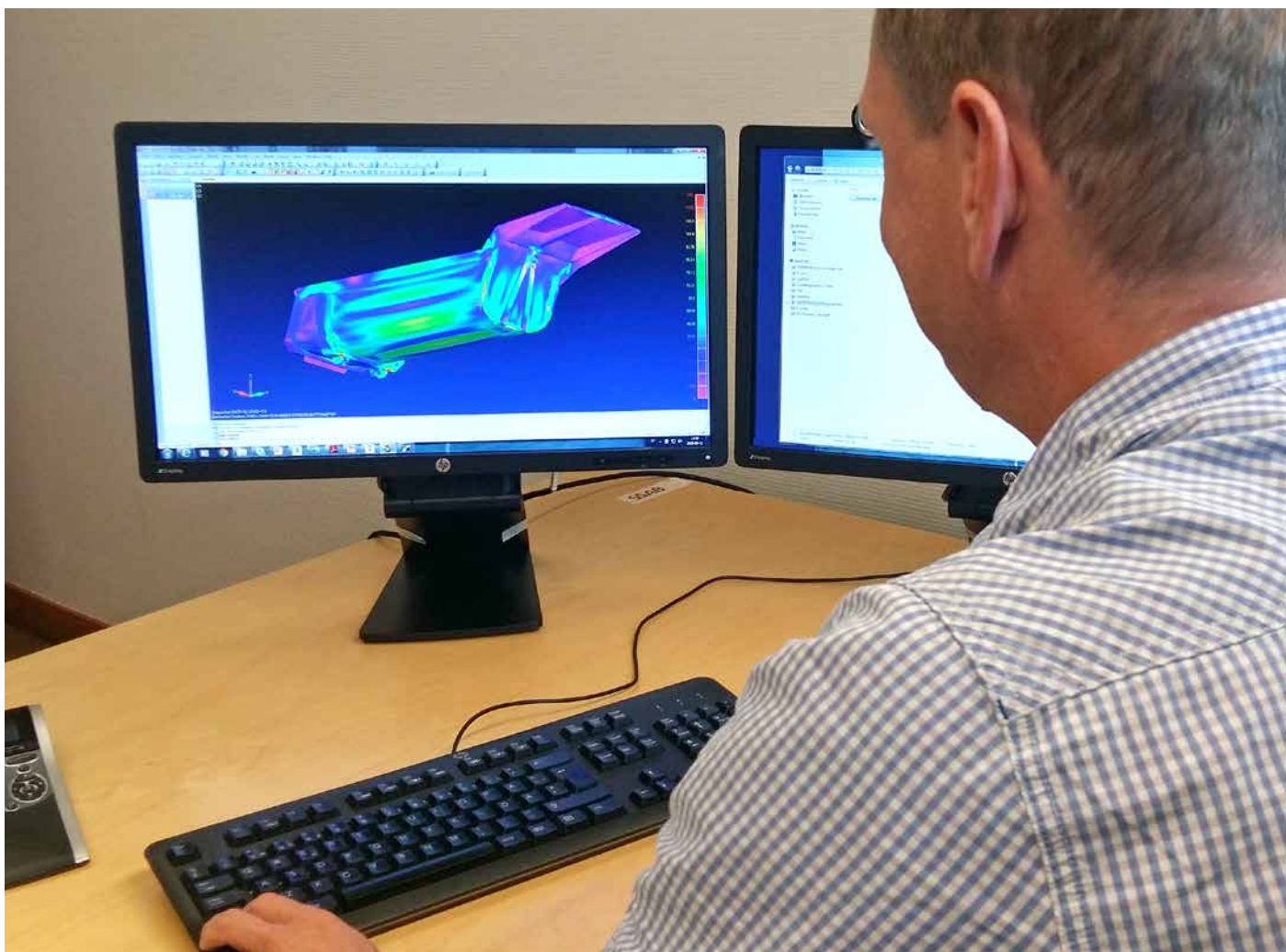




SSAB PRODUCT DEVELOPMENT AND ENGINEERING

SSAB



SPEED UP YOUR INNOVATION AND PRODUCT LIFE CYCLE

YOUR BEST INVESTMENT RESIDES IN OUR EXPERTISE

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 product development cycles, SSAB Product Development and Engineering offers exclusive development support in steel applications.

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 Manager**
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 Shape international production centers**
Prototyping, parts & kits, possibilities to outsource production.



