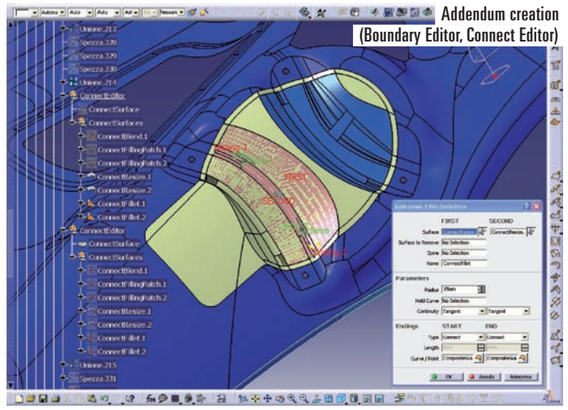
After thorough testing, Fontana Pietro selected AutoForm-ProcessDesigner^{forCATIA} software for its internal product development process

DIE DESIGN IN CATIA



Addendum creation (Boundary Editor, Connect Editor)

ISMR SAYS:

"The creation of surfaces is becoming a critical aspect in this complex market where the competitive edge is timing"

Sheet metal forming involves the creation of surfaces which, depending upon their own complexity, enable adjustments to be made at the right time and to the desired level of precision and quality. This is a key concern for the technicians working for the engineering department at Fontana Pietro.

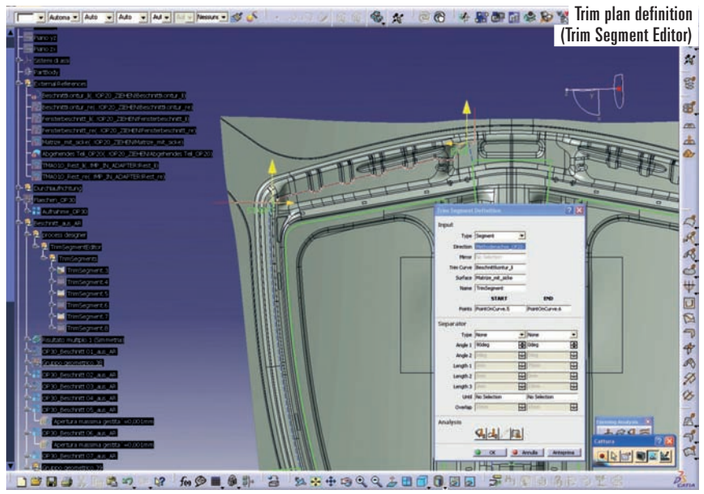
Fontana Group activities encompass engineering; die design and construction; car body production and interior design construction. Fontana Pietro is the Group's headquarters in Italy and has been the domestic and international reference point for the design and manufacture of stamping dies in sheet metal forming for over 50 years. It serves well known, prestigious automotive OEMs around the world.

To meet the needs of its customers in terms of lead time, precision and quality of surfaces, Fontana Pietro started testing the features offered by AutoForm-ProcessDesigner^{forCATIA} in 2013. This software is dedicated to the rapid creation of high quality CAD surfaces. Following positive feedback, the software was bought and implemented internally within its product development process to optimise the methodologies and strategies already in place.

Staying in the CATIA environment

"We are satisfied", said Valentina Cavenago, Senior Die Surfaces Technician, Fontana Pietro, "with this collaboration with AutoForm

Valentina Cavenago, Senior Die Surfaces Technician at Fontana Pietro



Trim plan definition (Trim Segment Editor)

Engineering to investigate the benefits offered by the AutoForm-ProcessDesigner^{forCATIA} software. From the very beginning, it has demonstrated the potential to meet our needs."

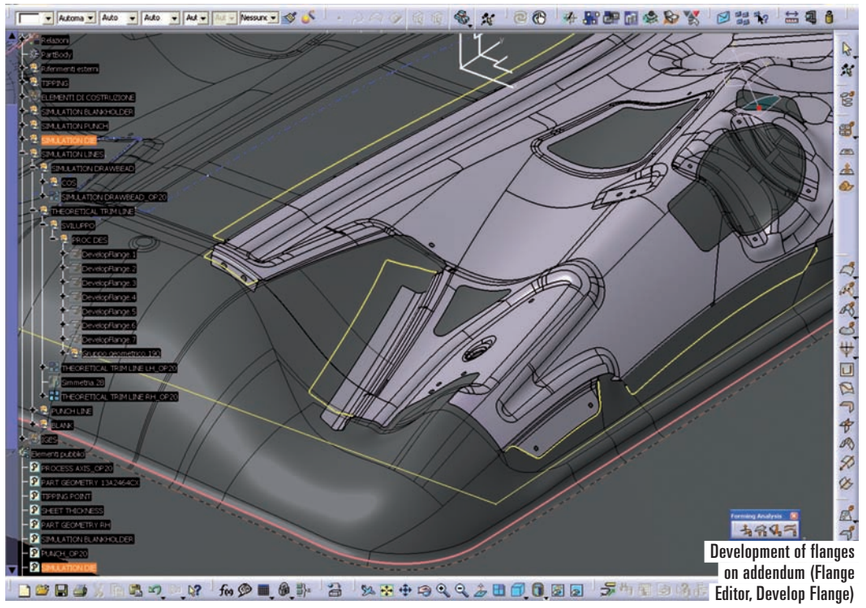
AutoForm-ProcessDesigner^{forCATIA}, one of the software products which AutoForm offers for the die-making and sheet metal forming industries, connects competence in sheet metal forming with the effective design functionalities of CATIA V5. This software enables company-wide workflow standardisation and a significant reduction in the time needed to create high quality CAD surfaces.

