



Volkswagen and ESI Group: 23 Years of Strategic Collaboration for Virtual Product Performance

THE CHALLENGE

- Innovate in design using new materials and cutting edge technology
- Increase efficiency of predictive virtual testing
- Use a single simulation model to run multidomain performance tests

THE STORY

"With this further development of the software suite, ESI Group has achieved a quantum leap in the field of simulations. By being able to utilize a unique mathematical model for both crash and load testing, we're improving our development efficiency at several stages of a project. Given the ever-shortening development cycles in the automobile sector, this gives us a decisive competitive edge."

Dr. Ralph Sundermeier, Head of Functional Calculation Interior and Methods at Volkswagen

THE BENEFITS

- Optimize product performance: a significant acceleration in the product development process
- Reduce product development costs
- Accelerate time-to-market
- Drive product innovation

The Volkswagen Group delivered to customers more than 6 million vehicles, which makes them the largest car-maker in Europe and one of the world's leading automobile manufacturers in 2008. In Western Europe, the biggest car market in the world, almost one in every five new cars (about 19.5%) comes from the Volkswagen Group.

The collaboration between ESI Group, pioneer in crash simulation, and the Volkswagen Group dates back to 1986. Working hand in hand, we developed together, 23 years ago, the first crash simulation methodology using PAM-CRASH. Always ensuring the Volkswagen Group access to the highest technology available in vehicle crash, safety and structural load cases simulation, ESI continues to support the product innovation of one of our first customers.



Volkswagen Passat CC
Courtesy of Volkswagen AG.

BENEFITING FROM VIRTUAL PERFORMANCE SOLUTION

The most recent successful outcome of this strategic partnership is the ESI software release: Virtual Performance Solution.

Thanks to Virtual Performance Solution, Volkswagen has considerably optimized its product performance by means of significant acceleration in its overall product development process. With this new solution, the structural crash behavior under operating conditions and the process of safety checking can be comprehensively simulated in all phases of vehicle development, thereby making predictive virtual testing much more efficient.

STRENGTHENING OUR CUSTOMERS' COMPETITIVENESS

ESI's software solutions are constantly improved on and validated with industry leaders such as the Volkswagen Group. This allows ESI to underscore our continuing commitment to develop state-of-the-art simulation solutions that address market needs and thereby strengthen our customers' competitiveness in the market.

ENHANCING DEVELOPMENT CAPACITIES TO SPEED UP TIME-TO-MARKET

Industry leaders are always looking for new or more advanced technologies to effectively address industry challenges of accelerating time-to-market and reducing product development costs.

ESI's software suite enables the realistic simulation of product behavior in varying environments. Virtual Performance Solution, based on explicit and implicit technologies, allows a comprehensive

simulation of the structural crash and occupant safety behavior under operating conditions, misuse and regulation, early in the vehicle development. ESI's Virtual Performance Solution helps the Volkswagen Group enhance their development capacities and reach earlier the stage of physical prototype test procedures. ESI supports the Volkswagen Group in their innovation with best-in-class products always safer and of higher quality.



Volkswagen Passat: Optimized body structure for different crash scenario with Virtual Performance Solution
Courtesy of Volkswagen AG.

"Volkswagen has once again shown its trailblazing role in the simulation field by actively supporting the further development of ESI's software suite. It is our very close cooperation that has allowed us to make these great advances. Volkswagen's decision to introduce Virtual Performance Solution in their product development process is therefore also an expression of the strategic partnership that has been forged between our companies in the last two decades."

Dr. Vincent Chaillou, President and COO of ESI Group.

