RIGID-FLEX PCB DESIGN

Rigid-flex circuits are becoming the preferred interconnection technology for electronic products

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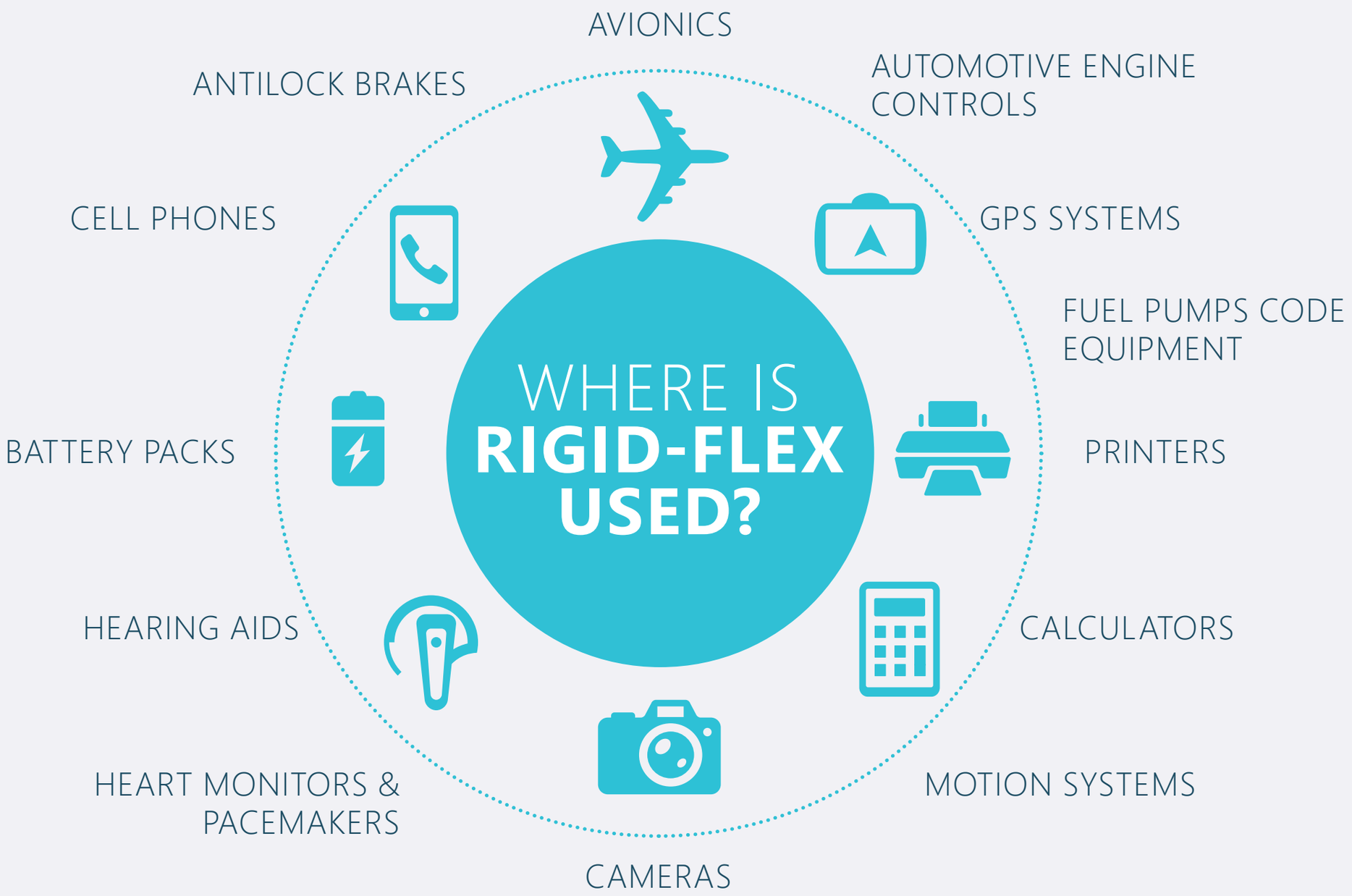
WHY RIGID-FLEX?

