

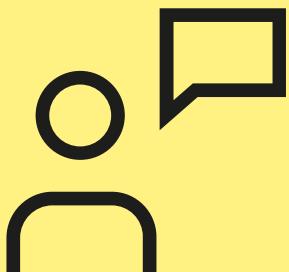
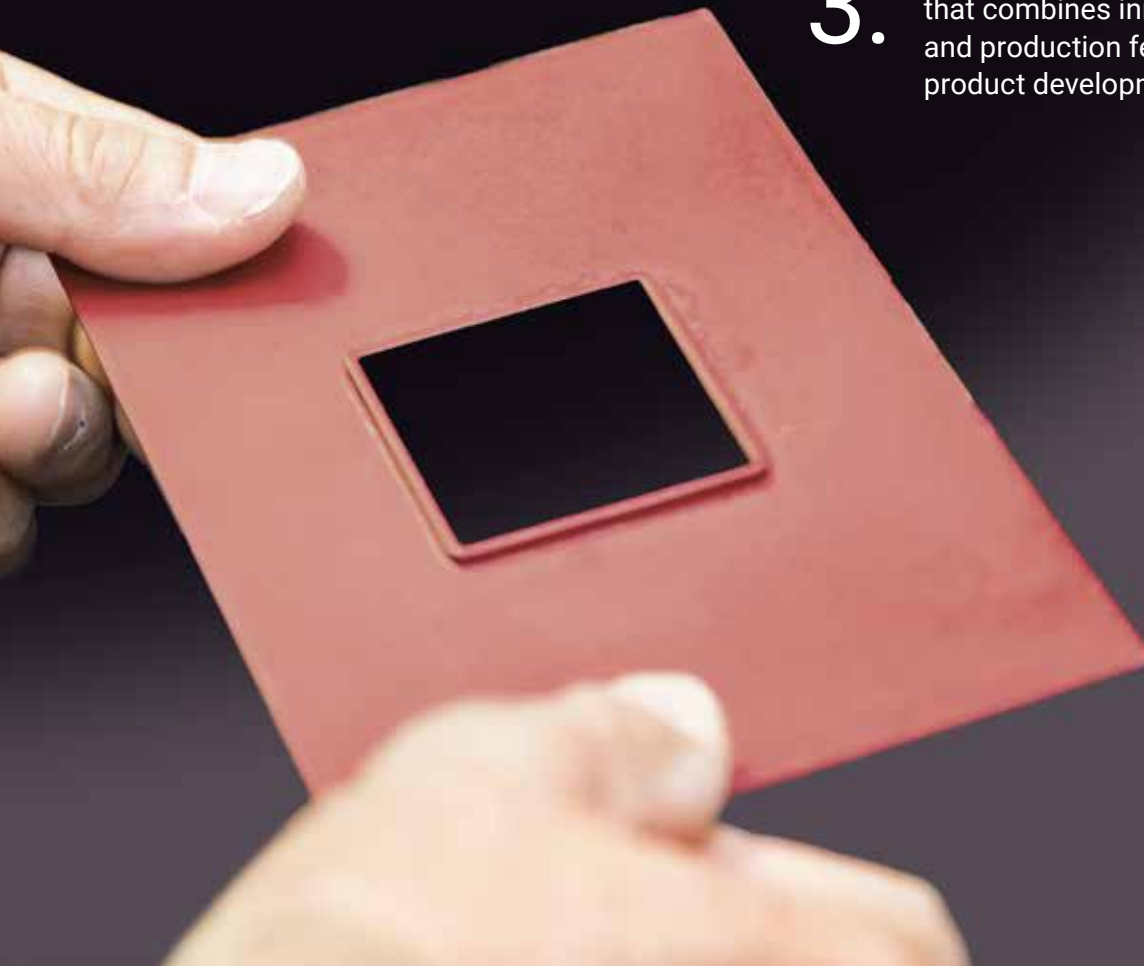
A long-exposure photograph of a city street at night, showing vibrant light trails in red, blue, and yellow. The image is partially obscured by a dark blue diagonal overlay in the top right corner.

