



Bringing
ideas to life
for more than
70 years

- > Defence
- > Aircraft and aerospace industry
- > Transport industry
- > Electrical engineering
- > Mechanical engineering
- > Engineering, business and service
- > Education

Profile

MESIT (a member of OMNIPOL group) has developed and produced highly specialised products and systems. Their quality is verified in the most demanding sectors, such as aviation or military industry. MESIT is one of the leading exporters and importers of aircraft and military equipment in the Czech Republic and a reliable supplier in international contracts. Extensive experience, traditional partnerships and dealerships in many countries allow us to implement demanding projects in the role of general contractor. MESIT companies have the professional capabilities for the realization of challenging tasks.



own development and testing
in difficult conditions

certification for aircraft
and military technology

specialised production

service and long-term support

70
YEARS OF TRADITION

1000
EMPLOYEES

7233
TYPES OF PRODUCTS

34
COUNTRIES

Foundation 1952

Number
of companies 8

Location Uherské Hradiště, Čenkov

Owner OMNIPOL a.s.

Activities

Aircraft instruments and systems, tactical communication systems, mechanical parts for aircrafts, systems for vehicles, specialised parts for transport systems, electromagnetic valves, PCB assembly, time measurement instruments, production of precision castings, CNC precision machining, metal surface protection, large-lot rotary machining, education.



Experience	Radio systems, voice and data communication, vehicular communication devices, fuel-level metering systems, electric power monitoring systems, heating and de-icing systems, cabin air temperature control systems, voltage inverters, thermocouples, instruments for the control of APUs, on-board intercoms, aircraft instruments with secure software as required by EASA.
Design and engineering	Applications with digital signal processors, high-frequency technology up to 1.5 GHz, microprocessor control technology and programmable logic circuits, switching power supplies and inverters, low-frequency technology including electro-acoustics, transportation control systems for public transport, on-board aircraft instruments, instruments for land vehicles, protection of electronic equipment against the effects of harmful radiation.
Projects	Instrumentation for L159A and L159B aircrafts , ELMS601 - System for M601 engine condition monitoring, Project CESAR –Cost Effective Small Aircraft, MISTRAL - EV-55 Outback Instrumentation, MOSTA - Modernization of instrumentation for L410 aircraft, ESYKA - Effective air-conditioning system for commuters and helicopters, LRO - Lunar Reconnaissance Orbiter (NASA), White Rabbit - sub-nanosecond synchronisation and deterministic data transfer (CERN), OPERA - Oscillation Project with Emulsion-tracking Apparatus (CERN), SIGMA - Integration of the SHM to system for ensurance of the continued airworthiness of a small transport aircraft, Integrated Satellite and Terrestrial Navigation Technologies Centre, Research and Development of the Manufacturing Technology of Spacious Thin Wall Aluminium Castings.
Applications	Aeroplanes: L 410 UVP-E, L 410 NG, EV-55, L39, L-59, L-159, L-159T1, L-39NG, MI17, MI171, Mi8, Z242, Z143, Z43,Z42... Military vehicles: PANDUR II, DINGO 2CZ, IVECO , LANDROVER, VT-72 CZ, TATRAPAN, TATRA BODVA, T-72 a T-54, BVP1-LOS, PzPK Sněžka , ShKH DANA, M3 Amhigious Rig... Buses, trams, trolleybuses: SOR, ŠKODA Electric, SOLARIS, CEGELEC, IVECO, EKOVA... Train units and locomotives: Regiopanter, Interpanter, 810, 842, 724, 730, 740, 770, 753, MVTV2...
Certificates	Certified Quality Management System according to ISO 9001:2016, ISO 14001:2016, AS 9100, AQAP 2110, EASA Part 145, EASA Part 21, regulation issued by the Civil Aviation Authority (CAA), Technical qualification certificate for suppliers of Czech Railways, Permission of the Ministry of Trade and Industry to carry out foreign trade of military equipment, National Security Authority certification.
Membership	ALV ČR - Association of Aerospace Manufacturers, AOBP ČR - Defence and Security Industry Association, HK ČR - Chamber of Commerce of the Czech Republic, MLK ČR - Moravian Aerospace Cluster.
MESIT members	MESIT holding, a.s., MESIT asd, s.r.o., DICOM, s.r.o., MESIT machinery, a.s., MESIT air, a.s., MESIT Facility Management, s.r.o., MESIT střední škola, o.p.s., MESIT & RÖDERS v.o.s.
Education	MESIT high school - We educate a new generation of electrical and mechanical engineering specialists in full-time and evening study programmes.
Ecology	We protect environment and safety. All MESIT manufacturing plants fulfil the strictest environmental impact standards.

