

The logo for SAFIRAL, featuring a stylized blue icon of three horizontal bars on the left and the word "SAFIRAL" in a bold, blue, sans-serif font to its right, all contained within a white rectangular box.

SAFIRAL

A solid white horizontal bar.

Electronic

A solid white horizontal bar.

Manufacturing

Services

EMS
EMS is a synonym
for a complex
service of custom
production of
electronics.



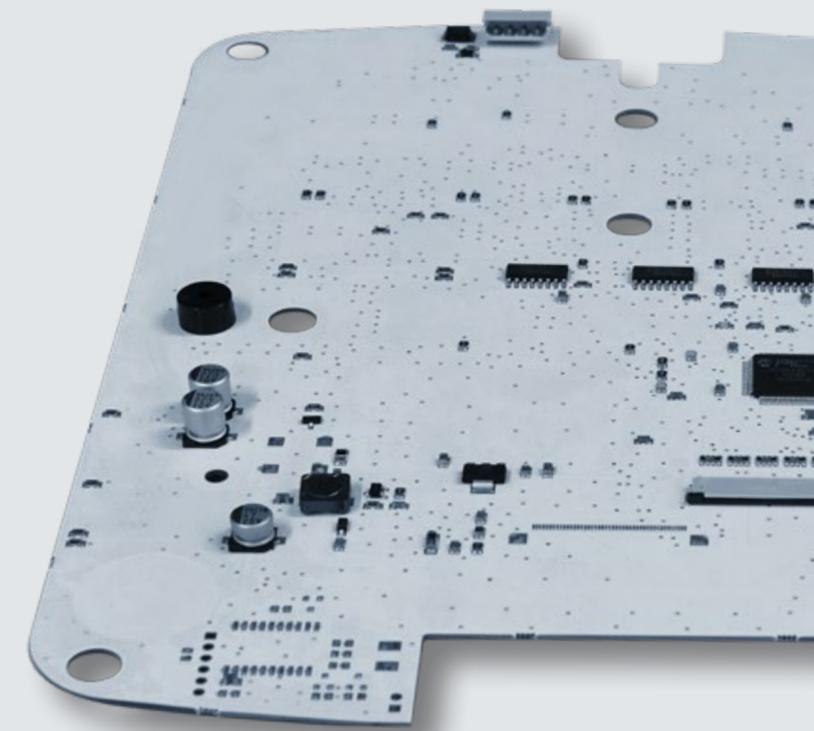
EMS express services



High technology



Reliability and flexibility





SAFIRAL Ltd.

