REAL-TIME MANUFACTURING INSIGHT

Wave4IoT
DIGITIZATION PLATFORM

FEATURES

The Real-time Manufacturing Insights (RMI) solution addresses the key operational challenges of manufacturing enterprises such as limited visibility into production downtime root causes, quality and people issues, and ineffective utilization of planned downtime, and monitors the critical parameters such as Overall Equipment Effectiveness (OEE) and energy consumption in real-time.

OPERATIONAL VISIBILITY FROM SHOP-FLOOR TO TOP-FLOOR

- Real-time monitoring of plant efficiency with user defined KPIs

- Role Based Visualization for CxO, Plant Managers, and Line Operators

- Predictive maintenance to pre-empt machine breakdown

- Cost analysis of OEE - availability, performance and quality losses

- Real-time alerts to the preconfigured users via email or mobile

- Connectivity support with system integration of IT/OT systems

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REAL-TIME MANUFACTURING INSIGHT

BENEFITS

The solution optimizes capacity utilization despite having a reduced workforce and disrupted material supply and provides insights and recommendations about performance of business-critical assets.

OPERATIONAL AND BUSINESS EFFICIENCIES

RMI integrates with existing enterprise systems for seamless data ingestion and leverages predictive maintenance & prescriptive analytics across plants in different geographies, driving real-time visibility to provide crucial decision support at several levels.

- Reduce scrap loss by real-time alert in output quality drop

- Increased visibility into asset health throughout processes

- Real-time visibility of finished goods and reduce inventory carrying costs

- Predictive and Preventive Maintenance to reduced machine maintenance costs

- Real-time actionable insights to achieve higher productivity and better-quality goods
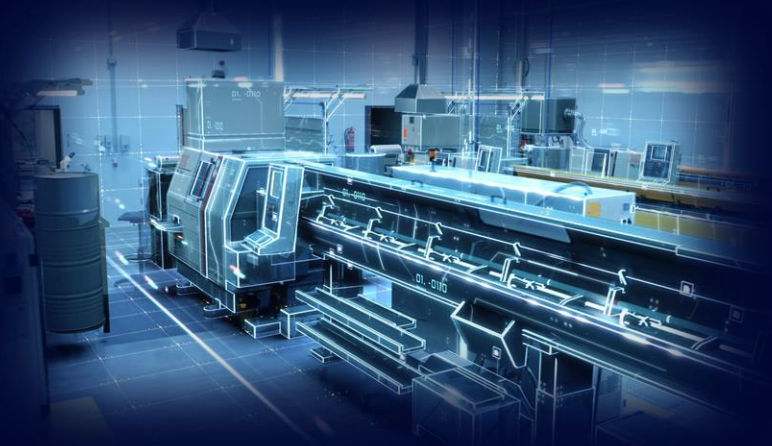
Up to 30% savings on unplanned downtime

Up to 30% reduction in maintenance cost

Up to 15% increase in productivity

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INTELLIGENT ASSET TRACKING MANAGEMENT

Wave4IoT
DIGITIZATION PLATFORM

FEATURES

Intelligent Asset Tracking Management (IATM) is a secure, scalable end-to-end offering that leverages a range of IoT-led tracking technologies and offers Cloud & on-premise deployment options.

ASSET MANAGEMENT COMPONENTS

- Passive RFID solution to wirelessly identify each asset

- Fixed RFID readers determine movement across & presence on premises

- Handheld RFID readers perform inventory count & audit in seconds

- IoT Gateway, supporting multiple RFID readers, directly sends data to the Cloud

- Cloud IoT Platform collects data from multiple RFID systems (across locations)

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INTELLIGENT ASSET TRACKING MANAGEMENT

BENEFITS

The solution enables monitoring and management of assets from Procurement to Disposal, tracking & reporting of location and movement of assets across premises and automates inventory management through RFID-based tracking technologies and connected applications.