"CATIA has been used in our engineering department for over 25 years. Although it is certainly a powerful system, it unfortunately does not offer solutions for those working in the design and manufacture of stamping dies and, more importantly, it does not fulfil our specific needs," pointed out Giuseppina Milani, Die Surfaces Coordinator, Fontana Pietro.

The creation of surfaces is becoming a critical aspect in this complex market where the competitive edge is timing. The engineering department at Fontana required a direct connection, not a manual transition, between the conceptual creation of surfaces carried out by engineers and the creation of surfaces which can be immediately used for CNC machining.

"We had a fast and efficient simulation method based on surfaces created with AutoForm-DieDesigner^{plus}. These surfaces were not easy to handle within CAD. It became clear that this procedure was slow, complex and, above all, time-consuming for the creation of CAD quality surfaces which could be immediately used in CNC machining," added Riccardo Brivio, R&D Engineer, Fontana Pietro.

AutoForm-ProcessDesigner^{forCATIA} software is what AutoForm itself terms 'the strategic missing link which enables the user to create a die layout, which includes not only the drawing but also all secondary operations, without having to leave the CATIA environment'. The software, says AutoForm, fulfils these requirements and offers significant benefits in terms of time reduction and fewer mistakes made.



Development of flanges on addendum (Flange Editor, Develop Flange)

From theory to practice

To assess the operating potential and adaptability of AutoForm-ProcessDesigner^{forCATIA}, the engineering department carried out thorough tests on a designated project of one production line. At the same time, two further projects were carried out implementing the strategies currently in use.

"Each of the three projects", explained Cavenago, "employed the same work phases. We noticed that, when applying the features of AutoForm-ProcessDesigner^{forCATIA}, the designated project clearly showed relevant time savings."

When compared to a CATIA license, the software can be used during the running session by adding the AutoForm-ProcessDesigner^{forCATIA} license every time it is required. At the same time, the software allows for a high quality level of data update.

"Our objective", continued Cavenago, "is to use AutoForm-ProcessDesigner^{forCATIA} with any of our customers' files. We hope to create an even closer connection between AutoForm-DieDesigner^{plus} and AutoForm-ProcessDesigner^{forCATIA} to reproduce the parameters already defined during simulation on surfaces or drawbeads."

In accordance with customer requirements, better integration is required with even more targeted features to make these procedures faster and more efficient. AutoForm Engineering has already planned a new market release to make some of these functions available. This release will be an update, to be followed by others, that will make the software faster and immediately effective, even when implemented with other software systems.

Quality in focus

"The positive feedback received on the performance of AutoForm-ProcessDesigner^{forCATIA} has convinced Fontana Pietro to extend the use of it to other departments within the company, such as in its Die Process Engineering department. The die process engineer's job is facilitated, especially when elaborating the early product development phase, thanks to the validity and speed of analysis. What is significant are the benefits and advantages that include the re-use and reproducibility of data, the efficient exchange of data (internally among departments and externally among OEMs and their suppliers) and the rapid creation of a die layout that includes drawing as well as all secondary operations," added AutoForm.

"The various sketches and construction elements used in CATIA V5 are assembled in a few, very powerful features which enable easy and rapid surface design. A comprehensible data structure simplifies the usage of these new features and improves collaboration internally. The surfaces created are characterised by a significantly reduced number of control elements and appropriate surface continuity. These high quality surfaces can immediately be used for further operations, such as over-crowning, compensation or CNC machining."

"Over-crowning," concluded Guglielmo Oleari, R&D Engineer, Fontana Pietro, "will be the object of further and future operating strategies by our company. Rules will be generated to further reduce the time needed to develop surfaces." ■

Fontana Group

With its claim "where ideas take shape", Fontana Pietro is considered the 'technological tailor' of sports cars for its expertise in turning challenging ideas into feasible and extraordinary shapes.

Founded in 1956 as a workshop for mechanical and trimming jobs, it is now divided into three divisions: engineering, manufacturing and assembling of steel and aluminum parts for Body-in-White. Its head office in Calolziocorte (LC) manages two factories in Italy, one in Turkey and one in Romania.

It is now a global leader, employing 700 people, 60 of whom work in the engineering department alone. Constantly oriented towards innovation and continuous improvement, Fontana Group actively collaborates with universities and research centres. The Fontana Group uses tools and technologies that include AutoForm software and, in particular, AutoForm-ProcessDesigner^{forCATIA} for the rapid creation of high quality CAD surfaces.
www.fontana-group.com

AutoForm Engineering GmbH

AutoForm offers software solutions for the die-making and sheet metal forming industries along the entire process chain.
www.autoform.com