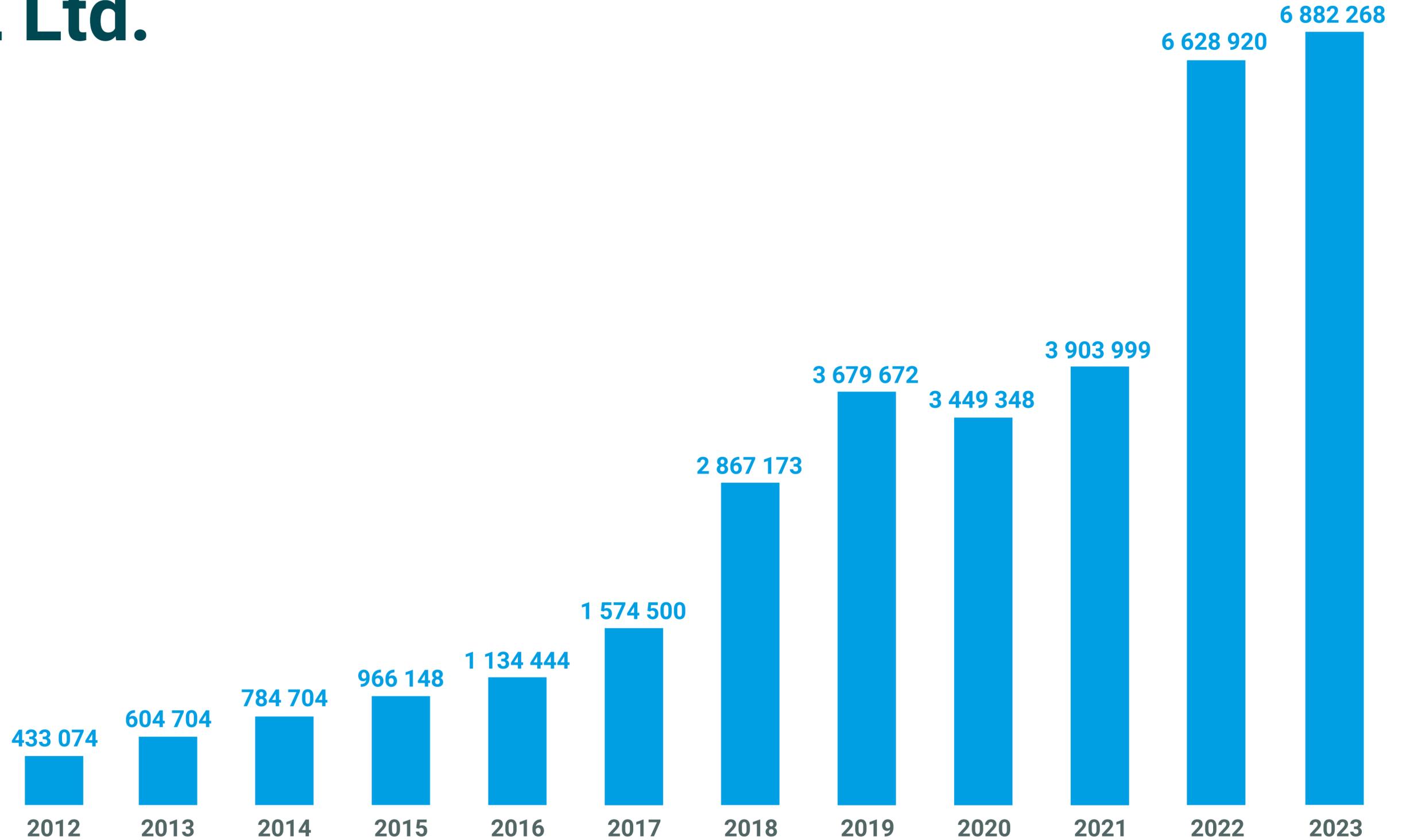
- the company established in **2007**
- based in its own premises
- **1400 m²** floorspace
- gradual reconstruction of the compound
- currently **70** people employed



SAFIRAL Ltd.

turnover

in EUR



Certification

EN ISO 9001:2016

EN ISO 14001:2016

IPC-A-610

(certified IPC specialist)

ESD space according to

EN 61340-5-1,

IEC 61340-4-1 specification



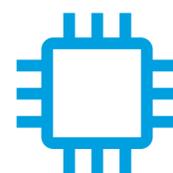
Course of cooperation



**PCB design
and purchase**



**Purchase of
components**



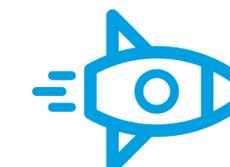
Assembly



Testing



Completion



Expedition



PURCHASE OF COMPONENTS

Verified suppliers

Farnell, TME, RS, Mouser, Digikey, Arrow,
Microchip, TI, Future, Avnet, TTI, Würth,
Wittig, Rutronik

