Company Presentation

Competence in Advanced Technologies Worldwide

GROB – MANAGEMENT

EMPLOYEES

PRODUCTS

TRAINING

SERVICE

INDUSTRIES

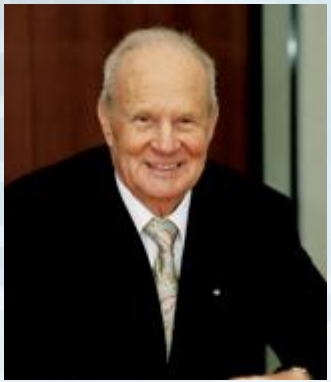
FIGURES & DATA

A Success Story…

Over Four Generations!

Dr. Ernst Grob
Founder and Managing Director
of Ernst Grob Werkzeug- und
Maschinenfabrik

1926–1952



Dr. Burkhart Grob
Managing Director and
Supervisory Board Chairman of
GROB-WERKE

1952–2016

A Success Story...

Over Four Generations!

Christian Grob
Chairman of the
Supervisory Board
of GROB-WERKE

Florian Grob

2016

The Grob Family

Florian Grob
(on the right)

Christian Grob
(on the left)

Management Board

German Wankmiller
Chairman of the
Board & CEO
(in the middle)

Wolfram Weber
Vice Chairman
of the Board
(on the left)

Christian Müller
Member
of the Board
(on the right)

Our Company History Started Over 95 Years Ago

Mindelheim, Germany
Output: EUR 911 million
Employees: 5,000
(in Mindelheim since 1968)

1926

Our Company History Started Over 95 Years Ago

São Paulo, Brazil
Output: EUR 62 million
Employees: 540

1956

Bluffton, USA
Output: EUR 156 million
Employees: 750

1983

Our Company History Started Over 95 Years Ago

Dalian, China
Output: EUR 153 million
Employees: 1,020

2012

Pianezza, Italy
Output: EUR 14 million
Employees: 100

2017

GROB-Group

5
PLANTS

15
SALES AND
SERVICE BRANCHES

7,700
EMPLOYEES WORLDWIDE

Management

GROB Mexico 2022


Competence in advanced technology worldwide

Excellence in advanced technology worldwide

Jörg Wagner

GROB Mexico Facts

- Founded:
  - → Grob Mexico was founded in July 2000 in the city of Saltillo, but strategically relocated to Querétaro in the year 2011.
- Employees:
  - → As of February 2022, Grob Mexico currently employs +65 persons in engineering, field service and administrative roles.
- Turnover:
  - → Grob Mexico´s turnover for FY2021/22 was of +11.880.000 €
- Grob Prescence:
  - → Currently there are +950 installed spindles across the country and more than 55 special purpose machines and transfer lines.

GROB Mexico

Organizational Chart

Serviceportfolio / Products

- GROB has a strong presence in Mexico's Automotive Companies.
- GROB Mexico has +45 technicians distributed in the country. All technician's native language is Spanish and all of them are fluent in English as well.
- Customer's training & production support done by GROB Mexico.
- After Sales Service Solutions managed locally.
- Fast response to spare parts & service support.
- Grob Mexico's local Spindle Repair Shop guarantees faster responses.
- Grob Mexico's Showroom has capability for prototyping, and complete turnkey solution developments.

Spare Parts on Site

- Express Delivery!
- More than 1.000.000 € in machine spare parts.

Spare Part packages can be customized for our customers for optimal response times and inventory capacities.

Motor Spindle Repair Shop since 08/2020

- Advantage for our customers giving a faster and reliable in-house repair process, assuring quality and customer satisfaction.
- Large stock of Motor Spindles available.

GROB Mexico

Grob Mexico GXQ	Installed Spindles
Systems Machines	695
Universal Machines	257
Total	**952**

GROB – MANAGEMENT

EMPLOYEES

PRODUCTS

TRAINING

SERVICE

INDUSTRIES

FIGURES & DATA

G-Series

Machining Centers

System Business

	G300	G500
Axis travel in X-/Y'-/Z-axis [mm]	600/770/810	800/950/905
Max. speed in X-/Y'-/Z-axis [m/min]	95/45/100	90/50/100
Max. acceleration in X-/Y'-/Z-axis [m/min²]	7,5/4/15	9/4,5/15
Max. part size	Ø600	Ø900
Chip-to-chip time t_1 VDI 2852 [s] SIEMENS control system	2,3	2,6

