3D INSPECTION AND REVERSE ENGINEERING
Reverse engineering:
Create a CAD model using data from a 3D scanner. Scanned point cloud can be gradually modified by special software. With us you handle the whole process of scanning component, through editing CAD model to CAM programming of CNC milling machines.

3D measuring:
It allow to check whether the product meets drawing. Scanned point cloud is compared with 3D model and deviation are displayed in easy to read deviation maps. Inspection of complex geometric shapes is now much easier and faster thanks to our equipment.

We offer:

- dimensions inspection of complex parts
- creating measurement protocols
- easy to read deviations summaries
- complex services in the field of high-precision shape measurement
- creation of CAD models from scanned data
- complex services in the field of reverse engineering - including production
- sale and service of 3D scanners and measuring machines
- sale of software for 3D scanning and measuring machines
- consultancy in the field of 3D scanning and creation of models

Our equipment:

- easy operation
- high speed scanning
- perfect accuracy
REXCAN CS+

Rexcan CS+ is designed and optimized for scanning small and medium sized objects in a highly accurate and fully automated way.

Key features:

- **automatic scanning and active sync.** - with just single click of button, users can get their whole object scanning, easy synchronizing the model and camera views for better orientation.
- **no targets or manual alignment needed** - for small objects.
- **ease of scanning path generation** - flexible creation pathway allows creation of scan path according to the complexity of different shapes and sizes of objects.
- **automatic calibration** - user-friendly system of automatic calibration thanks to calibration panel and guide for calibration process.
- **detachable Rexcan CS+** - scanner can be placed on a measuring stand if there is need to scan bigger or heavier objects.
- **can be installed on your desk** - there is no need to leave the workplace thanks to the compact solution Rexcan CS+.
- **optimized for 3D scanning solution** - acquired data can be used in the system of quality control and reverse engineering.

<table>
<thead>
<tr>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>camera resolution</td>
<td>5.0 or 2.0 mega pixels</td>
</tr>
<tr>
<td>light source</td>
<td>blue LED</td>
</tr>
<tr>
<td>3D scanning principle</td>
<td>phase shifting optical triangulation</td>
</tr>
<tr>
<td>3D scanning area (FOV)</td>
<td>100mm, 200mm, 400mm</td>
</tr>
<tr>
<td>portable size (W x H x D)</td>
<td>400 mm x 110 mm x 210mm</td>
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<tr>
<td>weight</td>
<td>4 kg</td>
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<td>interface</td>
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<tr>
<td>power</td>
<td>220V / 50 Hz</td>
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<tr>
<td>scanning software</td>
<td>ezScan</td>
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<td>output data format</td>
<td>STL</td>
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<td>O/S</td>
<td>Windows 7 (32/64 bit)</td>
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<td>moving stage</td>
<td>2 axis movement</td>
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<td>swing and rotation</td>
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<td></td>
<td>pay load 10 kg</td>
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<tr>
<td></td>
<td>diameter 300 mm</td>
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<td></td>
<td>220V / 50 Hz</td>
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<tr>
<td>interface</td>
<td>USB 2.0 high-speed</td>
</tr>
<tr>
<td>size (W x H x D)</td>
<td>300 mm x 800 mm x 900 mm</td>
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Leader NC8107 Miracle - 3D measuring system

Miracle series CMM is newly developed measuring system from Leader Company, which incorporates all the benefits of CMM systems from around the world. It offers simple, fast, effective and powerful features, sufficient measuring ability of medium and small parts. Our measurement table are equipped with high-precision laser scanner for reverse engineering and CCD optical system for the contactless 2D measuring of small parts.

