EDAG Group
Partner to the International Mobility Industry
Agenda

Presentation of the EDAG Group
- Expertise - Key figures - Sites

Range of EDAG Services
- Portfolio and References

Why choose EDAG?
- Innovations, Awards, Certification
We are the experts in the development of vehicles, production plants and the optimisation of your processes.

*We see mobility as an integral approach.*

Our expertise covers the integrated development and optimisation of vehicles, production facilities, derivatives and modules. This has made us what we are today: the acknowledged, independent engineering experts for the automotive industry.
Our history

1969
Founding of the Horst Eckard design office in Groß-Zimmern

1970
Foundation of company headquarters in Fulda

1987
First steps toward globalisation, first European subsidiary in Barcelona

1995
Germany: 10 facilities close to the major automobile manufacturers

2006
ATON Group becomes the main shareholder of EDAG.

2013
Acquisition of the BFFT Group

2012
Acquisition of Rücker Group with 2500 employees

2016
New technology centre with room for 1500 employees is built in Wolfsburg

2019
We celebrate 50 years of EDAG

50 years' experience in automotive engineering!
The Executive Board of EDAG Engineering GmbH

Harald Keller
COO

Cosimo De Carlo
CEO

Holger Merz
CFO
EDAG Worldwide

8,479 EDAG employees
Total sales revenue of 792 million in 2018
EDAG in Germany

more than

26

Locations

more than

6,000

Employees

Company headquarters
100/500/1000 employees
Product Development Business Models
Cooperation between the Subsidiaries

Complexity

Business development & consulting

Complete vehicle development

Focus of the Fulda site

Engineering services

Module development

Focus of the subsidiaries

Assumption of responsibility
Agenda

1. Presentation of the EDAG Group
   - Expertise - Key figures - Sites

2. Our range of services
   - Portfolio and References

3. Why choose EDAG?
   - Innovations, Awards, Certification
Our range of services

PRODUCT DEVELOPMENT

- Design and concept development
- Vehicle development
- Function development
- Vehicle validation and testing
- Electrics/Electronics

PRODUCTION SOLUTIONS

- Control engineering and automation technology
- Production engineering
- Production process planning
- Factory and logistics planning
- Tool and vehicle body systems
## Company Structure and Segments of the EDAG Group

**EDAG Engineering Group AG**  
Switzerland

**EDAG Engineering GmbH**  
Directors: Cosimo De Carlo – CEO, Harald Keller – COO and Holger Merz – CFO

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![Image of a car with door open]

![Image of a man in a red shirt holding a trophy]

![Image of a future car with a digital overlay]

© Copyright 2019 EDAG Engineering GmbH. All rights reserved.
We provide extensive expertise for complete vehicle development as a one-stop solution.

When it comes to the development of bodywork systems and vehicle interiors, EDAG is a strong and innovative partner in every respect – with a special emphasis on complete vehicle development.
EDAG Design Studio
The final result of the design process must be to strengthen your brand.

- Design brand strategy (DNA)
- Design ideas
- Product conception and design visualisation (2D, 3D, VR)

Surface development
Our surface simulation team creates photorealistic images and scenarios of the vehicles of tomorrow.

- Class-A surfaces concept through to volume production
- Form finding in clay

Model Building
Our model making centres create high-precision physical models of your future vehicles.

- Mobile show and concept cars
- Design models

We create visions that can be developed into vehicles that meet the demands of the future.
Logistics/Procurement
- Creation of production equipment
- Supplier specification and management
- Purchase of parts volumes
- Supply chain management

Low-volume production planning/implementation
- Process creation
- ISO-compliant documentation
- Manufacturing concepts
- Series production

Test, Verification
- Accredited test centre (ATC)
- Component and module tests
- Safety (crash)/durability
- Endurance testing and CAE validation

Concept development
- Feasibility study
- Definition of material concepts
- Definition of manufacturing concepts

Safety, quality, cost
- Risk management
- Preventive quality planning
- Supplier quality

Product development
- Interior/exterior development
- Creation of production documents

Tool construction/ parts manufacturing
- Design/simulation
- Production of tools
- Production of parts

Complete vehicle assembly (VPC)
- Prototype management
- Creation of welding assemblies
- Vehicle construction/assembly
- Installation of sub-assemblies

Model Building
- Creation of fixtures
- Manufacturing components
- Saddler work
- Paint
## Concept Development and Package
Our task in the package is to optimise the arrangement of components and modules according to geometric and functional requirements.
- Complete vehicle package
- Ergonomic analysis
- Platform and modular product concepts

## Vehicle Body and Door Systems
Our primary target is to achieve optimum product properties at minimum cost and weight.
- Concept and series development
- Development and supplier management
- Lightweight design / hybrid material selection

## Interior and exterior
The design of your vehicle brand should be immediately recognisable from its interior and exterior.
- Concept and series development
- Design validation and preparation of technical specifications
- Supplier management and change management

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**We provide extensive development expertise as a one-stop solution. Our unique quality is the fact that we specialise in complete vehicle development.**
Interior and exterior
The design of your vehicle brand should be immediately recognisable from its interior and exterior.

