BECKERMUS

The Art of Technology

Company Profile

Vision

Beckermus Technologies Ltd. was founded in 1998 by the Beckermus brothers: Oded and Oren. The founders' vision was to create an **Excellence Center** in the field of **Bare Die Assembly** services.

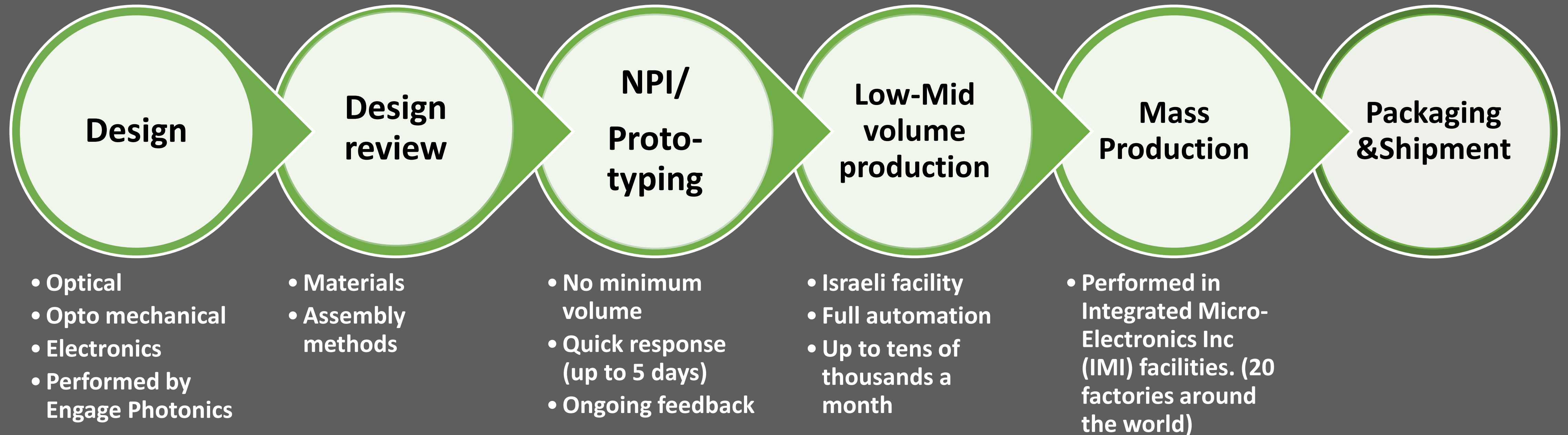
Main Fields of Expertise

- Microelectronics assembly.
- Photonics and optics components assembly
- Micro-Mechanics assembly.

Our Values

- High quality and continual self improvement.
- Quick response.
- Customer focus.
- Direct, open, and honest communication.
- Cost-consciousness.

Full Turnkey Solution



- Optical
- Opto mechanical
- Electronics
- Performed by Engage Photonics

- Materials
- Assembly methods

- No minimum volume
- Quick response (up to 5 days)
- Ongoing feedback

- Israeli facility
- Full automation
- Up to tens of thousands a month

- Performed in Integrated Micro-Electronics Inc (IMI) facilities. (20 factories around the world)

Local & Global Facilities

Beckermus – Caesarea, Israel
from a single prototype to high volume production

700 sqm clean room

- 7 workspaces.
- ISO 7 (class 10,000) / 6 (class 1,000) / 5 (class 100)
- 50 workstations – manual and automatic, all equipped with a microscope.

