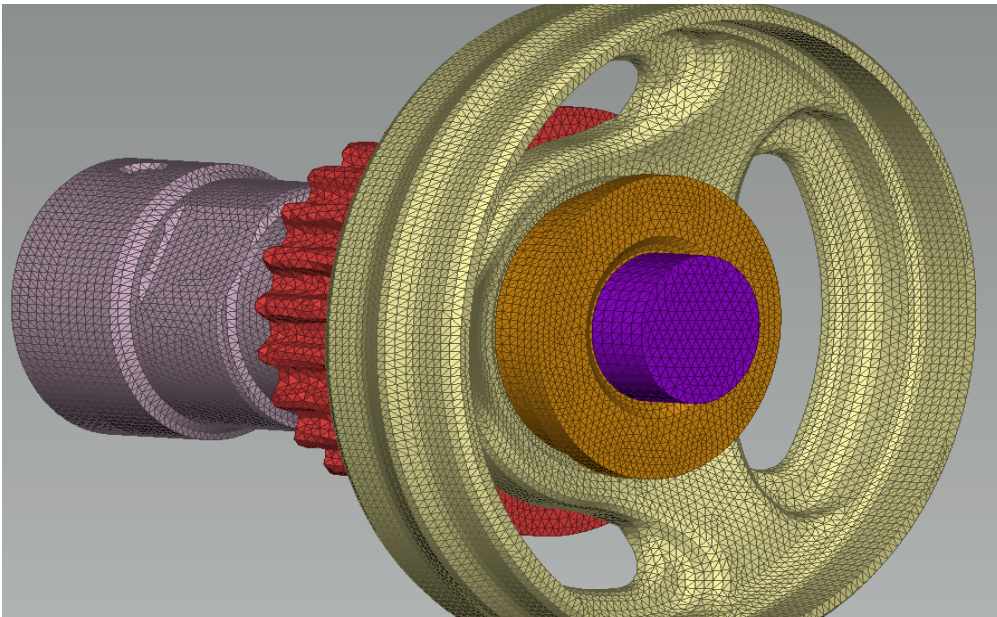


PSA Peugeot-Citroën

Cobra: tailored to specific requirements

Cobra, the bolted joint dimensioning tool, takes into account fasteners and materials used by PSA Peugeot-Citroën as well as the particularities relating to safety connections, thereby meeting its needs.



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Cetim's asset



With Cobra, Cetim is able to offer a bolted joint dimensioning software

that can be used in all industrial sectors. Moreover, its experts can tailor the tool to a company's specific requirements and applications and develop analytic tools that meet specific needs.

OUR CLIENT

Corporate name
PSA Peugeot-Citroën

Activity
Leveraging on its three brands, Peugeot, Citroën and DS, the group sold more than 2.9 million vehicles worldwide in 2014, 42% of which outside of Europe

2014 turnover
53.6 billion Euros in 2014

Workforce
Approximately 185,000 employees worldwide, 79,000 of which in France

The PSA Peugeot-Citroën Group is a loyal user of the Cobra software designed to assist in the dimensioning of pre stressed bolted joints with controlled tightening. The car manufacturer took advantage of the development of the latest version of the software, with its fully redesigned and modernised IHM (human-machine interface), to request that Cetim tailor the software to its specific requirements.

"Some of our criteria differ from the standard Cobra version. For example, the resistance level of the bolted joint is much higher in terms of the safety connections which must be extremely reliable. In addition

to the tensile and compressive stresses usually applied to a bolt, the shear stresses are much more significant. One checkbox on the IHM attracts user's attention so that they are more attentive to the resistance of the joint in particular in relation to these stresses", stated Mathieu Gustin, a development coordinator who provides Cobra support within the department responsible for implementing and maintaining numerical simulation methodologies and tools at PSA Peugeot-Citroën.

Enhancing ergonomics

Furthermore, variables were renamed in the IHM

to match those used by the manufacturer. Another function supplies the torque corresponding to the pre-load to be installed in the bolt. This serves to select and dimension the tightening tools.

The manufacturer's specific fastener catalogue was incorporated into Cobra as well as a database of frequently used materials. "Cobra is initially designed for steel and its variants. We also need to characterise materials such as aluminium or cast iron. Cetim performs the necessary tests in order to broaden the range of application of Cobra to our materials", added Mathieu Gustin.