ENGEL services
Exceptional individual support
An extensive machine portfolio – a comprehensive service portfolio

At ENGEL, we not only offer you the latest technologies and state-of-the-art production systems, but also a wide range of services to ensure your long-term success. A large team of experts provides world-wide service and on-site support, quickly available and high-quality retrofitting and optimisation tools, as well as professional consulting and training. The following pages contain important information about our services. With our support you get the best out of your production cells.

OEM parts
A perfect fit, reliable, durable

In machine manufacturing, every single part, no matter how small, counts. In order to ensure the permanent functionality of your system and keep downtime as low as possible, we offer you a fast and comprehensive spare parts supply. Trust in genuine parts by ENGEL:

- Strictest requirements in terms of quality, functionality and innovation
- Perfect coordination of all parts
- Long service life ensures cost savings and superior operational safety
- Excellent advice from over 200 spare parts experts world-wide
- The one-stop shop for your ENGEL system

A widespread supply network

In an emergency, ENGEL original spare parts worth over 150 million euros are available for you on call. In 70 logistics centres world-wide, our spare parts experts make every effort to ensure fast and cost-optimised delivery. Thanks to well-designed warehousing solutions and state-of-the-art supply networks, we can provide parts 365 days a year, world-wide and in the shortest possible time.

We are continuously investing in the expansion of our network to offer you the best possible support – as an example, we built a new warehouse at Vienna International Airport (Austria) and put it into operation in 2018. The geographically perfect location close to the airports in Vienna/Schwechat and Bratislava guarantees more flexibility and faster response time.
Plasticising units
Improved cost effectiveness, performance and service life of injection moulding machines

The screw, non-return valve and barrel have a major influence on the melt quality and repeatability of the injection moulding process as well as the service life and cost effectiveness of a machine. As the world’s largest screw producer in the injection moulding industry, we are more than aware of the central importance of optimum plasticising for the production of perfect parts. Our versatile systems are manufactured in Austria and offer numerous advantages:

- **Best melt quality**
  Excellent material and thermal homogeneity for a variety of process conditions
- **Highest repeatability**
  Perfectly designed components for highest precision shot by shot
- **Longer service life**
  Application-specific material types ensure greater cost effectiveness
- **Maximum throughputs and plasticising capacities**
  Screw geometries designed to match the material guarantee maximum throughput and plasticising performance.

ENGEL formula 24
Our formula for success and enhanced safety

Make the right choice – and get a 24 month warranty* on spare parts. Installation by one of our qualified service technicians is required.

*Except for wear parts, plasticising unit & damage due to external influence

Retrofit
In proven ENGEL quality

Retrofits make it possible to change or update your production cell which saves you the time-consuming training for your personnel that would be required for a new acquisition, as well as machine relocation. Our experts analyse your individual needs and advise you on the best possible options for your requirements. Whether it’s about automation, improving efficiency, or to modify your production – you benefit from a variety of advantages.

- Individual upgrading of your machine in OEM quality
- Conversions/modernisations for enhanced performance and productivity
- Keep existing processes and associated peripherals
- Substantially lower investment costs in comparison to a new acquisition
- Individual complete solutions geared to your requirements
ENGEL care

Our maintenance packages for sustainably good results and optimal functionality

ENGEL care provides you with the perfect maintenance package for any requirement and any type of machine – from simple safety checks to comprehensive maintenance services. Our qualified ENGEL specialists inspect your production cells at the intervals you specify following the same standardised procedures world-wide.

ENGEL care maintenance packages are the basis for our intelligent ENGEL protect system and make a significant contribution to ensuring the safety and reliability of your machines for years to come.

Choose the perfect service package for your requirements:

<table>
<thead>
<tr>
<th>ENGEL care</th>
<th>basic</th>
<th>compact</th>
<th>complete</th>
<th>select</th>
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</thead>
<tbody>
<tr>
<td>Inspection</td>
<td>visual inspection of the machine, inspection checklist with several inspection categories</td>
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<tr>
<td>Safety check</td>
<td>inspection and testing of safety-relevant machine parts</td>
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<td>Fluid service</td>
<td>hydraulic oil check, lubricant service, filter change</td>
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<tr>
<td>Measuring &amp; testing</td>
<td>function test, inspection of platen parallelism and injection unit</td>
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<tr>
<td>Calibration</td>
<td>optimisation of control parameters for cylinder heating, pressure and velocity, calibration of movements, pressures and velocity</td>
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</table>

ENGEL care complete is also available for ENGEL robots.

ENGEL care select: Calibration only possible in combination with measuring & testing

ENGEL Protect

Intelligent system protection

Availability, productivity and costs under control at all times: You benefit from a comprehensive service package for your new or existing* machines that covers the majority of the costs incurred for up to 10 years.

- Spare and wear parts**
- Service costs
- Annual ENGEL care maintenance
- Global support hotline
- e-connect.24 remote maintenance

* For machines up to 5 years old
** See ENGEL Protect Terms & Conditions for included wear parts

Oil maintenance

Reduced maintenance costs and less unplanned machine downtime

80% of all failures in hydraulic systems are due to contamination – ENGEL’s oil maintenance unit effectively counteracts this:

- Clean oil with constant quality and viscosity
  The cellulose cartridge removes dirt particles, condensed water and oil degradation products (“soft contaminants”) in a single step and is available in 3 performance stages.

