# ENGINEERING DESIGN MANUFACTURING



Entech Group sets high standards in design and manufacturing of custom made enclosures according to Your individual specifications.

Our team consists of high performing and experienced professionals who specialize in mechanical engineering. We make various type of complex enclosures: from tiny GPS trackers to huge industrial lasers. Our company uses latest design software and we always apply new materials and engineering methods for every project.

While developing various enclosures, we select appropriate materials so that the final product meets all operating requirements. We are always offering not only the best price and most appropriate lead times, but also cost-effective materials for Your products.







# DESIGN AND PRODUCTION OF INJECTION MOLDS



While designing plastic injection molds, our experienced team of specialists keeps project's purpose, quality and durability in mind. We create foolproof designs of injection parts and help with client's product design in need. Just let us know your specific requirements and the remaining work is ours! We offer a high degree of flexibility in order to delivery process.

- Experienced quality controls departament
- Own tool workshop (repairs and refurbishments)
- Short lead times

### INJECTION MOLDING FOR PLASTIC PARTS

- Manufactured product weight range: 0.1g to 5kg
- Range from 900 to 6000 kN clamping force
- TQM quality system ISO9001
- Overmoulding



We can produce components from 0.1g to 5kg, based on your desired quantity as frequently as required. We work with a wide range of thermoplastic polymers including ABS, PC, PP, Nylon (PA) family – as well as engineering materials such as PEEK and others.



# Electric accumulators, charging stations, housings for various vehicles.

We are putting customers' needs in product or innovative solution design first.

For such projects we use flame-retardant thermoplastics like PC-ABS blend that meets UL-94 V0 standard.

This and other materials for such projects are resistant to challenging environments.

We also apply:

- · Environmentally friendly approach
- Industry standards
- Legal standards
- · Designed with the latest trends in mind



Point

Charge I

 $\geq$ 

.











### Rubbee enclosure BICYCLE ELECTRIC BATTERY

Rubbee is known for making innovative electrical devices for bicycles. As a young startup company, they have already been making several models known across the world. Our task was to upgrade and renew existing design and re-engineer device:

- To create modern looking and aesthetic design.

- To design stiff plastic enclosure with battery cover and LED lamp.

- To design fast mounting lock that would fit all bicycles.

- To design housing that has an IP 67 rating.

Many discussions and meetings were done while designing housing and improving device's functionality.

Housing is designed from various materials: metal, rubber, plastic.

Aluminum part with laser engraved logo has been added on both sides for a premium look.

Charging port has silicone cover to keep water outside and mounting system is made from aluminum for a secure and stable fixation.







Rubbee







# Water, heat and electrical energy meter

Water and heat meter devices are made for different companies from all over the world. All devices have modern design and a high IP67 rating.

For such projects we use materials like PA6+GF30.

PA6+GF30 - (Polyamide) with 30% Glass Fiber is one of the most used polyamides due to the good availability of the raw material (caprolactam), the wide range of applications, and the ease and economic feasibility of production, as well as it's easy transformation and recycling. It is characterized for it's excellent mechanical properties, resistance to wear, low friction co-efficient, high fusion point, good resistance to impact and high resistance to fatigue.







### **Enclosure for electronic devices**

Our company sets high standards in design and engineering of custom enclosures. Our team consists of highly skilled technologists, designers and mechanical engineers.

### Challenges:

- Enclosure design under customer specific requirements
- Modern and ergonomical design solutions
- Enclosure engineering and prototyping
- Material, components and color selecions
- Enclosures from plastic, metal, rubber
- Complex enclosure enigneering
- Enclosure production from prototype to serial production











### Security and defence systems

Enclosures for security and defence systems are made for different companies from all over the world.



### **Challenges:**

• All devices are designed to provide high reliability and a level of protection for the electronics inside.

• They have a military and minimalistic design that meets all design criteria for security systems.

