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SAMSUNG ELECTRONICS

SAMSUNG Electronics benefits from a virtual prototyping platform, saving up to 90% in engineering time

THE CHALLENGE

SAMSUNG Electronics was looking to manage CAE data and to use guided CAE automation early in the design process in order to identify the right concepts and verify design changes. The entire system would need to allow SEC engineers to automate repetitive and cumbersome tasks, thereby allowing valuable time gains.

Using ESI's Visual*DSS*, SAMSUNG engineers were able to automate their processes and workflows, thereby gaining in efficiency.

THE BENEFITS

- Easy content management including design and engineering specifications, compute models and data from third-party tools,
- 90 to 95% time savings for SEC's most common analyses,
- Processes acceleration and reduced time to market,
- CAE projects managed in a single user interface,
- Best practices implementation for mold pressure and wobble analyses, and for further projects.

"Using guided CAE automation early in the design process enables us to identify the right concepts and verify design changes in order to save time and cost."

Mr. Jeong-Rho Lee, Senior Engineer, SAMSUNG Electronics Corporation

SAMSUNG Electronics Co. (SEC) is a global leader in semiconductor, telecommunication, digital media and digital convergence technologies. With more than a quarter of SAMSUNG employees engaged in research and development, each SAMSUNG business is focused on discovering new technologies, products and services that will open a new world of possibilities for the people who use them.

Project Workflow Management

The main objective was to automate and simplify repetitive Computer-Aided Engineering (CAE) tasks for engineers and CAD designers in the Visual Display division of SAMSUNG Electronics Corporation (SEC). This was achieved by developing and implementing an integrated virtual prototyping environment encompassing different CAE solutions in use at SEC.

SEC implemented Visual*DSS*, ESI's End-to-End Decision Support System, to manage their database for project data and CAE content, such as simulation models, results and reports.

Visual*DSS* manages results from CAE programs for crash/safe applications (for example from MADYMO, LS-DYNA, PAM-CRASH or RADIOSS) and other simulation domains (such as MSC NASTRAN and SYSTUS). It allows flexible enterprise deployment, by integrating easily within the company's IT and data architecture. As it is an open system, Visual*DSS* can be linked easily to databases and PLM systems.

The main system was fully web-enabled, thereby allowing engineers to easily access standard, automated processes and workflows. Several third-party tools were incorporated to the main system along with several process templates for CAE task automation to facilitate SEC's most common analyses: mold pressure and wobble analyses.

"Using guided CAE automation early in the design process enables us to identify the right concepts and verify design changes in order to save time and cost. As we are very satisfied with ESI's support and assistance throughout the project, we are looking into implementing the simulation data management system in other divisions"

Mr. Jeong-Rho Lee, Senior Engineer,
SAMSUNG Electronics Corporation

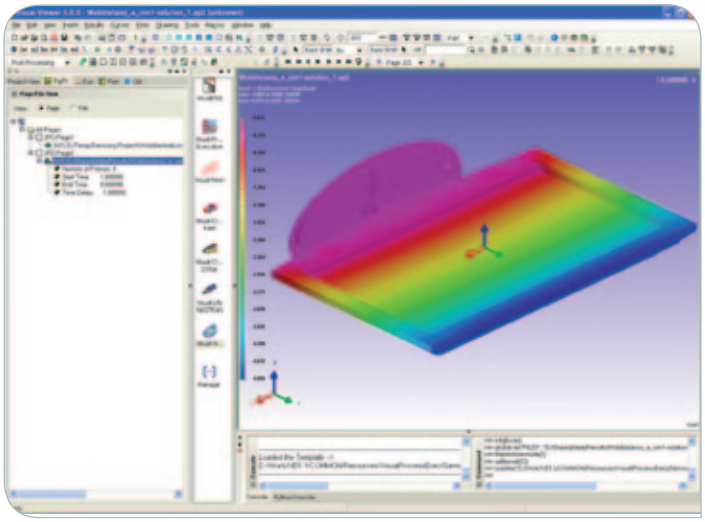
ESI engineers and experts teamed up with CAE and IT experts from SEC to ensure the timely delivery of the complete system according to production usage specifications.

Results and benefits

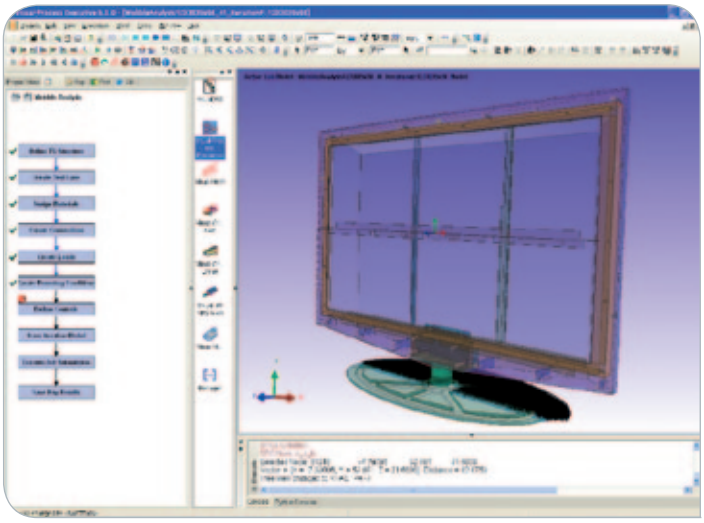
To measure the success of the project implementation, SEC tested the simulation data management system with the design of a new SAMSUNG visual display model: an LCD television screen. SEC observed a significant time reduction in the design process: a 90% gain for the mold pressure analysis and almost 95% for the wobble analysis.

Along with these measurable benefits, SEC also experienced an increase in work efficiency for the visual display team that was able to verify the effect of component design changes of the entire LCD model much faster than prior to the implementation, all within a common user interface

"With Visual*DSS, ESI provides customers with the most advanced End-to-End Decision Support System, leveraging enterprise best practices"* said Mr. Donghyeob Cho, Manager at Hankook ESI (Korea). *"This modular, open solution allows SEC to shorten their product development cycle and save time and unnecessary costs".*



Displacement contour for wobble analysis - courtesy: SAMSUNG Electronics Corporation.



Workflow for wobble analysis - courtesy: SAMSUNG Electronics Corporation.

To find out more about ESI's process automation and decision support solutions, please visit: www.esi-group.com/VisualDSS

ABOUT SAMSUNG ELECTRONICS

SAMSUNG Electronics Corporation is SAMSUNG's flagship company, leading the global market in high- tech electronics manufacturing and digital media. SAMSUNG's Digital Media and Communications Business encompasses home appliances, mobile phones as well as MP3 players and personal computers. For more information: www.samsung.com

ABOUT ESI GROUP

ESI is a pioneer and world-leading provider in virtual prototyping that takes into account the physics of materials. ESI has developed an extensive suite of coherent, industry-oriented applications to realistically simulate a product's behavior during testing, to fine-tune manufacturing processes in accordance with desired product performance, and to evaluate the environment's impact on performance. ESI's solutions fit into a single collaborative and open environment for End-to-End Virtual Prototyping, thus eliminating the need for physical prototypes during product development. The company employs over 750 high-level specialists worldwide covering more than 30 countries. ESI Group is listed in compartment C of NYSE Euronext Paris. For further information, visit www.esi-group.com.

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