MESIT companies

ELECTRONICS DIVISION



MESIT asd, s.r.o.

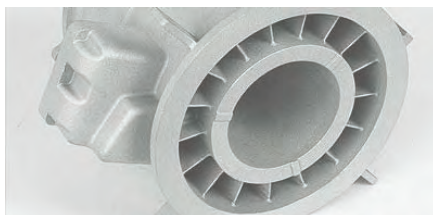
Devices and systems for the most demanding conditions. Aerospace, defence industry, transport and timer technology.



DICOM, s.r.o.

Research and development (R&D) of tactical radiocommunication systems.

MACHINERY DIVISION



MESIT machinery, a.s.

Aluminium castings. Precision CNC machining. Surface treatment of metals. Production of technologically demanding parts.



MESIT air, a.s.

Electromagnetic air valves. Large-scale rotary machining.



MESIT & RÖDERS

Casting, tool machining.

SUPPORT DIVISION



MESIT holding, a.s.

Strategic management, controlling, human resources and occupational safety.



MESIT Facility Management, s.r.o.

Rental of manufacturing and warehouse space. Management of production infrastructure. Environmental protection.



MESIT střední škola, o.p.s. (High School)

Electrical and mechanical engineering.

Aircraft and aerospace industry

The development and production of aircraft instruments is the main pillar of the Group since its founding. We cooperate with both military and civil research institutes and schools. We are reliable professionals; we provide verified technological solutions for civil and military aircraft of many types.

Aircraft instruments and systems



Experienced developers, state-of-the-art technologies, powerful analysis and simulation tools – all these are prerequisites for our timeless and resistant solutions of aircraft instruments. You can rely on our technical support of the products throughout their life cycle.

Mechanical parts for aircraft

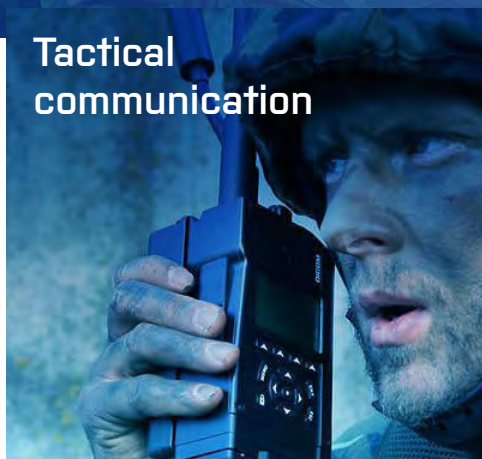


We supply investment castings for leading aircraft manufacturers in the world. The quality system is certified according to AS EN 9100, rev. C, for the aircraft industry. It is commonplace to supply machined castings, including heat treatment, surface treatment and non-destructive testing.

Defence

We are a reliable supplier of the armies worldwide. We develop and manufacture tactical communication systems, vehicle intercoms and headsets.

Tactical communication



Comprehensive and interconnected systems of tactical communication for the support of command and control of military operations. Ensuring voice and data services with the use of superior radio communication technology.

Vehicle communication systems



Development and production of several generations of vehicle intercoms and active noise reduction (ANR) headsets. Based on the needs of modern armies, we expanded our portfolio to include also tactical loudspeakers, extercoms and other devices.

Transport industry

Our experience in the aircraft industry and military contracts makes us a reliable supplier of control systems and special parts for the automotive and transport equipment. The whole process including development, production and technical support meets the strictest criteria.

Systems for vehicles

Vehicle manufacturers and users in the road and rail transport appreciate intelligent and reliable solutions. Our systems for measuring physical quantities, tachographs and monitoring devices meet the strictest technical and legislative requirements.

