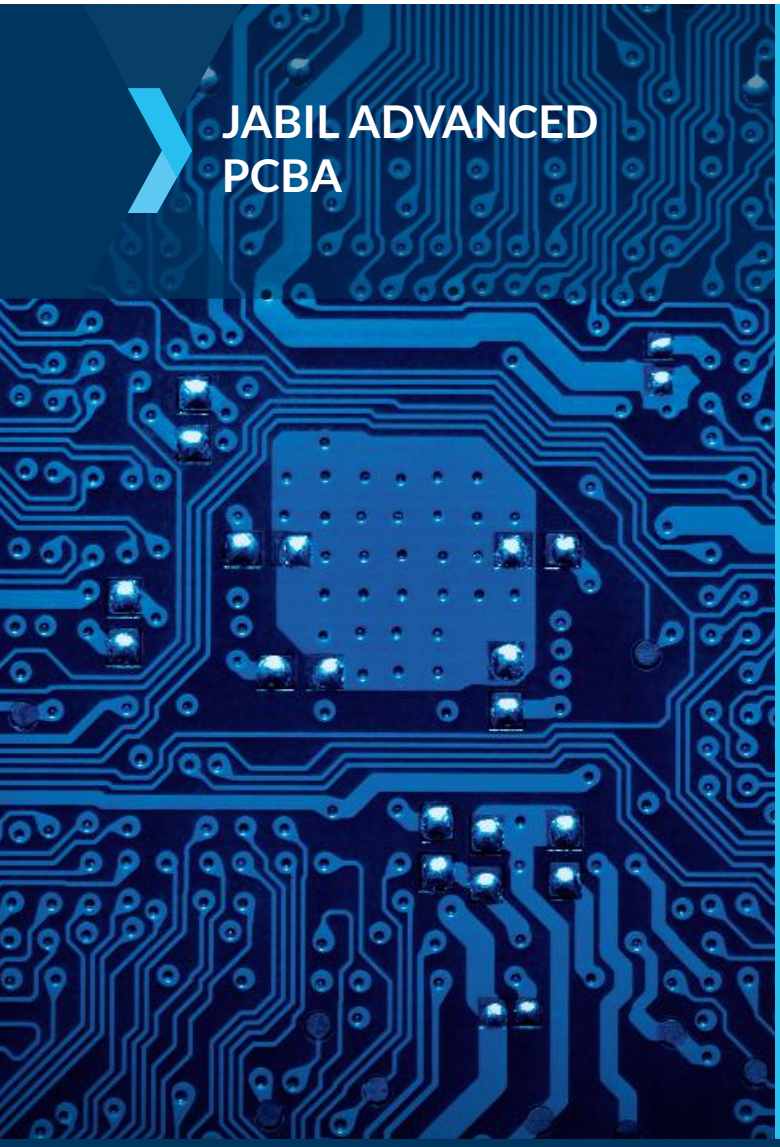
FACT SHEET

JABIL



JABIL ADVANCED PCBA

JABIL SOLVES **COMPLEX PCBA REQUIREMENTS** WITH INNOVATION

Printed circuit boards are used in the most advanced products, impacting every aspect of our daily lives. Everything from consumer electronics, smart phones, telecommunications, appliances, military equipment, aerospace, healthcare, and automotive relies on electronics. This makes it critical that companies have the ability to deliver PCBA solutions and processes that are optimized for accuracy, speed, quality, durability, and innovation. Collaboration with Jabil PCBA technology experts gives companies the confidence and ability to innovate and solve complex PCBA challenges quickly.

JABIL | Simplifying Complexity. Delivering Value.

PROBLEM STATEMENT

To meet customer new product demands, companies now need the ability to deliver highly complex miniaturized systems in smaller and smaller packages, as well as conform to irregular shapes or to provide extremely large systems with excessively large compute power while continually attempting to reducing costs. All of these require specialized expertise.

Many companies lack the end-to-end expertise across this spectrum thereby slowing advancements and time-to-market. New product requirements now need strategic sourcing, custom materials analysis, specialized assembly processes, and automation. Jabil PCBA experts remove these barriers, making it possible to be innovative, relevant, and in-demand.

JABIL ADVANCED PCBA

JABIL

INNOVATIVE PCBA SOLUTIONS AND PROCESSES

Jabil's leading technology experts, equipment, and innovative processes optimize production, collaboration, design, and delivery for PCBA solutions and processes. Rely on our PCBA expertise:

ADVANCED, QUICK TURN, PCB PROTOTYPING

Expertise in delivering and supporting quick turn prototypes, complex multilayer designs, and experimental design capabilities.