- Improved productivity
  Up to 55%* less downtime

- Lower maintenance overhead
  • Less wear and an extended service life
  • Lower maintenance and downtime costs due to micro-fine filtering

- Lower energy consumption
  • Less friction
  • Constant oil quality and viscosity

* Calculations based on best practice examples
ENGEL everQ
Verified process reliability with test certificate

We confirm the reliability of production-relevant sensor data – prior to delivery of your system or at regular intervals at your factory. Our qualified ENGEL service technicians measure all relevant data using special calibrated equipment, analyse it with special software and subsequently send you a reliable test certificate. You can regularly provide your customers with verification of the accuracy of your production data.

Your advantages:

- Verified process reliability (according to the IATF 16949 requirements)
- Creation of a certificate on the accuracy of the production records for audits
- Lower costs for rejects through higher levels of process reliability and part quality
- Easier detection of machine faults and wear

Hose service
Improved equipment safety through regular hose replacement

ENGEL will also carry out regular, standard-compliant hose replacements on your machines to ensure greater facility safety:

Your advantages:

- High-pressure hose replacement (every 6 years, EN201/2009) incl. special discount on the complete hose set
- Installation of hoses in OEM quality
- Technically impeccable recommissioning of the machine incl. ventilation of the system and oil level check

ENGEL relocation service
The optimal solution for machine relocations – whether within the company, within a country or across borders

Relocating injection moulding systems always presents a special challenge for logistics and installation teams. The high level of technical complexity involved in such a relocation requires a great deal of experience and consistent project management. ENGEL's relocation service can be individually tailored to your requirements.

- Safe
  Relying on the ENGEL relocation service means that the machine supplier carries out the dismantling, assembly and recommissioning work – and you can rest assured that your system will meet ENGEL's high standards even after relocation.

- Holistic
  From project management, disassembly, transportation organisation to recommissioning, we offer you everything from a single source – you do not need to worry about anything.

- Experienced
  With more than 70 years of experience in the injection moulding industry, we know what is important when it comes to machine relocation. Our highly qualified service engineers take care of coordinating disassembly and reassembly as required.
ENGEL training
Be ready for your production needs.

Superior product quality, more stable processes and increased output with a maximum of good parts – a thorough understanding of your injection moulding machine, your robot and the interaction of individual process steps enables you to get more out of your injection moulding production. At ENGEL, we provide you with the required skills through a comprehensive and practice-oriented training programme. The wide range of topics includes everything from seminars for newcomers and advanced users to specialised workshops and certified training, which can be tailored to your company’s specific needs upon request.

- Knowledge prepared in a modular and concise way
- Small groups for a great impact
- Hands-on: practical initial and on-going training on the machine and the PC
- Company-specific training is possible – at your location if you prefer
- Certified learning: widely recognized “Certified Training” certificate
- E-learning platform for autonomous learning and training

Consulting & Coaching
Find and leverage hidden potentials

With our expertise we help you optimise processes, cut costs, and increase the efficiency of your production.

- Individual support for your requirements
- Complete analysis of machine settings, processing parameters and robot programming
- Precise documentation of improvement potentials with concrete data and facts
e-connect
Your online portal for ENGEL services

The free ENGEL e-connect customer portal collects all the information you need for your plant – with one login you can call up all the important details at any time. Additionally, support and service enquiries can be made directly via e-connect, which substantially speeds up order processing.

- Free, independent of location and always available
- Detailed information and documentation on all your ENGEL equipment
- Current status data for proactive detection of impending downtimes
- Complete order and service history for efficient handling of service cases
- Simple and quick price and availability check of spare parts
- Overview of currently used and available products for further optimisation of your systems
- Integration of e-connect.monitor

e-connect.monitor
Monitoring of process-critical components during operations

The predictive maintenance systems in e-connect.monitor make this possible, while at the same time boosting machine availability as well as cost and production efficiency.

- Avoid unplanned downtime
  Timely alerts when the remaining service life of a component becomes critical and a replacement is necessary
- Optimisation of planned downtime
  Better planning of maintenance and machine utilisation
- Cost savings
  No need for regular maintenance and inventory costs for spare parts is reduced

“With e-connect.monitor, screw condition measurement only takes 15 minutes and we don’t have to shut down the machine to do this. The condition of the screw was recorded every eight weeks for over a year. In case of problems in the process, we can now exclude wear as a cause due to regular screw inspection. This considerably accelerates troubleshooting.”

Wilhelm Raber, Head of Injection Moulding Technology and Production, Praher Plastics Austria
e-connect.24
The inexpensive remote maintenance package

24/7 online support. Service experts from our locations around the world help you resolve unscheduled machine downtime as quickly as possible. The result is an optimised support process and even more productivity with a short payback period.

- Free 24/7 online support for immediate assistance
- Guaranteed maximum response time of two hours
- World-wide remote maintenance by knowledgeable ENGEL experts
- Rapid troubleshooting to keep downtime to a minimum
- Maximum machine availability and absolute data security
- Full service history
- Overview of your machinery status via the free e-connect app, regardless of your location