In response to customers’ needs for increasingly smaller, ruggedized and more capable devices, Interconnect Systems International (ISI), a Molex company, provides a clear path to an optimized microelectronics solution that meets these technical and commercial requirements.

**Innovative Packaging, Fast Turnaround**

SI’s proven system-level design capabilities and vertically integrated manufacturing strategy enable it to quickly deliver packaging solutions that provide:

- High-density electronics
- Superior electrical, thermal and mechanical properties
- Multi-functionality
- Robust, rugged designs for harsh environments
- Custom electronic modules that replace obsolete semiconductors
- Quick concept-to-production cycle times
- One-stop-shop, cost-effective solutions

**COLLABORATIVE PROCESSES**

ISI develops its most effective solutions when collaborating with customers within our engagement model:

1. Stage 1: Concept – ISI engages the customer to understand the application, project goals and requirements.
2. Stage 2: Feasibility study – ISI and the customer perform an engineering assessment and establish the project scope.
3. Stage 3: Detailed design – ISI generates concepts and design files for customer approval.
4. Stage 4: Prototyping and qualification – ISI’s vertical manufacturing strategy shortens time to production.
5. Stage 5: Manufacturing and testing – ISI’s reliable manufacturing and test processes support high-quality production.

**VERTICALLY INTEGRATED DESIGN AND MANUFACTURING**

ISI’s proven microelectronics development process leverages its unique design and manufacturing capabilities to deliver an optimized solution and a quick time-to-market.

**Design Capabilities**

- System-level design
- PCB/substrate design
- Signal integrity analysis
- Thermal analysis
- Mechanical/physical packaging design
- Test process design
- Advanced interconnect
- IC obsolescence module and adapter design

**Specific Manufacturing Capabilities**

- Manufacturing process development
- Advanced SMT
- Bare die attachment (wire bond/flip-chip)
- Encapsulation/electronics overmolding
- BGA ball attachment
- Advanced Interconnect
- Test and inspection solutions
THE MOLEX ADVANTAGE

ISI, as a wholly owned subsidiary of Molex, has access to Molex’s wide range of capabilities and facilities across the globe, which allows ISI to deliver more value to customers. ISI can design, prototype and develop a reliable manufacturing process to deliver complete solutions in a timely manner. Leveraging Molex capabilities, ISI can also meet customer needs for high-volume production.

PACKAGING EXAMPLE

Multiple technologies combined into a single miniaturized package

- Wire bonding
- Die stacking
- Advanced SMT
- Encapsulation
- Advanced interconnect

APPLICATIONS

**Defense and Aerospace**

Miniaturized and ruggedized packaging solutions designed to perform in harsh environments, including heat, shock and vibration

**Medical**

Devices requiring high-density miniaturized electronics solutions

- Ambulatory products
- Surgical devices
- Implantables

**Transportation and Industrial**

Applications requiring near-sensor processing or miniaturization of electronics

- Advanced driver assistance systems (ADAS)
- Autonomous vehicles
- Black boxes
- Industrial automation (connected factories)
- Internet of Things

**Telecommunications/Networking**

Infrastructure needing:

- High-speed packaging
- IC obsolescence modules and adapters to extend product lifecycles

**Infrastructure needing**

**Internet of things**

**Surgical devices**

www.molex.com/capabilities/microe.html

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