OPERATIONAL AND BUSINESS EFFICIENCIES

Up to 99% asset visibility and accountability to track whereabouts of assets and custody information

Up to 90% improvement in Operational Efficiency by remarkably reducing time spent on searching for critical assets

Up to 85% improvement in accuracy of asset inventory & audit processes to facilitate maximum resource utilization

Up to 30% asset Write-off Cost Reduction due to automated & improved visibility & control of assets

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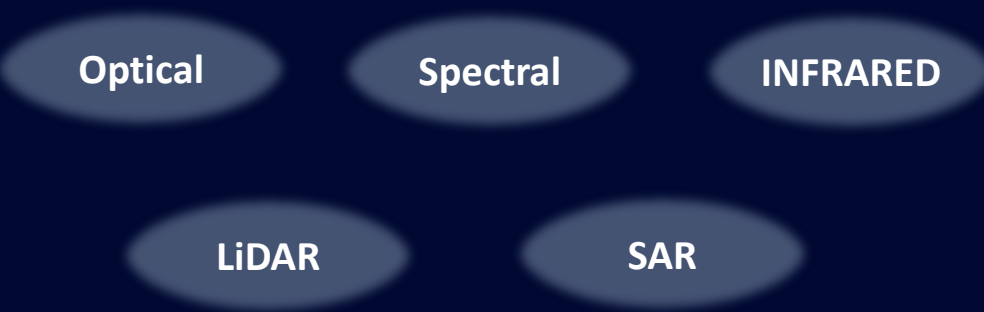RIYADH . SEATTLE . NOIDA

REMOTE SENSING & IMAGING

Wave4IoT
DIGITIZATION PLATFORM

FEATURES

Organizations and Agencies need to manage assets while simultaneously optimizing costs, improving safety, ensuring reliability and customer satisfaction. With a large portion of budgets tied up in fixed costs, remote sensing applications are a way to reduce expenses.
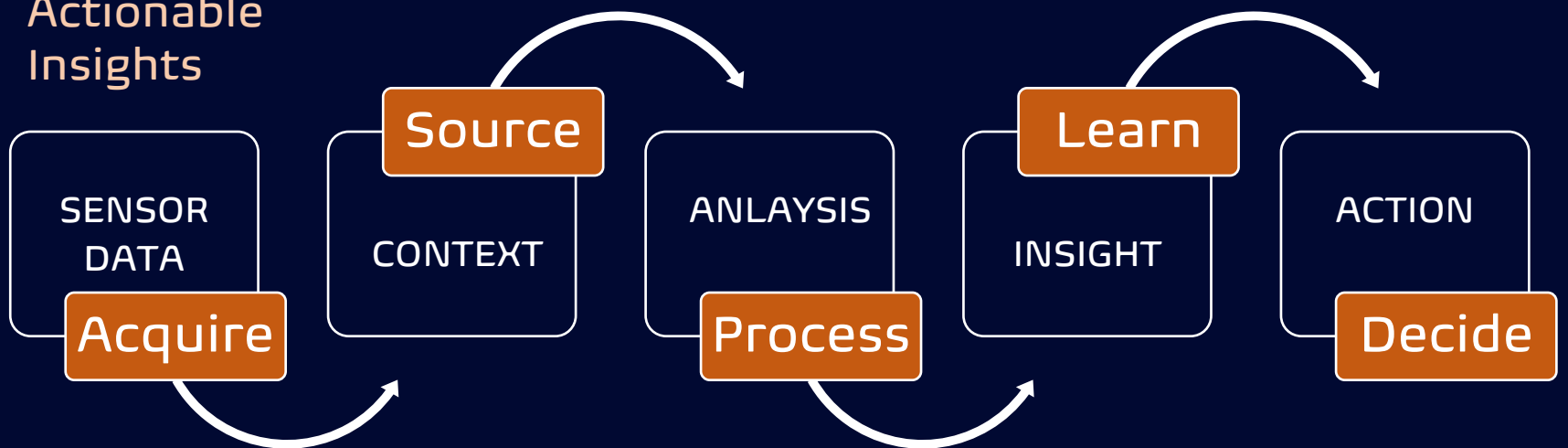
SENSOR TYPES AND DATA PROCESSING

Optical

Spectral

INFRARED

LiDAR

SAR

Anomaly Detection
Rules & Business Logic
Applications

Digital Content
Simulation

Real Value is in
Actionable
Insights

Source		Learn

SENSOR
DATA

CONTEXT

ANLAYSIS

INSIGHT

ACTION

Acquire

Process

Decide

Edge Device
Connectivity

Compute Power
Advanced Analytics
Artificial Intelligence

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REMOTE SENSING & IMAGING

BENEFITS

Imagery from ground and aerial sources can provide a tremendous amount of data about the state of infrastructure whether it's oil ducts, security fences or powerlines. The data needs to be processed, analyzed and transformed in a scalable way to provide actionable insights.

POWER LINE USE CASE

DATA MANAGMEMENT

- Create a centralized, shared repository for imagery, LiDAR, and associated data
- Allow users to attach, edit/replace, and remove documents/reports

ACTIONABLE DATA ANALYTICS

- Identify presence/absence of asset components
- Determine vegetation encroachment with LiDAR

OPERATIONAL INTEGRATION

- Export results to update existing GIS system
- Access GIS layers to answer planning questions
- Identify if there is water nearby structure, archeological areas etc.