• All devices have a high level of IP protection. The enclosures are compact size and easy to use. The design takes into account the possibility of a convenient location of the enclosures cases in the hand. The high surface roughness does not allow the device to slip out of the hands.





# Tipit

Tipit is the world's first card reader that lets you tip directly with your bank card, phone or smart watch. This is a device to give thanks without cash created by Lithuanian startup.







### **Challenges:**

• To adapt the design idea and model of the client for mass production.

• At first, the model was adapted for small batches using vacuum casting. This made it possible to firstly make high quality prototypes, then move to small-scale production. Which, in turn, helped the client quickly enter the market with a new, high-quality and convenient to use product.

• The mold design was developed and the product models adapted for mass production using injection molding machines

Entech Group

# **Pulsetto**

Young Lithuanian startup and professional team of top sleep and neuromodulation experts. Drawing on the latest science and technology, this team want to help people from all over the world with their stress, anxiety and sleep issues.

### **Challenges:**

Start from the concept and idea and move to working prototypes and finished models ready for mass production. Full cycle of engineering services from scratch. Development of mechanisms, enclosure, selection of materials and surfaces. Development and design mold for all plastic parts. Full mass production cycle on our injections machines and mechanical assembly.













# LuxAl QTrodot

Expressive Humanoid Social Robot

QTrobot is an expressive social robot designed to support a variety of use-cases including education of children with autism and other special needs education and human-robot interaction research and teaching.

### **Challenges:**

Modifying and adapting an existing design for mass production.

Choice of safe materials.

The use of elements that make it easy to assemble the robot and reduce the number of parts and labor costs.







### **SULAPAC**

Universal material is made from wood and plant-based binders. This 100% bio-based material biodegrades without leaving permanent microplastics behind. The preferred recycling method is industrial composting. It biodegrades fully without leaving permanent microplastics behind.

### Challenges:

Adaptation and redesign of products for new material. Sulapac® can be processed with existing plastic product machinery, making the switch from conventional plastic to an eco-friendly alternative easier.









# **Products for Pets**

Our business is pet-friendly and we are proud to work on different pets products. From development to final production. Even for the little bees.

Our projects include large-sized devices such as summer outdoor shower for dogs and small-sized educational toys for dogs and cats.

All materials used for such projects are intended for the food industry.

Materials for large-scale projects are selected taking into account the minimization of shrinkage, outdoor use and strong mechanical support junctions.





# Femtika

Femtika Nanofactory - Laser 3d Workstation won Bronze A' Design Award in Prosumer Products, Tools, and Machinery Design Category, 2020!

Femtika is a Lithuanian company that produces Hybrid (additive & subtractive) micro-fabrication tools and offers supply services. Company's goal is to supply growing worldwide demands of available tools and technologies enabling true 3D laser fabrication, with custom design components in micro and sub micro scale.



### **Challenges:**

Modern looking and aesthetic design.

Design housing that is made from two modules (upper and lower).

Design housing that would be easy to maintain. Engineer and build strong initial structure with reliable and comfortable doors opening solution.











# **Photo Sana**

Photo Sana - the most advanced Picosecond ND:YAG. Special shape pulse profile provides the most effective way to remove natural or artifactal (tattoo) pigmentation, while minimizing the risk of damage to surrounding tissue.



### Challenges:

Full range of engineering services:

- Design
- Engineering
- Calculations

- Selection of materials and services for the manufacture of non-standard parts.

- Design of parts for both thermoforming and injection molding









14001:2015



### **Contacts**

+370 604 98487 Mobile: Office: +370 523 28667 Web site: plasticmaster.eu E-mail: info@plasticmaster.eu

# **Company details**

9001:2015

ENTECH GROUP LTD VAT code: LT100006599017 Company code: 302711100 Acc.No.: LT107300010130158162 "Swedbank" Offce: Geliu str.2, Avizieniai, LT-14186, Vilnius district, Lithuania