ABOUT VOLKSWAGEN

The Volkswagen Group, with its headquarters in Wolfsburg, Germany, is one of the world's leading automobile manufacturers and the largest car-maker in Europe. It operates 48 production plants in thirteen European countries and a further six countries in the Americas, Asia and Africa. Around the world, more than 329,000 employees produce almost 25,400 vehicles or are involved in vehicle-related services each working day. The Volkswagen Group sells its vehicles in more than 150 countries and is made up of eight brands from six European countries: Volkswagen, Audi, Bentley, Bugatti, Lamborghini, SEAT, Škoda and Volkswagen Commercial Vehicles. For more information, visit: www.volkswagenag.com

ABOUT ESI GROUP

ESI is a world-leading supplier and pioneer of digital simulation software for prototyping and manufacturing processes that take 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 product performance. ESI's products represent a unique collaborative and open environment for Simulation-Based Design, enabling virtual prototypes to be improved in a continuous and collaborative manner while 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.



info@esi-group.com

EUROPE

BENELUX & SCANDINAVIA

ESI Group Netherlands
Radex Innovation Centre
room 4.57
Rotterdamseweg 183 C
2629 HD Delft
The Netherlands
T. +31 (0)15 268 2501
F. +31 (0)15 268 2514

CZECH REPUBLIC & EASTERN EUROPE

MECAS ESI
Brojova 2113/16
326 00 Pilsen
Czech Republic
T. +420 377 432 931
F. +420 377 432 930

FRANCE

ESI France
Parc d'Affaires Silic
99, rue des Solets - BP
80112
94513 Rungis cedex
France
T. +33 (0)1 49 78 28 00
F. +33 (0)1 46 87 72 02

GERMANY

ESI GmbH
Mergenthalerallee 15-21
D-65760 Eschborn
Germany
T. +49 (0)6196 9583 0
F. +49 (0)6196 9583 111

ITALY

ESI Italia
Via San Donato 191
40127 Bologna
Italy
T. +39 0516335577
F. +39 0516335578

SPAIN

ESI Group Hispania
Parque Empresarial Arroyo
de la Vega
C/ Francisca Delgado,
11 - planta 2ª
28108 Alcobendas (Madrid)
Spain
T. +34 91 484 02 56
F. +34 91 484 02 55

SWITZERLAND

Calcom ESI
Parc Scientifique
EPFL / PSE-A
1015 Lausanne-EPFL
Switzerland
T. +41 21 693 2918
F. +41 21 693 4740

UNITED KINGDOM

ESI UK
1 Robert Robinson Av.
The Magdalen Centre
Oxford Science Park
Oxford OX 4 4GA
United Kingdom
T. +44 (0) 1865 784 830
F. +44 (0) 1865 784 826

AMERICAS

USA

ESI North America
32605 W 12 Mile Road
Suite 350
Farmington Hills, MI
48334-3379
USA
T. +1 (248) 381-8040
F. +1 (248) 381-8998

USA

ESI North America
6767 Old Madison Pike
Suite 600
Huntsville, AL 35806
USA
T. +1 (256) 713-4700
F. +1 (256) 713-4799

SOUTH AMERICA

ESI South America
Av. Pedrosa de Morais,
1619 cj.312
São Paulo
SP CEP 05419-001
Brazil
T./F. +55 (011) 3031-6221

ASIA

CHINA

ESI China
Room 16A,
Base F Fu Hua Mansion
No. 8 Chaoyangmen
North Avenue
Beijing 100027
China
T. +86 (10) 6554 4907
F. +86 (10) 6554 4911

INDIA

ESI India
Indrakrupa #17, 100 feet
ring road
3rd phase, 6th block,
Banashankari 3rd stage
Bangalore 560 085
India
T. +91 98809 26926
F. +91 80401 74705

JAPAN

ESI Japan
5F and 16F Shinjuku Green
Tower Bldg. 6-14-1,
Nishi-Shinjuku
Shinjuku-ku, Tokyo 160-0023
Japan
T. +81 3 6381 8490 / 8494
F. +81 3 6381 8488 / 8489

KOREA

Hankook ESI
157-033, 5F MISUNG
bldg. 660-6,
Deungchon-3Dong,
Gangseo-ku,
Seoul
South Korea
T. +82 2 3660 4500
F. +82 2 3662 0084

SOUTH-EAST ASIA

ESI Group South-East Asia
12, Jalan Dato Haji Harun,
Taman Taynton, Cheras
56000 Kuala Lumpur
Malaysia
T. +60 (12) 6181014