



KNOW-HOW
INNOVATIVE SOLUTIONS

SCIENTIFIC / TECHNOLOGY SERVICES



ENGINEERING



STRUCTURAL INTEGRITY



MATERIALS

MANUFACTURING & WELDING

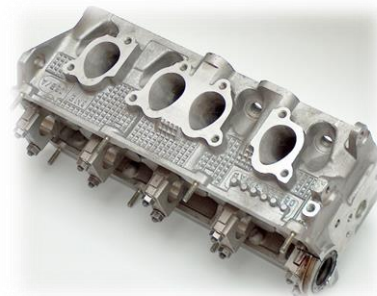
CUSTOMERS

ENGINEERINGS

MANUFACTURERS

END USERS

Capital Goods
Offshore
Shipbuilding
Energy
Petrochemical Industry
Automotive
Aeronautics
Special manufacturers
Steelmaking Industry
.....





KNOW-HOW
INNOVATIVE SOLUTIONS

KNOWLEDGE

TECHNOLOGY

QUALITY

QUALIFICATION

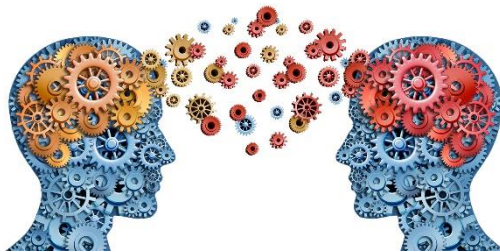
NEW METHODS

DURABILITY

EXPERTISE

INNOVATION

SAFETY



OUR DIFFERENTIATION

We are an official **spin-off** of the University of Oviedo



OUR RESOURCES

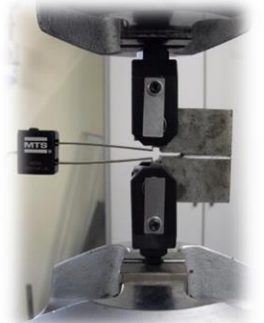
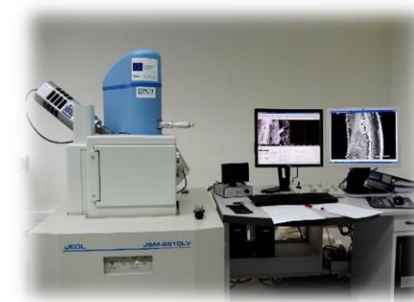
Official agreement with **University of Oviedo**

Exclusive techniques and **protected know-how**

Commercial **HQ software** (FEA, assessment)

Exclusive software (welding, heat treatments, metallurgy...)

Partner Network



DESIGN & MANUFACTURING

QUALITY:
CONTROL & IMPROVEMENT

FAILURE
ANALYSIS

R&D

FINAL PRODUCT

IN-SERVICE
COMPONENTS &
STRUCTURES

DESIGN & MANUFACTURING

QUALITY:
CONTROL & IMPROVEMENTFAILURE
ANALYSIS

R&D

Materials and Manufacturing
processes **consultancy****Welding**
(design, robotization, solutions...)**Optimization of Materials & Processes****Advanced Numerical Simulation****Laboratory tests****Mechanical properties improvement****Fatigue life improvement****Determination and relief**
of **Residual Stresses****Hydrogen Embrittlement / Cold Cracking**