Specialised parts for transport systems

Precision castings from aluminium alloys, production of plastic injection moulds and precise CNC machining are traditional sectors of the Group. Precision, quality and reliability are the basis for production of products that are used in supplies to the world's leading automakers and manufacturers of transportation equipment.

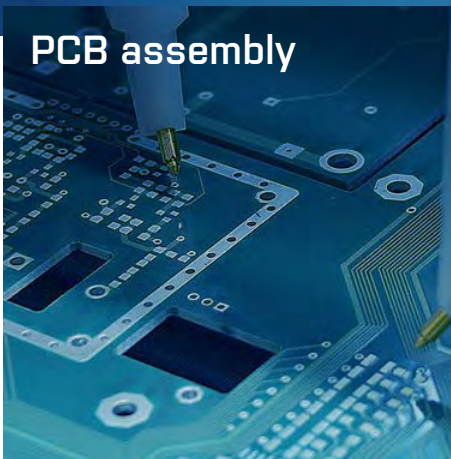
Electromagnetic valves

Development and production of electromagnetic valves tailor made to meet specific customer requirements for agricultural and tractor equipment and trucks.

Electrical engineering

Highly demanding contracts that we perform for our final products within the MESIT Group, are a guarantee of the highest quality and professionalism for our customers.

PCB assembly



High-quality equipment, elaborate manufacturing procedures, experienced and professionally skilled employees. Thanks to these prerequisites, we can perform contracts quickly and in high quality.

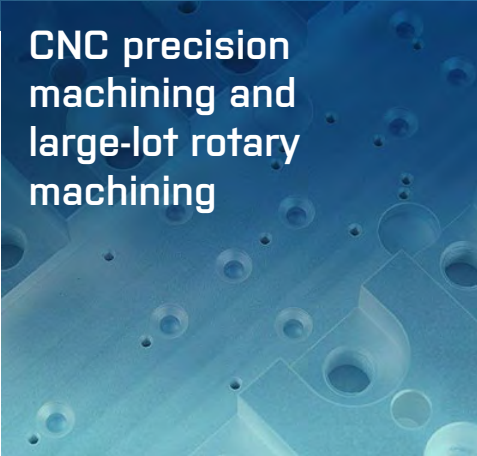
Timer technology



Top-quality receivers of GNSS (Global Navigation Satellite System) signals, designed for time and frequency transmission. They are used especially in metrological laboratories for comparing time and frequency standards. However, they also find their use in all applications in which it is necessary to maintain a very precise unified time over large areas, e.g., in telecommunications.

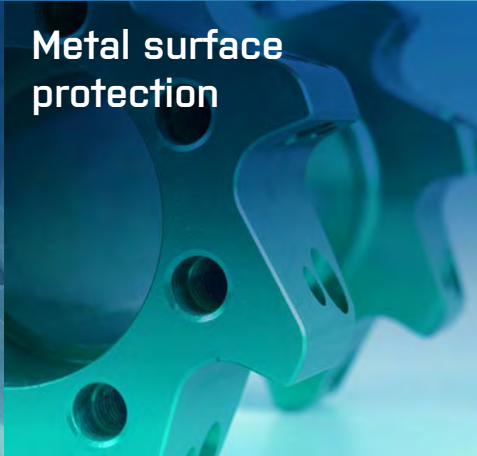
Mechanical engineering

Activities in the field of engineering meet the highest demands on contracts in the aircraft, military and transport technology industry. Thanks to our high quality and proven reliability, we are popular contractors for an increasing range of demanding domestic and foreign customers.



CNC precision machining and large-lot rotary machining

Custom manufacture of small and medium-sized series of technologically demanding products from steel, aluminium and copper alloys, plastics and titanium. Precise CNC milling, turning and grinding, including manufacture of gear wheels of small modules. Large lots of rotary parts from steel, brass and aluminium, including processing semi-finished products delivered by the customers, on the quality technology of MANURHIN, MIYANO, TORNADO, NAKAMURA rotary CNC lathes and KIRA CNC milling centres.



Metal surface protection

Quality of metal surface treatment verified in the aviation, army and top-quality electrical engineering industry. Galvanizing – zinc galvanizing, nickel galvanizing, tin galvanizing, anodizing, conversion coating, silver dip plating and copper dip plating. Wet painting, including filling, grinding and stoving.