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NEXT-GEN FIELD SERVICES

Wave4IoT
DIGITIZATION PLATFORM

POWERED BY XR

FEATURES

Our Next-gen Field Services solution powered by XR can enable remote guidance, real-time remote assistance and real-time IoT visualization that eliminates the gap between on-field personnel and experienced workers driving higher productivity and first-time fix rates.

NEXT-GEN FIELD SERVICES SOLUTION

REAL-TIME GUIDED OPERATIONS

- Guided visual 2D and 3D instructions on the task assigned to technicians
- Access to Knowledge Repository

REAL-TIME INSIGHTS VISUALIZATION

- Real time IOT data visualization
- Guided visual instruction
- Access to Knowledge Repository

REAL-TIME REMOTE ASSITANCE

- Remote Video & Audio call
- Whiteboarding and Annotations

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NEXT-GEN FIELD SERVICES

INDUSTRIES
MANUFACTURING & AGRICULTURE
FACILITIES MANAGEMENT
SMART CITIES & HOMES
OIL & GAS
UTILITIES

BENEFITS

- Provides training to geographically distributed workforce at reduced costs

- Lower field workforce requirements to handle complex problems

- Reduction in travel expenditure, better utilization of fleet and workforce optimization

- Reduction in training cost and duration of training Lower service costs by up to 60%

SOLUTIONS ENABLERS

- **XR user Experience**: Solutions with user-centric design enabling end-user to adapt to new ways of training

- **Imaging**: Solutions with built in image recognition and image processing capabilities

- **AR Device & Platform Support**: Device and platform agnostic solution approach which supports multiples XR devices like HoloLens, Google Glass, etc.

- **Data Analytics**: Focused on delivering business outcomes and business value. Multi-discipline approach to Machine Learning & Analytics

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REMOTE WORKER & SAFETY

Wave4IoT
DIGITIZATION PLATFORM

FEATURES

Our Solution is a cloud-based Worker Safety solution that enables organizations to increase work productivity and create a near-zero hazard work environment. This solution creates a safer workplace for additional health, safety, and productivity use-cases. It enables safety of occupational workers in many industries.

Multi-sensor wearable device, reduces number cumbersome devices

Two-way Coms between worker and safety administrator

Real-time location tracking with SOS feature to seek assistance

Scale and Security Support

Geo-fencing filtering to limit the exposure to hazardous environment

Management of devices applications and cloud instance

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REMOTE WORKER & SAFETY

INDUSTRIES
MANUFACTURING & AGRICULTURE
SMART CITIES & HOMES
FACILITY MANAGEMENT
SAFETY & SECURITY
OIL & GAS
UTILITIES

BENEFITS

Developed around sensor-based wearable devices, it permits hands-free operation for workers and provides greater visibility to the administrator. The solution monitors real-time movement of workers to provide early assistance in case of emergency. Devices can be connected via 5G or Satellite where 5G coverage is poor.

Reduces Accident Rates and increases emergency response times

Reduced reconciliation time after disaster occurrence
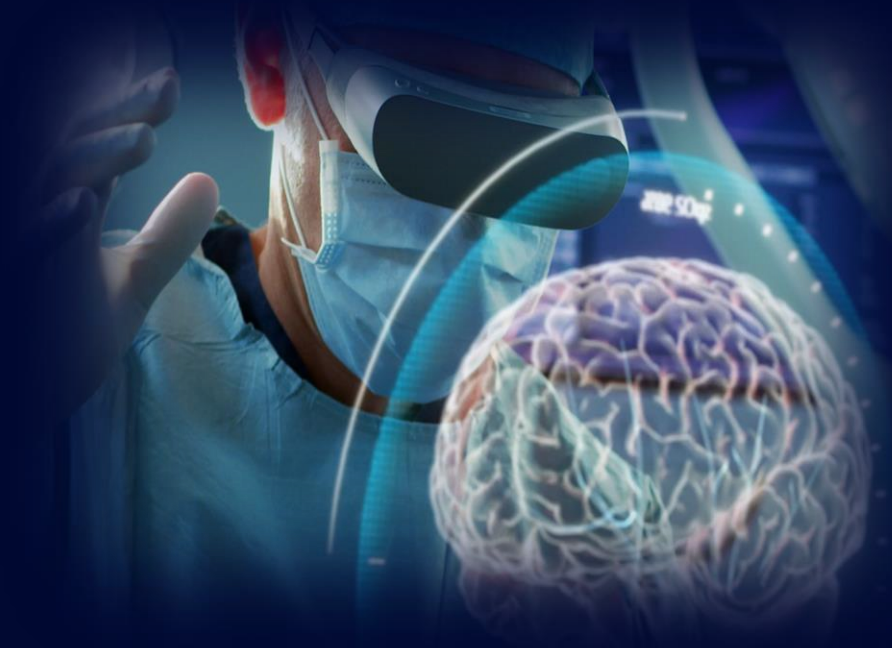
Handsfree operation enables focusing on provide better mobility and agility