FINAL PRODUCT

IN-SERVICE
COMPONENTS &
STRUCTURES

DESIGN & MANUFACTURING

QUALITY:
CONTROL & IMPROVEMENTFAILURE
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FINAL PRODUCT

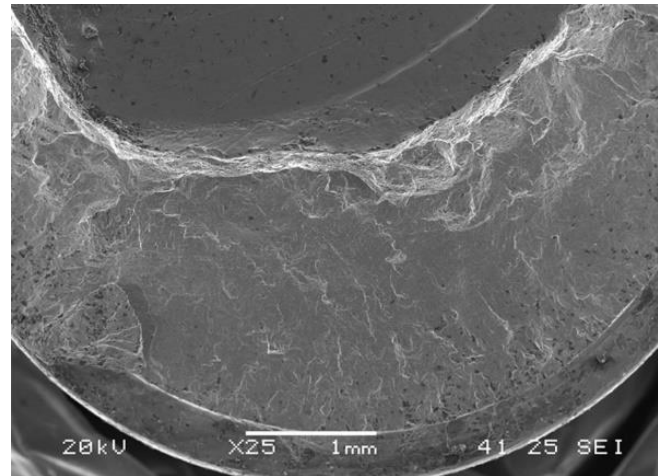
IN-SERVICE
COMPONENTS &
STRUCTURES**Advanced Quality Control****In-service** determination of **Mechanical Properties****Improvement of mechanical properties****In situ Fatigue Life Increase**Design of **Inspection plans** and **Technical advice**Evaluation of all types of **NDTs**, **detecting** and **classifying risks****Solution to non-quality problems**

DESIGN & MANUFACTURING

QUALITY:
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ANALYSIS

R&D

FINAL PRODUCT

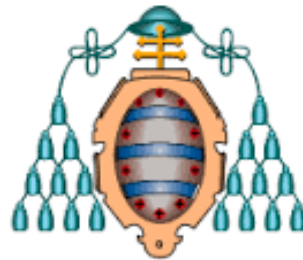
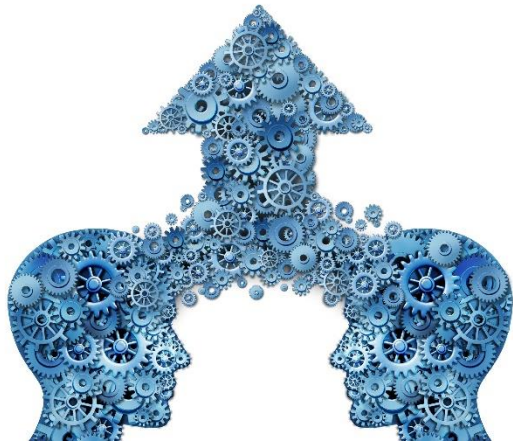
IN-SERVICE
COMPONENTS &
STRUCTURES**Research**
Design of Repairs
Preventive Solutions

DESIGN & MANUFACTURING

QUALITY:
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ANALYSIS

R&D

FINAL PRODUCT

IN-SERVICE
COMPONENTS &
STRUCTURES

UNIVERSIDAD DE OVIEDO

New technologies for mechanical characterization**Welding****Additive Manufacturing****Hydrogen embrittlement****Advanced Numerical Simulation of Materials and Processes****Fatigue life and/or mechanical properties improvement treatments****Optimization of Manufacturing Processes**

**NOW, JUST A COUPLE
OF EXAMPLES OF OUR
KNOW-HOW....**

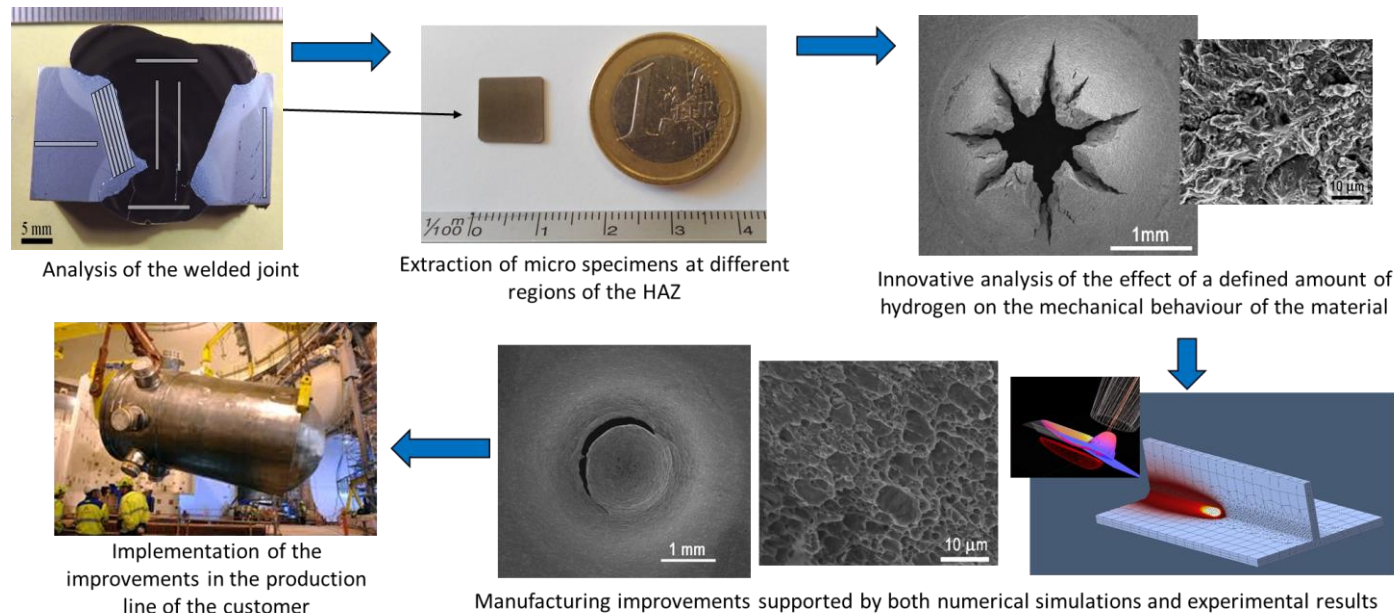
ADVANCED DESIGN AND QUALITY CONTROL OF WELDS (WPS)