Production of precision castings

Production of precision castings from aluminium and copper alloys. We are an important European supplier of the most technologically demanding parts for the aircraft, electrical engineering and automotive industry, health service and optics.

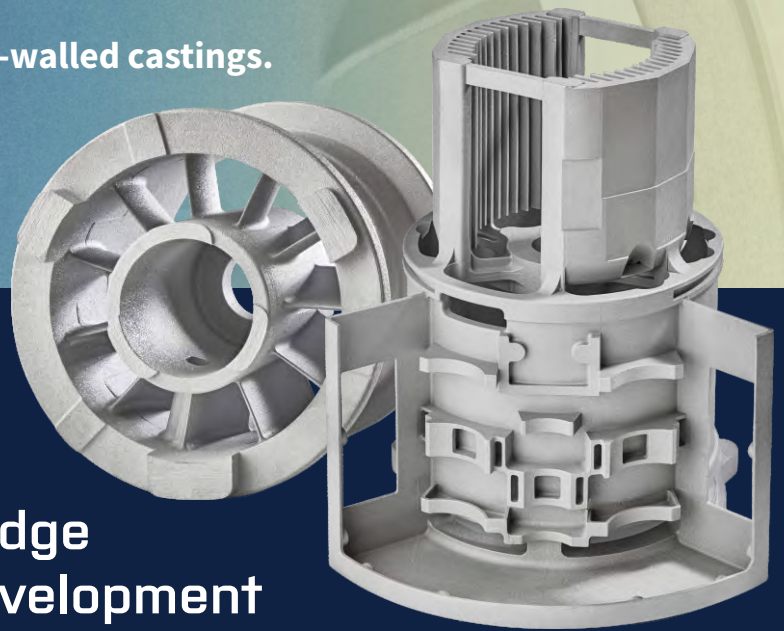
Production of aluminium castings by lost wax process

We produce castings that meet the high demands of the aerospace and defence industry, optical, medical technology and many other industries.

We specialize in shape complex thin-walled castings.

**MESIT machinery,
spin-off enterprise foundry**

**Experience and cutting-edge
technology backed by development**



Quality proven by the most demanding industries

- We benefit from seventy years of experience in the production of castings for the aerospace and defence industry.
- We supply castings to the world's largest aircraft manufacturers in more than 17 countries.

New technology for higher production efficiency and cost reduction

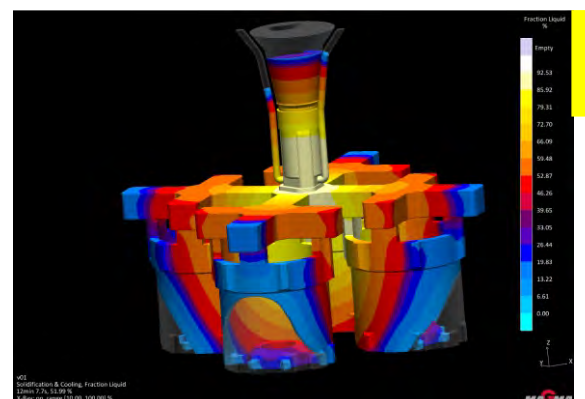
- We have developed a unique controlled solidification technology for reduced porosity and higher quality castings.
- We use MAGMASOFT simulation software for efficient casting production and defect prediction.

Test facilities for the highest quality castings

- We check mechanical, metallurgical and metallographic properties in our own testing facilities.

Quality Management

- The quality system is certified according to AS 9100.



Production of precision aluminium castings

Production of wax models and ceramic shell moulds

- We produce wax models on modern injection moulding machines using hard filled waxes.
- For the production of shell moulds we use a modern fully automated robotic line.



Final operations with maximum precision

- We offer heat treatment according to customer requirements to obtain the required mechanical properties.
- High-precision calibration using sophisticated fixtures ensures that the desired dimensions are achieved.