SSAB Product development and engineering

SSAB

3 good reasons

1. The most advanced virtual and physical prototyping tools and tests developed for Advanced High Strength Steel.
2. Access to a global network of leading experts within steel innovation.
3. The unique SSAB development method that combines innovation, cost efficiency and production feasibility, for a faster product development cycle.



LET'S START TODAY!

Whether you are interested in a full development project, a proofread of your existing design, or a benchmark of existing innovations, we offer you first-class service with a unique methodology to funnel innovation into your designs.

Contact us today at engineering@ssab.com to discuss what we can do for you.

Speed up your innovation and product development

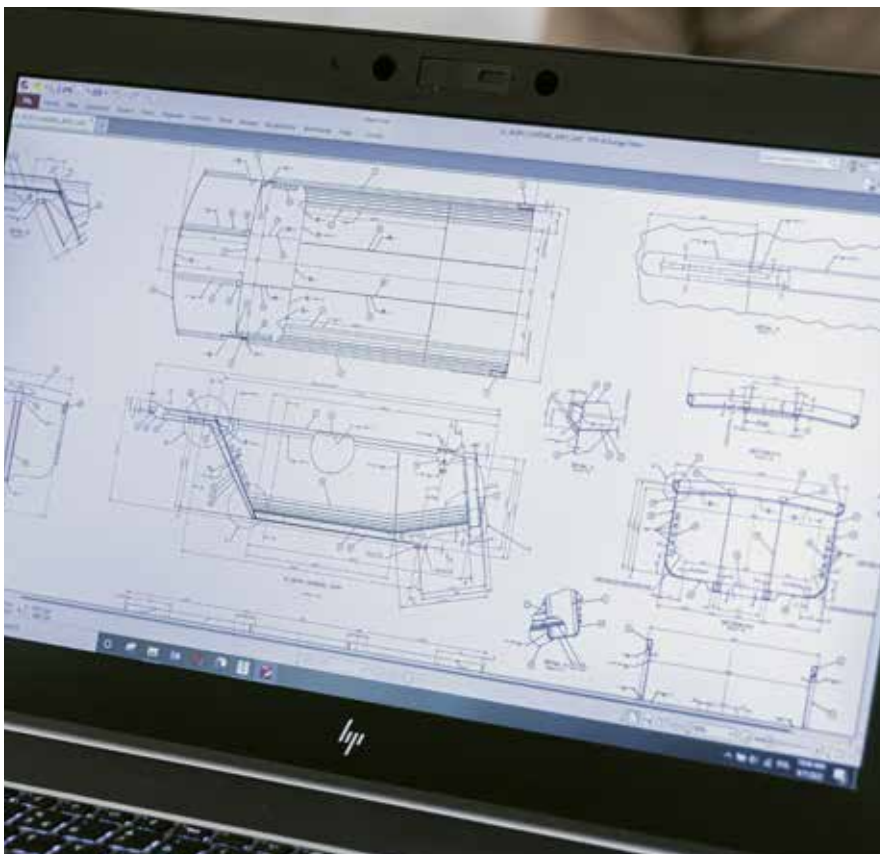
Early engineering investments are key

When it comes to innovation, the key to achieving a high return on investment is to select the right idea and make it a reality within a short period of time. With R&D departments across the world facing an increasing demand for innovative new products – as well as faster development cycles – SSAB Product Development and Engineering is your product acceleration partner.

NEW SERVICES IN INNOVATION

This new service is based on SSAB's over 40 years of experience working together with customers to develop entirely new possibilities for stronger, lighter and more sustainable steel products and engineering solutions. Now, SSAB also offers project management and execution, from the idea up to the virtual and physical prototyping, which will shorten your product development cycle, reduce costs and speed the innovation process into your company.

The unique SSAB development method combines innovation, cost efficiency and production feasibility to speed up your product development cycle with premium steels.



