



Electronics & High Tech

Today's Challenge

Electronics and high tech companies are being forced to meet ever tighter market windows for product launches (short product lifecycles), with more complex products (more reliance on software, higher technology electronics, more complex mechanical form factors), while trying to manage both design and manufacturing through a heavily outsourced value chain. Downward pressure on prices, new requirements for environmental regulatory compliance, technological complexity, and increasing reliance on outsourcing are all converging to create more risk in every phase of the product development process. Success requires engaging engineers, suppliers, manufacturing partners, and customers in real-time across the entire product lifecycle.

High tech is also multi-disciplinary (e.g., mechanical, electrical and software all working independently on the same project). It's usually not until the end of the project that companies actually determine if the different designs work together. This typically causes extensive re-work and change at the end of the process. Consequently, companies are looking for a way to improve this process.

Key Trends in Electronics & High Tech

- Extreme time-to-market pressures: Downward pressure on prices as new product innovations make older versions obsolete
- New requirements for environmental regulatory compliance (RoHS and WEEE)
- Increased reliance on outsourcing
- Increased technological complexity
- Increased importance of process excellence in order to consistently, reliably and repeatedly hit tight market windows given the constraints above

PTC® solutions for Electronics & High Tech

PTC solutions for electronics & high tech are designed to meet the product lifecycle management requirements of electronics manufacturers. These solutions include product development process and data management, electronic verification and collaboration, environmental regulatory compliance (RoHS, WEEE, etc.) and 3D mechanical design. PTC has over 3,000 high tech customers, including the 30 largest electronics manufacturers across the globe.

PTC solutions are utilized earlier in the electronics product development process than any other PLM provider to span the entire process from concept through retirement. As a result companies are able to focus on the up-front decisions that drive over 70% of product cost and identify changes that impact these decisions later in the process. This leads to higher product quality and faster time to volume.

What makes PTC Different?

PTC has been pursuing an aggressive strategy to differentiate its products, services and corporate strategy in response to the needs of the E&HT industry. The following uniquely define our industry value proposition:

- Product development expertise:
 - Internal PTC competencies (20 years as 3D MCAD market leader, unmatched ECAD design experience)
 - A services organization completely focused on product development



- Flexibility to make better decisions at the beginning of the design process including:
 - Design re-use capabilities
 - Environmental regulatory compliance from the beginning of the product development process
 - Early-stage design process management, with maximum ability to influence design
- Ability to identify changes across design disciplines when they are most effectively solved:
 - EDACompare™ for PCB and MCAD-ECAD design validation
 - Software development process tied to the overall product development process
 - Parametric design experience enables understanding of design data relationships (i.e., what is impacted by a change?)

Key Features

- Integrated product data management – single system managing the design across multiple design disciplines
- Cross-discipline design validation -- key to identifying change across disciplines. Additionally, most PLM vendors talk about change management, but nearly all leave out the critical step of how companies actually identify change. PTC is the first PLM company to provide change identification capabilities across design disciplines to help companies improve product quality, time to market and cost.
- Environmental regulatory compliance
- Optimized designs for the supply chain – providing designers with the tools to make better design decisions at the beginning of the process, as opposed to cleaning up mistakes at the end of the process
- Improved outsourcing management
- Process management and optimization

Key Benefits

- Higher quality products delivered to market more quickly through:
 - Ability to manage product development from early stage design through retirement, delivering fewer engineering changes
 - Innovative products like InterComm™ EDACompare that provide the first ever change identification capability within PLM
 - InterComm has decreased Printed Circuit Board (PCB) design time by up to 1/3
- Lower product cost
 - Increased part / design re-use through robust search and classification by 15% (AMR Research)
 - Cross-discipline collaboration for both internal / external users
 - Lower cost-of-ownership
 - One database for all PLM solutions
 - Single PLM system that supports MCAD, ECAD and software design data
 - Scalability to meet the PLM needs of the entire value chain
 - Able to leverage existing IT investment in ERP, CAD, etc.