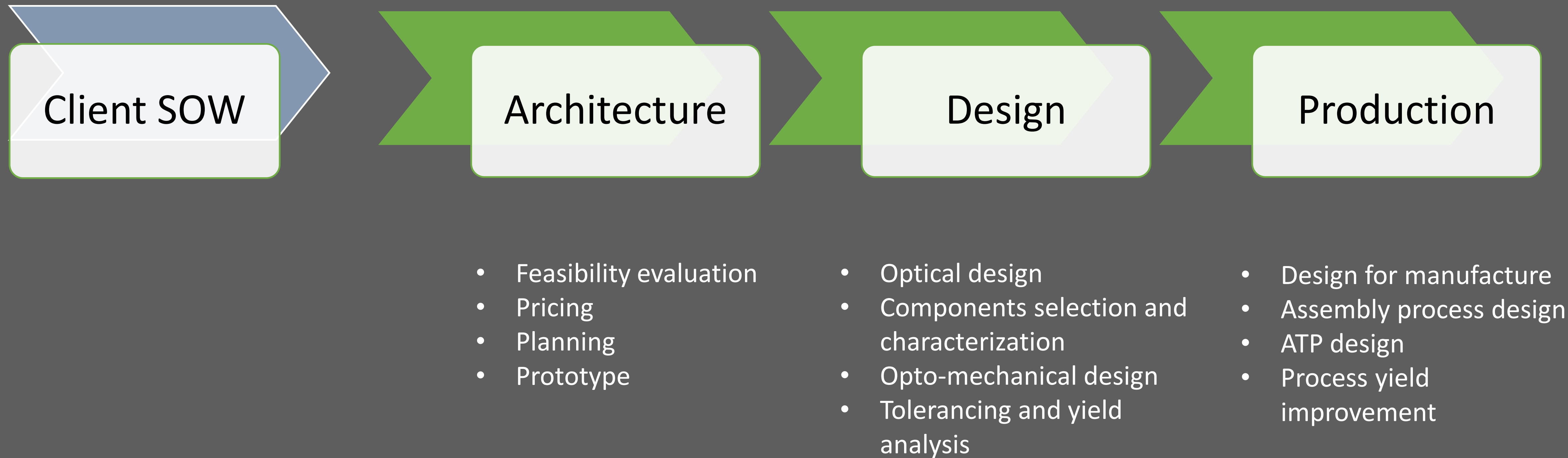
CNC inhouse workshop

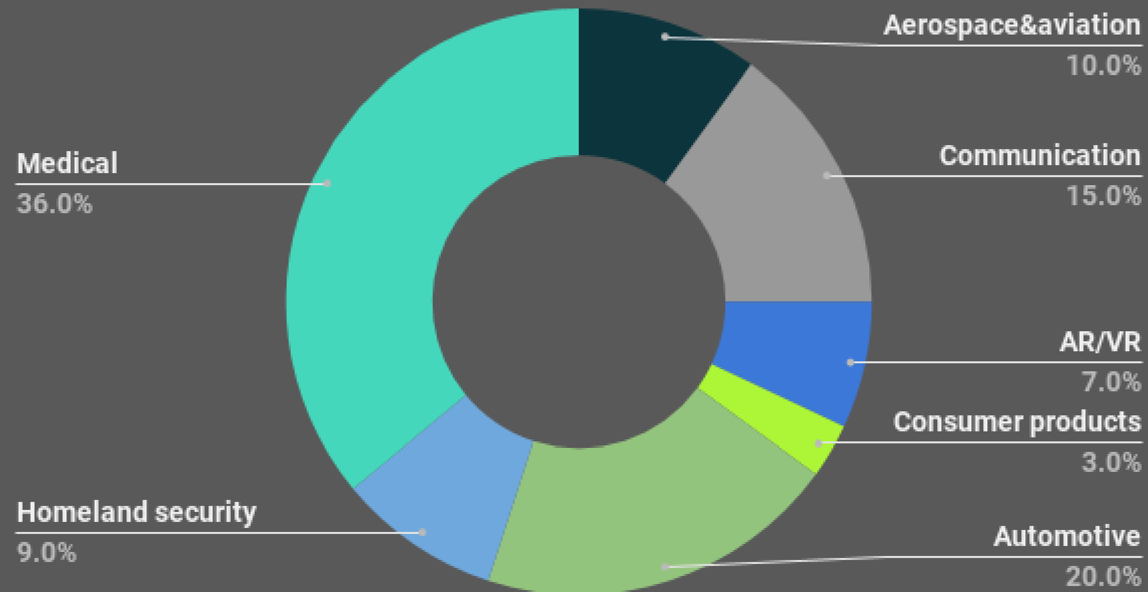
IMI Partnership – Mass production

Cooperation with Integrated Micro-Electronics Inc. (IMI) conglomerate

- Headquarters in the Philippines, production facilities in 20 countries.
- 5th Largest Automotive EMS.

Electro Optical Design - Engage Photonics Partnership





Partial list of applications by sector:

Automotive

ADAS, Vehicle user experience, LIDAR…

Medical

Endoscopes, Implants, Surgery equipment, nuclear radiation detection…

Communication

RF Modules, Optical TX-RX, switches, filters, amplifiers…

AR/VR

Projectors, VCSEL, Lasers, 3D cameras ..

Aerospace&Aviation/Homeland security

gyroscopes, atomic clocks, acceleration meters, mems gyroscopes, magnetic sensing ..

