

GLOBAL MACHINING
OF ADVANCED COMPONENTS
AND SYSTEMS



LEAX GROUP

Since founded, LEAX Group has developed into a leading manufacturer of complete systems, subsystems, advanced components and mechanical solutions.

We serve major industries such as:



Commercial vehicles



General industry



Mining and construction



Passenger cars



Agriculture

We do not only manufacture and deliver products, but we also work closely with our customers to find an optimal solution in all aspects regarding design, material sourcing, production and logistics.





- 1 Falun, Sweden
- 2 Köping, Sweden
- 3 Falköping, Sweden
- 4 Tidaholm, Sweden
- 5 Riga, Latvia
- 6 Rezekne, Latvia
- 7 Detmold, Germany
- 8 Mezökövesd, Hungary
- 9 Curitiba, Brazil
- 10 Wuxi, China



Henrik Fagrenius
CEO and President

LEAX Group has expanded and got a global footprint since it started in 1982 thanks to following a chosen strategy with a clear mission and vision. By keeping to our core values whereof the main one is *“The day we cease getting better is the day we stop being good”* – continuous improvements is a part of our daily work. To listen to our customers is for us very important as well as being present where they are by following them out in the world.

With our dedicated and skilled personnel, we continuously develop and move forward with LEAX, together with our customers and partners. **We are your partner for a long-term relationship!**

“We are big enough to make things happen, and small enough to care!”

SEK 1,8 billion
Revenues 2018

10
Production sites

1 300+
employees





A SOLUTION PROVIDER

STRATEGY TO MEET DEMAND



Solution provider

LEAX's ambition is to be a complete solution provider to its primary customers, including significantly participating in the development and influencing the final design.



Global footprint

LEAX's customers have production across several continents and require its suppliers to be able to deliver the required products globally. We are where customers are!



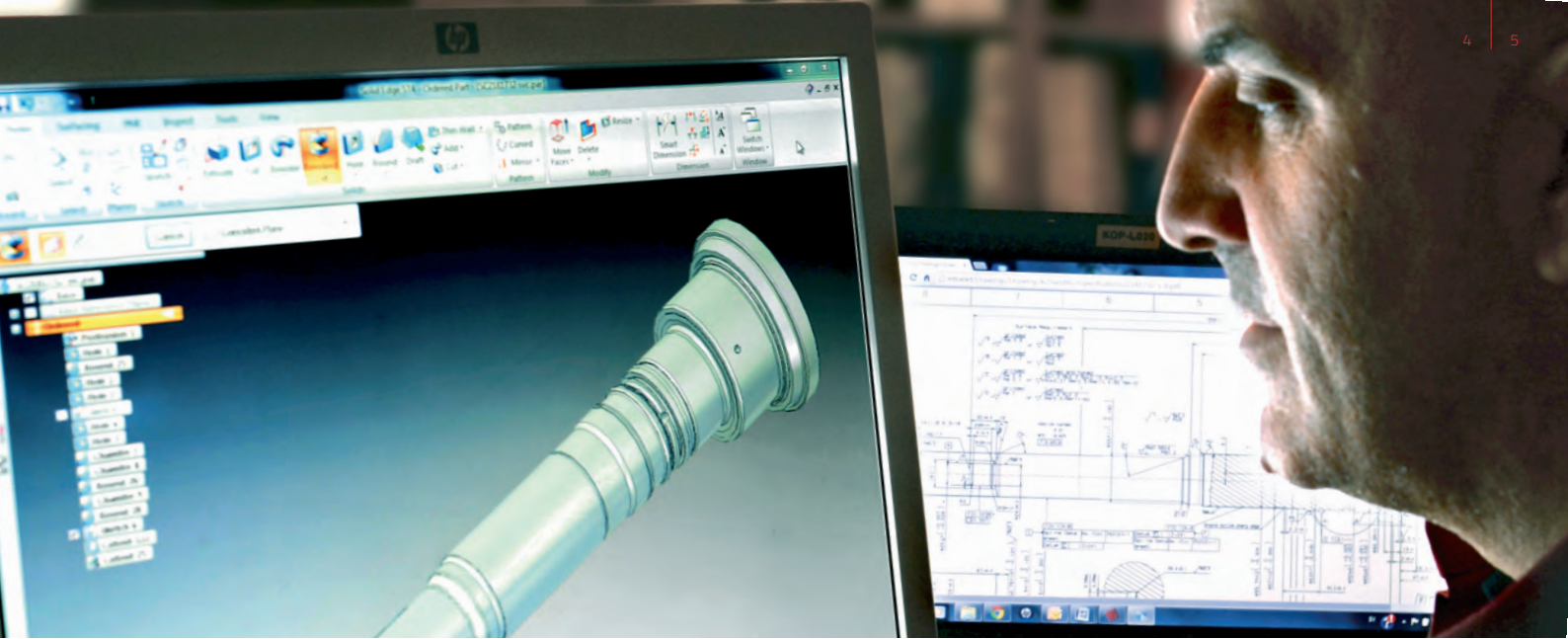
Excellence in production and quality

LEAX's customers expect the highest quality from its suppliers and require precise deliveries in order to ensure their own production.



