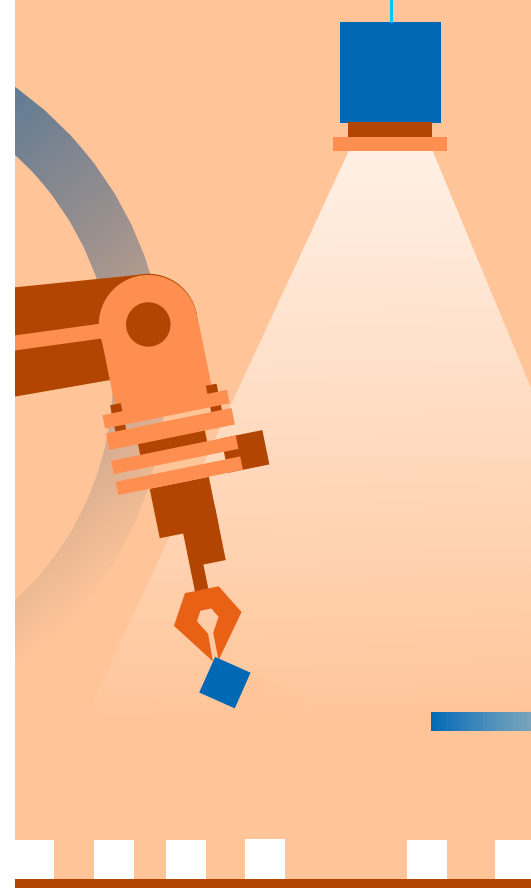# Advance your manufacturing capabilities

Enhance automations, speed simulations, and simplify maintenance to win in Industry 4.0

The manufacturing industry is undergoing a massive transformation, fueled by more data, more edge computing, and new AI and HPC applications. Without technologies that empower you to seize these opportunities, you risk getting left behind. You need smart manufacturing solutions that give you flexibility, control, and intelligence in Industry 4.0.

Speed product simulations for faster time to market

Up to 2.36x higher Ansys LS-DYNA performance[1]

5th Gen Intel® Xeon® processors

vs. 3rd Generation

For structural and failure analysis and materials modeling, engineers rely on simulation applications such as Ansys LS-DYNA. By selecting a powerful solution based on new Intel Xeon processors to back those applications, you can run models, analyses, and simulations faster—getting one step closer to having your product on shelves.

Identify and remediate manufacturing problems faster

Up to 2.1x more video analytics streams [2]

5th Gen Intel Xeon processors

vs. 3rd Generation

Video sees everything on the factory floor, from inventory to manufacturing operations to staff movements—but if your computer vision systems can't analyze that video fast enough to spot anomalies, it's a lot less valuable. New Intel Xeon processors deliver over double the video analytics performance of two generations ago, helping you deliver consistently high-quality products.

Secure the factory floor with more than padlocks

Smart factories have opened the door to efficiency, innovation, cost savings...and security vulnerabilities. When a breach could bring production to a halt or reveal your trade secrets to the world, you can't afford not to invest in security. New Intel Xeon processors offer the most comprehensive Confidential Computing portfolio in the industry, including application isolation with Intel SGX, VM isolation with Intel TDX, and independent verification services with Intel Trust Authority.

intel.

Enhance productivity from assembly line to shipping

Up to 9.9x higher BERT-Large performance[3]

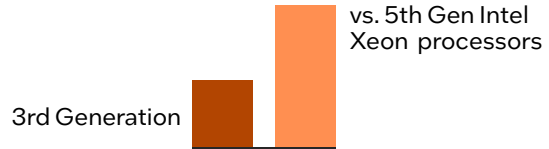5th Gen Intel® Xeon® processors

vs. 3rd Generation

With artificial intelligence (AI) applications powered by natural language processing (NLP) models such as BERT, engineers and managers can diagnose equipment issues, ask detailed inventory questions, and gather metrics faster. Grow your smart manufacturing capabilities even further with high performance from new Intel Xeon processors.

Optimize products and processes from concept to shipment

Up to 2.14x higher average HPC performance[4]

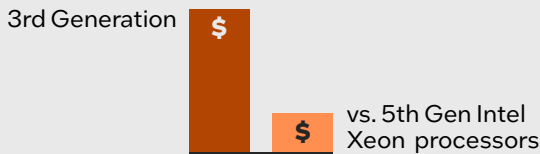vs. 5th Gen Intel Xeon processors

3rd Generation

With fast technologies powering your high-performance computing (HPC) and AI applications, you can gain more effective product prototyping and optimization, real-time troubleshooting of equipment malfunctions, and intelligent mapping and control of component interactions. Take full advantage of those opportunities with faster HPC performance from new Intel Xeon processors.

Keep your margins high

Up to 72% TCO savings running DLRM workload[5]

3rd Generation
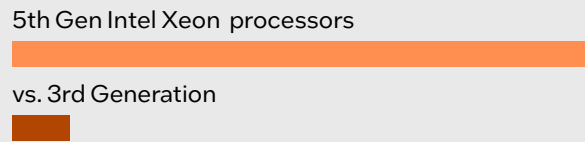
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$ vs. 5th Gen Intel Xeon processors

With the prices of many raw materials rising, it's more important than ever to control costs where you can. Even while running compute-intensive AI workloads, new Intel Xeon processors can save you money. Plus, they're powerful enough that you can utilize the same systems for both AI and other business-critical workloads.

Cut costs and speak to sustainability-conscious customers

Up to 10x higher performance per watt[6]

5th Gen Intel Xeon processors

vs. 3rd Generation

Manufacturers are expanding sustainability efforts on the factory floor, incorporating green design and optimizing processes to reduce scope 1 emissions, cut costs, and address demands for more sustainable products from both consumers and regulators. At the edge and in the data center, new Intel Xeon processors can handle heavier workloads while using less energy.

To learn more, visit Intel.com/Manufacturing.

1. See [H7] at intel.com/processorclaims: 5th Gen Intel Xeon processors. Results may vary.
2. See [E6] at intel.com/processorclaims: 5th Gen Intel Xeon processors. Results may vary.
3. See [A19] at intel.com/processorclaims: 5th Gen Intel Xeon processors. Results may vary.
4. See [H1] at intel.com/processorclaims: 5th Gen Intel Xeon processors. Results may vary.
5. See [T12] at intel.com/processorclaims: 5th Gen Intel Xeon processors. Results may vary.
6. See [A21] at intel.com/processorclaims: 5th Gen Intel Xeon processors. Results may vary.