# MX Prototyping



We rely on quality. Uncompromising.

## Motivated employees – satisfied customers

Founded in 1989, MX Prototyping is a medium-sized company in prototyping and combines craft and industry. Highest quality and customer satisfaction are our motivation.

Our approx. 40 employees are our greatest asset. Therefore we maintain a corporate culture that is characterized by openness, flat hierarchies and a personal and respectful relationship with each other .

We encourage motivation and commitment of our employees and we do everything that they feel well in our company. In this way we are able to meet the challenges of our customers in a team.



# Our company

# Centrally located between Munich and Nuremberg





# Our quality management

## Humans and technology – a perfect team

Strict quality management and the perfect interaction between man and technology are the guarantee for our high production and product quality and for unrestricted customer satisfaction. Using state-of-theart manufacturing and measuring technology, all our products are "Made in Germany".



We employ only well educated and trained professionals who can fully implement our high quality standards. Short reaction times and a comprehensive service are further quality features of our work.

The effectiveness of our quality and environmental management system is confirmed by the certifications to ISO 9001: 2015 and ISO 14001: 2015.





# From prototype to small series

MX Prototyping produces prototype and small series sheet metal parts, forming tools, laser edge parts, in the sectors automotive, mechanical engineering, medical technology, furniture industry, railway and defense technology.

We offer a vertical range of manufacture and accompany the entire production process from the initial design to the final product. For this purpose we use modern production and measuring technology. The combination of our great experience and professional competence, guarantees a consistently high product quality.



#### Precision Work on behalf of customers

- forming of steel, aluminum or magnesium components
- prototypes in steel, aluminum or magnesium
- small series parts made of steel or aluminum
- production of complex assemblies
- forming of high-strength steels

# Design and forming simulation

## Leading software in use

#### Design

- Catia V5
- Spinfire Viewer (alle Arbeitsplätze)

#### Data exchange

- OFTP 2
- OS4X-Webinterface

Useable data formats

- STEP
- IGES
- CATPART
- SLDPRT



# Toolroom

MX Prototyping has two 5-axis CNC machining centers. This enables us to offer our customers tailor-made solutions with high efficiency and punctuality.



#### Hermle C50 dynamic

- X 1100mm, Y 1000mm, Z
  750mm
- Interference circuit 1100mm, 2000 kg load
- Electronic measuring probe
- Cooling via the milling tool
- Chip conveyor
- 50-fold tool changer

#### Hermle C42 dynamic

- X 800mm Y 800mm, Z 550mm
- Interference circuit 800mm, 1400 kg load
- Electronic measuring probe
- Cooling via the milling tool (IKZ)
- Chip conveyor
- 42-fold tool changer



## Metal forming

The MX Prototyping is able to produce prototype parts, small batches and series in the field of presses through

its extensive machine park.

With our presses of 60 to 630 tons of pressure and table sizes up to 2500 x 1500 mm, we can respond individually and flexibly to every customer request.



## An overview of our hydraulic presses

Туре	Manufacturer	Pressure (t)	Table size (mm)
PYE 63	WEMA	60	630 x 500
PY 63S1	WEMA	60	740 x 560
100 SS	WEMA	100	742 x 702
PY 250 SS	WEMA	250	1250 x 900
PY 250 N	WEMA	250	1250 x 900
Duramatic	Mossini	300	1105 x 820
H-615	Hidroliksan	615	1200 x 1200
ZHS 630- 30.2.1	Müller Weingarten	630	2500 x 1500

# 3D laser technologie

At MX Prototyping we work with a modern and variable 3D system. With laser technology we can cut components of all kinds from simple to complex geometries.



#### 6-axis laser system Trumpf TruLaser Cell 7040

- Beam power 4 kilowatts, CO2 laser
- Traverse path X 4.000mm, Y 1.500mm, Z 750mm
- X 1100 mm, Y 1000 mm, Z 750 mm
- 2 stations mode for in-cycle setup and cutting
- Heat recovery to reduce energy costs owls reduction of CO2 - emissions
- Highest precision and cutting speed



## 3D measurement

For all components produced by us, the first part is released by measuring the shape and trimming. On customer request, a measurement protocol is created according to specification.





#### Our measurement tools

- Romer Infinite 3D Measuring Arm
- Zeiss Comet 6 High end 3D Sensor
- GOM Athos Scanbox
- GOM Inspect
  Software

## Welding technologie

We can process the materials magnesium, aluminum, steel and stainless steel by welding.

The examination of the welds by ground inspection takes place in our house. We employ only trained and certified welders.



The following welding processes are used here:

- CMT robot welding with rotarytilt individual positioner
- MIG, MAG and TIG welding with state-of-the-art computercontrolled systems from Fronius and EWM
- Arc stud welding with Nelson system
- Spot welding



# Hot forming

#### Müller Weingarten hydraulic press 630 t

- table size 2500mm x 1500mm
- pneumatically supported handling-system
- Universal cooling systgem
- no need for expensive tooling with integrated cooling system
- suitable for prototypes and small series production





#### Furnace "Nabertherm"

- table size B 2200, T 1600, H 500 mm
- computer controlled
- core temperature monitoring including documentation

# Hot forming



- Parts for
  - armored vehicles
  - military vehicles
  - special security vehicles
- wear protection
- lightweight design with steel
- Infrared temperature control "SELMATEC"
  - infrared camera
  - connected to the press-control
  - each part can be monitored
  - automatic stop when scales are detected
- Hardness tester "Mitutoyo wiZhard"





## Testing

## Production and testing of cockpit carriers prototypes



In addition to the production of cockpit carrier prototypes with our modern equipment of testing devices we are also able to offer our customers the testing of natural frequency, vibration measurement and torsional behavior of the highest quality.

Jean Wirtz

- metallography grinding wheel
- Carl Zeiss
- measuring microscope
- Macroscope

#### MX Prototyping GmbH

 checking fixture eigenfrequency (construction of Stolfig)



Checking fixture cockpit carriers



Module carrier frequency

# Contact

# Head office

MX Prototyping GmbH Koenigstraße 11 D-85290 Geisenfeld

represented by: Maximilian Stolfig Managing Director Andreas Großheim Procurator

Phone+49 8452 72 94 0Fax+49 8452 72 94 39info@mxprototyping.de

www.mxprototyping.de

# Sales office NRW

Andreas Großheim Am Kreikenmarkt 4 D-58809 Neuenrade

Phone+49 2394 24 23 46Fax+49 2394 24 23 47Mobile+49 160 36 50 018vertrieb.nrw@mxprototyping.de





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