Key features:

- guide body made of high quality granite, highly accurate and stable air bearings
- worktable with integral "dovetail" guide in Y axis, eliminate the pitch and yaw, also provides superior motion stability
- high performance DC servo motors and a new dual regulator to ensure speed and accuracy of movement guiding bodies
- large working table - a maximum measuring range X: 800 mm X 1000 mm Z: 700 mm; maximum weight 1,000 kg
- measurement accuracy: 2.9 µm + 4.0 µm * L[mm]/1000[mm]
- **3D laser scanner** - accurate, high-resolute non-contact scanning, special filtration technology for measurement without lighting effects, the possibility to integrate scanned data from different angles into one model, scanning width 65mm, scanning depth 80mm measuring accuracy of ±-10 µm
- **CCD optical measuring tool** - for viewing and measuring very small parts, features of statistical analysis and automatic measurement
Geomagic® Design X™

The industry’s most comprehensive reverse engineering software, combines CAD with 3D scan data processing so you can create feature-based, editable solid models compatible with your existing CAD software.

Key features:

- **broaden your design capabilities** - elimination drawing from scratch through the use of scanned data from the real world, which can then be completely converted into CAD
- **accelerate time to market** - radical reduction of time between the design and the finished product, use scanned prototypes, modified parts and tools, creating CAD models in a fraction of the time
- **enhance your CAD environment** - complements your entire design ecosystem, with native output to SOLIDWORKS®, Siemens NX®, Solid Edge, Autodesk Inventor®, PTC Creo® and Pro/ENGINEER®
- **leverage existing assets** - inspiration of existing parts and subsequent modification, enhance them and re-use in a CAD environment, modeling the old parts
- **do the impossible** - create products that cannot be designed without reverse engineering (customized parts, components that integrate perfectly with existing products, components that perfectly fit with the human body)
- **reduce costs** - save significant money and time when modeling while using 3D scans of real geometric shapes
- **powerful and flexible** - high quality conversion of 3D data to feature-based CAD models
Geomagic® Control™

Geomagic Control (formerly Geomagic Qualify) is a comprehensive inspection automation platform for streamlining in-line and repetitive inspection processes that use 3D scanners and other portable metrology devices. With this feature-rich software platform, you can easily program CAD comparisons, GD&T and go/no-go operations to be performed automatically on any type of part.

Key features:

- **make inspection work for you** - eliminate workarounds and don’t miss a single detail, create and run purpose-built inspection processes that do exactly what you need
- **inspect anything more efficiently** - elimination of wasteful, unnecessary processes, reduce waste and error, simplify, stabilize and accelerate key processes
- **speed up manufacturing and assembly** - powerful scripting allows speeding up control processes, Geomagic Control can handle the heavy lifting of point cloud processing and analysis, as well as run 3D scanners, robots and other components
- **harness the power of 3D scanning** - maximize the capabilities of popular contact and non-contact metrology devices, handling millions of measured points along with the unique alignment and measurement methods, so you can reliably have more complete part views and better control of complex shapes
- **inspect with confidence** - geometry calculation algorithms have been tested by America’s NIST, Britain’s NPL and independently certified by Germany’s PTB metrology authority as Class 1 accuracy
- **built for point clouds and probing** - takes advantage of that rich data to generate easy-to-read deviation color maps and perform detailed analysis of your parts
- **works seamlessly with your CAD files** - easy files imports from popular CAD systems, including SolidWorks®, CATIA®, Siemens NX®, and Pro/ENGINEER® and follow up inspections
- **fast, accurate reporting** - automatic generation of reports in 3D PDF, „Go-No-Go“ reports and easy building of custom reports in the Advanced Reporting Tools
- **robust GD & T functionality** - Geomagic Control comes with a full range of intuitive measurement, dimensioning, and tolerancing tools and settings
- **automation for faster, more reliable inspection**
- **maximize your hardware** - take advantage of existing measuring devices or non-contact scanners, use Python scripting for fully automated scanning
THE PRODUCTION OF THE MOLDS AND TOOLS

We offer a complete design and manufacture of injection molds, tools for cutting and bending of components for the rubber and automobile according to technical documentation and 3D models since the year 2004. For the production of the molds we use a high-quality material and components that guarantee reliability and a long tool life. Using the latest software we prepare a complete design documentation for the production of molds and tools.

Our tool room is fully equipped with production machines, CAD and CAM systems, measuring systems. These allow production, repair and modification of molds of the highest quality.

