

Courtesy of Audi

PAM-STAMP 2G

Creating Unmatched Added Value for Stamping Simulation

PAM-STAMP 2G selected references:

OEMs: AUDI, BMW, DAEWOO, DAIHATSU, DAIMLERCHRYSLER, FIAT, FORD, FORD OTOSAN, GENERAL MOTORS, HONDA, HYUNDAI, ISUZU, KIA, LANDROVER, MAZDA, MITSUBISHI, NISSAN, OPEL, PSA, RENAULT, SAAB, SEAT, SKODA, SSANGYONG MOTORS, SUZUKI, TOYOTA, VOLKSWAGEN, VOLVO TRUCK, YAMAHA.

AUTOMOTIVE SUPPLIERS: ARVIN MERITOR, BATZ, BENTELE, BUDD, DANA, FAGRO, GEDAS, KARMANN, KIRSCHHOFF, MAGNA STEYR, MICHELIN, NOTHELFER, OGIHARA, PCI, POLYNORM GRAU, TDM, TENNECO, UNIPRES JAPAN, UNIPRES UK, VALEO, WAGON.

MATERIAL SUPPLIERS: ACERALIA, ALCAN INTL CANADA, ARCELOR, CORUS, JFE STEEL, KOBE STEEL, NIPPON STEEL, PECHINEY, POSCO LP, SALZGITTER MANNESMANN FORSCHUNG, SIWE, SUMITOMO METAL, THYSSEN KRUPP GMBH, VOEST ALPINE.

AEROSPACE: DASSAULT AVIATION, EMBRAER, MORA AEROSPACE, SNECMA MOTEURS.

WHITE GOODS: BOSCH SIEMENS HAUSGERÄTE, KALDEWEI GMBH, MIELE.

Meeting Current Industrial Requirements

Through industrial consortia, ESI Group has developed PAM-STAMP 2G in direct response to market requirements of OEMs, material providers, tier suppliers and toolmakers. Through partnerships with computer hardware leaders, ESI Group has developed state-of-the-art technology to put synergies in hardware and software into industrial stamping simulation solutions.

Product integration

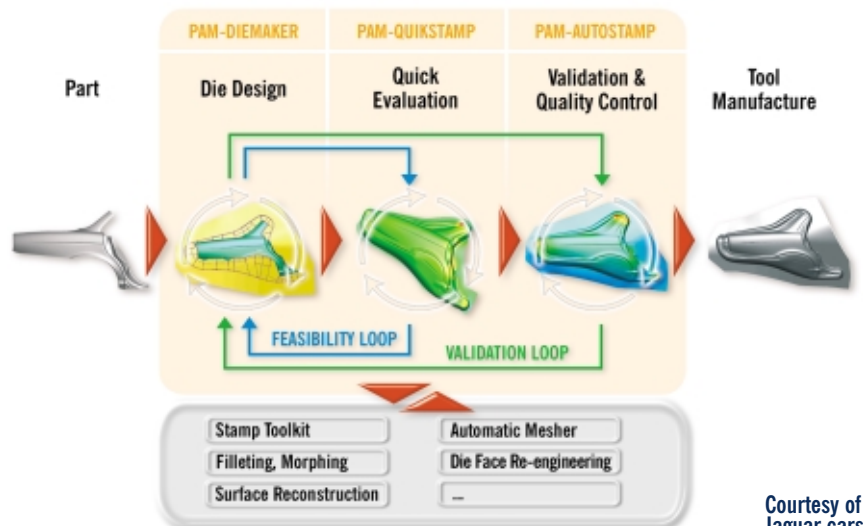
With the new licensing system based on flexible tokens, the customers will have immediate access to the full PAM-STAMP 2G value chain including PAM-DIEMAKER, PAM-QUIKSTAMP, PAM-AUTOSTAMP and the Stamping Professional Pack. The new version brings unmatched added value by enabling direct product integration and communication.

The Best Tool for PLM and Collaborative Work

PAM-STAMP 2G offers a unique stamping simulation value chain, from quick die design, through early feasibility, to final validation and quality control, without modeling discontinuity. Leveraging Product Lifecycle Management, it brings together designers and try-out experts to make online decisions in a collaborative environment.

Professional solution

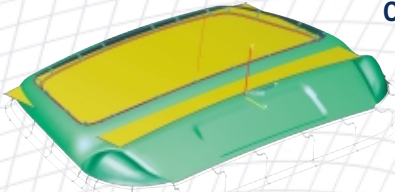
Sharing of material database and models between modules allows the user to focus on the stamping process rather than software issues.