Flexibility

From low to high volumes. Parts with various dimensions. Possibility to produce in different countries due to our global footprint



RESEARCH AND DEVELOPMENT

THE START OF THE VALUE CHAIN

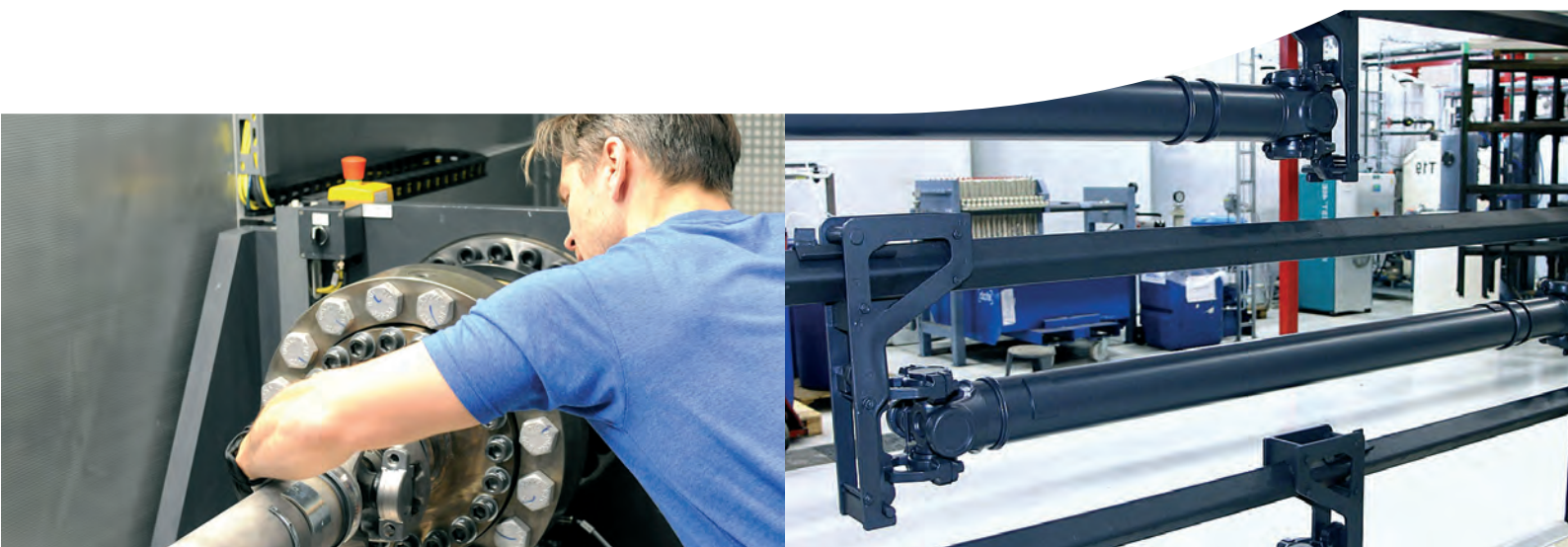
Development is our core, our heart, it is our DNA as a company. Our test center in Falun, Sweden, is an example of our commitment to research and development.

By developing our own products, we can match our customers' demands with our production and optimize it for both. LEAX can develop new solutions when it comes to parts, tolerance and welding methods.

In our test rig various designs can be tested to the limit, statically and dynamically. All data relevant to the customer and the manufacturing process can be analyzed.

The test center is located close to our propeller shaft production area, which provides more efficiency and less lead time.

LEAX's goal is to help its customers by providing better services and products than they could by themselves. With our test center, LEAX is able to fine tune its production whilst matching the most complex customer demands!





COMPLETE PROCESS CHAIN

ONE-STOP SOLUTION

We cover a wide range of processes throughout the value chain, starting with pre-production processes like research, development, prototyping and sourcing. Obviously, seriaproduction is our core process supported by value adding processes like heat and surface treatment and assembly. Spare parts and after sales services are a part of our daily business in the automotive industry.