- Concept and series development
- Design validation and creation of technical specifications
- Supplier management and change management

Development and design
From the initial design sketch through to the finished component, assembly or complete vehicle development.

- Innovative styling from the concept sketch to the finished design model
- Design with styling, lightweight design and production know-how
- Function development of motorcycle components

Testing and validation
We pay close attention to the specific features of motorcycles - at the race track, on the test stand or in the virtual world.

- Chassis and control system coordination and testing
- Virtual validation
- Vehicle dynamics simulation
- Hardware validation
- Endurance testing

Prototype and low-volume production
From prototype parts to low-volume production: we implement the highest possible standards throughout.

- Special series production
- Prototype components
- Prototype vehicles

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We are Motorcycle – from the initial design sketch through to the complete, finished vehicle.
We are responsible for the integrated development of vehicle attributes, components and modules. Our speciality is the fact that our experts are involved right from the start.
Vehicle Engineering  
**Vehicle Validation**

**Calculation and Simulation**
We focus on ensuring a radical reduction in development times.

- Stiffness, stability and durability
- Crash, passenger and pedestrian protection
- NVH
- Flow simulation
- Tolerance management

**Testing, Material Inspection and Test Stand Construction**
Our own test laboratories offer you maximum flexibility in vehicle development.

- Accredited test laboratories
- Component and system testing
- Material inspection, appraisal of material properties, materials consulting

**Complete Vehicle and Component Validation**
We ensure that your prototype fulfils the statutory regulations and your quality demands.

- Validation planning
- Test vehicle management
- Test coordination and support
- Certification and homologation

*We offer all relevant CAE solutions, as well as a unique network of test laboratories, at the most important sites in Germany.*
Focus on Product and Production Process

Our goals are to achieve top quality standards, meet deadlines and keep costs to a minimum.

- Product targets
- Cost and weight of product
- Product quality
- Production process

Processes and Tools

Professional process management to monitor and document all data and non-conformities.

- Risk management
- Change management
- Engineering quality
- Production quality

Engineering Responsibility

We are a partner that meets the stringent requirements of complete vehicle development.

- Complete vehicles / derivatives
- Factory and production solutions
- Management of international projects
- Development and supplier management

A clear structure, bespoke solutions and continuous tracking characterise our project management.
Individual Solutions
In interdisciplinary teams of communications and quality experts, we create methodically supported solutions for practical applications.

- Statistical/linguistic analysis
- Quality process optimisation
- Knowledge transfer via interactive media

Quality Solutions
In spite of reduced development times and increasing model variety, we help to ensure high quality standards.

- Series and launch support
- Complaints management
- Quality audits and coaching
- Supplier management
- Mobile measuring

Communication solutions
We are specialists in the fields of information design, technical documentation and data structuring.

- Operating instructions
- CE documentation
- 3D image editing
- Service literature

In cooperation with our clients, we improve product quality and increase customer satisfaction with customised communication and quality solutions.
BMW Mini Countryman
Development of the complete body and control of the development process chain

Mercedes-Benz GLC Fuel Cell
Body in white/exterior/interior derivative development – drive train integration
Production vehicle assembly in low volume series process

DAF XF & CF Euro 6 integration
Series development of cab / development of chassis front end & cab interface

Mercedes-Benz C-Class T-Model
Body in white derivative development/aluminium hybrid design/ready to install aluminium roof

Opel Insignia
Development of body in white, doors, boot lid and tailgate, exterior, interior and electrical/electronic systems
Our expert teams are developing the eMobility of tomorrow.

eMobility and car IT will be the greatest automotive challenges in the next few years. Reason enough for us to press ahead with technologies and their applications with our own team of experts. With future-oriented subjects connectivity, digitalisation and autonomous driving, we cover the key areas of the networked vehicle.
Electrics/Electronics Expertise

**E/E Embedded Systems**
Development and validation of hardware and software for electronic steering devices.
- Topology evaluation and preparation of product specifications
- ECU development (HW and SW)
- Power electronics

**E/E Systems Engineering**
Definition of requirements, drafting concepts, and implementation in solutions for E/E systems
- Integration of system components (control unit, sensors, actuators) to give a complete system
- Validation with regard to function and network integration

**E/E Vehicle Engineering**
Support throughout the entire function development, from the concept phase to production support.
- Architecture and electrical system engineering
- Integration of physical vehicle electrical systems

We ensure capacity and flexibility in electric/electronic product engineering. So that you can gain or retain a competitive edge with innovations.