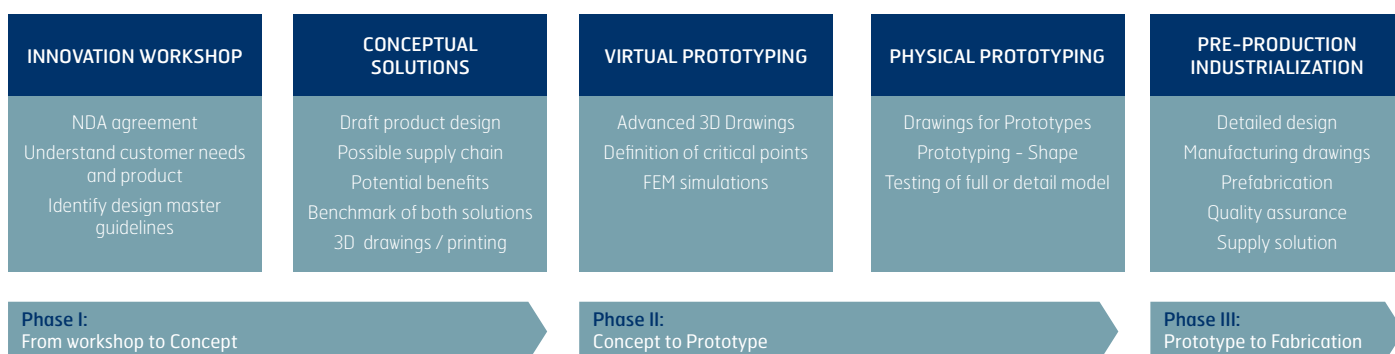
SUPPORT THROUGHOUT YOUR ENTIRE DEVELOPMENT PROCESS

Beginning with the OEM's perspective, SSAB Product Development and Engineering works to find potential product portfolio improvements. Then, specialist engineers are allocated to support in the product development process. The early stage cooperation gives a head start that reduces time-to-market as well as costs.

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



Deliverables:

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

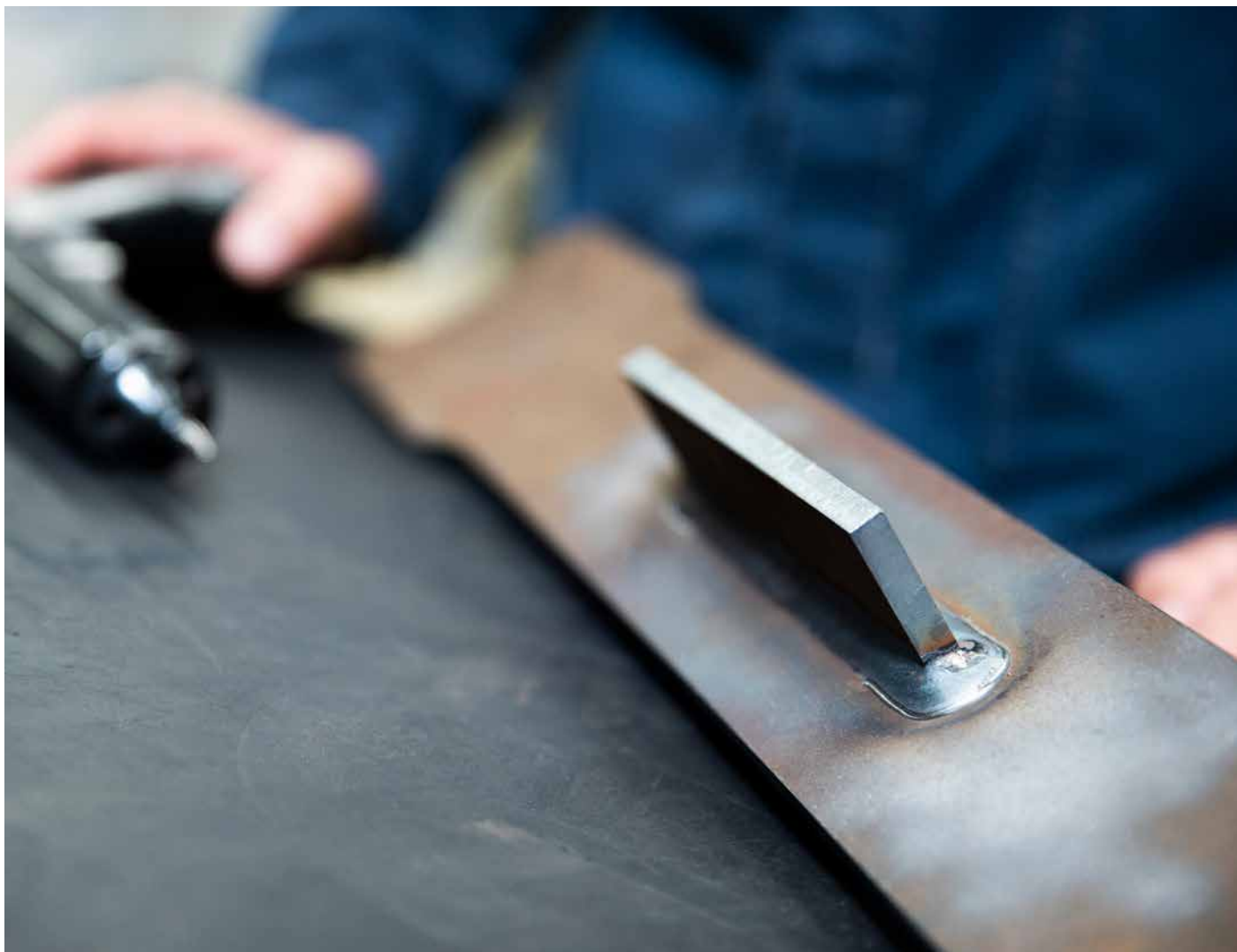
Deliverables:

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

Deliverables:

- Assembly drawings.

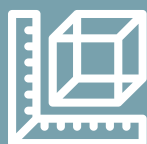
SSAB can take part at any stage of your process with the right insight to add value to your product.



EXTENSIVE AND UNIQUE KNOWLEDGE

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 simu-

lations (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.



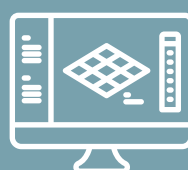
State of the art manufacturing methods

- 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.



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.**

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.

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The SSAB logo consists of the letters 'SSAB' in a bold, blue, sans-serif font. The letter 'A' is stylized with a white triangle pointing upwards from its center.