TECH CENTER (RESEARCH AND DEVELOPMENT)

- Research and development on electrical support concepts for engines, gearboxes and axles



ENGINEERING AND PROJECT MANAGEMENT

- Development and Co-Engineering
- Prototyping
- Material sourcing expertise
- Industrialization and Ramp-Up



PRODUCTION

Soft and Hard CNC machining

- End milling
- Turning
- Milling
- Gear and spline cutting
- Broaching
- Deep hole drilling
- Grinding
- Power skiving
- Gear grinding
- Gear honing
- Multi-operation machines



Heat treatment

- Case hardening, LPC and induction hardening



Surface treatment

- Welding
- Thermal spraying
- Painting



Assembly operations

- Manual
- Automated



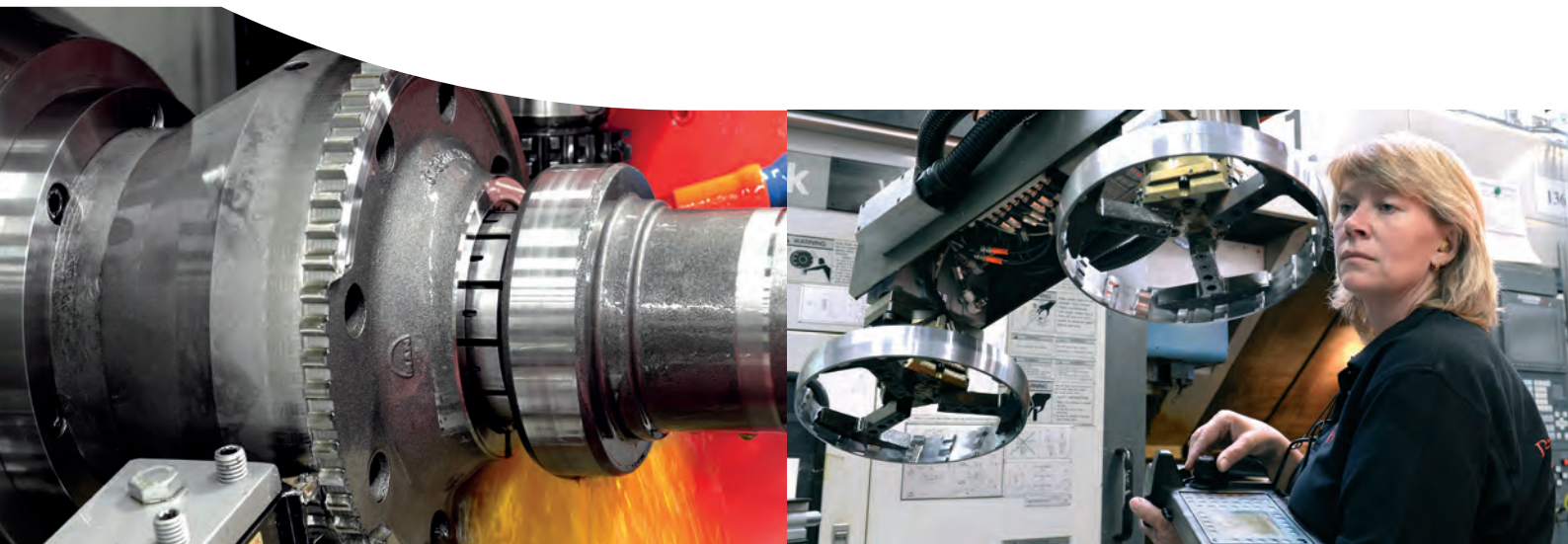
Quality control

- Stable processes
- Measuring
- Testing
- Evaluation



AFTER SALES

- Spare Parts



PRODUCT RANGE

EXEMPLE OF COMPONENTS AND SYSTEMS

VEHICLE COMPONENTS

Engine

- Mass balance systems (gears and shafts)
- Timing gears, cam shafts
- Exhaust manifolds
- Flywheel Housings

Transmission components

- Planetary gears for electrical drives
- Shafts (main shafts, input shafts, drive shafts, output shafts)
- Differentials (casted housings, forged housings)
- Gears (planetary and sun gears, helical gears)
- Planetary carriers

MINING & CONSTRUCTION COMPONENTS

- Shank adapters
- Drill bits
- Rod ends
- DTH components

GENERAL INDUSTRY COMPONENTS

- Bearings and housings
- Shafts
- Robot parts
- Pump housings - and more!