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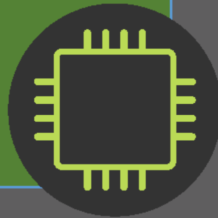
Quality Assurance as an organizational culture

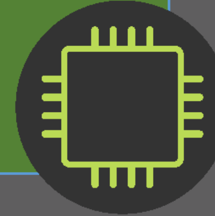
Project QC

- Purchase order review
- Incoming kit inspection
- In-process + final tests
  - 100% microscopic visual inspection
- On demand functional tests



Bond Strength Test

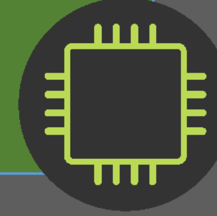
Bonds pull/shear tests according to MIL STD 883



Clean Rooms

Daily discharge tests

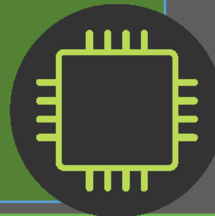
Humidity and temperature monitoring



Calibration

Working stations and work equipment

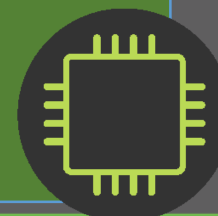
Performed by Certified institutes



QA Reviews

QA meetings

Management review



Our Quality Assurance Certifications

- AS9100 REVD – Aerospace standard.
- ISO9001:2015 – Quality management systems.
- ISO 13485:2016 – Medical devices - Quality management systems, Complies with MIL STD 883.
- IPC-A-610 - Acceptability of electronic assemblies.
- ISO 14644 – Cleanrooms and associated controlled environments are filtered in accordance with ISO 7 regulation.
- Laminar hoods - Air is filtered in accordance with regulation ISO 5.

CERTIFICATE

This is to certify that the Quality Management System of

BECKERMUS TECHNOLOGIES LTD.

29 Haeshel Industrial Zone 3088900, Caesarea, Israel

Has been audited and registered by SII-QCD as conforming to the requirements of:

ISO 9001:2015

This Certificate is Applicable to

Subcontracting of micro-electronic assemblies for aerospace, medical devices, automotive and high-tech industries.

Certificate No.: 91718 — Certificate Issue Date: 14/11/2017
Initial Certification Date: 14/11/2017 — Certification Expiry Date: 13/11/2020

CERTIFICATE

This is to certify that the quality management system of

BECKERMUS TECHNOLOGIES LTD.

29 Haeshel, Industrial Zone 3088900, Caesarea, Israel

ISO 9001:2015/AS9100D

The quality management system is applicable to

Subcontracting of micro-electronic assemblies for aerospace and high-tech industries.

Initial Approval: 14/11/2017
Re-certification Approval: 14/11/2017
Valid Until: 13/11/2020

CERTIFICATE

This is to certify that the Quality Management System of

BECKERMUS TECHNOLOGIES LTD.

29 Haeshel Industrial Zone 3088900, Caesarea

Has been audited and registered by SII-QCD as conforming to the requirements of:

ISO 13485:2016

This Certificate is Applicable to

Subcontracting of micro-electronic assemblies for aerospace, medical devices, automotive and high-tech industries.

Certificate No.: 91333 — Certificate Issue Date: 02/11/2017
Initial Certification Date: 02/11/2017 — Certification Expiry Date: 01/11/2020

IQNet

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and THE STANDARDS INSTITUTION OF ISRAEL hereby certify that the organization

BECKERMUS TECHNOLOGIES LTD.

for the following field of activities

Subcontracting of micro-electronic assemblies for aerospace, medical devices, automotive and high-tech industries.

has implemented and maintains a

Management System

which fulfils the requirements of the following standard

ISO 9001:2015

Issued on: 14 . 11 . 2017
Date of expiration: 13 . 11 . 2020
Date of initial approval: 14 . 11 . 2017

Registration number: IL-91718

Alex Stoichitoiu, President of IQNet — Ilan Carmit, Acting Director General

BECKERMUS
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Main Micro-Assembly Services

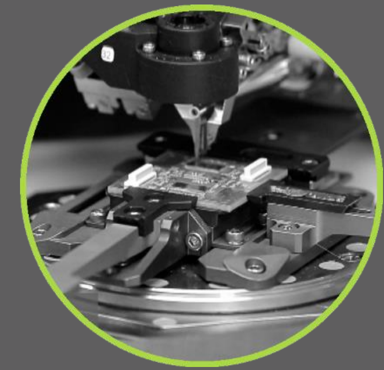
Microelectronics Assembly

- Wire bonding
- Encapsulation
- IC packaging
- Chip on board/Chip on flex
- Flip Chip
- Wafer level packaging
- SiP and MCM
- 3D stacked dies
- Die attach
- Wafer dicing/sorting

Photonics and optics components assembly

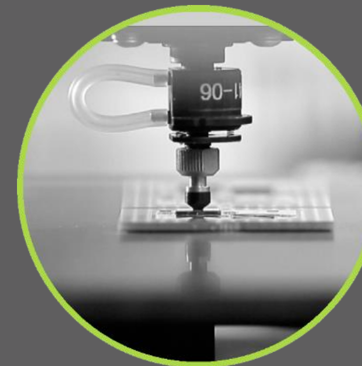
- Active Alignment
- Complex optical Modules

