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DIGITAL INDUSTRIES SOFTWARE

Xpedition Standard

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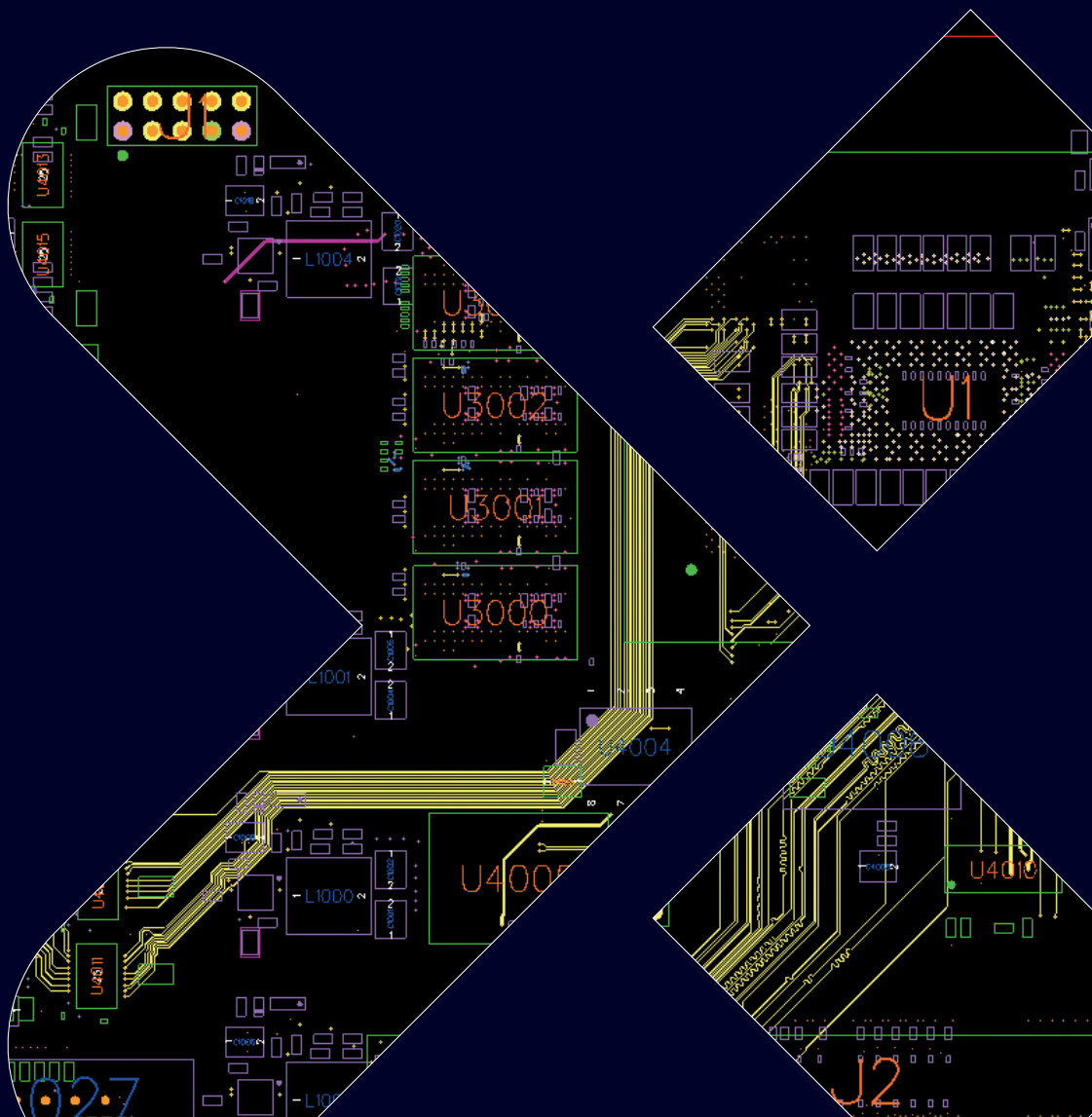