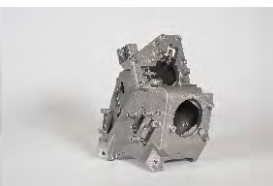
Production of rough castings

- The casting process is in the hands of the most experienced workers.
- By removing the shell mould with pressurised water we ensure a high quality surface of the casting.
- Finishing operations are carried out on new, modern equipment.



Consulting, optimization and inspection

- We have a team of experienced professionals for your most demanding assignments.
- We offer a modern process approach according to the quality management system.
- Of course, each process involves conducting a risk analysis and applying the principles of the PDCA cycle.
- By optimizing the production process, we ensure stability and repeatability in the production of quality castings.



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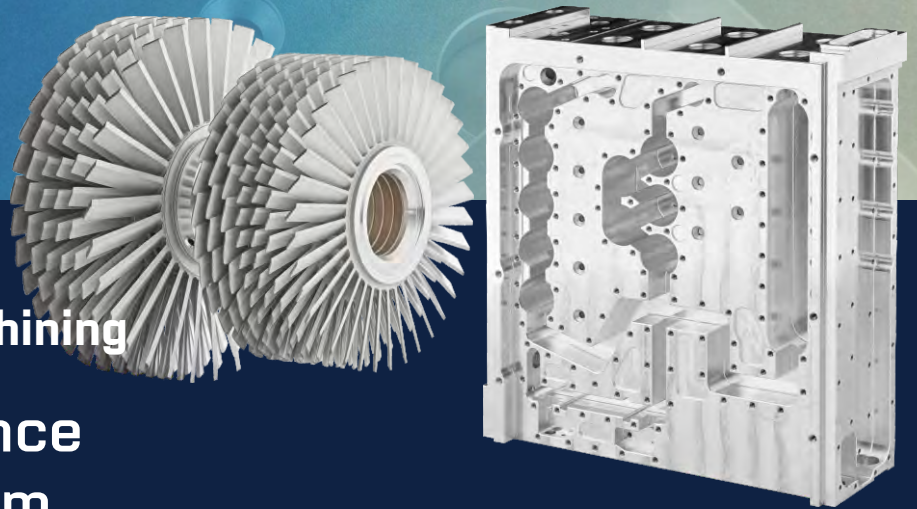
More than CNC precision machining

Custom manufacture of small and medium-sized series of technologically demanding products from aluminium and copper alloys, plastics, titanium and steel.

CNC precision machining, turning, grinding and manufacture of gear wheels of small modules. Modern production and inspection technologies including production preparation using CAD/CAM applications.

**MESIT machinery,
spin-off enterprise machining**

**Extensive experience
and professionalism**



Quality proven in the most demanding industries

- We can carry out special assignments for various industries such as telecommunications, petrochemical, vacuum technology and medical.
- The traditional precision required in the manufacture of aerospace and measuring instruments is our standard.

Modern production equipment and hi-tech technology

- We have a wide machine base of CNC machine tools including robotic workstations.
- We specialize in complex parts manufactured on four and five-axis milling centres and CNC lathes.

Consulting, optimization and inspection

- We use state-of-the-art measuring and control equipment in our air-conditioned humidity-controlled workplace.

Quality management

- The quality system is certified according to CSN EN ISO 9001:2016.



CNC precision machining

CNC milling

Three-axis machines with rotary pallet table and quick tool change for highly efficient work.

The five-axis machines allow the production of shape-intensive parts in one clamping with high precision.



CNC grinding

For parts with high precision requirements, we use CNC grinding of rotary and non-rotary components.



CNC turning

Modern CNC centres equipped with powered tools achieve high productivity even for shape-demanding parts.



Other technologies

An ultrasonic washing line to ensure the required cleanliness of the parts is an integral part of the production processes.

Marking of parts on customers' request is done by laser (batches, logos, QR or data matrix codes).

Lapping parts as an effective form of removing sharp edges.

Assembly of more complex units according to customer requirements, including final testing.



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Metal surface treatment in proven quality

We have 40 years of experience from aeronautical, military and electro-technical industry. We are specialized in as electrolytic so chemical plating and wet painting.

**MESIT machinery,
spin-off enterprise galvanica**
**Partner for demanding
consumer**



Wide range of services

- We use the last technology, the best materials.
- Wide range of services with non-ferrous metals – silvering, copper, tin, nickel and electroless nickel.
- There are only a few plants in Czech republic, which are able to make silvering of aluminium, aluminium alloys, aluminium castings, invar and stainless steel - and we are one of them.