IC Assembly Technologies



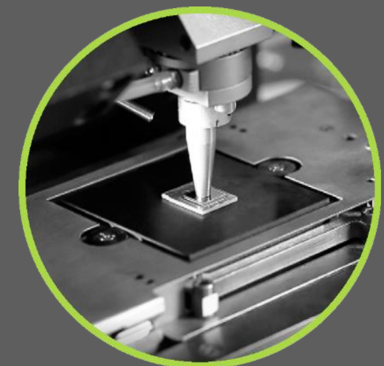
Wire Bonding

- Automatic/manual Ball Gold wire bonding
  - K&S ICON, F&K Delvotech, Esec.
- Automatic/manual aluminum wedge Bonding
  - ASM, K&S
- Ultra low loop, RF profiles, custom profiles
- Au, Cu and Al automatic wire bonding
- High accuracy bond placement (2 microns)
- Ultra-Fine-Pitch (Up to 35 microns)



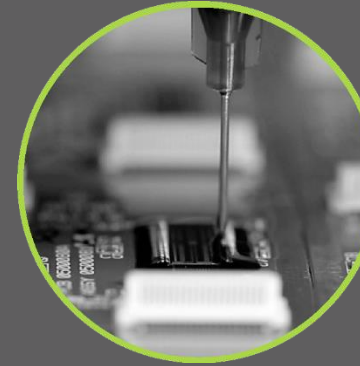
Die Attach/Die Bonding/MCM/SiP

- Placement accuracy down to ±1 µ
- Manual/Automatic die attach
- Dispensing - Time-pressure, auger and JET
- Active alignment
- Die types: CMOS, CCD, MEMS, MOEMS, Pressure sensors, VCSEL, Laser diodes, microcontrollers etc.
- Substrates: FR4, FLEX, Ceramics, Glass, Silicon, Teflon, Diamond, Lead frames etc.



Flip Chip

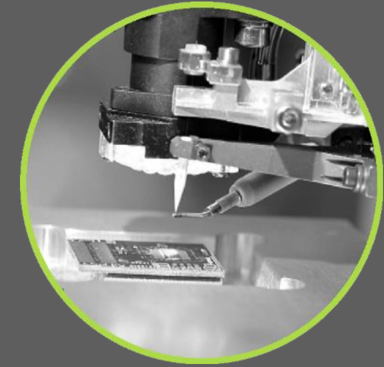
- Manual – fineTech, FinePlacer, Lambda.
- Automatic –Hacker.
- Placement accuracy down to 0.5 micron.
- Heating profiles: both through head and heating plate.
- Inert soldering.



Encapsulation

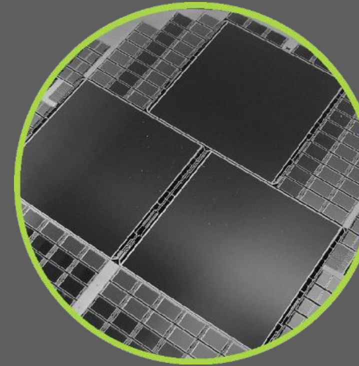
- Glob Top
- Dam & Fill
- Selective Encapsulation
- UnderFill
- Low Profile Encapsulation
- Dispensing - time-pressure, screw system

IC Assembly Applications



Chip on Board/Chip on Flex

- Die size - down to 100µ square.
- Die bonding accuracy - 2µ.
- Automatic Wire bonding (Au, Al, Cu).
- Pads pitch ≥ 45µ (0.7 mil wire diameter).
- Ultra low loop/shape, advanced wire bond loops.
- Molding/Encapsulation.

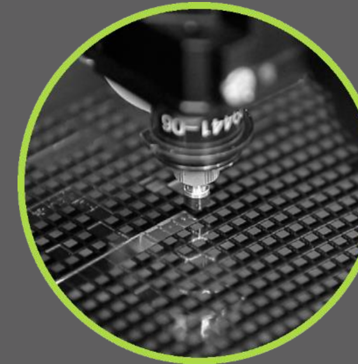


Wafer Level Packaging - WLP

- Placement accuracy down to ±1 µ
- Automated die bonding on wafer.
  - Wire bonding.
  - Flip Chip – gold, solder, copper bumps.

3D Stacked Dies

- Complex structure assembly:
  MEMS, ASIC, 2 voltaic cells, SMT, CMOS, filter.
- Technologies: flip-chip inert soldering, conductive and non conductive epoxy gluing, UnderFIll and wire bonding.



Wafer Dicing/Sorting

- Multiple size wafer processing.
- Bumped wafer dicing.
- Partial/individual die dicing.
- Sorting into gel-packs/waffle packs.