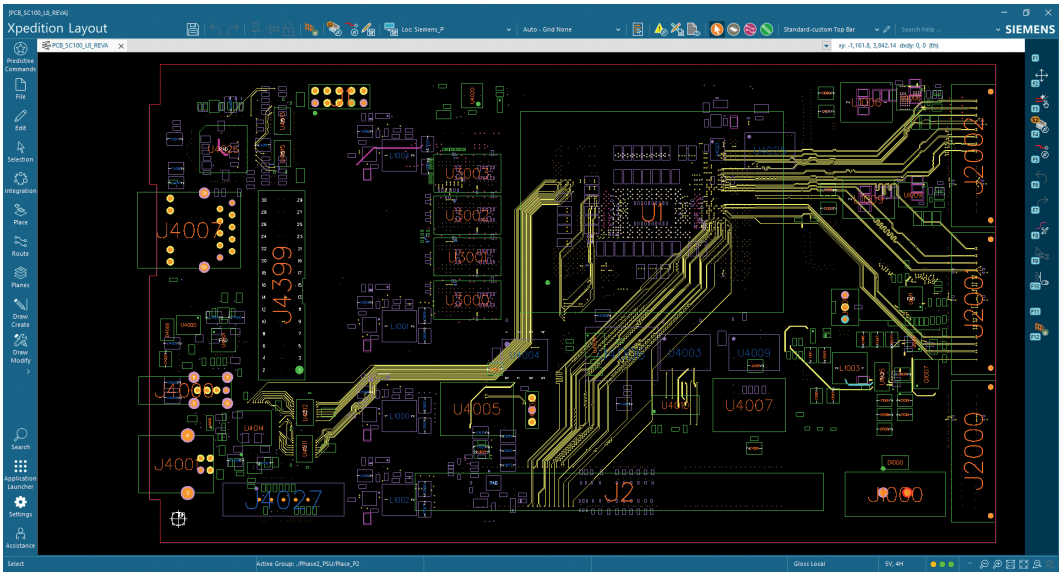
Looking for a scalable PCB design solution that grows with your needs?

Until now, your choice of PCB design tools has been a frustrating compromise. High-end enterprise solutions that handle design complexity come with too much unnecessary overhead and the associated usability and cost of ownership challenges. Desktop solutions are easier to use and have lower cost, but productivity is bogged down as design complexity increases.

You need the right tools to effectively tackle the challenges you face:

- You're having trouble achieving aggressive PCB design schedules
- Your current tools are running out of steam on complex designs
- Your current tools can't keep up with the newest PCB technology
- Your current tools make it hard to collaborate efficiently across teams and disciplines
- Your current tools can't solve for supply chain resilience
- You're spending too much time cleaning up your layouts before release
- Your competitors are beating you to market

The solution is Xpedition Standard. It brings you the best of both worlds – powerful Xpedition technology tailored for ease of adoption, ease of learning, ease of use, and affordability. Xpedition Standard directly addresses your challenges and provides the tools and horsepower to solve them. Xpedition™ Standard delivers cutting-edge PCB design technology, seamless collaboration, and AI-powered efficiency in a fully integrated package – all at a price that makes sense for growing teams.



Xpedition Standard – A self-contained flow for the engineer who designs simple through complex boards.

Built for individual engineers and small workgroups, it strikes the perfect balance of cost-efficiency and high performance, making it easy to tackle increasing design complexity. With AI-infused automation, integrated part data access, real-time supply chain insights, and flexible expansion options, Xpedition Standard ensures you stay ahead of design challenges while leveraging your tools' full potential. And with Siemens' proven support, you have expert guidance and reliability every step of the way.

Benefits

Cost-effective solution for designing simple to complex PCBs

Fully integrated design capture, constraints, and layout workflow for hardware engineers and small workgroups