Courtesy of Jaguar cars

Die Design

The PAM-DIEMAKER module helps the user to quickly build a parametric tool geometry using the component as a reference. Blankholder and die addendum surfaces are intuitively generated. The parametric die design allows an interactive process between die design and simulation.

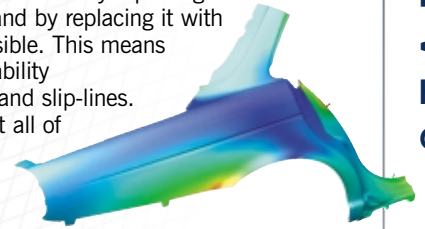


Creation of an inner binder surface

Courtesy of Renault

Formability Validation

'Right first time' tooling can only be achieved by replacing physical try-out with virtual try-out, and by replacing it with the most accurate virtual try-out possible. This means being able to spot all the usual formability issues of course, like splits, wrinkles and slip-lines. PAM-AUTOSTAMP takes into account all of the usual try-out techniques: drawbeads, spacers, lubrication, gas-springs, and variable cushion forces, can all be easily included in the virtual try-out, just as the try-out engineer would in reality, to tune and optimize the process.

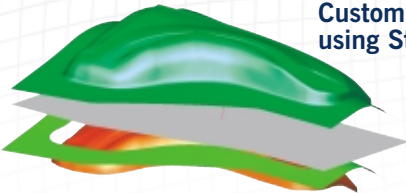


Springback Simulation

Courtesy of Jaguar cars

Quick Feasibility Assessment

The PAM-QUIKSTAMP module offers the optimum compromise between accuracy and speed for quick formability assessment. This approach easily eliminates bad design choices and provides a good basis for iteration and optimization. PAM-STAMP 2G accepts industry standard CAD formats, such as IGES, VDA and recently CATIA V5 interface.



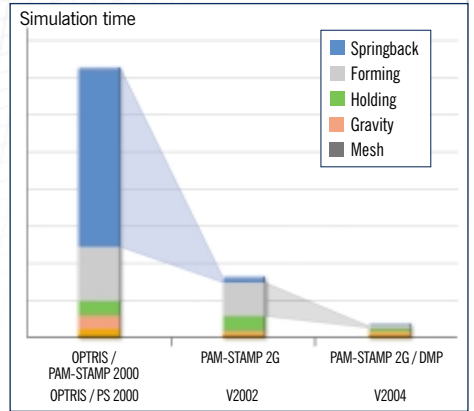
Customization of process using Stamp Toolkit

Courtesy of Hyundai Motor Company

Advanced Solver Technology

The smart solver is able to use different modes as required:

- An explicit incremental solver for detailed forming simulation, with accurate shell elements, extremely precise contact algorithm, and detailed failure modeling.
- An implicit solver with optimal accuracy and robustness for gravity and springback calculations, with significant speed up.



PAM-STAMP 2G solver offers full interoperability and repeatability between the various stages of the stamping simulation.

PAM-AUTOSTAMP Supports the Virtual Try-Out Space

The results from a PAM-AUTOSTAMP simulation can easily be incorporated in to a component performance analysis such as PAM-CRASH, for even more realistic modeling. Extended chaining between PAM-STAMP, SYSWELD and PAM-CRASH has been validated. It is a major step towards the operational virtual body-in-white.

ESI Group/HP alliance



www.hp.com

ESI Group and HP: a partnership which responds to the new industrial challenges. The customers of the industrial manufacturing sector are more and more demanding regarding the power, the accuracy and the speed of the simulation tools. The stamping industry is particularly focused on these new challenges which can be overcome by an optimal combination based on hardware, inter-connection and the software solutions. HP has always been involved in the supply of hardware with impressive price performance ratios. To achieve this objective, HP works closely together with ESI Group to optimize the operation of "Virtual Try-Out Space" software solutions over the new HP technologies. But the cooperation does not stop there: HP and ESI Group pursue their collaborative efforts on new processor architectures such as Itanium based systems. In that way, ESI Group and HP customers benefit from all the advantages at early stages of the new product line.

About ESI Group

ESI Group is a pioneer and world leading provider of digital simulation software for prototyping and manufacturing processes that take into account the physics of materials. ESI Group has developed an entire suite of coherent, industry-oriented applications to realistically simulate a product's behavior during testing, to fine tune the manufacturing processes in synergy with the desired product performance, and to evaluate the environment's impact on product usage. ESI Group's product portfolio, which has been industrially validated and combined in multi-trade value chains, represents a unique collaborative, virtual engineering solution, known as the Virtual Try-Out Space (VTOS), enabling a continuous improvement on the virtual prototype. By drastically reducing costs and development lead times, VTOS solutions offer major competitive advantages by progressively eliminating the need for physical prototypes.

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