

INNOVATION ENGINEERING COMPETENCIES



SOLUTIONS PROVIDER
AS WELL AS VALUE CREATOR



Enhancing design and conception of your product / assembly
Costs saving – Improvement of Resistance – Optimize life time of parts

OUR EXPERTISE

ANALYSIS AND DIAGNOSIS	CONCEPTION & INNOVATION	SIMULATION & MODELLING	ENGINEERING	INDUSTRIALIZATION
Understand needs and expectations	Design products/assemblies from customers system	Implement suitable resources to reach customer satisfaction	Transform a concept into a feasible product/equipment	Conduct prototype phase to reach validation and qualification

ENGINEERING COMPETENCIES

- Conception of mechanical elements (Solidworks 3D Software)
- Metallurgical expertise in our intern laboratory (spectrograph, micrograph, macrograph, binocular analysis, material uniformity through Eddy Current Testing)
- Structure analysis calculation (Cosmos Software)
 - Fatigue resistance calculation (Ansys Workbench and other dedicated Software)
 - Creep strength analysis (Ansys Workbench Software)
 - Compressive and tensile straight-line calculation (OptiStruct & Ansys Workbench calculation)
- Dynamic simulation (Ansys Workbench + Radioss for speed dynamic)
- Solving sealing issues
- Forging simulation (Forge Software)
- Failure expertise about :
 - Corrosion
 - Fatigue
 - Material & metallurgy
 - Tightening
- Mechanical Structure analysis (Ansys Workbench & Ansys Mechanical)
- Dynamic calculation (Altair Hyperworks with Hypermesh, Optistruct and Radioss extension)
- Fluids mechanical analysis (Ansys Workbench, Ansys Design Modeler, Ansys TGrid, Ansys Fluent, Gambit)



We apply our innovations continually to solve customers' issue. For instance, AL has provided a material avoiding heat treatment for shackle axle leading to important cost reduction for our partner. Furthermore, the use of specific chemical surface treatment allowed a customer to get rid of hazard nitriding on his part.

EXPERTISE IN FASTENING AND BINDING ELEMENTS

Time sparing, costs reducing through expertise and know-how to reach better value added production

- Reduction of lead time
- Reduction of indirect costs (supplier dealing, mounting, engineering etc.)
- Enhancing global expertise
- Solutions provider for new technologies (material, heat treatment, surface treatment, tightening, anti-loosening devices, connected devices)
- Optimization and improvement of products life time

INNOVATION,

ANSWERING THE NEEDS FOR NEXT GENERATION OF PRODUCTS AND MECHANICAL ASSEMBLIES



Tightening has never been so easy!

Our anti-loosening devices, nominated for Innovation Trophy at Midest 2014

Going further into AL's innovation culture

Tensioner Nut



Creating an axial tension into a nut through tightened screws

FUI Mekinox



Replacing contaminant surface treatment (Cadmium, hexavalent Chromium) by new type of high properties stainless steel grades.

Connected Screw



Tightening devices allowing remotely (distance) communication



ANDRÉ LAURENT
THE ASSEMBLY EXPERT