G-Series

Machining Centers

System Business

	G320	G520
Axis travel in X-/Y'-/Z-axis [mm]	650/850/870	750/1,000/870
Max. speed in X-/Y'-/Z-axis [m/min]	95/60/100	90/75/100
Max. acceleration in X-/Y'-/Z-axis [m/min²]	6/6/15	7,5/5,5/15
Max. part size	2xØ400	2xØ500
Chip-to-chip time t_1 VDI 2852 [s] SIEMENS control system	2,3	2,6

F-Series

Frame Structure and Chassis Parts

System Business

	G500F	G600F	G700F
Axis travel in X-/Y'-/Z-axis [mm]	1,550/875/790	1,500/1,265 (+320)/1,100	1,450/990/1,035
Max. speed in X-/Y'-/Z-axis [m/min]	90/60/100	95/60/50	60/75/100
Max. acceleration in X-/Y'-/Z-axis [m/min^2]	8,5/4,5/15	9,5/8,5/4,5	6,5/5,5/14
Max. part size	Ø1,120	Ø1,550	Ø1,500
Chip-to-chip time t_1 VDI 2852 [s] SIEMENS control system	2,6	3,3	2,9

F-Series

Frame Structure and Chassis Parts

System Business

	G520F	G720F
Axis travel in X-/Y'-/Z-axis [mm]	1,450/1,200/1,035	1,450/1,200/1,035
Max. speed in X-/Y'-/Z-axis [m/min]	80/50/100	80/50/100
Max. acceleration in X-/Y'-/Z-axis [m/min^2]	6/4/14	8/4/14
Max. part size	2xØ1,200	2xØ1,500
Chip-to-chip time t_1 VDI 2852 [s] SIEMENS control system	2,7	2,9

Machining Systems

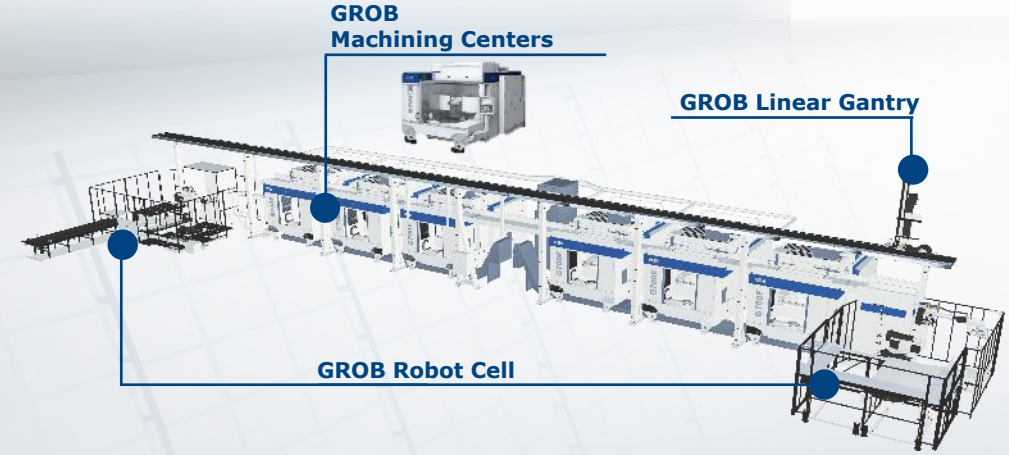
Producing **F-Series** frame structure and chassis parts

System Business

Example:

System producing subframes

- Dimensions: 41 m * 14 m
- Cycle time: 61 s (output: 1,080 parts/day)



More examples of parts produced on GROB systems:

Longitudinal beam

Battery tray

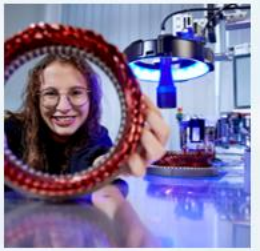
Turnkey Systems

Your Customized **Turnkey Systems**

System Business

- From **concept** through the **detailed planning phase** to implementation – everything is completed **100% in-house**
- The **full package from a single source** – no matter in-house developments or additional components are needed
- Scheduling, quality monitoring, and **standardized documentation**
- **Worldwide** spare parts supply, service management, and sales responsibility

