

*26 SEMANA EUROPEA GESTIÓN AVANZADA*  
*Marco Industria 4.0*

*CAN A BOLT GENERATE NEW BUSINESSES?*  
*Erreka Fastening Solutions*

Octubre 2020



# Gestión avanzada para la industria 4.0

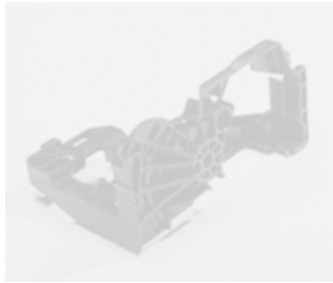
- ❑ Nuestros Planes estratégicos para los ciclos 2012-16 y 2016-20 están perfectamente alineados con el MGA, la reflexión actual para el plan 2021-24 sigue dicho marco
- ❑ Erreka Fastening Solutions forma parte del programa de gestión avanzada de Euskalit traccionado por SGRE.
- ❑ Dentro de ellos destacamos:
  - la importancia de contar con una gestión de todos los stakeholders que permita el conocimiento profundo de sus necesidades,
  - una sólida gestión de partners tecnológicos o proveedores de nivel
  - una gestión de competencias capaz de generar el conocimiento interno preciso para avanzar hacia la digitalización y la industria 4.0. con éxito.

# About us

- **ERREKA FASTENING SOLUTIONS** as part of MATZ-ERREKA belongs to MONDRAGON CORPORATION the world's biggest Cooperative Group.



ERREKA  
**FASTENING SOLUTIONS**



ERREKA  
PLASTICS



ERREKA  
ACCESS AUTOMATION



WIND



OIL&GAS



OFFSHORE



THERMAL MACHINES



AERONAUTICAL



CONSTRUCTION



- 257 Companies and Entities operating.
- 74,000 workers.
- Technological innovation and integrations as the driving forces behind its development.
- 15 Research and development centers.
- 467 invention patent families.
- 1 University of its own.

# Our History

- ❑ From specialty product to commodity
- ❑ Jumping from industry to industry
- ❑ Process automation has growth factor had limited reach



# Our History

## Timeline

1961



Born as experts in bolt design and manufacturing

1990 - 2012

We become a reference for the critical joint in the wind sector



2012



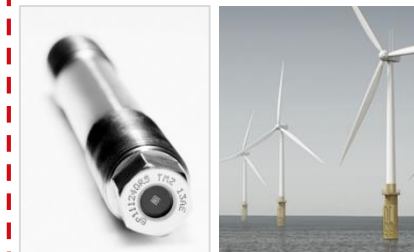
Engineering and services business starts to be developed

2014



We begin to develop our own smart bolting joint system (i-Bolt®)

2016 - 2017



First project in the Offshore wind sector with the 1st installation of our remote solution (remote i-Bolt®)

Future

Maximization of Engineering and Services supported by data knowledge and diversification towards new application niches





# Big challenges → Great Opportunities



*Most of failures come  
from incorrect tightening*



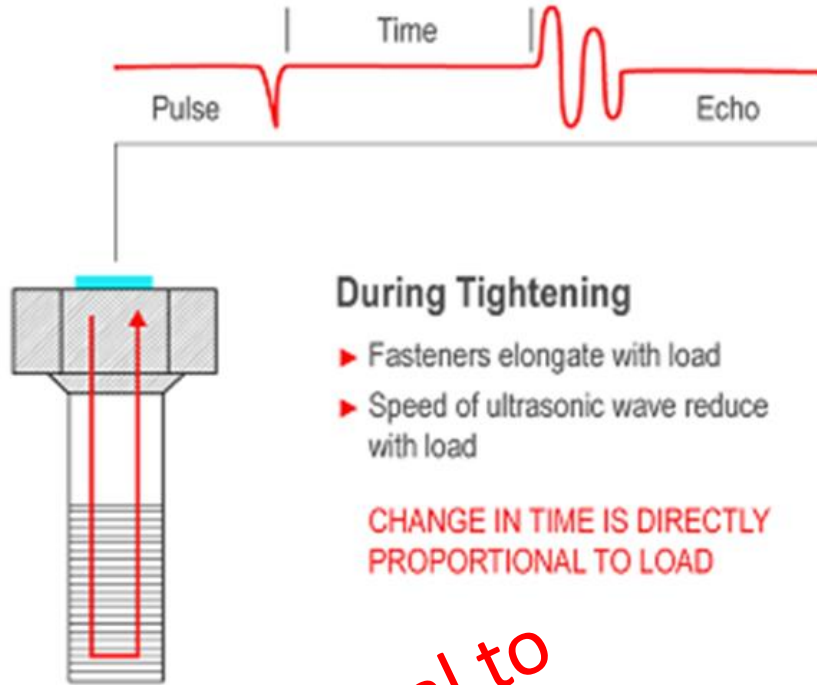
*Structure located in  
hostile, remote and  
inaccessible environment  
OPEX costs are huge*