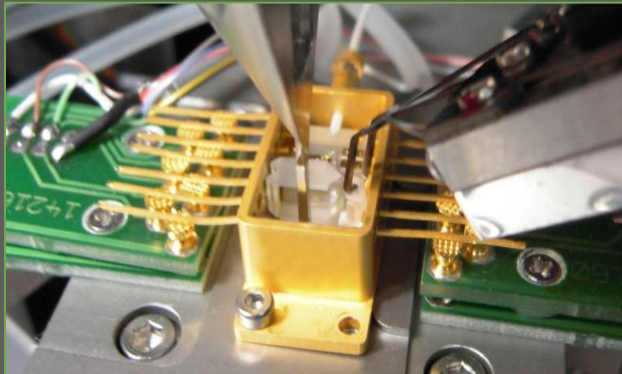
Micro-Optic Assembly

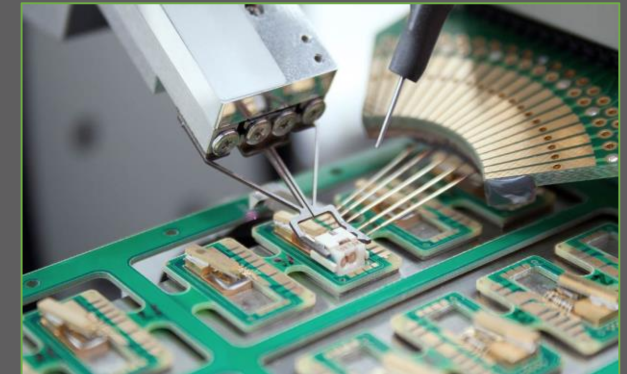
Photonics and optics components assembly

- Manual/automatic assembly.
- High-end Machinery
- Placement accuracy down to ±1 μ
- Varied Die size combability.
- Lenses stacking/array assembly.
- Glass fibers alignment.
- Optical benches.
- Prism positioning.
- Automatic dispensing.
- High accuracy adhesive control.

Active Alignment

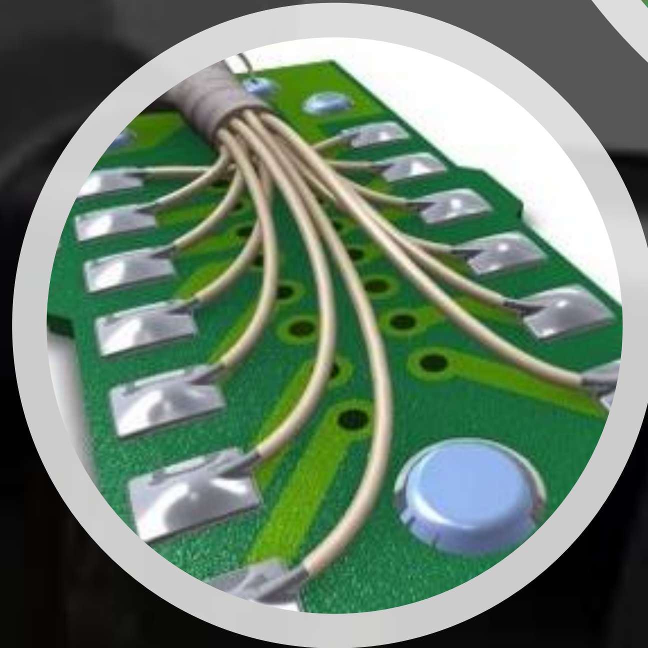
- Automatic Active alignment process. including 6 Axis motored stage.
- Placement accuracy down to ±1 μ
- FiconTEC CL1500 upgraded specially for Beckermus to serve multiple types of projects.
- Manual active alignment for R&D purposes, including Optical table and 6 Axis stages.
- Class 1000 environment.