Easy to deploy, learn, and apply by both occasional and expert users

Cloud-connected functionality amplifies desktop productivity

Scalable as your needs grow

Low infrastructure overhead

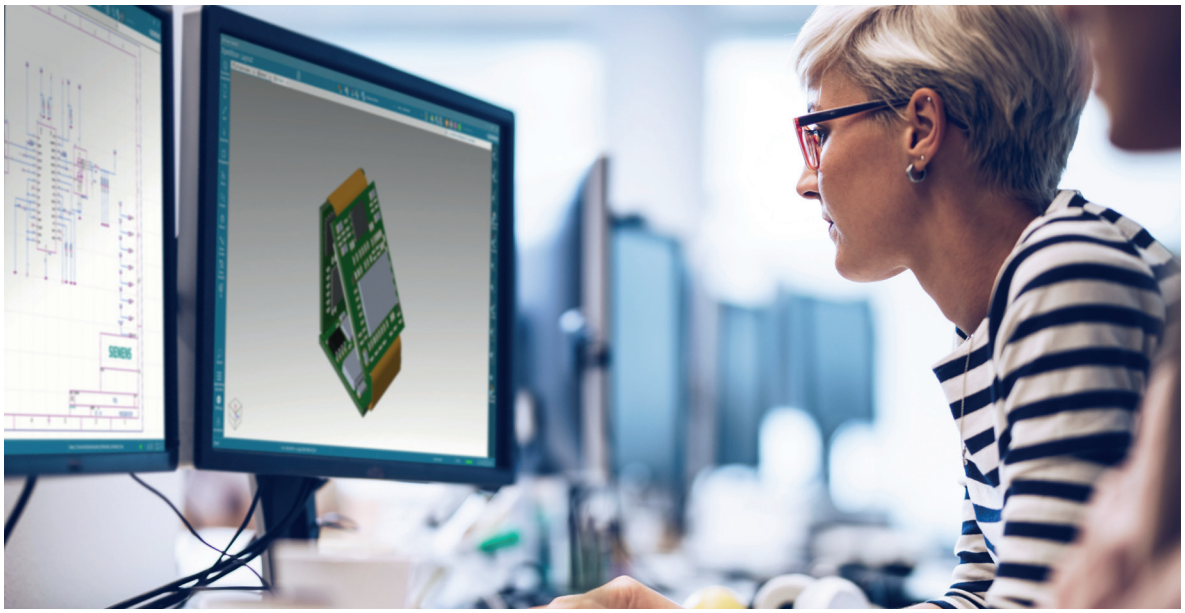
Reduced rework and time delays with correct-by-construction layout

Quick, efficient design reuse

Top-down hierarchical approach to schematic, component placement, and route planning

Significant layout productivity gains with automated routing

Native 3D PCB design for placement, routing, and MCAD collaboration



Xpedition technology foundation

Xpedition Standard is built on the same technology foundation that is used to design the world's most complex PCBs. PCB designers and hardware engineers who do it all – operating independently or in small workgroups – will find Xpedition Standard to be the perfect solution.

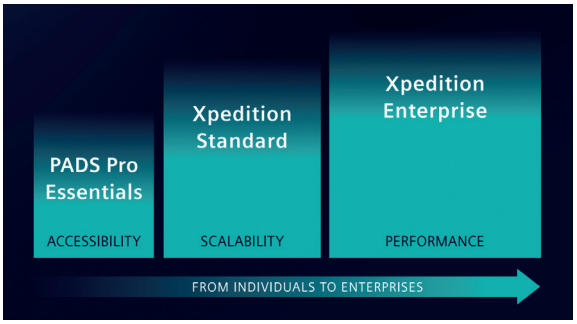
Xpedition Standard provides everything needed to design complex PCBs within a tightly integrated flow:

- Easy design reuse of schematics, constraints, and layouts
- Hierarchical schematic and table-based design creation with intelligent part selection
- Logical and physical variant management
- Unified constraint definitions and management across the design flow
- Powerful interactive and automatic routing

Scalability

Xpedition Standard evolves with your design needs. As your projects become more complex and technology demands increase, you can expand your capabilities with powerful token-based add-on options, delivering advanced features like high-speed analysis and rigid-flex design when you need them.

This flexibility gives individual engineers and small teams access to capabilities once reserved for enterprise users, without the cost or commitment of a full upgrade. And when your organization is ready, Xpedition Standard offers a seamless path to Xpedition Enterprise, enabling enterprise-level collaboration, library management, and design data control for large, distributed teams.



Design without compromise

With Xpedition Standard your tools won't limit your ability to design. Unlike other systems that advertise "price conscious" tools, the Xpedition Standard flow is infused with vibrant, dynamic technology for a complete and comprehensive solution.

Library and design data management

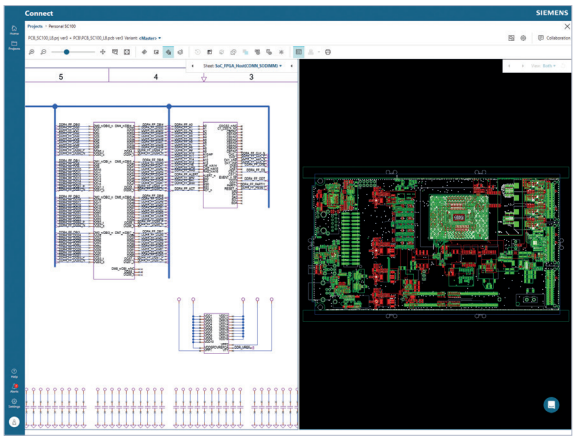
Xpedition Standard includes an integrated, correct-by-construction component library that ensures symbols, footprints, and part mappings stay synchronized once a part is defined.