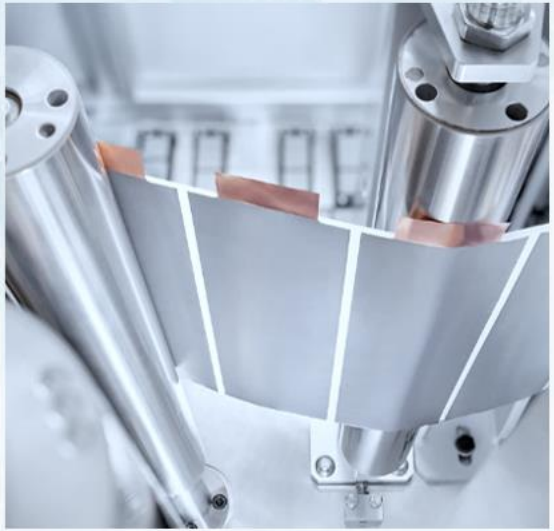
E-Mobility



System Business

Universal Machining Centers

Assembly Technology

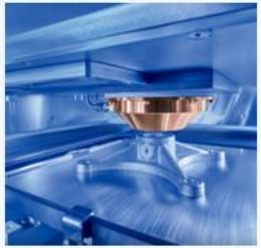


UMC

Additive manufacturing

Automation solutions

Digitalization



4-Axis Series

Milling Centers

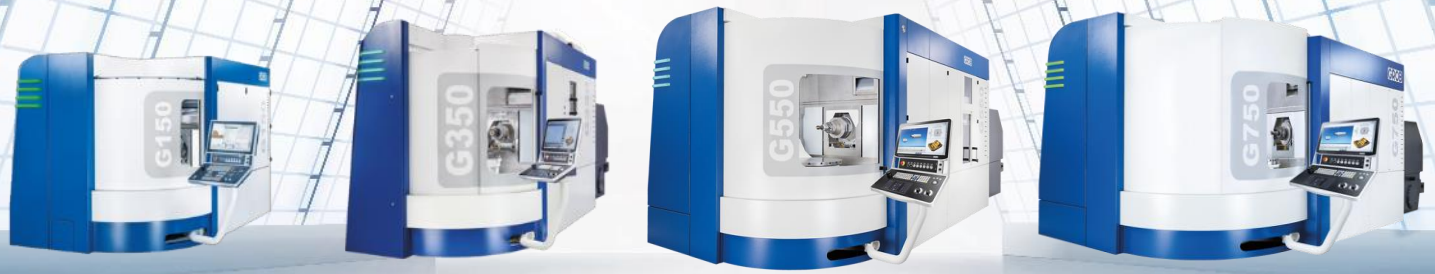
Universal Machining Centers

	G440	G640	G840
Axis travel in X-/Y'-/Z-axis [mm]	800/800/800	1,050/800/1,050	1,400/1,200/1,400
Max. speed in X-/Y'-/Z-axis [m/min]	70/60/60	70/60/60	50/50/50
Max. acceleration in X-/Y'-/Z-axis [m/min²]	6/6,5/6	6/6,5/5,5	4,5/5,5/4,5
Max. part size	Ø800	Ø1,050	Ø1,400
Table load [kg]	1,000	1,000	1,700

5-Axis Series

Milling Centers

Universal Machining Centers



	G150	G350	G550	G750
Axis travel in X-/Y'-/Z-axis [mm]	450/670/665	600/855/750	800/1,020/970	1,000/1,100/1,175
Max. speed in X-/Y'-/Z-axis [m/min]	50/40/60	70/45/90	65/50/80	60/50/75
Max. acceleration in X-/Y'-/Z-axis [m/min²]	5/6/8	5/4/7	6/4,5/8	4,5/3/7,5
Max. part size	Ø580	Ø720	Ø900	Ø1,280
Table load [kg]	250	400	800	1,500

5-Axis Series

Mill-Turn Machining Centers

Universal Machining Centers

	G350T	G550T	G750T
Axis travel in X-/Y'-/Z-axis [mm]	600/855/750	800/1,020/970	1,000/1,100/1,175
Max. speed in X-/Y'-/Z-axis [m/min]	70/45/90	65/50/80	60/50/75
Max. acceleration in X-/Y'-/Z-axis [m/min²]	5,5/4/6,5	6/4,5/7,5	4/3,3/6,5
Max. part size	Ø720	Ø900	Ø1,280
Table load [kg]	350	750	1,500

Access Series

Milling Centers

Universal Machining Centers

	G350a	G550a
Axis travel in X-/Y'-/Z-axis [mm]	600/770/805	800/950/1,020
Max. speed in X-/Y'-/Z-axis [m/min]	60/42/60	60/42/60
Max. acceleration in X-/Y'-/Z-axis [m/min²]	5/3/10	6/4/8
Max. part size	Ø720	Ø900
Table load [kg]	400	700