We offer:

- the production of the molds up to 3500 kg
- the manufacture of the molds for plastic PET bottle blowing
- the production of new serial molds
- the production of the molds of small-series
- the production of the development prototypes
- creating models CAD - SOLID WORKS, programming CAM - HSM WORKS
- reverse engineering - Geomagic Design X (3D models creation from scanned data)
- input format: PARASOLID, IGES, STEP

The workshop equipment:

- CNC milling center MCFV 1060 TREND - 3 machines
- CNC excavation MITSUBISHI, type EA12 - 2 machines
- CNC wirecutter Mitsubishi, type FA20-S Advance
- CNC electrode production D442
- 3D measuring machine Miracle LEADER NC8107, including the laser scanner
- optical scanner SOLUTIONIX
- surface grinders rollers, NC milling machines and lathes
- the spotting presses REIS
- the laser systems for welding (type ACP), the lasers for engraving (type HXP, HCP)
- TIG and MIG welding
- the lapping machine KEMET 15, programmable polishing machine
SERVICE OF THE MOLDS AND THE TOOLS

Owing to many years of our experience we provide for our customers the highest level of maintenance services including the repair of the tools and the molds.

In case of damage of the pressure tools we can provide: welding, finishing, engraving, alignment and polishing (mirror polish) of the damaged area. We are also able to produce a new shape based on the 3D data and insert this into the mold.

We offer:

- fixing of the molds to 7000 kg
- laser welding, engraving, hardening
- TIG welding, MIG
- polishing to a mirror shine
- grinding, turning
- spotting tools and molds
- metal coating
- training and consultancy
WELDING – POLISHING - ENGRAVING

Laser welding
We have 20 ACP laser systems for welding, those were awarded at the International Fairs. We can weld on damaged shapes of small and large molds with the weight of 10 tons and even more, we also repair the tools for cutting and bending. We also provide subsequent working and spot-ting. Our laser systems are mobile, so we can weld directly at the customers.

Polishing to a mirror shine
We polish and renew the injection and blow molds, the tools for cutting and bending and the special tools according to our customer requirements up to a mirror shine. These operations are performed also on the surfaces with high demands for the dimensional accuracy and compliance of a complicated shapes. During polishing we keep the geometry of the shapes with high precision.

Laser engraving
We use the systems for engraving of the series HXP and HCP. We constructed the system engraving (HCP20), which has been awarded several times at the international fairs and is patented. It is the unique mobile system for engraving.

- we can mark and engrave a large molds directly at customers
- we can mark ceramics, plastics (even of two components), metals, composites and many others
- we can engrave a injection and blow molds and their parts, tools for cutting and bending, electrodes for EDM drilling tools, special parts and more
PRODUCTION AND SALES OF LASERS, MACHINERY AND EQUIPMENT

In addition to these services we also offer a wide range of laser systems for welding, cutting, and engraving and marking of different materials. In our offer you will also find machines and other equipment to be applied in each tool-making workshop.

We offer:
- welding laser systems
- mobile engraving laser systems
- laser engraving systems HXP
- marking and cutting laser systems
- CMM measuring systems
- flexible microscope, positioning magnets and vices, portable organizers
- tool opening / assembly benches for molds, mold turnover machines
- polishing tables and polishing systems

MEPAC CZ BET ON THE PRECISELY WORK DONE AND PROFESSIONAL TEAM

The company MEPAC CZ, s. r. o. operates in the field of precise engineering, manufacturing and repairing of injection and blow molds, molds for die casting and the cutting or bending tools in the Czech Republic, Slovakia and Poland since 1995.

We offer a wide range of tools, equipment and consulting services. We provide maintenance services, services in the field of precision welding (including laser welding), polishing to a mirror shine, renovation of damaged shapes or modifications of molds. We produce the specific tools, molds or equipment, precision CNC machined parts in series, e.g. for the aviation industry. We produce plastic components for the automotive, electrical, medical and packaging industries as well as technical moldings for other areas.

- our company is certified with ISO 9001 since 2008
- the Innovative company Moravian-Silesian Region 2013
- the finalist in the category of The Innovative Star in the Czech Innovation Competition 2014
- the Award for contribution to the development of the Moravian-Silesian Region 2014
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<tr>
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