What value is the component library if the parts you need are not found? With Xpedition Standard, it's not a problem because all component information is included in an easy-to-use query and verification system that accepts component information from multiple sources.

Individual engineers and small workgroups often lack the time or resources to develop a corporate library that adheres to both company and industry standards. Xpedition Standard delivers an industry-proven starter library that has been developed over several years in PCB design production environments. This library includes schematic symbols and PCB footprints that enable you to start designing immediately. There's no need to spend valuable time searching for manufacturing datasheets and building your own library from scratch.

The starter library contains over 11,000 current manufacturers' part numbers and includes a wide variety of device types, well-defined partitions for easy navigation, and descriptions of the standards which were used to create the library, which is also IPC-7351B compliant.

Engineers can make smarter part selections early in the design process with real-time sourcing intelligence – including pricing, availability, compliance, and lifecycle data – delivered directly within the schematic capture environment. With access to a massive library of pre-built ECAD models from a database of over 600 million MPNs, designers can quickly find and use verified symbol, footprint, and 3D models using a simple search-and-drag experience. If a needed part isn't available, easy-to-use part-creation tools and a part request option are available, keeping your project on track.



ECAD visualization with cross-probing in the collaboration workspace.

Design management is seamless with an integrated workspace for managing, sharing, and reviewing design data. This provides a single source of design data insuring team members Never lose track of the latest design version. Teams can organize projects, visualize both 2D and 3D designs, and track versions all in one secure, cloud-based environment. Roles can be assigned to team members giving either edit privileges or only the ability to view the design.

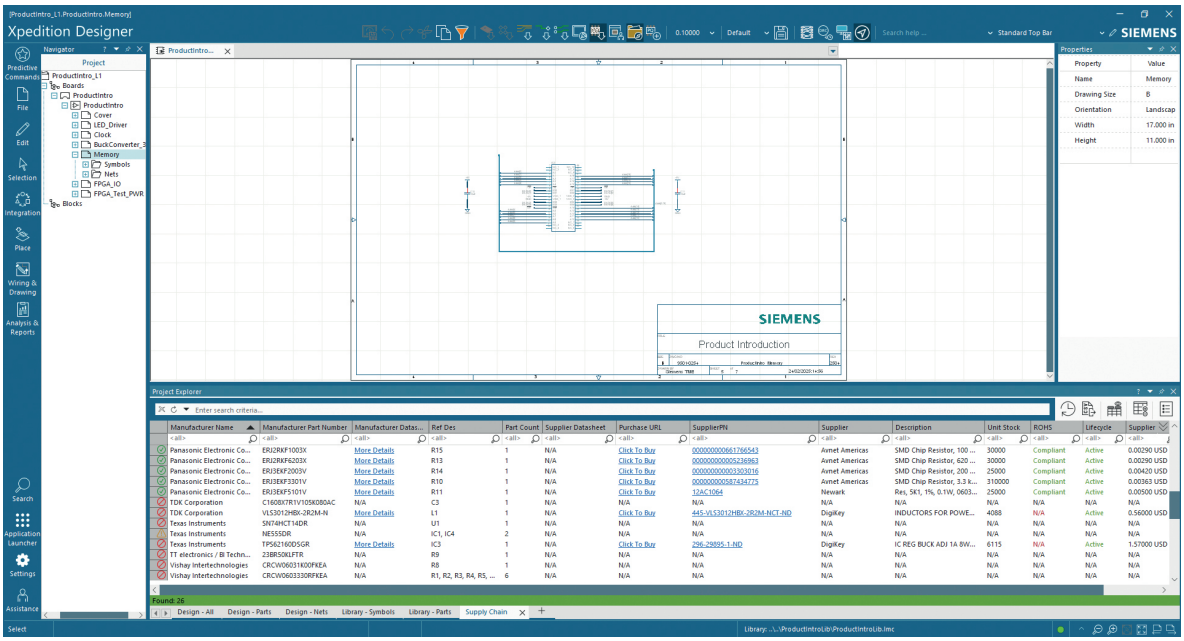
Cloud Collaboration

Xpedition Standard delivers a new benchmark for team collaboration. Teams can visualize in a convenient web browser both 2D and 3D designs, add markups, and track versions all in one secure, cloud-based environment, allowing teams worldwide to review the design simultaneously, or whenever their schedule allows. A project-level BOM intelligence view enables early coordination across engineering, sourcing, and manufacturing stakeholders, helping teams assess BOM health and potential component risk, and accelerate time-to-production.

Schematic capture

Variant management allows you to reuse a single schematic for different variants of your design, and this capability extends into layout as well. Project and design navigation is intuitive, while the built-in component information browser allows you to easily research and instantiate parts on your schematic.

