

# Predictive Solutions

Alava International GRUPO ÁLAVA

# About Us

Alava International is an American affiliate of Grupo Álava, an enterprise with over 50 years of experience in the European market. Since 2014, Alava International has launched offices in Dallas, Miami, New York, Los Angeles and North Dakota. Our goal is to deploy our expertise to the US market. We have a deep understandings of the latest applications in the main industrial sectors and an extensive technology portfolio to benefits our clients, developed by us or our tech partners.

We are a company with remarkable experience, using services and products in predictive maintenance, vision and imaging, civil engineering, IIoT platform, among others.

Since the beginning, Alava International has been an innovative and constantly growing company because of its steadfast commitment to diversify its portfolio and create an unique business model.

## Innovative technologies for key industrial sectors

### Construction services

Capacity to define, design, and set up the necessary control systems in any infrastructure within the design, execution, and operation phases.

We cover our clients' needs from supply, installation, survey, monitoring and interpretation of the results obtained through to monitoring.

### Integration solutions

By integrating different systems and due to our experience and know-how, we're able to offer custom systems and turnkey solutions to resolve client needs. Solutions based on unique and innovative technologies.

### Diagnostic services

We undertake analysis and diagnostics services of critical assets and provide reports detailing the values of measured magnitudes, results of calculations carried out, and actions identified to accrue maximum benefit.

# Smart PdM

Consulting, implementation and optimization of predictive maintenance programs

- PdM implementation consultancy service
- Implementation of PdM services
- Implementation of PdM technologies
- Generation of the PdM database
- Optimization of the PdM database
- Monitoring/evaluation of the implementation of PdM technologies
- Diagnosis of the maintenance function
- Remote diagnostic services: Online data that comes from continuous monitoring equipment (wired, Wireless) or off-line captured data that we process through our Condition Monitoring Diagnostic & Trainig Center (CMDT):



# Condition Monitoring Diagnostic & Trainig Center

We provide remote support and comprehensive diagnostic services to key industries (Oli&Gas, Wind and Renewable Power, Chemical, Food& Beverage...) from more than 20 different countries worldwide, through our Condition Monitoring Diagnostic & Training Center (CMDT), holding annual services contracts to over 160 plants and monitoring more than 11.000 assets.



### Remote Diagnostic Benefits





#### Site safety increase



Data optimization for alarms and event management

User Training (Programmed and ondemand courses)

Preconcerto Report Platform for Predective PLan Follow up, recommendations and diagnostic.



### Advanced services (upon request):

- Modal analysis
- Finite element calculation



### Online training:

CAT certification according to ISO 18643 (Mobius Institute)

Maintenance in industry 4.0

Vibration analysis

Ultrasound

- Maintenance management
- Precision alignment and balancing

ARP certificate on reliability and maintenance management (Mobius Institute)



- ITC thermography certification
- Lubrication
- Turbomachinery analysis
- Predictive maintenance of electrical machines
- Handy thermographic inspection
- Design of vibration monitoring systems

# **IIoT Platform**

### The keys to the digitization of predictive maintenance

#### 01. OT and IT integration

Our digitized predictive maintenance allows you to integrate your OT and IT information sources into one single platform in order to control all your assets as efficiently as possible throughout their lifetime.

This will extend the life of your assets and maximize your production process.

#### 02. Edge in Predictive

The edge computing technology we use is absolutely necessary for us to be able to help you in your digitalized predictive processes .

This not only means that you can send all the information generated by your assets inreal time, but also that you can act on the assets in the event of quality or maintenance anomalies, in real time.

It ensures that, regardless of the status of your communications, your predictive maintenance works and does so in real time.

#### 03. Opportunity cost

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Having an automated forecasting tool that integrates with your industrial infrastructure has the competitive advantage of improving your opportunity costs.

You will reduce not only machine downtime, but also the number of times this occurs and vou will be able to schedule maintenance so that its impact on the business is as small as possible. This is thanks to the digitalization that an IIoT platform offers compared to a manual process carried out by analysts and/or operators.

#### 04. Maintenance and Quality

Our predictive maintenance technology has a double benefit for you: on the one hand, you will use it for the predictive management of all the assets and devices of your industrial infrastructure, and on the other hand you will be able to apply it to improve your quality processes, by applying its predictive analytical components, smart vision and machine learning to the quality processes of your production units.

#### **05.** Predictive analytics

Our predictive analytics is based on two services that we can apply to your customized needs.

We have predictive algorithms that we apply to your assets to help you prevent failures and save costs. And we also complement it with a human component of predictive analysts, with extensive experience, who have been the parents of our algorithms and who can help you by carrying out studies tailored to your needs, for continuous improvement.



### How do we achieve it?

All the services we offer to manage the predictive maintenance of your infrastructures are based on 3 pillars that allow us to understand your needs and design your unique and tailored solution.