Showroom

Technology and Applications Center (TAC)

- **Comprehensive training** for application engineers
- **Simultaneous engineering** for shorter innovation periods
- Innovative trial machining runs of individual **customer parts**
- Venue for **technology** and **industry conferences**

GROB Industry Range

Precision at the Highest Level

Sectors

Aerospace

Turbine blade

Structural component

Automotive

Subframe

Stator housing

Mechanical engineering

Vise bottom part

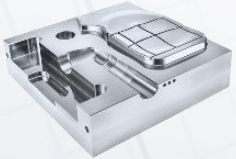
Gear wheel

Medical Technology

Endoscope holder

Bone plate

Die and Mold Industries



Mold insert

Bottle mold

Energy Technology

Francis turbine wheel

Centrifugal compressor

Automation Solutions

For an Effective Production Process

Standard Automation

- PSS-R (Round), PSS-L (Linear) & PSS-T (Tower)
- Pallet handling
- Round or linear arrangement

Flexible Manufacturing Systems

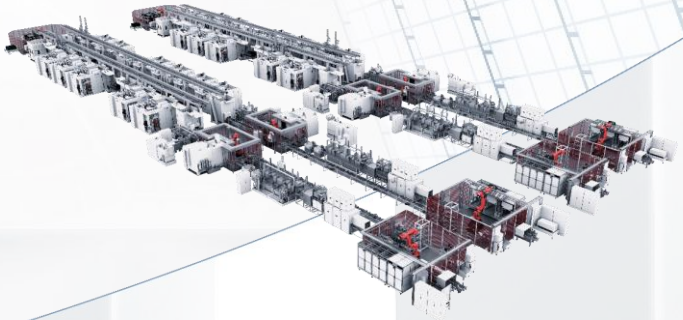
- Flexible arrangement
- Pallet handling
- External peripheral equipment (e.g. measuring machine, washing system, central tool magazine)

Automation Solutions

For an Effective Production Process

Flexible Robot Cell

- GRC-R (Circular), GRC-L (Linear) & GRC-V (Vision)
- Workpiece and/or pallet handling
- Automatic gripper change
- Compact drawer feed system



Turnkey Production Line

- Individual arrangement
- Possibility of top or front loading
- Interlinking with workpiece storage

GROB Robot Cell

(GRC)

Automation Solutions

The newly developed GROB robot cell, combined with our G-modules, offers maximum flexibility and customization for your manufacturing needs.

Moving into a digital future with GROB-NET⁴Industry

GROB

GROB-NET⁴Industry

Product-ivity

Simula-tion & Training

Smart UI & Automation

Service & Availability

Networking MES On Site & Cloud

Productivity

GROB⁴Simulate
Complex processes & parts easily simulated

GROB⁴Coach
Programming, simulation, training

GROB⁴Pilot
Multi-functional, interactive machine connection

GROB⁴Automation
Intuitive production control software for unmanned operation

GROB⁴Track
Machine axes in view at all times

GROB⁴Optimization
Extend the service life of your motorized spindle

GROB⁴Care
Your service and maintenance portal

GROB⁴Line
The machine in sight via smartphone

GROB⁴Analyze
Feedback from the machine for your CIP process

GROB⁴Analyze OfficeClient
Easily analyze cloud data with MS Office

GROB⁴OEE
OEE figure output under consideration of the shift plans

GROB⁴Connect
Connection of the real world around the ERP system

GROB⁴Interface
Easy route to machine communication

GROB⁴Portal
The secure cloud for the industry

Electromobility

It is essential to understand the entire "electric vehicle" system to be able to provide systems that are process-safe and suitable for large-scale production

E-Mobility

Electric Machine

- Stator assembly
- Rotor assembly
- Impregnation
- Enclosure
- Gearbox assembly

Battery Module

Illustration: BB200/210

- Module assembly

2017

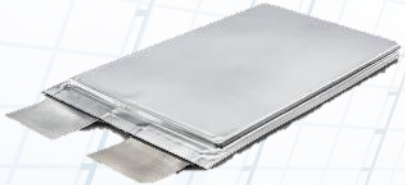
2018

Electromobility

It is essential to understand the entire "electric vehicle" system to be able to provide systems that are process-safe and suitable for large-scale production