Extensive rule checking eliminates errors prior to layout, increasing the quality of your design. Tight integration, including cross probing, keeps your schematic, constraints, and layout in sync always, allowing you to manage and track changes as your design progresses.



Hierarchical schematic environment accelerates design definition and is tightly integrated with the flow.

Constraint management

As PCBs increase in complexity and density, a higher percentage of the design must be implemented with strict adherence to design rules. Manual documentation, translation, and interpretation of design rules often cause longer product development cycles and increased costs. The constraint manager provides a fully integrated, constraint-driven design methodology that reduces design costs and time-to-market by automating design rule communication and eliminating unnecessary PCB prototypes and respins. The constraint manager provides the engineer with direct control over the PCB layout.

The constraint manager supports bi-directional cross probing, highlighting and selecting between a spreadsheet-based constraint interface, schematic capture and PCB layout. Any net can be analyzed for signal integrity pre-layout when developing a topology template, which can then be used in the constraint manager.

As the number and complexity of constraints explodes, the constraint manager comes with a lightweight, easy-to-learn, context-sensitive tool for editing constraints within the schematic or PCB layout.

PCB layout

At the heart of Xpedition Standard is the industry's most powerful PCB layout technology, all within a single editing environment. This foundational Xpedition technology is used to design the world's most complex boards that include constrained topologies, differential pairs, wide buses, flex, and large fine-pitch BGAs.

Xpedition Standard supports a correct-by-construction approach that produces high-quality results and reduces costly iterative clean-up of constraint violations. Dynamic glossing of traces reduces segments, prevents acute angles, and obeys pad entry rules.

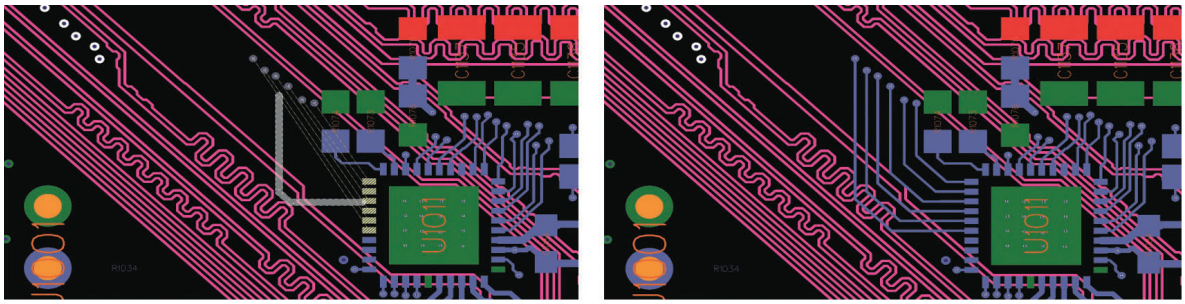
Dynamic high-performance self-healing planes and thermal reliefs allows real-time creation of complex power distribution topologies. Fully integrated, true parametric 3D layout with placement, constraints, DRC checking, and photorealistic visualization minimizes MCAD iterations.

Xpedition Standard includes revolutionary placement and interactive routing technology focused on productivity. Hierarchical group placement allows you to take advantage of natural or defined component groupings in your design when placing your board. Xpedition Standard combines automatic and interactive technology, keeping you in control while automating the more mundane tasks. You'll be amazed at the sheer power of the glossing, push, and shove during trace manipulation.

Sketch router

In addition, ground-breaking sketch routing in Xpedition Standard takes productivity to a whole new level. Taking your design intent and routing strategies in the form of a super-efficient sketch, the system automatically fans out, untangles, and routes the associated nets with the quality of an experienced PCB designer. Sketch routing reduces complex routing times by orders of magnitude.