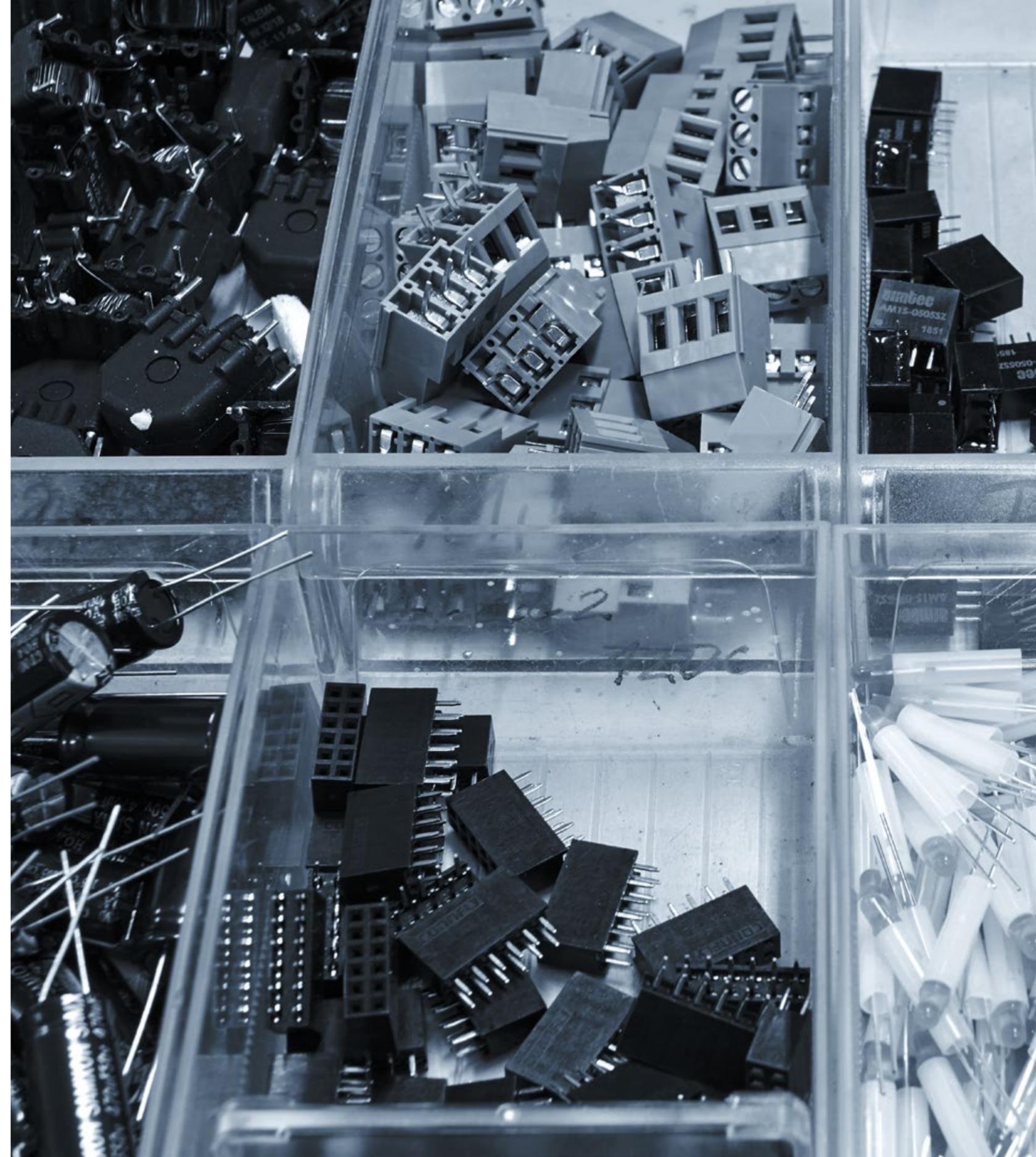
Suppliers designated by the customer

Consignment stock

Variants of securing the material

External development and purchase of PCB
(EU / China)