Cost reduction, Increase in employee moral and retention

Reduction in medical expenditures and Insurance premiums

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IMMERSIVE TRAINING & LEARNING

Wave4IoT
DIGITIZATION PLATFORM

POWERED BY XR

FEATURES

- Interactive 2D and 3D technical manuals

- Self-paced learning modules with built-in assessments

- Remote Video & Audio call

- Whiteboarding and Annotations

- 3D immersive training in Virtual environment

- Interactive training with hands on experience

SOLUTIONS ENABLERS

- **XR user Experience**: Solutions with user-centric design enabling end-user to adapt to new ways of training

- **Imaging**: Solutions with built in image recognition and image processing capabilities

- **AR Device & Platform Support**: Device and platform agnostic solution approach which supports multiples XR devices like HoloLens, Google Glass, etc.

- **Data Analytics**: Focused on delivering business outcomes and business value. Multi-discipline approach to Machine Learning & Analytics

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IMMERSIVE TRAINING & LEARNING

BENEFITS

- Trainees perform up to 70% higher on workplace test and on-job tasks

- Reduction in error rate by 40%

- Virtual simulation is up to 3 time more effective for safety and critical use-cases

- Reduction in travel cost

- Up to 75% retention through XR training vis-a-vis 10% through traditional training

- Requires up to 60% less employee time compared to classroom training

- Reduced number of classroom sessions

EXPANDING REALITY
Evolving Learning & Development Technologies

Globally

55% of organizations expect the current crisis to focus on streamlining roles, supply chains and workflows to increase efficiency.

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CHAIN OF CUSTODY LOGISTICS

Wave4IoT
DIGITIZATION PLATFORM

FEATURES

Industries are facing a growing need of holistic solutions to predict failure, perform operations remotely, monitor conditions and performance of assets. We have developed a solution with cutting edge technologies to address these complex and eminent challenges.

OPERATIONAL AND BUSINESS EFFICIENCIES

- **Realize** up to 90% reduction in shipment damages

- **Receive** timely and contextual data from sensors monitoring condition parameters, regardless of the mode of transport

- **Create** a tamper-proof network of accountability and trust

- **Keep track** of the 'chain of custody' even as the shipment changes hands during its journey, by leveraging IoT and automation

- **Improve** SLA compliance rates by up to 50% across the network

- **Proactive** alerts to address situations of compromise in shipment condition and integrity

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CHAIN OF CUSTODY LOGISTICS

INDUSTRIES
MANUFACTURING & AGRICULTURE
HOSPITALITY & RESTAURANTS
SHIPPING & LOGISTICS
TRANSPORTATION
HEALTHCARE

BENEFITS

The Cold Chain Logistics solution brings about transparency and improves asset visibility and traceability in Cold Supply Chain transactions across all stakeholders. The solution leverages the power of IoT and Blockchain across multiple levels of your business including tight integration with the existing IT infrastructure to achieve transformational RoI.

- Drive cost savings and improved operational efficiencies

- Document and track change of ownership of shipments

- Commit to quality control and cold chain compliance

- Enable smart contracts powered by IoT and Blockchain through faster, safer, and cheaper transactions

LEADER
IDC Marketscape, IoT Consulting and Systems Integration Services, 2020
IDC

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SMART WAREHOUSE LOGISTICS

Wave4IoT
DIGITIZATION PLATFORM

FEATURES

Smart Warehouse powered by IATM is an end-to-end offering that leverages a range of tracking technologies like RFID, BLE, Wi-Fi, cameras, on-prem IoT gateways to the Cloud, with an on-premise deployment options for the secure and scalable solution. It can be integrated with existing industry leading Warehouse Management Systems.

