



Drive innovation with End-to-End Virtual Prototyping

PROFILE

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 product 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.

STRATEGY AND OFFER

THE GREAT INDUSTRIAL CHALLENGE: INNOVATE FASTER AND BETTER WITH VIRTUAL PROTOTYPING.

Effective **End-to-End Virtual Prototyping** endeavors to anticipate the surprises coming from tests made on real prototypes **by virtually fabricating, building and testing the product in coherent progressive stages**: part by part, component per component and per assembly, and concurrently across multiple domains. A good Virtual Prototype enables at each step of the development cycle to test the **performance, margins and robustness** on the virtual model under assessment, in order to evaluate and correct, if needed, some critical aspects of the product design or fabrication. Its foundation is Virtual Manufacturing, which relies on a sharp knowledge of the physics of materials during manufacturing and assembly processes to define in a realistic way the **"as built"** product. Its quality and reliability depend on the rigorous and continuous control of the **circumstances and limits** of the modeling assumptions at each stage.

In some cases, the imperatives of innovation drive CAE engineers to a design that goes beyond traditional and regulatory bounds, moving us to where industrial experience becomes insufficient: facing uncertain sizing margins, random robustness, and problematic validation of the new product. The Project Manager is then confronted with uncharted processes while being expected to develop and justify a trial plan for manufacturing and multi-domain performance to evaluate the safety margins and guarantee product robustness.

This is where **End-to-End Virtual Prototyping** finds its compelling justification: to meet this "high anxiety" associated with innovative design by providing a reliable methodology both progressive and economical. It enables product development teams to produce **concurrently** quality results: **accurate, for the right cost and at the right time** with impressive benefits.

A SCALABLE END-TO-END VIRTUAL PROTOTYPING SOLUTION TO ACCELERATE INNOVATION

ESI's solutions **simulate the Product Lifecycle**: how a product is designed to function, how it is manufactured, and how it fails at the limits of performance. We deliver virtual tests and virtual prototypes that accelerate our customers' **innovation** and allow them to capture and automate their best practices.

Our End-to-End Virtual Prototyping solutions, including software and services, allow to manage with remarkable efficiency the virtual prototyping of industrial products from creation through to end development, to limit its complexity and risks, resulting in the successful validation of real prototypes "to get it right at the right time".

ESI's technologies **are flexible and span disciplines**: our open, easily integrated **software platforms** allow for compute model management across multiple domains and processes and Engineering Services to support you as you move along the path to End-to-End Virtual Prototyping.

1G Physics:
Manage realistic physics per simulation model.



2G Processes:
Manage processes and best practices per design domain for a given component.



3G Decisions:
Manage End-to-End Virtual Prototyping, spanning a complete range of domains, processes and systems, and synchronize within the PLM process.



Software & Services for End-to-End Virtual Prototyping

MILESTONES

2009

- Creation of a 'nearshore' services division in Tunisia for high value-added projects while strengthening ESI Group's strategic partnership with the Tunisian firm Acoustica.

2008

- Acquisition of Vdot™, a US software platform for lean process management allowing rapid, reliable decision-making by all actors of the PLM and specifically throughout the digital simulation process, enhancing project automation and completion.
- Acquisition of US services company Mindware Engineering Inc., a Computational Fluid Dynamics (CFD) specialist aiming to supplement its high value-added services, essential component of ESI global offering.

2007

- Strategic Collaboration with ChengDu Aircraft Industry, a major Chinese aircraft manufacturer and global aviation industry partner for Aeronautic Composites Manufacturing Engineering, in their aircraft design and manufacturing engineering process.
- ESI Group confirms its commitment to quality with the renewal of its ISO 9001:2000 certification.

CUSTOMERS

· AUTOMOTIVE AND TRANSPORTATION

Asahi Kasei, Aston Martin, Audi, Autoliv, Bentley, BMW, BOMBARDIER, Bosch, Breed, Bridgestone, Chongqing Changan Auto, Daewoo, Daihatsu, Daimler, Chrysler, Dana, Delphi, Denso, Dow, Faurecia, FAW-VW, Fiat, Ford, GM, Goodyear, Grupo Antolin, Hino, Honda, Hyundai, Isuzu, Italdesign, Johnson Controls, Kasai Kogyo, KSS, Land Rover, Lear, Mazda, Mitsubishi, Mobis, NHK Spring, Nissan, Pininfarina, Plastic Omnium, Porsche, PSA Peugeot Citroën, Renault, R-Samsung Motors, Seat, Skoda Auto, Sungwoo Hitech, Subaru, Tachi-S, Takata, TATA MOTORS, Toyota, Toyoda Gosei, TRW, Valeo, Visteon, Volvo, VW, Yamaha Motor, ...

· AERONAUTICS AND AEROSPACE

ADA, Airbus, USAF Research Lab, Alenia, BAE Systems, Bell Helicopter, Boeing, Bridport Aviation, Chengdu Aircraft, Dassault Aviation, DLR, EADS, Embraer, Eurocopter, ESA-Estec, Howmet, IAF, JAXA, JPL, KARI, Lockheed Martin, NASA, Parker, Raytheon, Rolls Royce, Safran, United Technologies, Vikram Sarabhai Space Centre, ...

· HEAVY INDUSTRY AND ENERGY

ABB, Alcan, Alcoa, Alstom, ArcelorMittal, Areva, Ballard Power, Baosteel, Bombardier, Caterpillar, CEA, Corus, DOE, EDF, FHI, GE, Hitachi, HHI, Ina, John Deere, KHI, Kobelco, LG, Litton IS, Man, MHI, Power System, Nippon Steel, NKK, Onet, Osaka Gas, Posco, Salut, Saturne, Serco, Siemens, Solar Turbines, Sumitomo, ThyssenKrupp, Toshiba, ...

· ELECTRONICS, DEFENSE AND CONSUMER GOODS

Applied Materials, DGA, DCNS, General Dynamics, Infineon, Intel, LG Electronics, Martin Baker, Motorola, Naval Surface & Naval Undersea Warfare Center, Samsung Electronics Company, ST Microelectronics, Thales, Tokyo Electron Limited, US Navy, Whirlpool, ...

MANAGEMENT

Alain de ROUVRAY, PhD:

Company founder - Chairman & Chief Executive Officer

Vincent CHAILLOU, PhD:

President and Chief Operating Officer – Edition Operations

Christopher St. JOHN:

Chief Operating Officer – Field Operations

Lech Tomasz KISIELEWICZ, PhD:

Vice President for Services Operations

Eric MULLER-BORLE:

Chief Financial Officer

Olivier PRADAL:

Human Resources Director

KEY METRICS

	Revenues	Operating Result
2009:	€ 75.1M	€ 4.6M
2008:	€ 70.2M	€ 5.4M
2007:	€ 68.9M	€ 5.7M

Number of shares issues: 5 866 529
Market cap. 31/01/10: € 55.3 Millions
Average headcount FY09: 783

Listed on Compartment C of NYSE Euronext Paris
ISIN FR 0004110310 – FTSE 977 – Bloomberg ESI FP – Reuters ESIG.LN.

As ESI Group development is based on continuous innovation, the company is qualified as an "innovative company" by OSEO, a French innovation agency.

Revenue mix & Distribution per area :