*We had the knowledge,  
we had to put it work!*

# Knowledge and State of the art technology

*i-Bolt*®

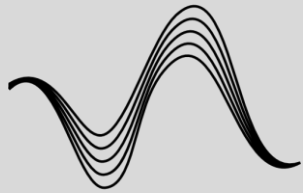


From traditional to  
Smart product



# Knowledge and State of the art technology

*i-Bolt*®



*Direct load  
measuring  
ultrasonic  
technology*

*Accuracy\* ( $\pm 3\%$  in  $3\sigma$ )*

*Self-installing and Self-verifying  
Failsafe Design*



*\*Certified by*



*From the sea  
to the clients'  
workstation*

*Proven remote capabilities*

*Communication system*



*Cloud  
based*



*Cybersecure*





# What we do

*From bolt manufacturing company...*

***“Experts in the integral and intelligent management of the whole lifecycle of the bolted joint”***

***Before***

Engineering Services

***During***

Field Services

***After***

Data Services

# Before

## *Engineering Services*

### ***Failure Analysis service and its characterization***

---

Redesign of the bolted joint and tightening method to avoid it

### ***Conceptual and detailed design services, including simulation, validation, certification, pre-series and tightening strategy***

---

Since initial design we are able to optimize current designs, reduce life cost and the number of bolted joints

### ***Training of your service technicians***

---

Apart from our manufacturing capacity, we can install our i-Bolt technology in any bolt



# During

*Field Services*

## ***Tightening Certification***

We not only provide the i-Bolt or i-Bolt Remote, but we can carry out the installation itself

## ***Installation***

Guarantee of compliance to assembly procedures. Identification and traceability of each unique fastener. Team training or onsite supervision.

## ***Guaranteed solutions***

Keep your i-Bolt equipment in perfect condition thanks to the support of our technicians

*Our Field Services ensure a correct and efficient installation, no matter what tool is used, reducing the risks derived from human error, and the supporting our technology over time.*



# After

## *Data Services*

*Remote i-Bolt opens the door to real-time measurement in any wind farm*

### ***Data provider***

---

Erreka provides all the raw data for the client's platform

### ***Data verification***

---

Erreka assumes all responsibility for the quality of data transmission, and takes action accordingly

### ***Fatigue life analysis***

---

Erreka processes the information, and uses proprietary software to calculate the fatigue life analysis and predicts the remaining life of the bolted joint

*Our data services offer monitoring of bolt fastenings, using remote diagnosis, resulting in maintenance management optimization and cost reductions.*

*A greater amount of data and its correct processing results in better risk management related to the connections.*

# Next steps

- 
- ☐ Diversification to other industries within EFS
  - ☐ Using our 4.0. transformation model in the rest of ERREKA's businesses
  - ☐ ERREKA ACCESS AUTOMATION
  - ☐ ERREKA PLASTICS
  - ☐ New business lines

# Services and Products in the advanced bolted joint world

## Erreka Fastening Solutions

San Juan Industrialdea, 99 pabiloia

20.570 Bergara, Gipuzkoa, España

Tel: (+34) 943 786 149

[fasteningsolutions@erreka.com](mailto:fasteningsolutions@erreka.com)