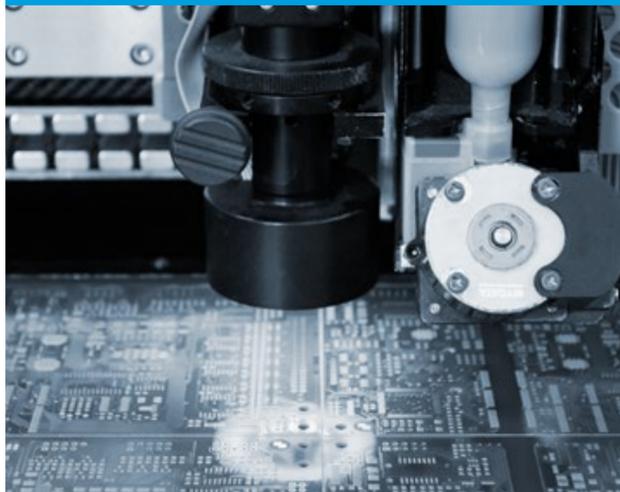
Quantity, labeling and storage using an
X-ray computer



ELECTRONIC ASSEMBLING

BASIC DESCRIPTION

Solder paste
printing



Pick and
place
components



Soldering in
reflow oven



Control,
cleaning,
cutting



TESTING

AOI

RTG

functional tests
through SAFIRAL's
ICT equipment or the
customer's equipment

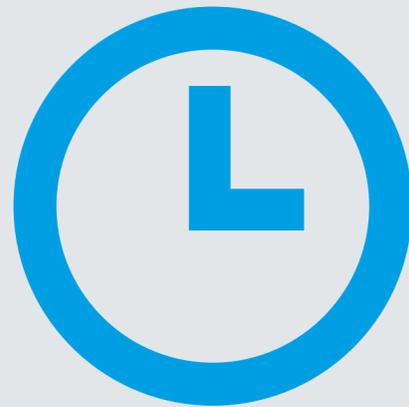


COMPLETION

additional services

- Bonding of critical components with glue or silicone
- Potting PCB with a two-component polyurethane mass
- Manual selective application of varnish
- PressFit assembly
- Cabling
- Installation in a box
- Revival / PCB programming
- Labeling the product (QR code, barcode)





**Time flies. Never mind,
we can fly with it.**

We offer express production of electronics realization to our customers.

Delivery terms

PROTOTYPE mode

faster production is possible
at an additional cost

production of PCB in the Prototype mode is up
to 50 dm²

assembly up to 5000 SMD components
(max. 100 types)

5 WD production of PCB and
purchase of components



+

5-8* WD assembly



* working days, according to current
production capacities

10-13 WD for the whole project



Table of express surcharges for assembly in PROTOTYPE mode

| working days | 1* | 2 | 3 | 4 | 5-8 |
|---------------|-----|-----|----|----|-----|
| surcharge (%) | 300 | 150 | 80 | 30 | 0 |

* only after prior agreement, according to specifications

Delivery terms

STANDARD mode

faster production is possible
at an additional cost

production of PCB in the STANDARD mode is
over 50 dm²

assembly is over 5000 SMD components

from **8** WD production of PCB
and purchase of components

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
| Mon | Tue | Wed | | | | |

+
from **8-12*** WD assembly

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
| Mon | Tue | Wed | Thu | Fri | Sat | Sun |
| Mon | | | | | | |

* working days, according to current
production capacities

from **16-20** WD for the whole project

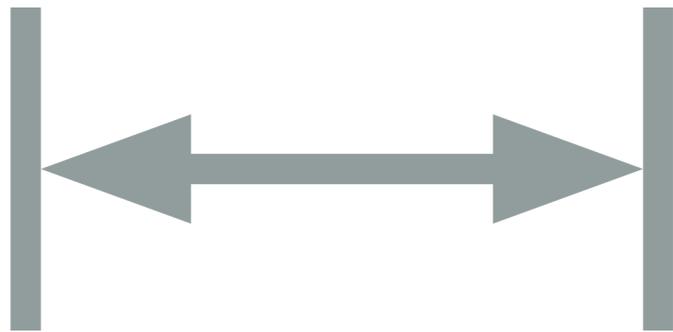


Table of express surcharges for assembly in STANDARD mode

| | | | | | | | | |
|---------------|------------|------------|------------|-----------|-----------|-----------|-----------|-------------|
| working days | 1* | 2* | 3* | 4 | 5 | 6 | 7 | 8-12 |
| surcharge (%) | 400 | 200 | 100 | 80 | 60 | 40 | 25 | 0 |