#### The IIOT platform and marketplace

Our technology is based on an IIoT platform with AI and Big Data that integrates with any sensor and intelligent vision technology and with your organization's IT and OT systems.who can help you by carrying out studies tailored to your needs, for continuous improvement.

#### Consultancy

We have Predictive Analysts, Intelligent Vision Experts, Civil Engineers, Data scientists, Product Owners, Project Managers and other professionals who will analyze your needs and create and manage the best solution for your needs.

#### Installation and integration

Our service is 360<sup>9</sup>. We take care of everything from the hardware, to the platform, the implementation and configuration and the integration with your legacy systems. We will deliver a closed project in the agreed time.





## Datom - Online Machinery Supervisor

Datom is the ultimate monitoring solution. It is a very advanced tool for vibration analysis, and it is also suitable for any predictive maintenance technique and any type of industry

It provides information about the machine condition, its failure modes, and its evolution over time, with a user friendly, intuitive and flexible inter face.

Datom automatically detects the machine states (running, stopped, start-up, high load, low load, etc.) and establishes different alarms for each of them. It is also able to monitor calculated parameters, based on formulas.

Its powerful interface provides advanced tools for vibration analysis, using a simple web browser Datom protects, supervises and diagnoses the health state of your machinery



Datom is a simple and compact solution for supervising machinery.

Its small size, low consumption, high processing power, storage capabilities, and embedded configuration and visualization interfaces, make the system very easy to install, operate and maintain, while keeping all the functionalities required by expert analysts or plant operators.



#### Main Benefits

Datom alerts of any failure modes being developed on the machinery, decreasing production downtime and maintenance costs.

>> Increases productivity.

- >> Extends machinery lifespan.
- >> Optimises the periodic
- maintenance program.
- >> Reduces machinery
- maintenance expenditures.
- >> Reduces the cost of spar e parts in stock.
- >> Keeps machinery health condition under control.

#### Applications

- >> Pumps
- ≫ Fans
- >> Gear boxes
- >> Cranes
- >> Compressors
- >> Wind Turbines
- >> Gas and Steam Turbines
- >> Electric Motors

# Wireless vibration sensor

>> Monitors vibration and temperature

>> Measuring Range +/- 20g

>> Measures acceleration

>> High resolution spectra can be calculated from measured data

>> Fully compatible with Bluetooth 5 standard
>> Self-contained device that mounts directly onto the machine

>> Rugged and corrosion resistant

>> Field replaceable battery, up to 5 years life



#### HIGH PERFORMANCE

Outstanding measurement capability. User selectable operating modes.

#### SIMPLE INSTALLATION

Simply fix the sensor to your machine, set it running and it measures, unattended for up to 5 years.

CONNECTIVITY

Operates with PC's, tablets and smart phones.

#### RUGGED

Suitable for harsh industrial conditions. Corrosion resistant.

#### WIRELESS OPERATION

Low power radio, with power management, ensuring long battery life..

#### FLEXIBLE

Available in OEM versions, programmed to suit your requirements. Can also be programmed by you. Contact Sensor-Works for details.



## SAAM Advanced maintenance support system

SAAM is a solution that provides field technicians instructions step-by-step guides on the maintenance operations.

It allows the digitization of knowledge essential by means of videos, 3D animations and reality augmented.

Maximizes the efficiency of technical interventions standardizing operations, minimizing time of tasks and reducing errors.

Integration with other systems: GMAO / SCADA / ERP BIG DATA / HMI / MONTH

Indoor location and user guidance by means of the BIM integration

#### ASSETS

>> Automatic identification of assets by QR codes, tags and geolocation.

#### LOCAL ACCESS

>> Offline operation and support multiplatform.

#### KNOWLEDGE MANAGEMENT

>> Statistics recording and access to the history of interventions.

#### VISUALIZATION

>> Visualization of data in real time.



Full integration with Microsoft HoloLens 2



PC Backend Management and multi-device APP in iOS, Android and Windows



11 Statistics



# ATR Technical remote assistant

ATR is a collaborative tool based on Augmented Reality designed specifically to improve the quality and efficiency of technical assitance.

It allows to quickly and efficiently identify the incident and giveprecise instructions in real time for its resolution.

Intuitive and easy to use tool without the installation of any application.



Avoid expert travels

Minimize production downtime



Provide instant assistance to field technicians and customers

#### STREAMING TECHNOLOGY

>> High quality service with low bandwidth.

#### AUGMENTED REALITY

>> Allows to overlay texts, predefined graphics and freehand drawings in real time.

#### GENERATION OF KNOW-HOW

>> Activity record, collaborative incident reporting and video recording.

#### SIMULTANEOUS TRANSLATION

>> Advanced real-time translation system into over 40 languages.

#### MULTIDEVICE

Smartphone, Tablet, PC or smart glasses.



Compatible with iOS, Android and Windows



# Offices in America

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# Think Big

#### We aim to be a **leader**: providing clients with the latest technologies and accompanying them throughout their projects to deliver **value-added** solutions and projects, backed up by experienced professionals and **excellent** service.

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