HIGHER QUALITY AND SPEED WITH STEEL EXPERTISE

- **Technical Development Managers**
On-site Technical Support.
- **Knowledge Service Center**
Expert advice in design, forming, joining and production efficiency.
- **Product Development and Engineering**
Expert project management, from conceptual to functional design and manufacturing drawings.
- **SSAB Steel Service Centers**
Prototyping, Parts & Kits, possibilities to outsource production.

Support throughout your entire development process

Beginning with your perspectives and goals as an OEM, SSAB Product Development and Engineering works to find potential improvements to your existing product portfolio. Then, we allocate specialized engineers to support your new product development process. This early-stage cooperation, combined with SSAB's unique and lean development methodology, gives you a big head start — significantly reducing time-to-market and costs.

Design for high performance: Increase the life of your product and reduce its weight, thus leading to a significant reduction of CO₂ emissions.

Design for manufacturing: Shorten your product development cycle, reduce manufacturing costs and get the production setup right from the design phase. Additionally, SSAB Service Center can deliver the designed component in serial production, which will shorten your lead times even more.

Design for recycling: Minimize your carbon footprint by reducing the weight of your application and also maximizing the value of the after products.

PHASE I: FROM WORKSHOP TO CONCEPT

INNOVATION WORKSHOP

NDA agreement
Understand customer needs and product
Identify design master guidelines

Deliverables:

- Workshop.
- Proposals of design in 3D and first benchmark.
- Each proposal will contain at least 2 innovative design solutions.

CONCEPTUAL SOLUTIONS

Draft product design
Possible supply chain
Potential benefits
Benchmarking
3D drawings / printing

PHASE II: CONCEPT TO PROTOTYPE

VIRTUAL PROTOTYPING

Advanced 3D Drawings
Definition of critical points
FEM simulations

Deliverables:

- Detailed analysis of the concept: 3D drawings, FEM, feasibility study, cost analysis, supply chain analysis.
- Prototype if requested.

PHYSICAL PROTOTYPING

Drawings for Prototypes
Prototyping
Testing of full or detail model

PHASE III: PROTOTYPE TO FABRICATION

PRE-PRODUCTION INDUSTRIALIZATION

Detailed design
Manufacturing drawings
Prefabrication options
Quality assurance
Supply solution

Deliverables:

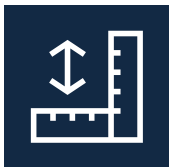
- Assembly drawings.
- Supply options.

SSAB Product Development and Engineering can contribute to any stage of your product development process, adding value where you need it most.



Advanced product development

Some of the state-of-the-art technologies implemented in past SSAB development projects include: design for advanced forming methods, mechanical post welding treatments (HFMI), wear simulations (DEM), static and dynamic load analysis (FEM), full manufacturing drawing documentation, design of welding and storing jigs, material testing, and 3D-laser scanning of components.



Drawings

- Laser scans to drawings.
- Development of designs.
- Design with high strength steel.



State-of-the-art manufacturing methods

- HFMI treatment and training.
- Advanced forming methods.



Material testing

- Fracture toughness, corrosion, creep, residual stress, fatigue, tensile, impact, hardness, etc.
- Testing according to various ASTM, ISO and EN standards.



Design development by FEM and DEM modelling

- Verification of designs, fill factor, loads.
- Hot-spot analysis for fatigue.
- Detection of high wearing and stressed areas.

SSAB is a Nordic and US-based steel company. SSAB offers value added products and services developed in close cooperation with its customers to create a stronger, lighter and more sustainable world. SSAB has employees in over 50 countries. SSAB has production facilities in Sweden, Finland and the US. SSAB is listed on Nasdaq Stockholm and has a secondary listing on Nasdaq Helsinki.

www.ssab.com

SSAB
P.O Box 70
101 21 Stockholm
SWEDEN

Visiting address:
Klarabergsviadukten 70, D6
Stockholm

Phone: +46 8 45 45 700
engineering@ssab.com

Read more about SSAB Services offers at

www.ssab.com/services

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