USER CONFIGURABLE

Warehouse inventory an asset planning across sites, storage, arts & tools

ENTRY AND EXIT DETECTION

Inbound and outbound logistics

WEB AND MOBILE APPS

Enabling end-to-end visibility & control anytime anywhere

HEATMAPS FOR DWELL TIME & HOT ZONE INSIGHTS

Can help auto-optimize expenses & time and better manage inventory storage & movement operations

WAREHOUSE OPERATIONS LIFECYCLE VISIBILITY

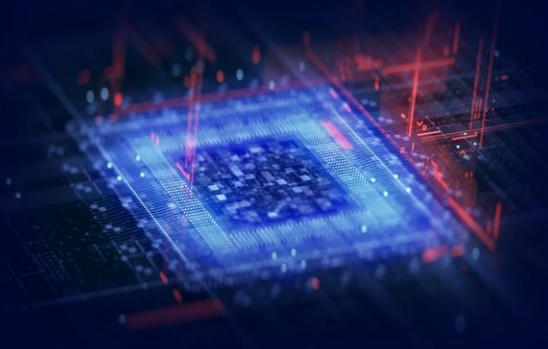Receiving (tagging) to packing and shipping (tag-removal, if required)

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SMART WAREHOUSE LOGISTICS

BENEFITS

As same day delivery becomes more of a basic qualifier than a differentiator, modern warehouses need to have IoT-led, end-to-end, real-time visibility right from the point shipments are received to the point when they are shipped out downstream.
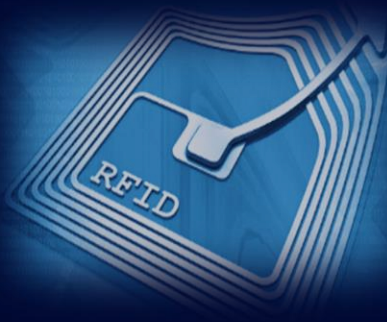
APPLICATION AREAS

SMART INVENTORY MANAGEMENT

ACCIDENT AND INJURY PREVENTION

SMART CAPACITY MANAGEMENT

Controlling cost and keeping distribution overheads down to ensure competitiveness	Optimizing picking-automating storing, put-away	Maximizing resource productivity: manpower, equipment, docks
Ensuring accuracy in inventory management tracking pallet journey	Optimizing space utilization for increased efficiencies	Ensuring visibility and secure workplace with minimal hazards

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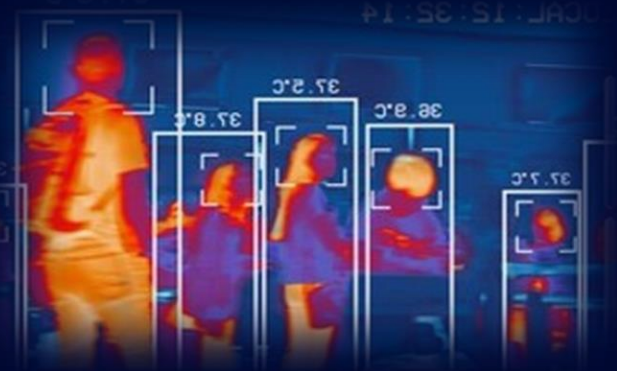RIYADH . SEATTLE . NOIDA

REAL-TIME IN-STORE INSIGHT

Wave4IoT
DIGITIZATION PLATFORM

FEATURES

Real-time In-store Insights (RII) solution aims to leverage IoT-powered insights to reimagine the retail space and transform the shopping experience. RII utilizes radar sensing technology and camera images to capture accurate demographics and real-time location of shoppers.

- **Heat Maps** and Dwell Times highlighting key in-premise shopper touchpoints & interaction times

- **Innovative radar** technology can overcome inclement in-store conditions, provide accurate footfall count

- **Web-based apps** enabling visibility of legacy & real-time insights anywhere, anytime

- **Powerful inventory**, conversion & profitability insights when integrated with existing ERP, CRM and PoS software

- **Retrofittable**, globally scalable and innovative architecture that can run independently of end-user devices and maintains shopper privacy

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REAL-TIME IN-STORE INSIGHT

BENEFITS

Redefine Smart Shopper

Utilize heat maps, dwell times and AI-enabled processing to create contextual demographic sets, understand buying behavior and correlate with seasonality

Personalize In-store Experience

Run intelligent in-store promotions, improve shopper-staff interactions, design smart planograms and transform experience and conversion rates

Optimize Store Operations

Utilize footfall and purchase trends to eliminate obsolescence, improve in-store layout, shopper-staff and inventory turns, and optimize operational costs

Scale and Transform

Easily scalable and deployable architecture, can be integrated with PoS and loyalty programs to improve retention and create new revenue streams

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