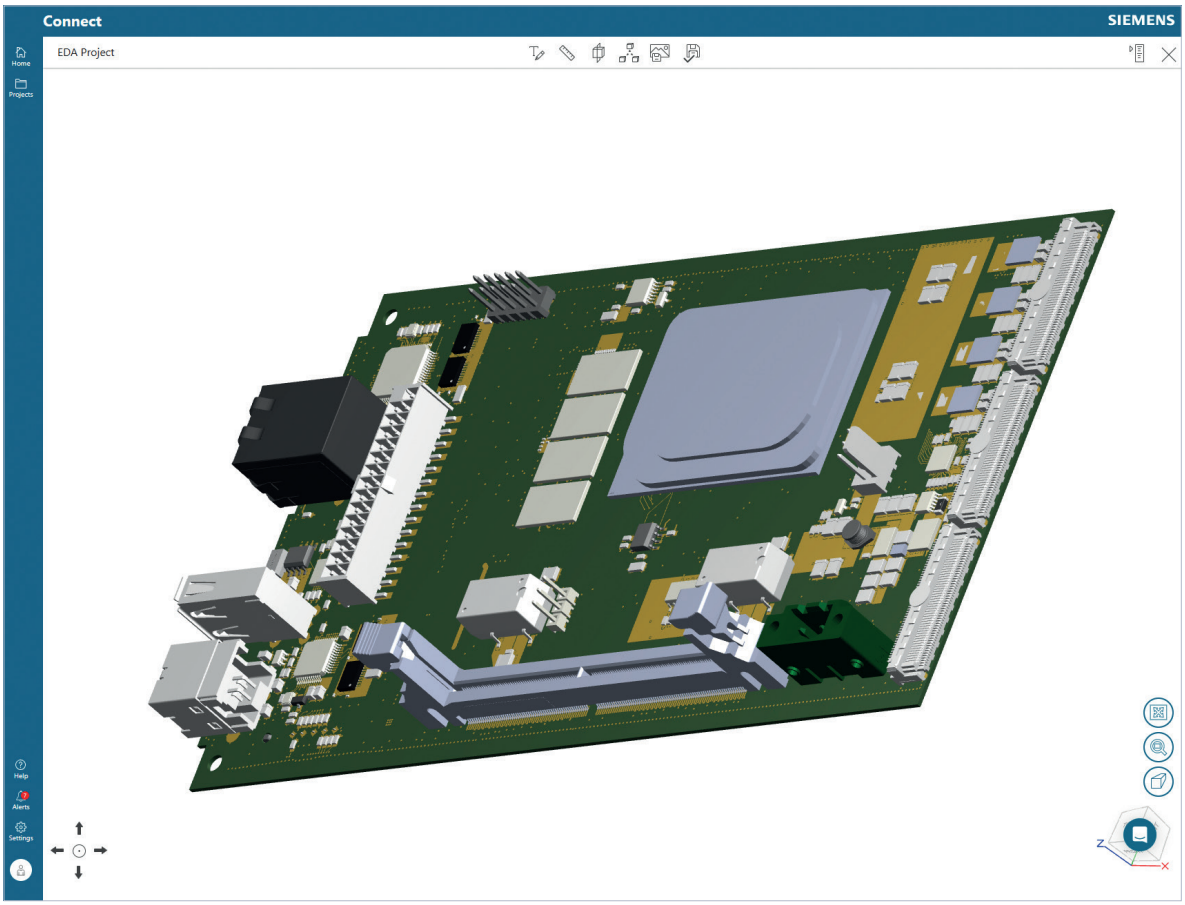
Starting with the sketch router, a designer can draw a sketch path to dictate the location for the routing of the selected netlines. The sketch router will route individual, dozens, or even hundreds of netlines many times faster than manual routing. Sketch routing focuses on quality, so little cleanup is needed – often none at all. The high routing completion rate is due to its ability to automatically optimize the escapes from components like BGAs, so they are optimal for routing without any additional vias.



Powerful routing technology allows designers to sketch the path of signals, then the interactive router efficiently routes those traces. On left, the designer has "sketched" the path desired for the signals shown in purple. On right, the sketch router has efficiently routed the traces according to the designer's sketch.

3D electro-mechanical co-design

One of the challenges to integrating your PCB design process into the electromechanical world is the ability to “left-shift” validation to the PCB layout process, so you can find electromechanical design problems early, eliminating costly re-design late in the cycle. Xpedition Standard’s integrated 2D/3D environment uses the same selection, planning, and placement functionality in either view.



3D visualization, placement, and validation optimizes PCB electromechanical design.