* only after prior agreement, according to specifications and quantity

FITTING LIMITS



0402 standard
01005 minimum

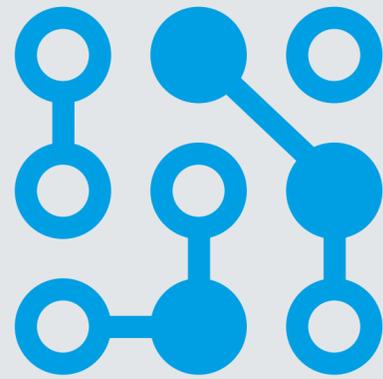
QFN, QFP, apod.

BGA, mikroBGA
(pitch from 0,38 mm)

X-ray check

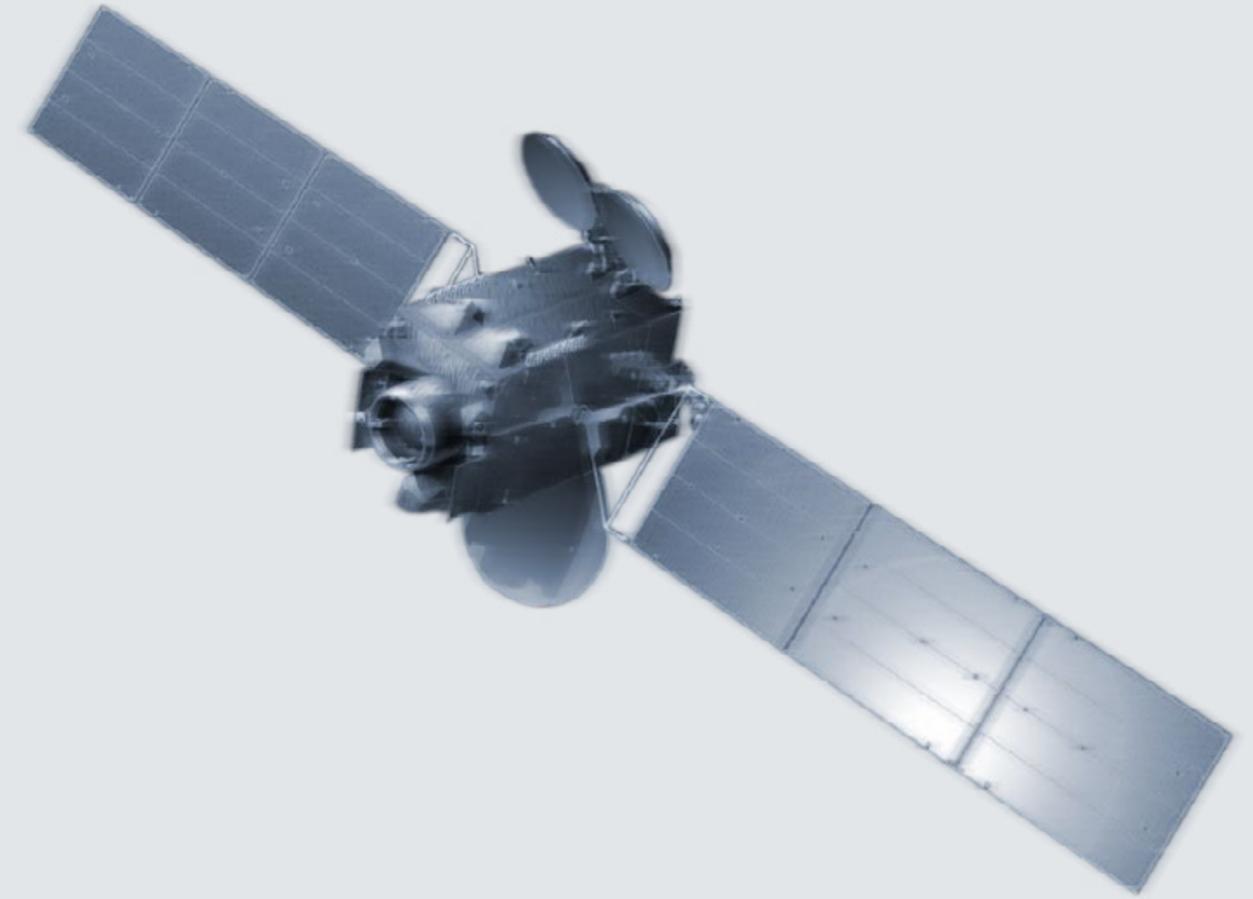
max. dimension
of the panel:

450 x 500 mm



High level technology

We can offer first-class services due to our modern equipment.



MACHINERY EQUIPMENT

4× Pick and place machines Mycronic

2× Jet Printer Mycronic MY600

2× Reflow ovens

1× Vapor soldering Asscon Systemtechnik

1× Selective soldering InterSelect IS-B-335S

1× Optical test 3D AOI

1× Rework station APR-5000-DZ

2× SMD Tower Mycronic

2× MP DRY CABINET

Electrical test according to the specification

2× The cleaning system InJet® 388 CRRD
“Combo”

2× SEHO 8140 PCS Wave Solder

1× X-Scope 3000 X-Ray Inspection System

1× AXC-800III X-Ray Component Counting
System

Jet Printer

- solder paste printing
- integrated SPI system
- speed 1.080.000 dot/h
- variable solder paste thickness



Mycronic Jet Printer
MY600



Pick-and-place machine

- speed: up to 24.000 cph
- electronical testing of components
- agilis feeders

Mycronic
MY200



Reflow oven SEHO

- 14 heating zones
- input 42 kW
- nitrogen atmosphere
- chain conveyor

Reflow oven SMT

- 7 heating zones
- input 48 kW
- nitrogen atmosphere
- chain conveyor

SEHO GoReflow 2.3



SMT Quattro Peek M

2D and 3D control

- Automated Optical Inspection according standard IPC
- control of soldering quality and polarity of components
- ODB ++ compatibility

3D AOI SAKI



Optical tester

- FAI (First Article Inspection)
- visual inspection for sample production
- supplementary UV-light
- conformal coating control

Quins LC20



Rework station

- advanced rework system
- total output 2600 W, dual zone
- visual system with contrast control
- DPS up to 381 mm x 197 mm size
- placement precision 0.025 mm

METCAL

APR-5000-DZ



Selective soldering

- fully programmable soldering
- wide range of nozzles
- nitrogen atmosphere
- dot-like flux application
- top quality THT
- SAC 305 alloy

