

# INTEGRATED CIRCUIT (IC) OBSOLESCENCE > FROM MOLEX

Manufacturers of long-life systems are constantly searching for cost-effective and time-efficient methods for mitigating the drawbacks of IC obsolescence. Because of the cost, redesign is not always a viable option for companies. Fortunately, there are other feasible alternatives to mitigate IC obsolescence such as footprint conversion adapters or module interposers, which provide more cost-efficient results.

Adapters effectively solve IC obsolescence issues, by replacing end-of-life (EOL) ICs, simplifying manufacturing processes and reducing host-PCB cost. Our low non-recurring engineering designs resolve temporary sourcing issues as well as permanent component replacements.

Interconnect Systems (ISI), a Molex company, is a recognized industry leader of adapter products that convert single or multiple components to almost any IC footprint. Footprint adapters futureproof PCB systems, and ISI designs more than 150 new adapters each year to help customers successfully navigate through semiconductor shortages, outages, FPGA EOL, FPGA PDN and other IC concerns.

## IC Footprint Conversion Process

**An IC adapter is a small PCB, offering:**

A circuit and components to emulate the original IC

An interconnect/IO that matches the original IC

A design that can be assembled to the existing PCB using standard SMT assembly process

**Conversion adapters provide a production-worthy solution for IC obsolescence:**

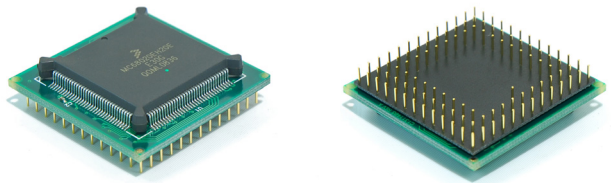
Without the cost or effort of redesigning a motherboard

Without expensive last-time buy purchases

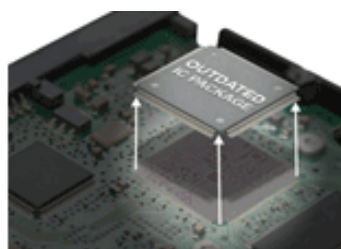
Without risky gray-market purchases

With minimal product requalification and test requirements

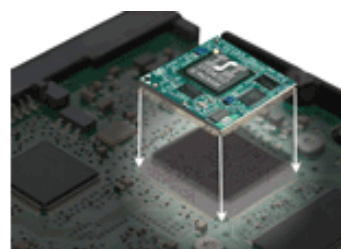
(component change vs. new board design), i.e., quicker time to market



*Outdated IC Package*



*Outdated IC Package*



*Updated IC Adapter  
Matched to Footprint*



*System Updated with  
Latest IC Technology*

**molex**

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## MULTIPLE OPTIONS

ISI can provide the adapter board or the assembled solution including sourcing components. In some cases, the new component and interposer are less expensive than the original IC. Applying its expertise in adapters, ISI specializes in manufacturing module interconnect technologies. Multiple solutions are available that allow the replacement module to be assembled to the motherboard with the same manufacturing process as was used for the original IC.

### These solutions include:

- BGA (any size, pitch and alloy)
- Lead-frame (QFP/SOIC), e.g., FlexFrame, etched lead-frame, edge-clip leads and bumped solder pads
- ISI custom interconnect, e.g., HiLo technology

## INDUSTRIES

**Automotive**  
**Commercial Aviation**  
**Commercial Vehicle**  
**Connected Home**  
**Consumer**  
**Data Center Solutions**  
**Defense**  
**Electrical and Industrial**  
**IT Infrastructure**  
**Industrial**  
**Medical**  
**Scientific**  
**Telecom Infrastructure**  
**Telecommunications/  
Networking**



*Patient monitoring*



*Military equipment*



*Airplane cockpit*

## THE MOLEX ADVANTAGE >

With over 30 years of experience, ISI offers reliability and expertise in IC obsolescence solutions, quickly converting any package style and pitch with their North American-based design and manufacturing.

# molex

[www.molex.com/capabilities/icobs.html](http://www.molex.com/capabilities/icobs.html)

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