ELECTRICAL ASSEMBLY PROCESS INNOVATION

Manufacturing and design leadership in Substrate - Rigid Epoxy, Flex, Ceramic, Glass, Rigid- Flex
Interconnect - New Solder, Wire/die Bond, conductive adhesives
Adhesives and Coatings - Encapsulation, Underfills, Conformal Coating, Potting, Hermetic Sealing
Precision Placement - 01005 - 008004 SMT to Chip On Board

MATERIALS SERVICES

Study, define, and engineer product design and engineering, production process definition and properties, and performance testing of materials, surfaces, and interfaces

PCBA MINIATURIZATION

PCBA innovation provides the freedom to reduce the size of products without sacrificing quality or performance. Board to SOM to SIP.

EXTREME PCBA LENGTHS AND ODD SHAPES

Build irregular shape PCBAs including extreme lengths and thickness up to 1 m.

COMPUTE POWER ACCELERATION

Collaboratively developing new innovative systems to pick, place, solder, inspect, and repair up to 100mm x 100mm BGAs and 10,000 I/Os with industry SMT vendors. Including asymmetrical and symmetrical arrays in next generation BGAs

PCB TECHNOLOGY AND SUBSTRATES

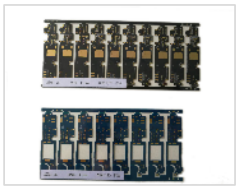
Expertise in a wide range of PCB technologies and substrates including high-current, ultra-thin, flexible, rigid and rigid-flex, printed electronics, cavity placement, and high-density.

JABIL ADVANCED PCBA

JABIL ADVANCED PCBA SOLUTIONS

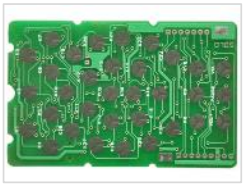
Jabil end-to end process innovation to produce any kind of PCBAs with accuracy, speed, consistency, and affordability.

PCBA TECHNOLOGY AND SUBSTRATES

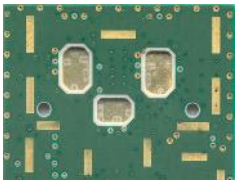


Ultra-Thin

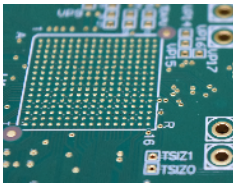
Flexible, Rigid, and Rigid-Flex



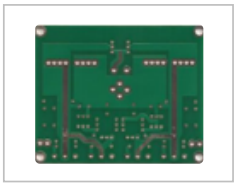
Printed Electronics - Flexible



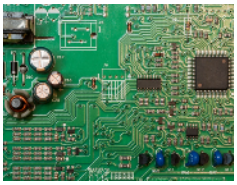
Cavity PCBA



High-Density of All Types



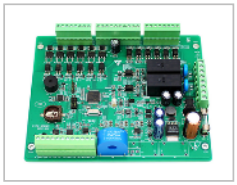
High-Current
(Thick, Ultra-Thick, Combinations)



Specialized PCBA
(Aluminum, cooper, Bus Bar Embedded, Bump Heat Dissipation..)

Laser Selective Plating
(3D conductive path on any substrate)

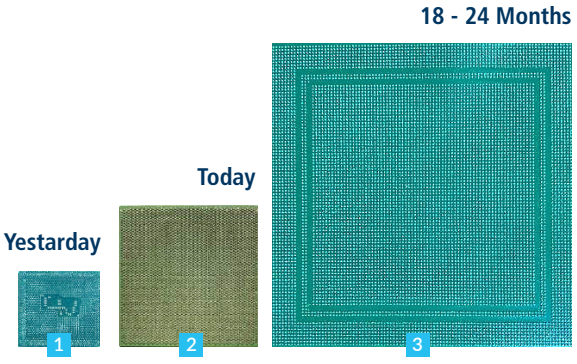
Co-Developing the future with SMT equipment vendors



PCBA
(miniature to very large)

COMPUTE POWER ACCELERATION

BGA (Ball Grid Array) - size is doubling at a rapid rate and smaller and smaller package size and pitch

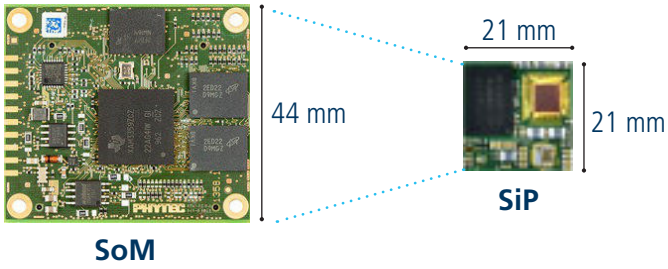


1: **35 mm x 35 mm ~ 1400 Connections**

2: **55 mm x 55 mm ~ 3,500 connections**
2019 going to 75 mm x 75 mm ~ 6000 connections

3: **100 mm x 100 mm ~10,000 connections**

PCBA MINIATURIZATION



COMPONENT & REAL ESTATE MINIATURIZATION

Component spacing is rapidly shrinking

- 254 mm and up (general guidelines)
- Smaller requires customer collaboration

Component size reduction accelerating

- 0402 (Metric Code) in production now
- 0201 (Metric Code) 2019 end