Design of welding procedures based in **knowledge, experience** and **numerical self-developed tools**.

Validation with **exclusive technologies** of **micromechanical characterization**, even in **aggressive hydrogen environments**.

EXAMPLES OF APPLICATION:

- Design of welding procedures with **customized** mechanical and metallurgical **properties**.
- Design of welded joints for **high quality requirements**. **Optimization of welding sequences**.
- **Determination** of final **metallurgical** and **mechanical properties** in **function** of the **WPS**.



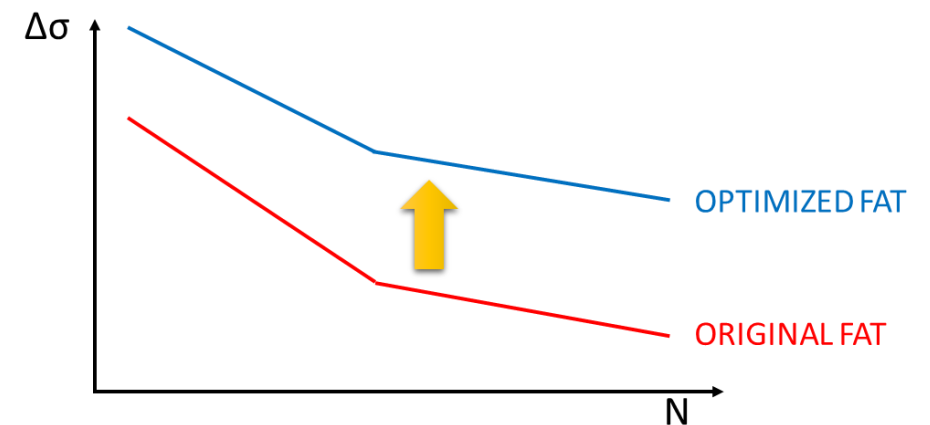
FATIGUE LIFE IMPROVEMENT

Increase of allowable cycles **up to a 225%**.

Guaranteed by real **laboratory tests**.

EXAMPLES OF APPLICATION:

- **Structural elements with high fatigue requirements** (offshore, critical capital goods, automotive, aerospace...).
- Increase of allowable cycles and justification under **different codes** (ASME Sec. VIII Div. 2, DNVGL-RP-C203...)
- **Welds with infinite life requirements**.



Thank you very much for your attention

Contact: Tomás E. García (*Managing Director*)

M: garciatomas@khisgroup.com // **W:** www.khisgroup.com // **T:** (34) 684 603 513 ; (34) 985 087 637

You are kindly invited to visit our facilities

Espacio Tecnológico Campus, C/ Pedro Puig Adam, S/N, Oficina 4, 33203 Gijón (Asturias)



How to get: <https://goo.gl/maps/AYfgKK8GK1H2>



Know-How Innovative Solutions S.L. is an official
spin-off of the University of Oviedo