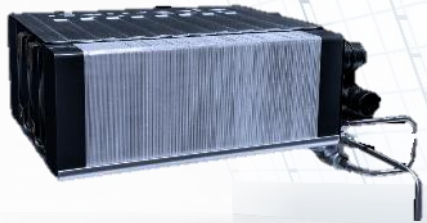
E-Mobility

Battery cell



- Cell assembly

Fuel cell



- Stack assembly
- System assembly

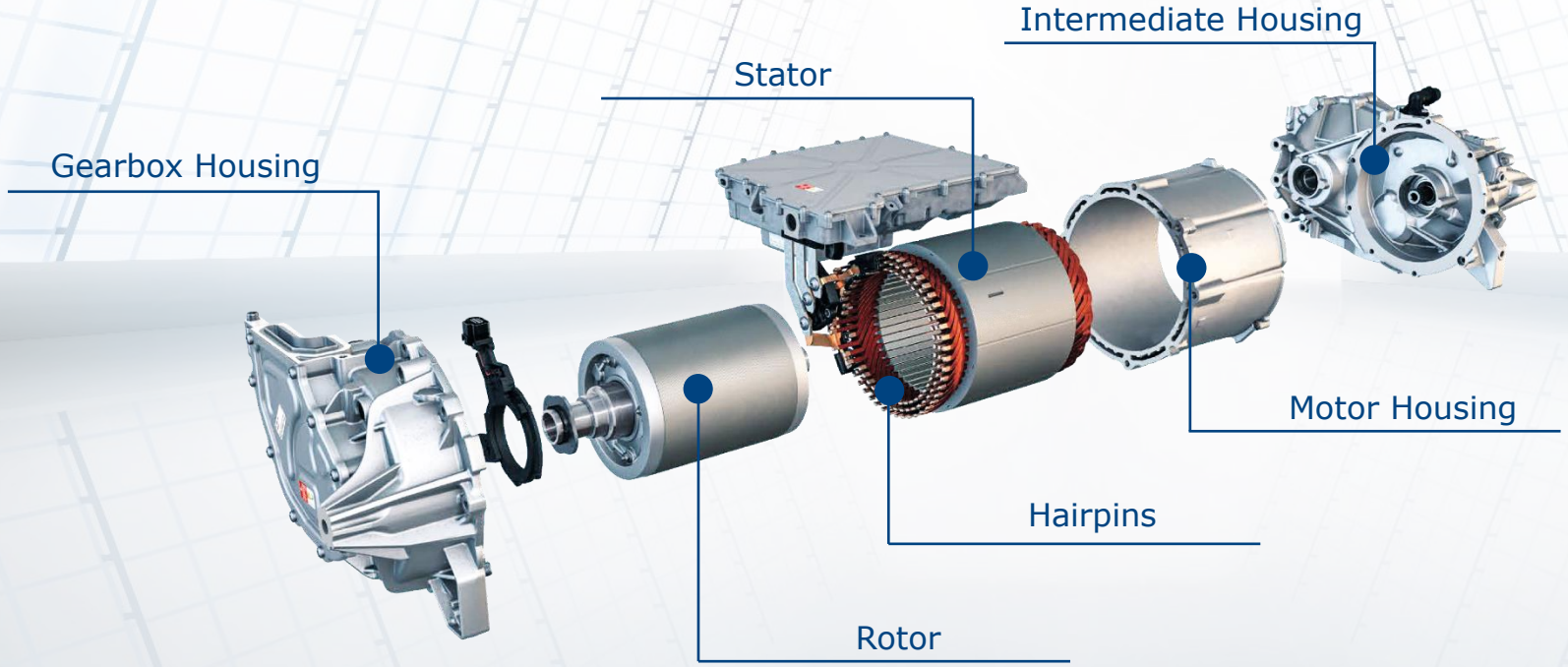
2022

2023

Electromobility

GROB Competence Areas

E-Mobility



Liquid Metal Printing

Economical production of near-net-shape aluminium components

Additive Manufacturing

Reduced material handling effort and use of the system in an industrial environment due to the use of **wire as the starting material.**

Micro-casting process and no welding process, resulting in unique material properties.

Quick material change without major cleaning effort.

Low investment and process costs **reduce manufacturing costs.**

High productivity due to high build-up rates (max. theor. build-up rate 320 cc/h) as well as a reduction of post-processing steps.

High flexibility due to a variable drop diameter (400 µm - 700 µm) and a modular heating concept.

Your Reliable Partner for the Future

www.grobgroup.com