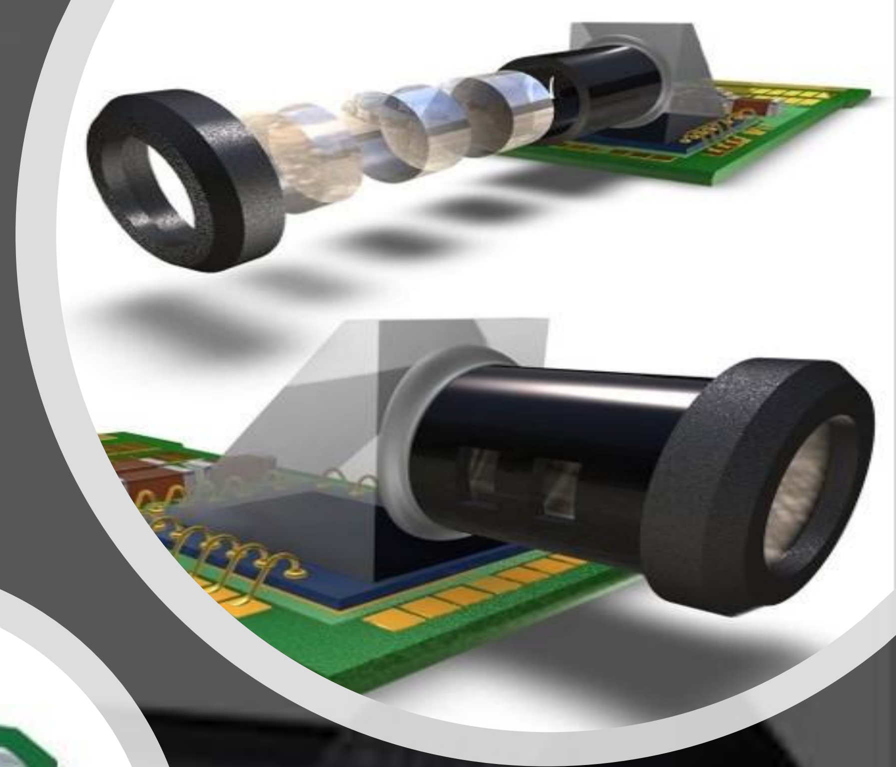




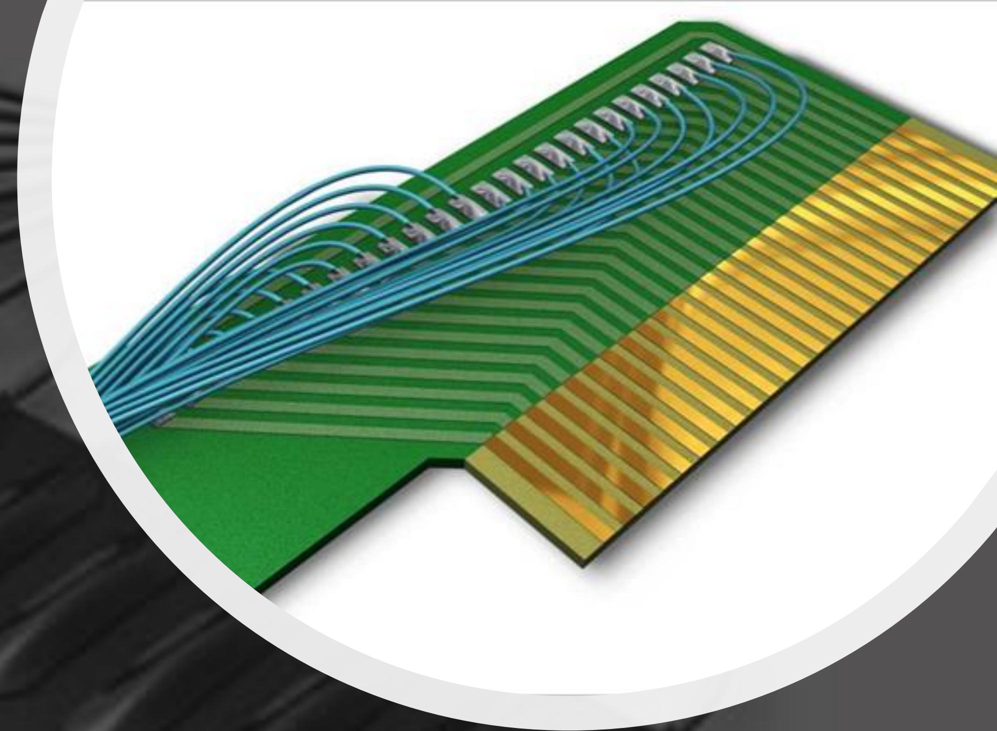
Among Our Clients

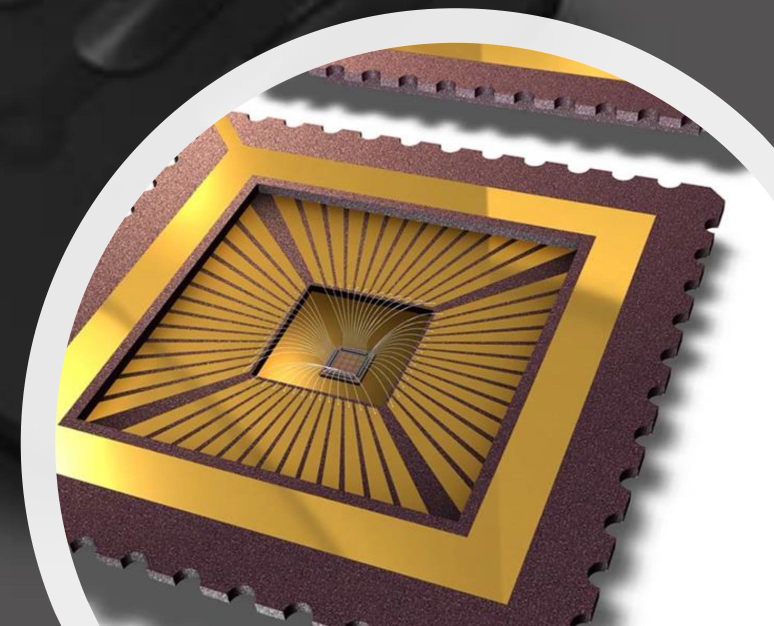
Olympus camera and led rings assembly



