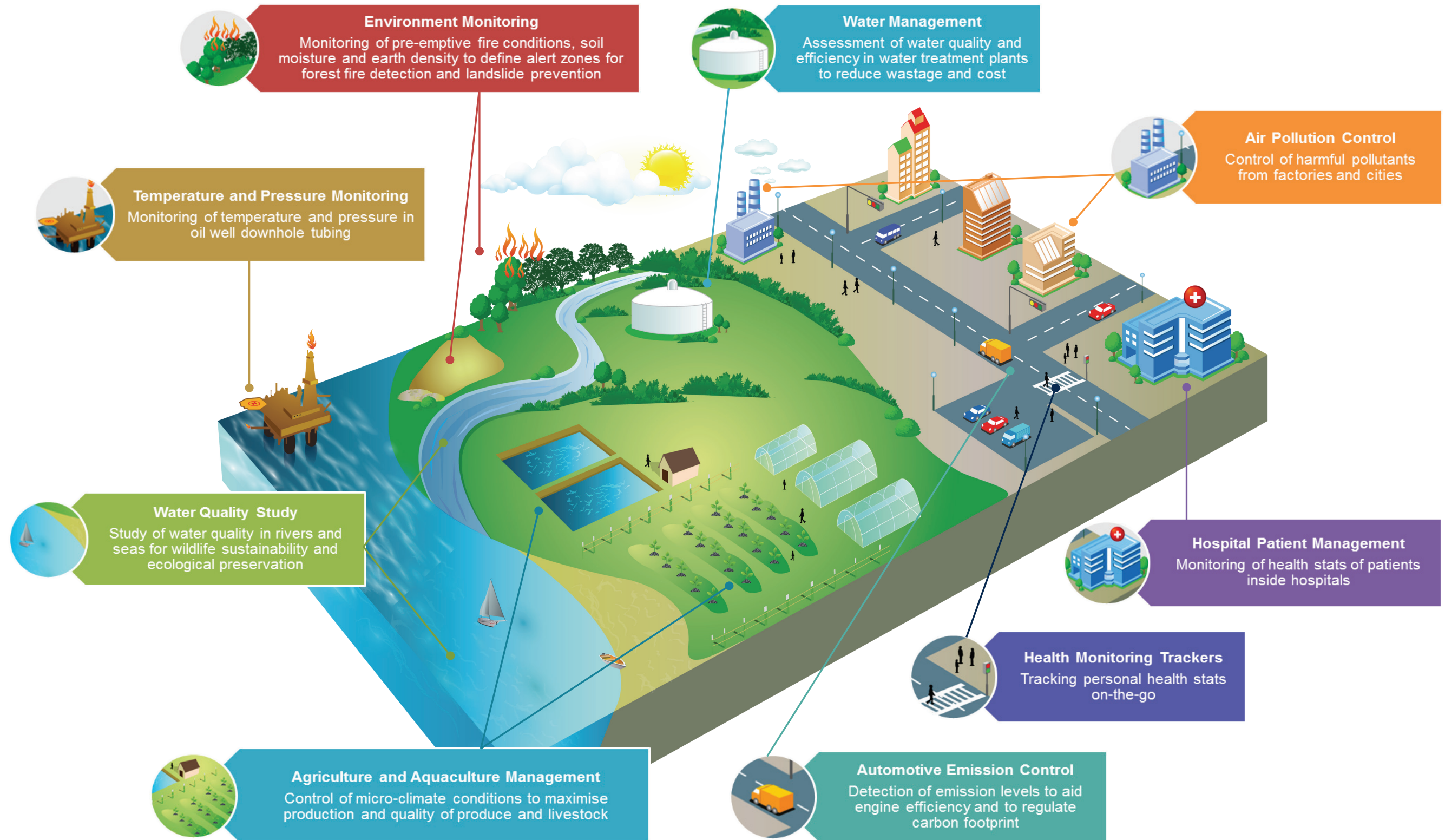
#### Technology Benefits

- Enabling IoT
- Quick access to crucial data
- Deployment versatility



Innovation for Life™

# MIMOS World of Smart Sensors







MIMOS Mi-WARIS greenhouse deployment



MIMOS UI Dashboard with Intelligent Decision Support System

## Technology Benefits

Mi-WARIS provides information on critical physical parameters in real-time to assist any industry in building a smarter and greener operation ecology. Mi-WARIS offers:

### ■ Enabling IoT

Physical parameters can be remotely monitored through Mi-WARIS' user-friendly web interface via desktops or mobile devices.

### ■ Quick Access to Crucial Data

All sensor data can be accessed at any time with a configurable system to view data, create thresholds, set up alerts, monitor network health, generate charts and compile reports.

### ■ Deployment Versatility

Wireless communications allows for Mi-WARIS deployment in remote areas thus significantly minimising manual workforce activities and labour dependencies.

## Sensors

Mi-Sensor
<b>Agriculture and Aquaculture</b>
Temperature and pH (TpH) Sensor
Dissolved Oxygen (DO) Sensor
Salinity (EC) Sensor
Moisture Sensor
Humidity Sensor
Temperature Sensor
<b>Medical and Healthcare</b>
Glucose Sensor*
Bloodflow Sensor*
Temperature Sensor*
<b>Oil and Gas</b>
Temperature Sensor*
<b>Environment</b>
Gas Detection Sensor*
Soil Movement Sensor*
Water Quality Sensor

\*Future release

## Wireless Communications

Mi-MESA	
Wireless Specifications	
Standard Compliance	802.11 b/g/n (3x3) Radio
Modulation	DBPSK, DQPSK, CCK, BPSK, QPSK, 16-QAM, 64-QAM
Frequency Band	2.400 – 2.484GHz
RF Output Power	802.11b: 18dBm, 802.11g: 13dBm, 802.11gn: 16.5dBm
Receive Sensitivity	802.11b: -89dBm ± 2dBm@11Mbps 802.11g: -79dBm ± 2dBm@54Mbps 802.11gn: HT20 -71dBm ± 2dBm@300Mbps 802.11gn: HT40 -69dBm ± 2dBm@300Mbps
Channels	US/FCC and Canada/ICC – 11 Channels Europe/ETSI – 13 Channels
Other features	DHCP Server/Client, VPN Pass-Through, Configurable Firewall Supports all required IETF protocols (DHCP, NAT, IPsec, Routing Protocols)

## Management System

UI Dashboard	
Hardware Requirements	
Processor	Dual-Core CPU
Memory	4GB of RAM or higher
Disk Storage	100GB or higher
Web Browser	Internet Explorer® 9.0 or above, Mozilla® Firefox 11 or above, JavaScript-enabled
Software Requirements	
Web Server	Apache HTTPD™ 2.2.23
Application Server	Apache Tomcat™ 7, JDK 7
Database Server	MySQL® 5.5

MIMOS is the leader in ICT innovations, pioneering new market creations for partners through patentable technologies for economic growth. For more information on MIMOS technologies, contact [fnsb@mimos.my](mailto:fnsb@mimos.my) or [market@mimos.my](mailto:market@mimos.my) or go to [www.mimos.my](http://www.mimos.my).



Innovation for Life™