InterSelect IS-B-335S



Solder wave

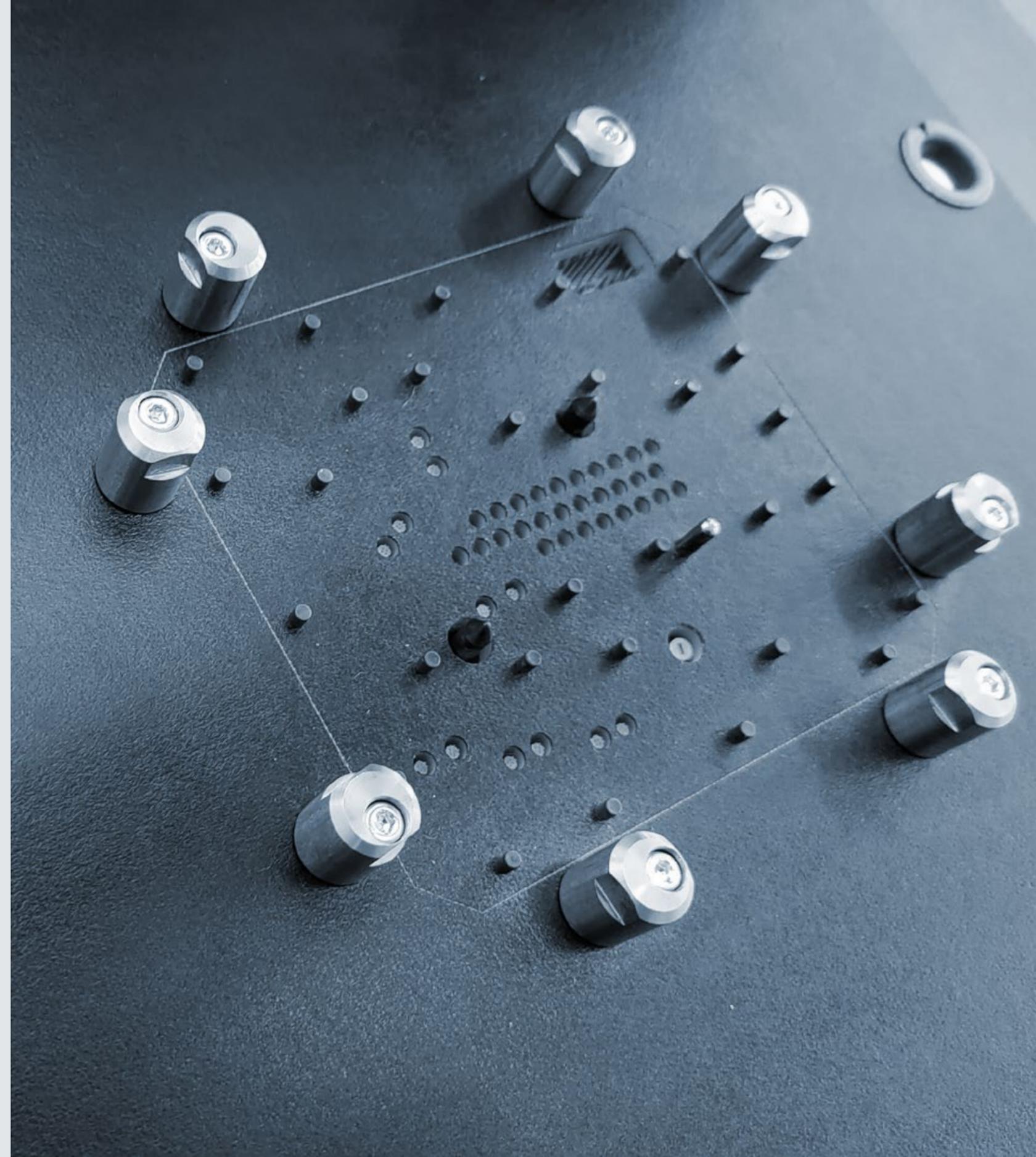
- lead free wave soldering machine
- SAC 305 alloy
- max panel size 400 mm
- automatic PCB preheating temperature setting

SEHO SYSTEM
8140 PCS



Electrical test according to the specification

- custom needle field
- ICT tests (measuring devices)
- functional tests
- integrated QR code reader



Storage towers

- flexible, compact and high-capacity component storage
- fast storage and component search
- automatic recording of all stock movements

Mycronic SMD Tower™ 200



X-Ray Component counting system

- Tubes, sealed ESD bags
- JEDEC Trays
- BGA ball count
- 7", 13" and 15" reels

SCIENSCOPE AXC-800III



X-Ray Inspection System

- micro focus closed X-ray tube
- multiplayer PCBs control
- color mapping camera with zoom

SCIENSCOPE X-Scope 3000



The cleaning system

- precise washing of PCB after soldering
- possibility to set the washing cycle
- automatic control of the quality of washing fluids

InJet 388 CRRD Combo



Information system

- top manufacturing ERP
- connection to MES MYCenter
- location system for the movement of orders and material
- carrying out operations through barcodes
- production data collection

Helios Nephrite



MISSION

To have cooperation systematically set up to lead to the highest possible efficiency and speed.

Construction of a new hall suitable for series production in terms of capacity and technology.

VISION

Extend speed and flexibility from prototype to series by 2027.





**We are looking forward to
our co-operation.**

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