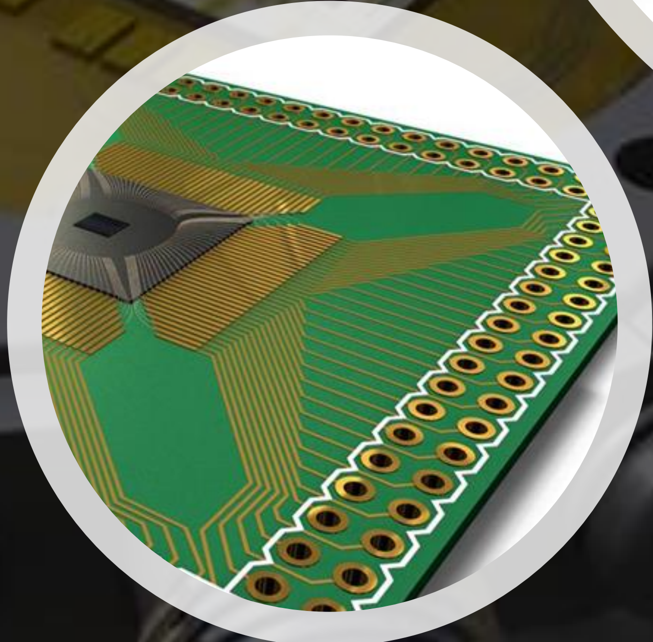


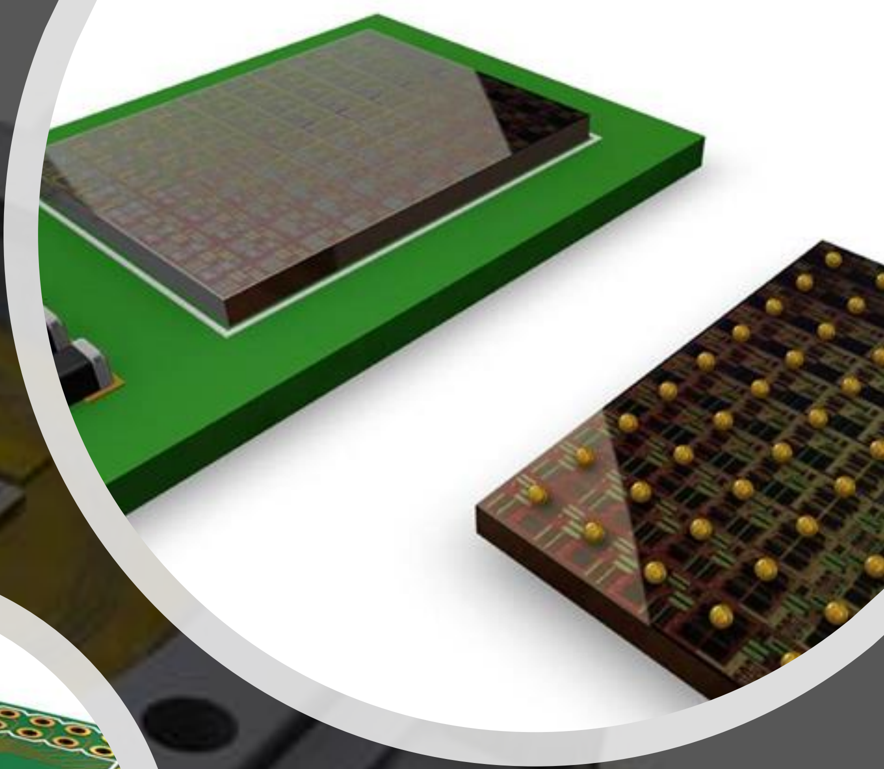
- Chip in ceramic package

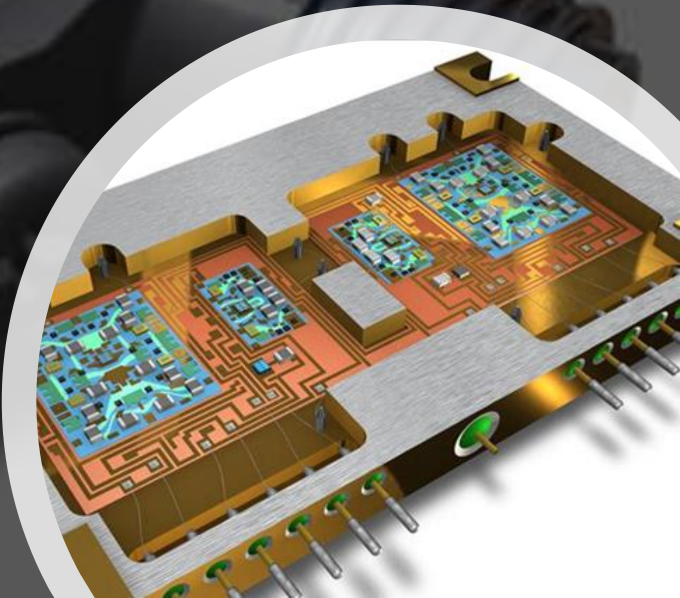




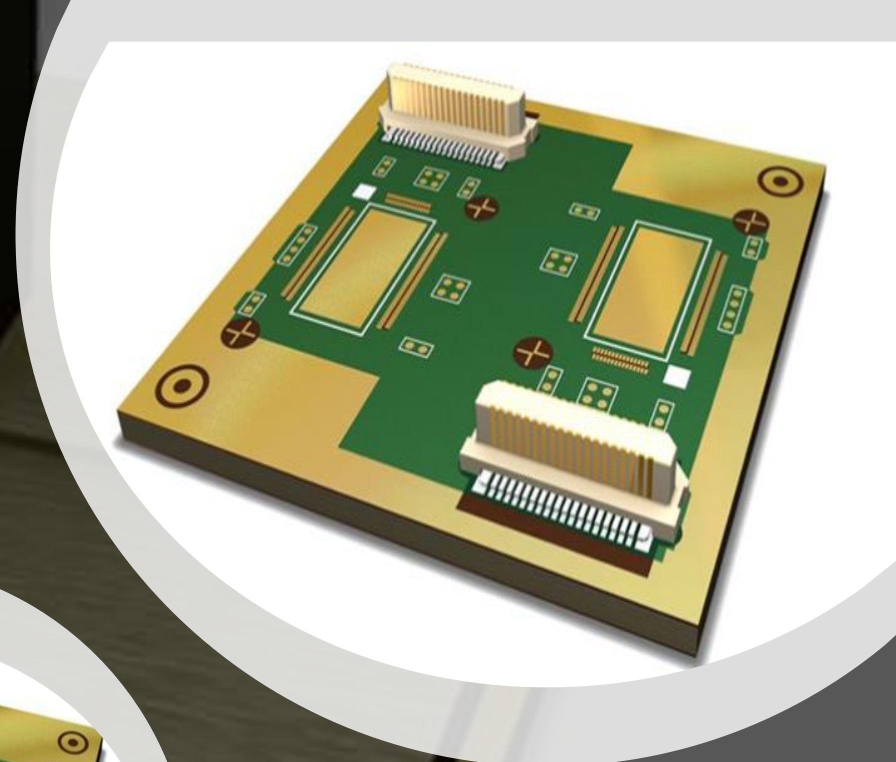