ASSEMBLED SYSTEMS

- Industrial gearboxes
- Power take-offs (PTOs)
- Propeller shafts
- Hub reductions
- Drive units





GLOBAL FOOTPRINT

HARD-TO-BEAT COMPETITIVENESS

Core products

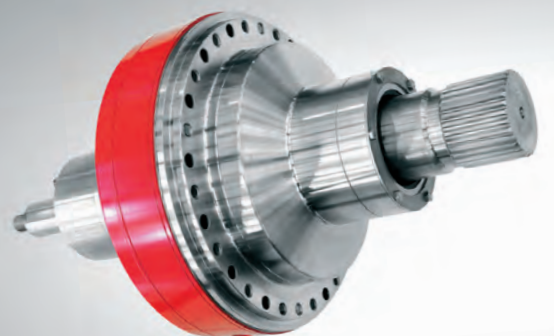
One of our core products is **propeller shaft** which represents 35% of the total turnover of the group by delivering more than 130 000 propeller shafts a year.

Our basic design has its heritage in a modular design solution concept that gives our customers the following benefit: fast and reliable design adoptions to meet new vehicle data reducing time to market.

In addition to propeller shafts, LEAX also manufacture **transmission gears and shafts, drive shafts, hub reduction units, end yokes, hub flanges, diff cases** and **other components** and **sub-systems** to several industries. LEAX is also a partner for assembly solutions. The company offers gear manufacturing, turning and milling in the highest level in competence and quality for customized mechanical components and plant engineering solutions.

A **Research and Development** area is also set up. We invest in development of new products with own design, e.g. propeller shafts, gears, gearboxes, and we can offer our customers high quality due to our **test center** where various constructions can be tested to the limit.

Our companies within the group have different approach in the market, which means that we are able to offer our customers both high and low volumes as well as full automated and smaller series productions with different dimensions, sizes and geometries.



LEAN MANUFACTURING EXCELLENCE

FLEXIBLE PRODUCTION SOLUTIONS

For high volume serial production, we use modern and efficient production equipment with a high level of automation. We build flexible production cells according to our customers' requirements and annual volumes.

We use more manual or semi-automated production methods when volumes and requirements are lower and often implement these projects in best effective cost countries.

We use "LEAN" as a mind-set in all activities, resulting in annual productivity improvements. Another factor for high efficiency is the increased use of multioperations machines.

In many cases we have proven that we can produce better than our competitors – and even better than our customers, who often decide to outsource their production to us completely and gain time for other business matters.

FAST TIME TO MARKET

LEAX have decades of experience in industrialization of products. We will find the right production set-up and we will ensure that your project will be implemented in the fastest possible way. Thanks to our global footprint, we are able to start one project in several locations simultaneously so even very challenging projects with numerous components and a variety of needed processes can be managed fast.

When implementation timing is critical we often buy used machines, because they are much faster available than new machines. Our experienced maintenance technicians rebuild them as necessary to suit production needs. Moreover, we have a comprehensive network of suppliers for machining tools that secure shortest possible lead times.





- sustainability
- e-mobility



DESIGN AND DEVELOPMENT

INNOVATION. EVOLUTION. FUTURE.

In today's rapidly changing industries, LEAX understands the importance of being innovative and follow the market trends. Rapidly evolving trends like car, bus and truck automation, connectivity, and e-mobility put traditional business models at risk; to stay competitive LEAX has been following the trends and is an important player in the development of new solutions for customers affected by these changes.



Sustainability



Connectivity



E-mobility



Autonomous-driving

These trends are driving the future and our engineering teams are continuously developing new electrified solutions for demanding customers, who require innovation and high-performance applications for their new electrified products.

- Silent gears
- Planetary gearboxes
- Components for electrical gearboxes

- Soft and hard power skiving
- LPC hardening
- Gear honing and gear grinding



Those are examples of new solutions and processes that LEAX can offer for customers with focus on e-mobility and sustainability. Due to our great technical competence, our innovative mind-set and our commitment of always staying competitive, customers are relying on us as partners for their new projects within these trends. Co-creation and co-engineering with customers has been a great focus within new projects!



QUALITY AND ENVIRONMENT

From the very first step, the quality of your product is our main focus. For us, quality assurance and the protection of the environment is very important. Therefore, we develop stable processes that follow the guidelines of our certifications:

- ISO 9001
- IATF 16949
- ISO 14001
- ISO 50001

Industry standard quality assurance tools like measuring, function and metallurgical tests ensure that our customers will only receive products of the highest quality.

REFERENCES

LEADING OEMS AND TIER 1 SUPPLIERS





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