Rigid-flex design enables electronic technology companies to create complex products that are **smaller, cheaper and more reliable**



DID YOU KNOW?

RIGID-FLEX CAN **REDUCE PRODUCT ASSEMBLY TIME** BY **50%**

IoT IS A KEY DRIVER INCREASING THE DEMAND FOR **RIGID-FLEX DESIGN**

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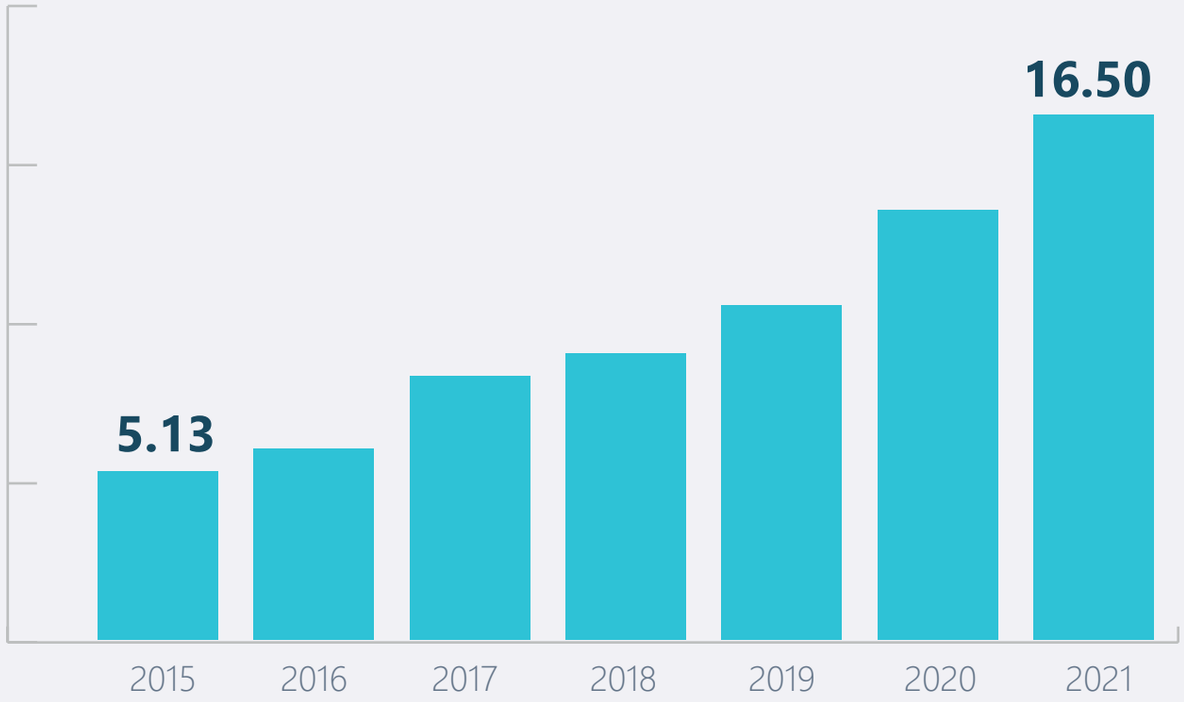
RIGID-FLEX FACTS

From stack-up definition through to manufacturing hand-off creating complex rigid-flex products that are smaller, cheaper and more reliable is a must

ACCORDING TO **ZION RESEARCH:**

"global demand for the flexible electronics market was valued at **$5.13B in 2015** and is expected to generate revenue of **$16.5B by 2021, growing at a CAGR of slightly above 21% between 2016 and 2021."**