- Flip chip
- Chip on board
- RF module

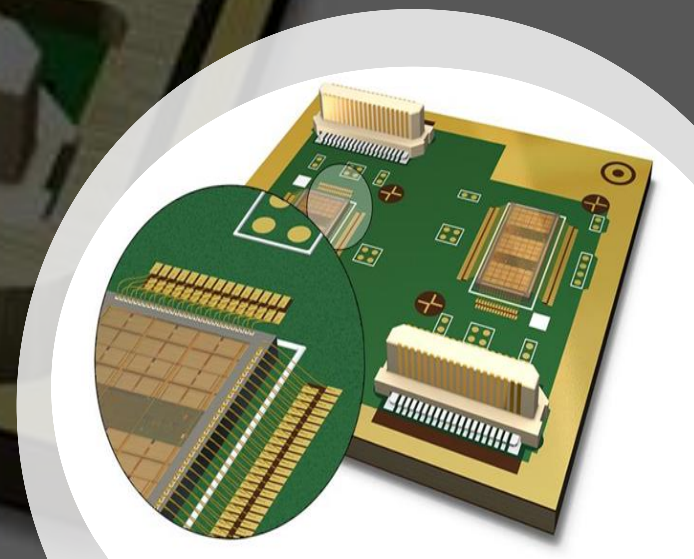






- ASIC Chip on board assembly and glob top





Contact Us

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