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trive.me is a powerful brand with a mission: We develop innovative software solutions and products for the networked mobility of tomorrow, and offer this digital transformation know-how on the market.
EE Scopes - Derivative Development
System development, system integration, test / validation and supplier management for all EE components and functions. Validation in complete vehicle

Battery System for PHEV Vehicle
Structural, thermal and electrical design, BMS, assembly, integration and commissioning of a 17 kWh battery system

Controls for Self-Driving Commercial Vehicle
Development of the ECU software to control the driving functions in compliance with ASIL-D

Software Connectivity Module
Software development to create secured Internet connections and implement the statutory eCall function

Software Infotainment Unit
Software development Infotainment unit with extensive entertainment, connectivity and international radio functions

Algorithms for automated driving
Programming driving situation evaluation and manoeuvre planning
Production Solutions

"We are your competent partner for project management and networked production engineering on your way to the factory of the future."

Our expertise and strength lie in the integrated development of production systems and the optimisation of production processes.
Production Solutions **Expertise**

**EDAG Production Solutions (Production Development)**

**Product Development**

- Development of individual solutions through to turn-key systems for complete body manufacturing
- Development and realisation of complete factories with all the technical disciplines involved
- Implementation of customer projects in cooperation with Feynsinn process consulting specialists

- more than 50 years of experience in systems engineering
- Independent service provider

**Consulting - Realisation - Training**

**Expertise**

- Digital Factory
- Industry 4.0
- Digital Tools
- Technical Information
- Project Management
- Architecture and Construction Planning / Utilities Planning
- Factory Planning
- Conveyor Technology Planning
- Planning: Technology Tools & Dies
- CFRP / Plastics
- Body Shop
- Paint Shop
- Components / Battery
- General Assembly
- Logistics
- System Development
- Virtual Commissioning
- Mechanical Design
- Technology Development
- Robotics
- Assembly Jigs
- Uni-Series Standard®
- Mobile Measuring Services
- Factory- and Process Simulation
- Production IT
- Automation
- Safety Engineering Services
- Quality Management Services
- Product Cost Optimisation

**SOP (Job #1)**

**Tool and plant construction/Production**

**DF@VSOP**

**DF@Release**

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Production Solutions References

Daimler BR 205
Systems engineering of three plants on three continents

Geely CX11
Planning and development support

BMW F60 / Mini Countryman
Turn-key project management and SE planning for diverse assembly sections

WOB AG
Factory planning for OpenHybrid LabFactory

BMW
Rollout of body engineering process without using drawings
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Every material must perform to its utmost. In the right application and in the right place.

Ideas, strategies and customised implementation:
- Technology scouting
- Networks
- Pilot projects and technology transfer

Neutral view of things:
- Energy-efficient lightweight design in steel
- Light metals and/or multi-material systems
- Fibre composites, hybrids and additive manufacturing

We provide system developments for innovative light design on the vehicle of tomorrow.

We are open to new methods:
- Design and conception
- Simulation and light laboratory
- Research and development

Our main focuses:
- Headlights, rear lights, fog lights
- Ambience and interior
- Exterior and interior
Innovations - Competence Centres for eMobility and Integral Safety

**CC for eMobility**
New technologies and system solutions as the key to the mobility of the future

Our contribution to the mobility of the future:
- Mobility and vehicle concepts
- Innovative system and charging concepts
- Technical innovations

eMobility system concept:
- Energy efficiency through innovative system solutions
- Scalable system concepts
- Single-source layout, integration, validation

**CC for Integral Safety**
Cooperation instead of collision
Clarity instead of surprises

We merge passive and active safety:
- Accident prevention through driver assistance
- Savings in time for more effective passive protection systems
- Simulation/test: holistic, automated, autonomous

In the complete vehicle, we network and bundle:
- Expert knowledge on electronics, chassis, safety
- Systems: sensors, actuators, protection systems

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That’s what we are proud of –
Latest Awards

**Top Employer Award 2018**
Engineering

**Top Employer Award 2017**
Engineering

**Top Arbeitgeber Award 2016**
Automotive

**Gold Award**
German Innovation 2018 for LightHinge+

**Gold Award**
Materialica 2017 DESIGN + TECHNOLOGY

**reddot award 2016**
for the design of the EDAG Light Cocoon
Certification – Quality for Processes and Products

Certification Types

- DIN EN ISO 9001 (EDAG, EDAG Production Solutions)
- DIN ISO/IEC 27001 VDA (EDAG, EDAG Production Solutions)
- ISO 14001 (EDAG) (EDAG, EDAG Production Solutions)
- DocCert (EDAG Documentation)
- OHSAS 18001 (EDAG, EDAG Production Solutions)

Assessment

- DIN ISO/IEC 15504 Spice (EDAG)

Accreditations

- DIN EN ISO/IEC 17025 (EDAG Testing Böblingen, Fulda, Ingolstadt, Munich)
The EDAG impulse: 3D printing in body engineering for the first time!
The EDAG impulse: 25% weight reduction due to ultralight 3D printed bionic structure and textile outershell of bodywork
The EDAG impulse: prototype-based implementation of future HMI technologies and user experience
Thank you very much for your attention!