Flexibility

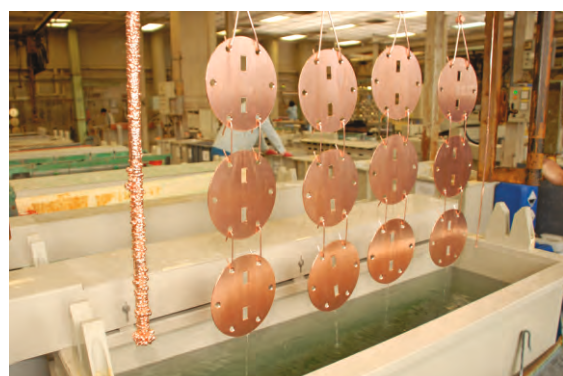
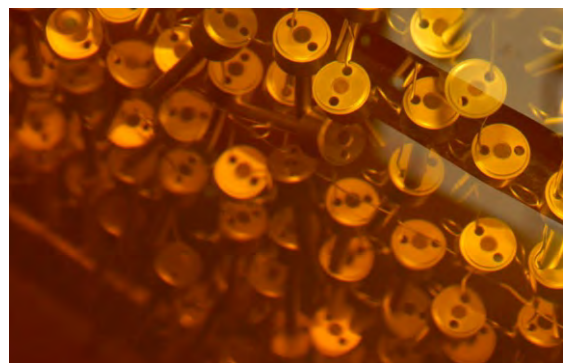
- We offer high quality surface treatment in optimal and guaranteed delivery time.

Own testing laboratory

- In order to confirm the required quality, our laboratory is being equipped with X-Ray, and also with optical and electronic measuring instruments.

Quality management

- Verifying the quality of surface treatment in own laboratory in accordance with ISO 9001.



Plating

Anodising of aluminium, aluminium alloys and castings

Electrolytic polishing. Colourless or dyed surface, color as required. Cold and hot sealing. Combination with conversion coating.



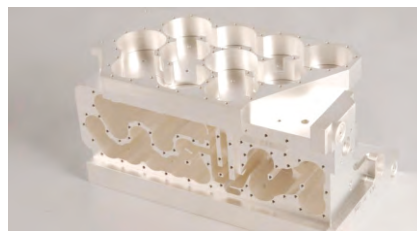
Conversion coating of aluminium, aluminium alloys and castings

SurTec 650 (Cr3+).
Bonderite M-CR 1200 (Cr6+).
Combination with anodized surface.



Silvering

Treated materials aluminium and aluminium alloys, copper and non-ferrous metal, steel, stainless steel, invar. Direct silvering, silvering with nickel or copper underplate.



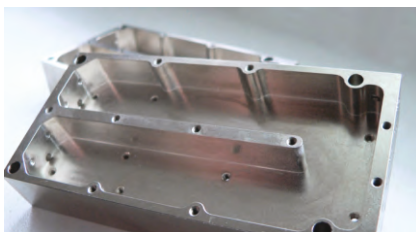
Nickel plating

Treated materials aluminium and aluminium alloys, copper and non-ferrous metal, steel, stainless steel. Application as a final layer or interlayer.



Electroless nickel

Treated materials aluminium and aluminium alloys, copper and non-ferrous metal, steel, stainless steel.

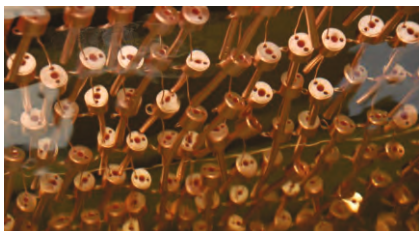


Tin plating

Treated materials aluminium and aluminium alloys, copper and non-ferrous metal, steel, stainless steel. Bright or matt tin. Tin plating with copper or nickel interlayer.



Copper plating



Wet painting

Paints - synthetic, polyurethane, epoxy, acrylic.
Related technologies - galvanic pre-treatment, masking, manual cementing, grinding, drying technologies.



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