Wearable Courtesy of Nike



Global Flexible Electronic Market Revenue, 2015-2021

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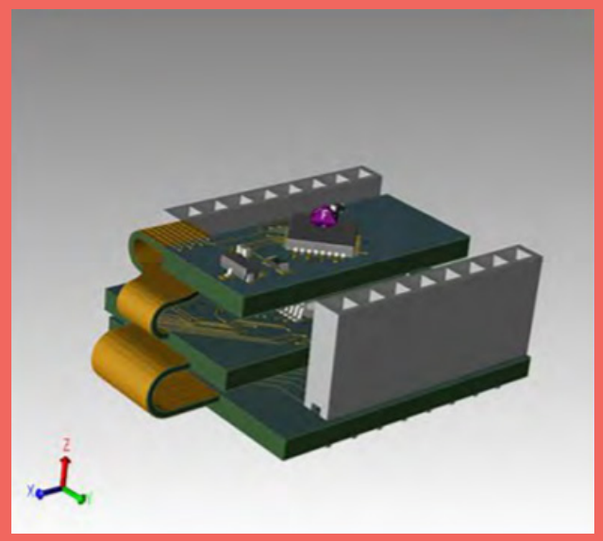
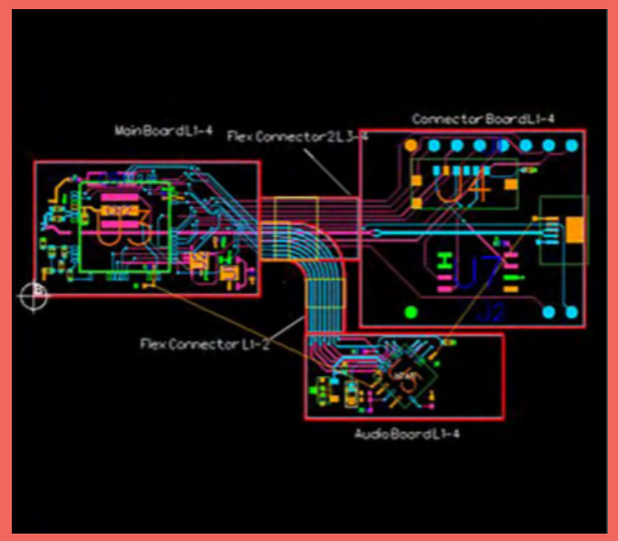
Source: Zion global Research Analysis