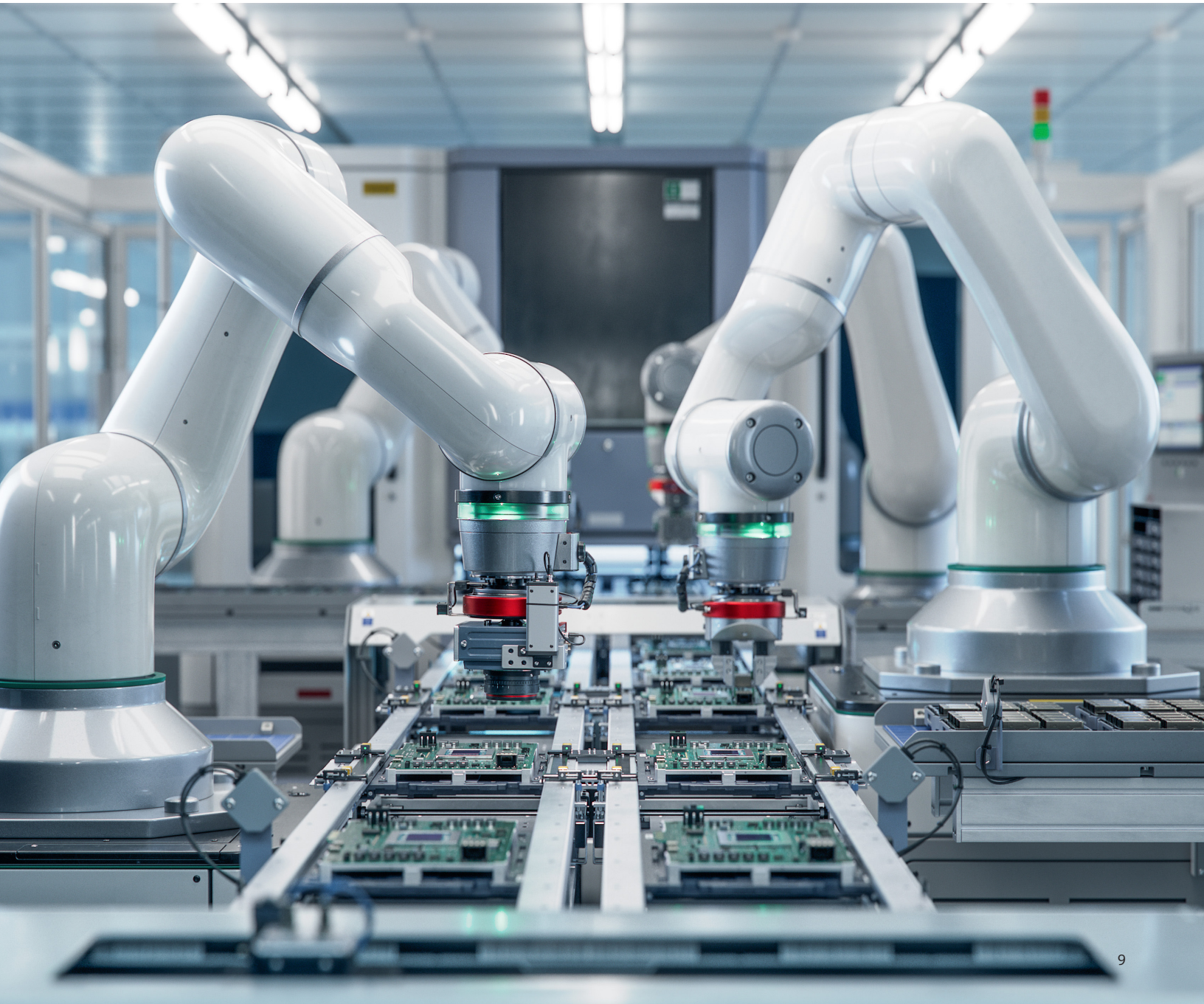
Xpedition Standard’s true parametric 3D mechanical kernel uses a complete set of 3D constraints with dynamic collision detection and batch verification to ensure your electromechanical designs are error-free. Full photorealistic visualization of board elements, like traces, components, silk screen, solder mask, and vias, is provided with transparency, z-axis scaling, view/rotation control, and x/y/z cut planes. Import mechanical components like enclosures and heat sinks, and even sub-assemblies of other PCB designs, providing true mechanical multi-board capability.

You can use the integrated MCAD collaboration tool to pass information to popular industry mechanical design systems. You can also export your design in industry standard IDX format which allows incremental changes to be passed bi-directionally between Xpedition Standard and the mechanical cad tool, including the assembly. Standards such as STEP and DXF are also supported. 3D PDF and documentation tools are available to complete your design package.

Manufacturing prep

Manufacturing documentation and outputs can be directly created within the layout environment, so any last-minute layout changes are automatically synchronized.

Automated and customizable creation and distribution of manufacturing data results in increased quality, accuracy, and design throughput. Xpedition Standard is also tightly integrated with DFM checks based on Valor technology. Additional CAM formats and reporting, including Gerber, NC drill, and pick and place, are also supported.



