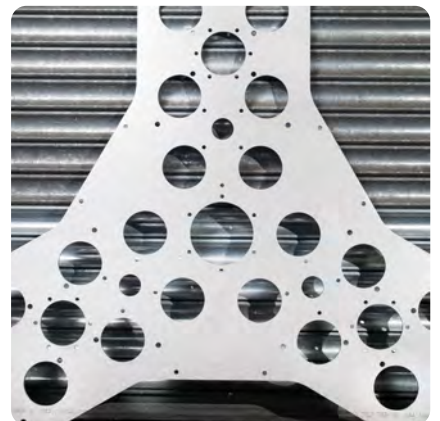
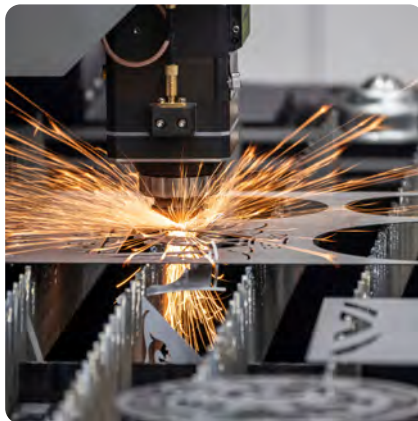
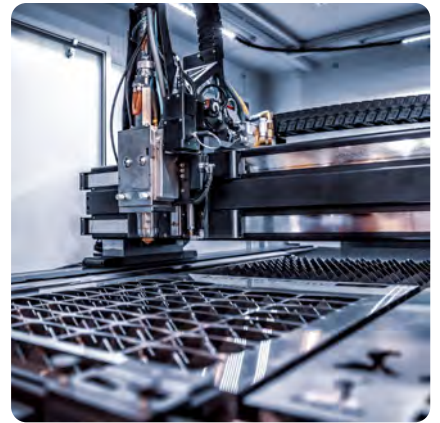




## SMARTMTL METAL Converting™ Solutions



LTHD Corporation offers full metal sheet services, from design to metal cutting laser technology, covering bending and welding works. Products manufactured according to customer specifications with industry specific materials - with high accuracy equipment for cutting, drilling, bending & welding. From part concept and design through prototyping, small series production (SOP) to full production including specific packaging & shipping. Our design team covers every request, from simple CAD design to 3D simulation of bending metal sheets, using top software like SolidWorks.

### CUTTING SERVICES

Possible cutting materials are stainless steel, aluminium, brass, copper, carbon steel, manganese alloy galvanized steel, electrolytic plate, titanium alloy. The range of our laser table offers us the possibility of cutting up to 3000mm X 1500mm metal sheets. As gas we use nitrogen and oxygen for cutting and a combination of them for optimizing quality, depending on the alloy. We can produce almost any 2D shape parts, our services are more accurate and economical than cutting plasma, fast rotation time, we can even use etching instead of cutting.

**Aluminium** can bring advantages like: there is excellent corrosion and chemical resistance, high strength-to-weight ratio, good temperature and electrical conductivity, easily processed, it reflects heat and light.

We use some of the best aluminium on the market:

- **Aluminium 6061:** good mechanical properties and weldability, making it one of the most common alloys for typical use like manufacturing of aircraft, watercraft, automotive parts.
- **Aluminium 5052:** one of the most popular aluminium alloys used in sheet metal fabrication, it is easily bent, punched, and sheared. Particularly good corrosion resistant typically used in marine and aircraft equipment.

The combination of lightness, strength and flexibility makes aluminium an ideal material for transport applications. It is used in the applications of automobiles, aircraft, railways and marine.

**Stainless Steel** is a steel alloy containing at least 10% chromium. Additional chromium provides an untouched surface finish and exceptional corrosion resistance that is not found in carbon steel.

Benefits: high strength, it is self-protective, intense heat resistance, excellent resistance to corrosion, excellent resistance to impact, as a rule, it does not require surface finishing.



• **Austenitic Stainless Steel:** Non-magnetic, highly formable and can be cold cut or bend, but it is not heat treated. It is resistant to corrosion, but prone to stress corrosion cracking. It is often used to make shafts, valves, bolts, bushes, nuts, aircraft fittings, and brewing equipment. Austenitic stainless steels come in 200 or 300 series.

• **Ferritic Stainless Steel:** Magnetic with lower resistance to ductility and corrosion than austenitic grades. These grades have a high resistance to stress corrosion cracking and can be cold cut or bend but are not heat treated. Often used in the medical industry and to make heat exchangers, automotive fasteners and furnace components.

### BENDING SERVICES

Our bending service provides a maximum bending force of 28 tons of parts up to 1000 mm long and 10mm thick with a guaranteed ram repeatability of 0.02mm. The powered back gauge can be programmed with up to 99 programs of 30 lines each. Thanks to the hybrid technologies, almost 80% of the energy can be saved when compared to conventional hydraulic systems.

CNC bending is an economical way of producing 3D parts from metal sheets. Bent sheet metal parts are commonly produced with pneumatic or hydraulic press brake, where a metal sheet is being pressed between a punch and die to bend it into required angle or shape. Common applications include brackets and enclosures, metal boxes etc.

### WELDING SERVICES

Welding is the method of joining metal parts permanently and firmly with the minimal installation costs. There are three commonly used types of welding:

• **MIG welding** – an arc is being created between a consumable wire electrode and the desired working part. In MIG welding the electrode is melting within the arc and settles as filling material. A shielding gas is available throughout the entire process in order to protect the weld against atmospheric contamination during solidification.

• **TIG welding** – an arc formed between a non-replaceable tungsten electrode and the working piece. Fill material is provided via a wire or rod. Shielding is supplied by an inert gas called Tungsten Inert Gas, TIG.

• **Spot welding** – touching metal surfaces are connected by the heat derived from the resistance to electric current flow. Parts are joined under the pressure generated by electrodes and then an current flow is applied.

Most common parts that use welding during the manufacturing process contain: metal boxes, trays, brackets, etc. Welding makes it possible to join edges in almost every form configuration. Tool equipment used during welding are typically stock goods, although custom jigs are made depending on the difficulty of the project.





We provide **Specific** and **Measurable**,  
**Achievable** but **Relevant**, **Time-based**  
 industry solutions.



**SMARTID** Ingenious Product™  
 ID Solutions

**SMARTEMS** High Performance™  
 EMS Solutions

**SMARTESD** Sustainable Safety™  
 ESD Solutions

**SMARTMTL** METAL Converting™  
 Solutions

**SMARTCHE** High Precision™  
 CHEMICAL Solutions

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