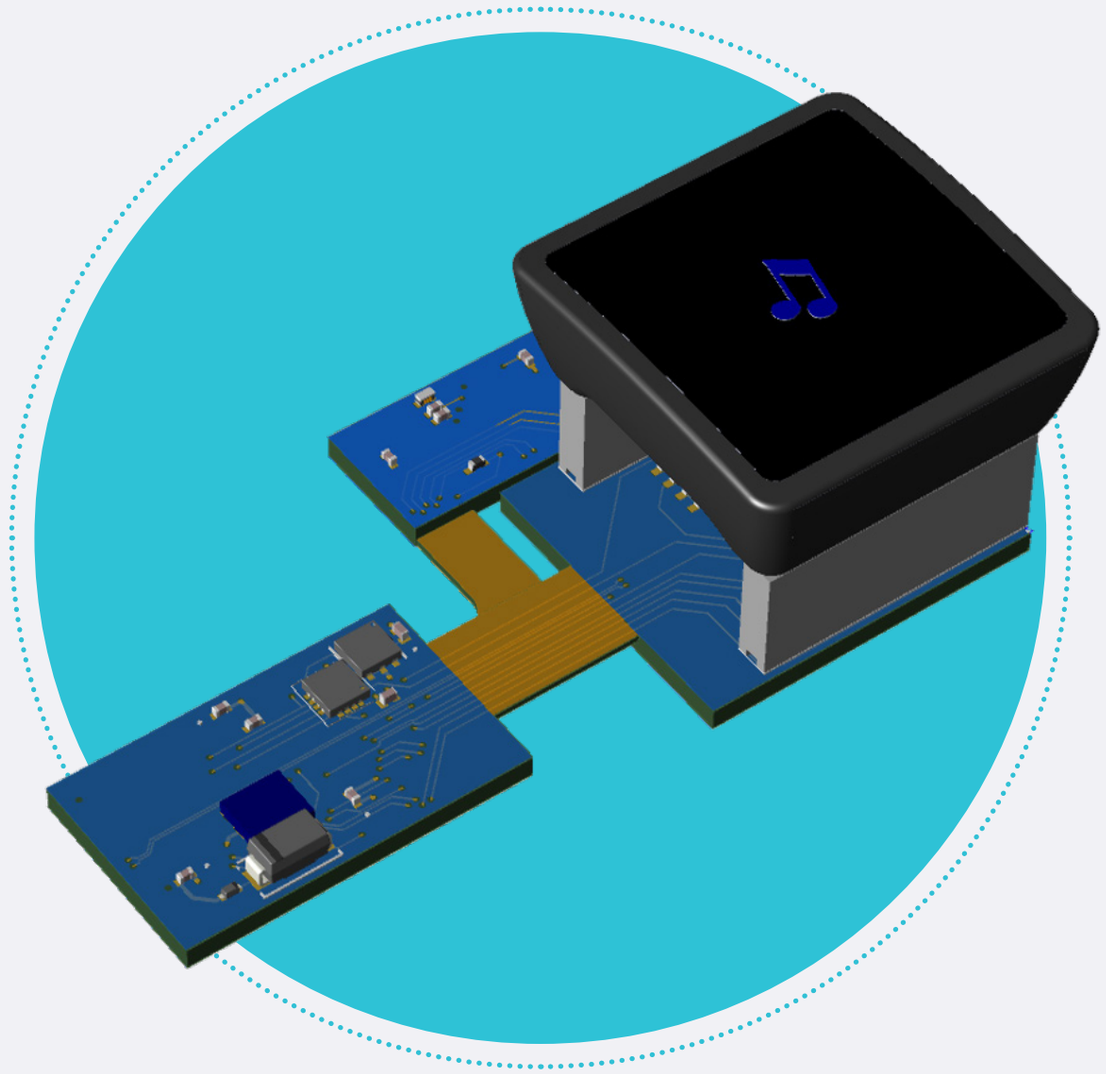
RIGID-FLEX DESIGN

With the increasing complexity of today's flex circuits, advanced design tools that specifically support rigid-flex design can increase productivity and reduce development costs while ensuring correct-by-construction design intent

WHENEVER A PRODUCT NEEDS TO BE **COMPACT** AND/OR **LIGHTWEIGHT** AND/OR **FLEXIBLE, RIGID-FLEX** TECHNOLOGY WILL MOST LIKELY BE APPLIED







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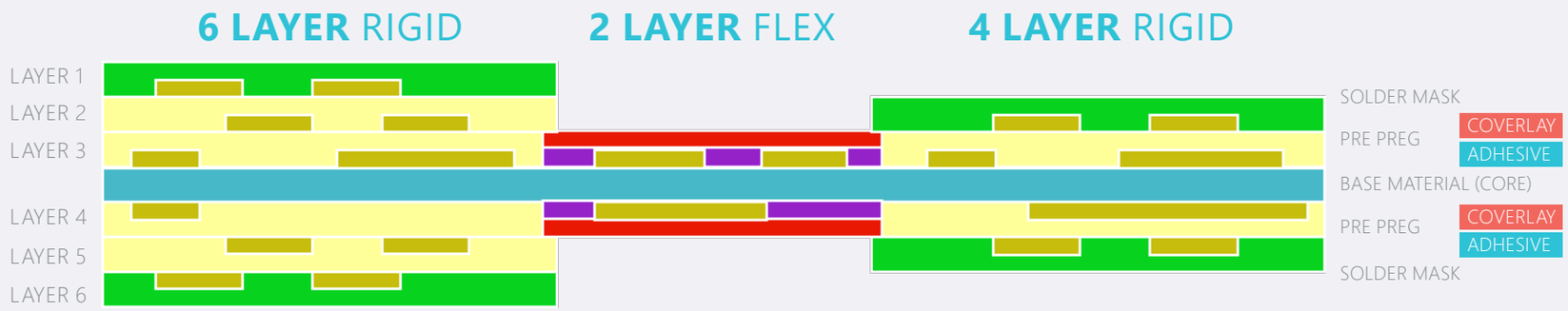
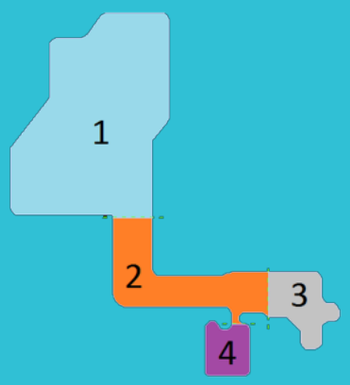
RIGID-FLEX DESIGN CHALLENGES