No compromise

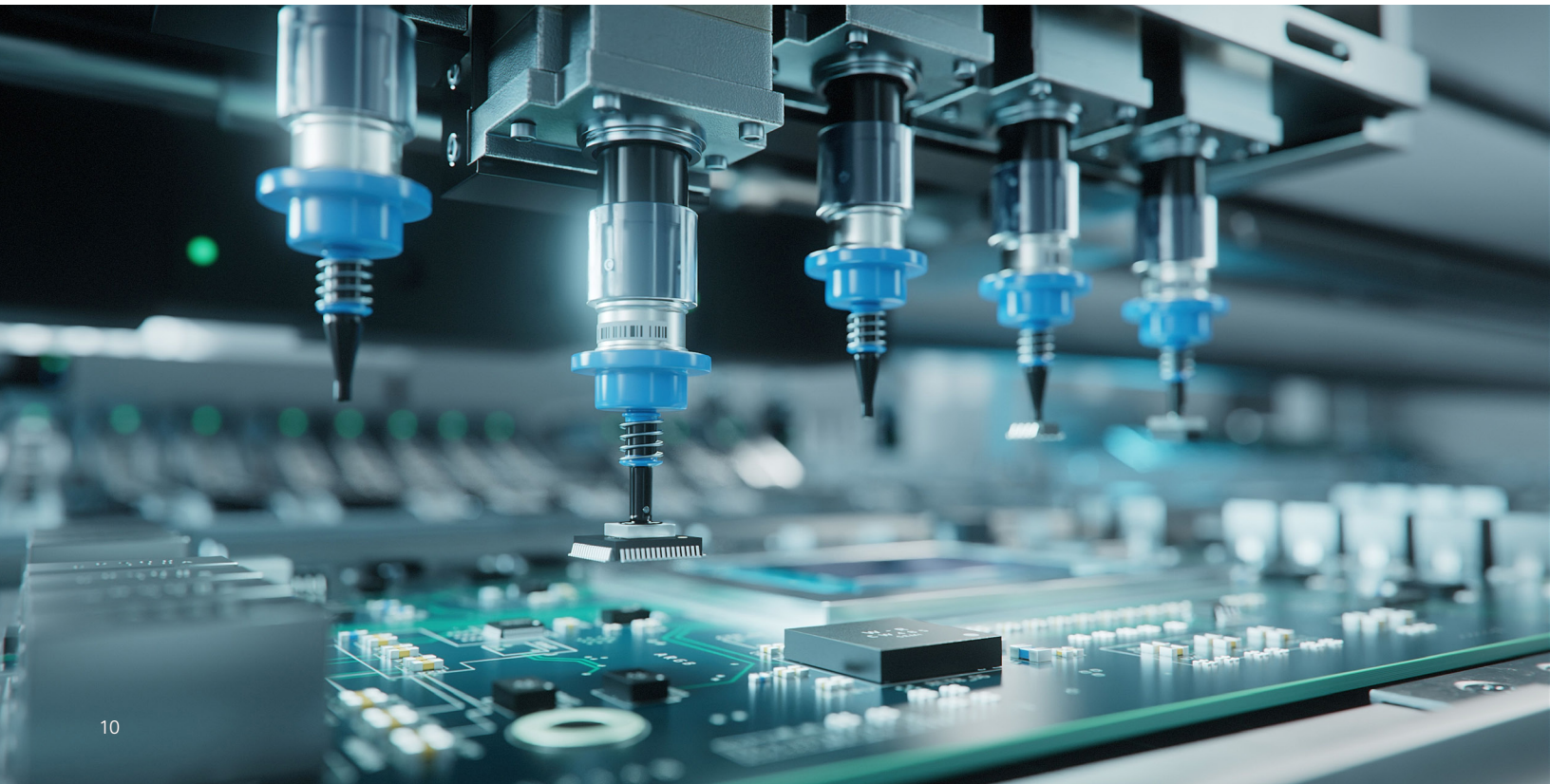
Xpedition Standard directly addresses your technological challenges and provides the tools and horsepower to solve them. Achieve your aggressive design schedules and stay ahead of the competition, confident in the knowledge that you have the right tools to address those complex challenges not just today, but tomorrow as well.

Xpedition Standard enhances your entire design process with built-in, cloud-connected capabilities that improve decision-making, accelerate design cycles, and streamline collaboration.

Xpedition Standard: the best of both worlds – powerful Xpedition technology combined with a focus on cloud-connected amplification, ease of learning, ease of use, and affordability.

System requirements

Xpedition Standard System Requirements
RAM – Minimum 16GB recommended
Windows 11 (64 bit)
Processors - Dual-core Intel or AMD processor minimum



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