

Cars mechanical prototyping process



*Photo : ISAT
<http://www.isat.fr/>*

The Product

The LDVT technology is perfectly adapted for the harshest environment. The capability of the LVDT to detect the smallest possible movement is a key for displacement analysing.

The displacement sensors must be robust to handle shock and acceleration during in circuit test. The embedded test session is always the latest important stage.

Range: 5 mm to 300 mm – Accuracy: Up to 0.1% FSO – Resolution: Below 0.02 μm – support Very harsh environment High nuclear rays levels and high cable lengths.

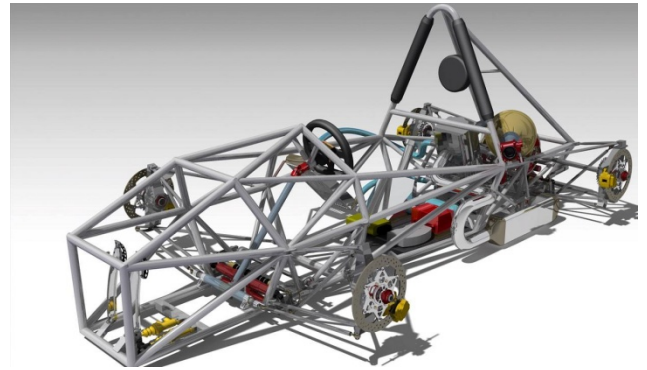


The Challenge

When the mechanical engineers are designing a new chassis or a new security device for the automotive market, they base their analysis on existing theoretical schematics and structures behaviors.

The validation processes are very important to match the theory and the reality. In studying the movement structure in real situation, they definitively settle it.

The customer need a displacement sensor to look into the structure chassis rigidity and behavior or the part in motion during the test.



The LVDT displacement sensors will be used as a primary measurement on shock absorber. They will combine roll holding, absorber rigidity coefficient and movement of the absorber devices on each wheel
An embedded computer will be placed to cover the acquisition and sampling. The electronic must register as much measurements as possible in using high readings rate.

The Solution

Analogue S Series with universal joints has been selected to simplify the mounting process. The Robustness of the stainless steel satisfy the specifications of the dampers application. The direct analogue output will be kept by a National Instrument device to insure the quality of the acquisition.

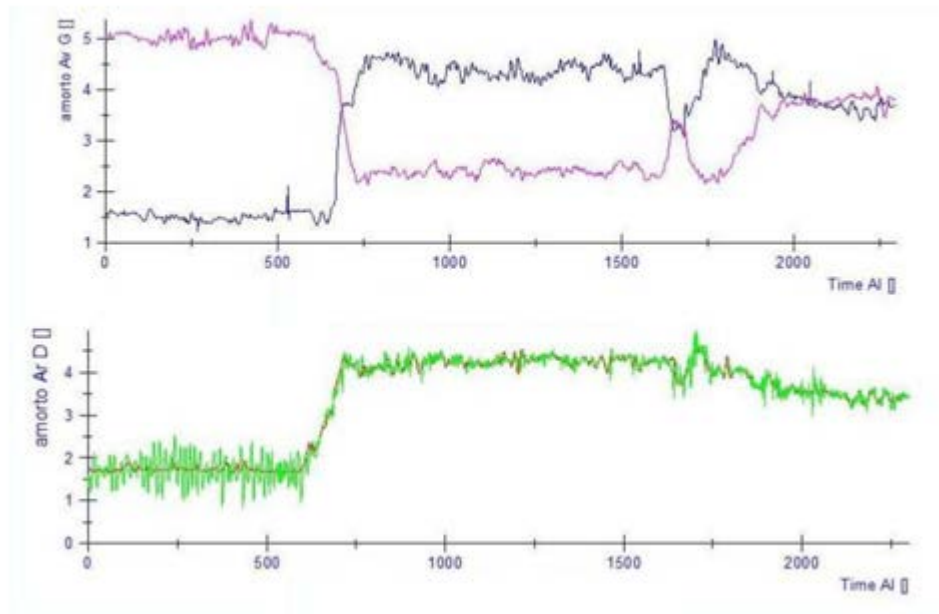
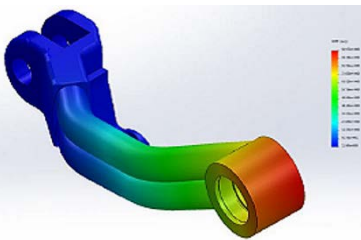
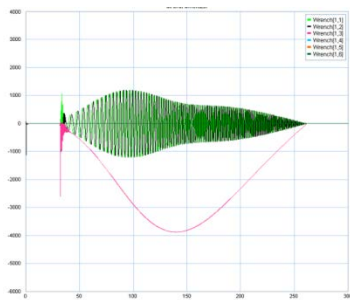
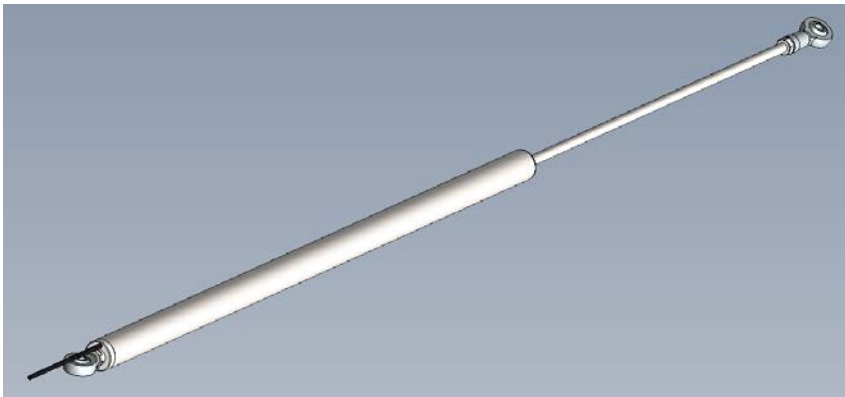


Photo : VENQO
<http://venqo.com/>

Prototyping is a constant engineering exploration. All the devices, tools or components must be reused and upgraded from application to a new one to limit the cost. Research and development always claims newest and best technologies in all fields and sensors are an essential part in understanding and knowing process.

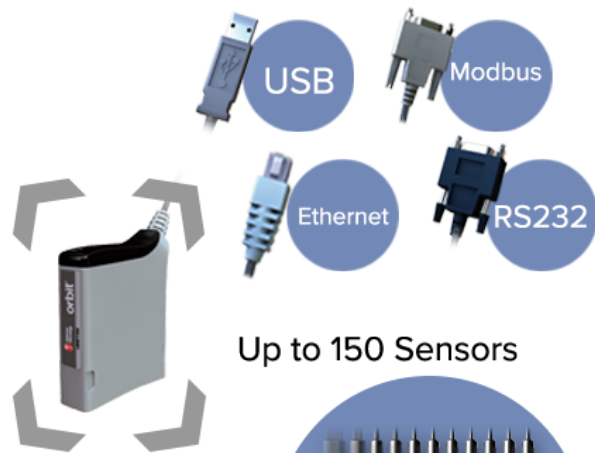
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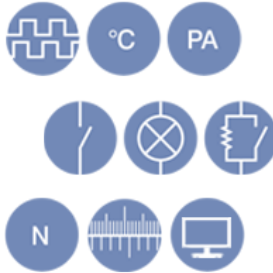
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