In 2003, ŠVEC a SPOL s.r.o. earned an order for the production of tools for a wheelhouse for a ŠKODA automotive component. From the start the company was well aware that in terms of shape, and especially draw depth, this would be the most complicated part they had ever produced. Nevertheless they decided to work on this order using the traditional trial and error method. For several weeks, ŠVEC a SPOL s.r.o. tested different variations of drawing operations performance and produced several prototype tools; however, they were not doing well. They were not able to produce a part without a crack, an unacceptable corrugation or some folds of material. The company understood that this method would not allow them to fulfill their customer's order in accordance with all requirements and conditions. Therefore, they decided to integrate simulation into their development process.

ŠVEC a SPOL speeds up deep-drawing automotive project with PAM-STAMP 2G

THE CHALLENGE
After weeks of traditional trial and error approach on the most challenging deep-drawn automotive component ŠVEC a SPOL s.r.o. had ever worked on, they turned to PAM-STAMP 2G to find a viable solution and to make up for the lost time.

THE BENEFITS
- Development time reduced from 14 to 4 months,
- Fast computation allowing multiple scenarios,
- Reliable results,
- Tailor-made training provided,
- No prototype tools produced.

“With its decision to implement PAM-STAMP 2G, ŠVEC a SPOL s.r.o. was able to rank among the most successful tool producers. We considerably increased our quality standards and gained new experience that helped us to attract new customers and new orders.”

Lubomír ŠVEC,
Owner and General Manager
of ŠVEC a SPOL, s.r.o.

“Our order was, right from the very beginning, processed with PAM-STAMP 2G, no prototype tools were produced...”

ŠVEC a SPOL s.r.o. placed an order for the design of drawing operations simulation by an external company; however, this cooperation was not successful either. The simulation of one of their drafts took several weeks and all the results were wrong, showing ruptures and folds of material. After all these failed attempts the company was very late and under high pressure, and turned to ESI Group. Local ESI experts in the Czech Republic were promptly available to help them solve their problems concerning the production of the wheelhouse component. They introduced ŠVEC a SPOL s.r.o. engineers to PAM-STAMP 2G and demonstrated its potential. Furthermore, they began training two ŠVEC a SPOL s.r.o. employees.
At first with the guidance of ESI engineers, and later on their own, ŠVEC a SPOL s.r.o. started to deal with the problematic drawing operations using PAM-STAMP 2G. ŠVEC a SPOL s.r.o. was surprised by the fact that the results of simulations were totally identical to the physical pressings. This is one of the reasons which led them to adopt PAM-STAMP 2G software within their company’s production cycle.

Eventually, ŠVEC a SPOL s.r.o. resolved all the problems they were having with the part and supplied their customer with complete tools ready for serial production. The result was such that two years later ŠKODA chose them again to produce the new generation of the same component. The geometry of the part was modified but still involved a difficult deep-drawing. Geometry verified by simulations was directly used for production of new serial tools. When performing physical tests, no further geometry modifications were needed: everything was functioning immediately, exactly according to the performed simulations. Better yet, the problem with drawing molding of two parts at the same time in the first drawing operation was solved, meaning financial savings for their customer.

Thanks to the precise results of the simulations, ŠVEC a SPOL s.r.o. was able to complete this order successfully in a relatively shorter time period (4 instead of 14 months) and with higher quality than they had been able to do when preparing the first generation of this part, all without a single physical prototype.

“Since we have started to use PAM-STAMP 2G, we are sure that the development of new tools is correct. If there are no traces of tearing or folding when simulating the process, also no traces of these violations are seen in the shop.”

Andréj DRIENOVSKÝ, Chief Engineer of Stamping and Forming Simulation Processes, ŠVEC a SPOL s.r.o.