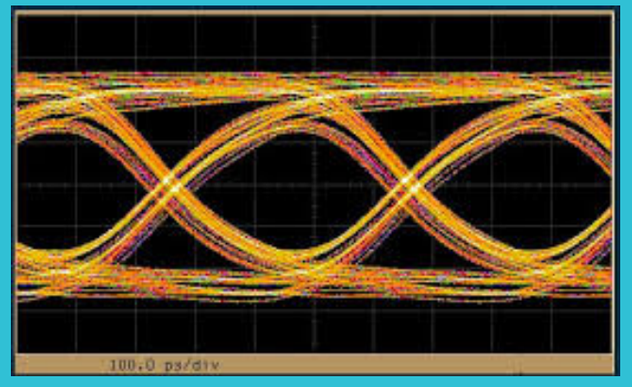
Correct-by-design for rigid-flex requires specific PCB design tool features and functionality

STACKUPS NEED TO BE EFFICIENTLY MANAGED AND PROPERLY CONVEYED TO THE FABRICATOR

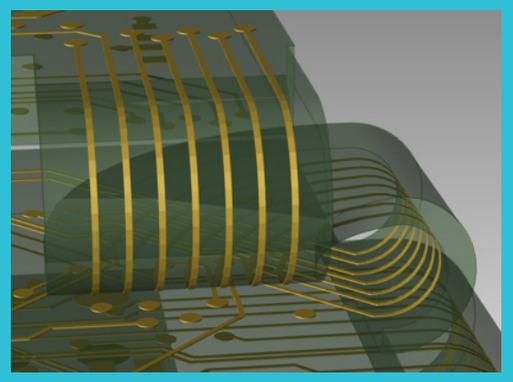




THE MULTIPLE BOARDS IN A RIGID-FLEX DESIGN NEED TO BE PROPERLY CONFIGURED AND MANAGED



THE DESIGNS REQUIRE SIGNAL AND POWER INTEGRITY ANALYSIS



DESIGNS REQUIRE TRACE, PLANE, COVER LAYERS, BEND AREAS, BEND RADIUS, VIAS & STIFFENER SUPPORT

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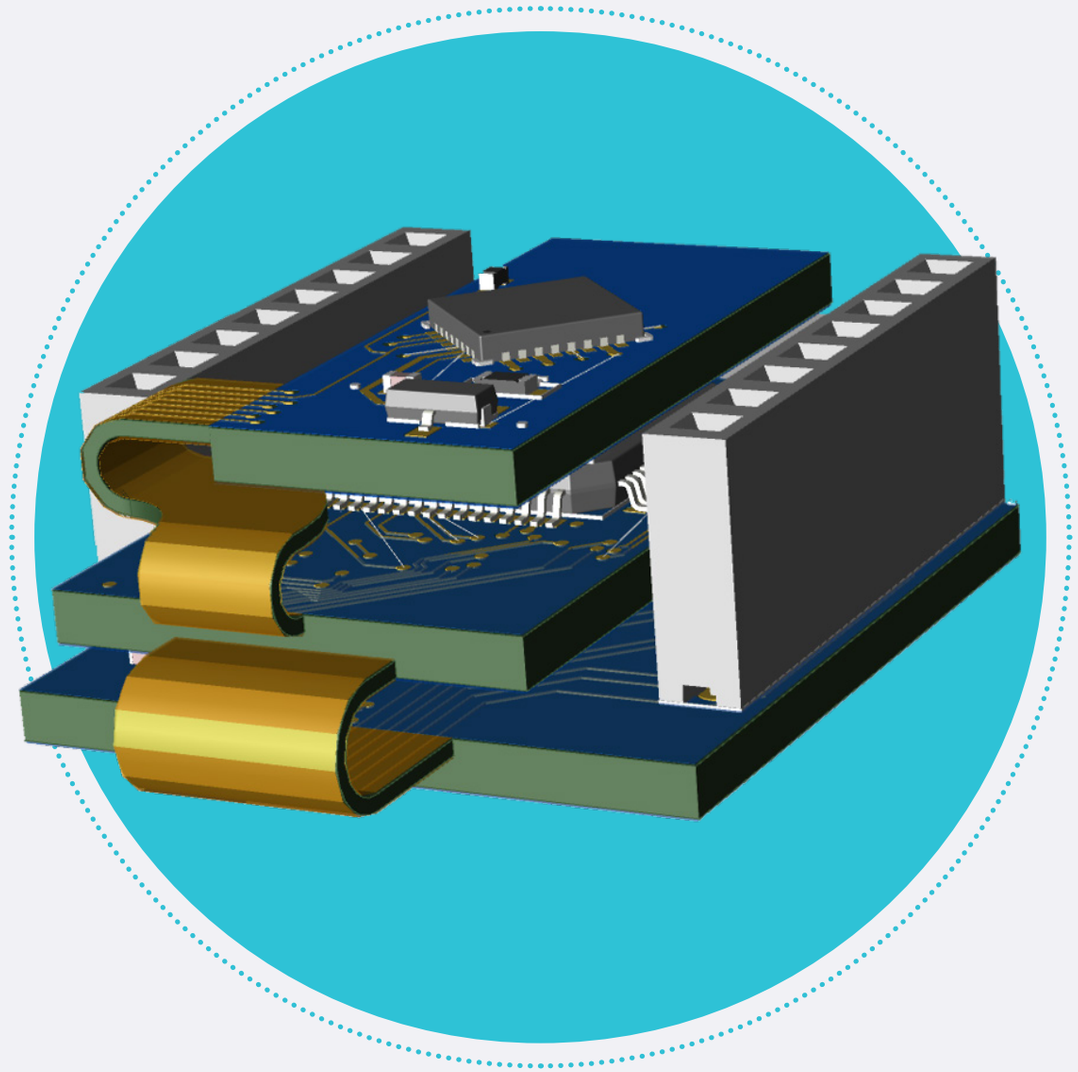
THE FUTURE OF RIGID-FLEX

Research indicates that the global demand for rigid-flex design in products in every industry will continue to grow.

THE GLOBAL DEMAND FOR THE FLEXIBLE ELECTRONICS IS EXPECTED TO REACH

$24.78 BILLION BY **2026**

Source: Zion global Research Analysis



FACT:

Best-in-class companies are **31% more likely** to use design tools that **support advanced fabrication technologies including rigid-flex.**

Source: Aberdeen Group, Why Printed Circuit Board Design Matters to the Executive: How PCBs Are a Strategic Asset for Cost Reduction and Faster Time to Market

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THE SOLUTION

Why PADS Professional for Rigid-flex design?

PADS Professionals correct-by-construction design technology simplifies the creation process of rigid-flex circuits and allows you to focus on optimized form factors, quality and avoid costly **DESIGN RESPINS.**

PADS
PROFESSIONAL

HELPS YOU
MEET DESIGN CHALLENGES

- Stack-up regions defined by multiple board outlines to simplify modifications
- Define unique stack-up types (e.g. embedded or bikini cover lay, stiffeners)
- Bend areas define where and how the design will bend
- Flex-aware placement & routing produces high quality results
- 3D bending and 3D DRC
- Validation for signal & power integrity of complex rigid-flex topologies
- Flex-aware DFM validation and NPI hand-off

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