Power your workdays with longer battery life and better performance

In our battery life and performance tests, a Dell Pro 14 Plus powered by an Intel® Core™ Ultra 5 235U processor outperformed 2022 and 2023 Latitude laptops

In the past, many savvy laptop buyers would refresh their devices every 3 to 5 years and even consider previous-gen models at upgrade time. This report shows the productivity benefits you could miss with these strategies.

Our hands-on testing shows that a Dell™ Pro 14 Plus AI PC powered by an Intel® Core™ Ultra 5 235U processor with Intel vPro® received significantly higher scores in general and on-device AI performance benchmarks versus Intel® Core™ i5 processor-powered Dell Latitude™ 5440 and 7430 laptops. Plus, the Dell Pro 14 Plus lasted almost three hours longer unplugged than its 2022 and 2023 predecessors.

Serious business landscape changes are on the way.[1] Intel® Core™ Ultra 5 235U processors contain a built-in neural processing unit (NPU), which complements the central and graphics processing units (CPU and GPU). Having cutting-edge technology at everyone's fingertips will help your organization be better prepared for what's coming.

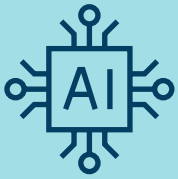
*Based on MobileMark® 30 battery life benchmark results.
† Based on 3DMark® Steel Nomad GPU benchmark results.
†† Based on Geekbench AI CPU (Half Precision) benchmark results.

Make anywhere a more productive workspace

with a full workday's worth of battery life and up to 58.64% better energy efficiency*

Accelerate GPU-intensive tasks

with up to 3.3x better graphics performance†



Reduce wait times while keeping data private

with up to 4.7x the on-device AI performance††

How we tested

To determine the benefits of investing in new Dell Pro 14 Plus laptops powered by Intel® Core™ Ultra 5 235U processors, we compared a new Dell Pro 14 Plus AI PC's performance and battery life to those of similarly configured two- and three-year-old Latitude laptops, with each running Windows 11 Pro:

Dell Pro 14 Plus AI PC (2025)

- Intel® Core Ultra™ 5 235U processor with Intel vPro®
- Intel® Arc™ Graphics
- 16 GB of LPDDR-5x memory
- 256 GB of NVMe® storage
- 55-Whr battery

Dell Latitude 5440 laptop (2023)

- Intel® Core™ i5-1345U processor with Intel vPro®
- Intel® Iris® Xe graphics
- 16 GB of DDR-4 memory
- 256 GB of NVMe storage
- 54-Whr battery

Dell Latitude 7430 laptop (2022)

- Intel® Core™ i5-1245U processor with Intel vPro®
- Intel® Iris® Xe graphics
- 16 GB of DDR-4 memory
- 512 GB of NVMe storage
- 58-Whr battery

To assess general and on-device AI performance, we set the Windows power mode to "best performance" and ran these benchmarks:

- 3DMark Steel Nomad
- Cinebench 2024
- CrossMark®
- Geekbench AI
- Procyon® AI Computer Vision Benchmark
- Procyon AI Image Generation Benchmark
- Procyon AI Text Generation Benchmark
- Procyon Office Productivity Benchmark
- Procyon Photo Editing Benchmark
- Procyon Video Editing Benchmark
- PugetBench for Creators

For real-world battery life testing, we set the Windows power mode to "Best battery life" on all the laptops and conducted unplugged tests from multiple perspectives. First, we measured office productivity and system efficiency metrics with MobileMark 30 and Procyon Battery Life Benchmark tools. Then, we determined how long each laptop would run a Microsoft Teams video call for nine participants while unplugged.

The results we report reflect the specific configurations we tested. Any difference in the configurations you test, as well as screen brightness, network traffic, or software additions, can affect these results. For a deeper dive into our testing parameters and procedures, see the science behind the report.

About the Dell Pro 14 Plus

This mainstream business laptop is lightweight and slim, with "an aluminum top cover and palmrest for an elegant look and feel, as well as added protection wherever you go."[2] With Windows 11 Pro, which offers "more security, more performance, more success,"[3] this AI PC also includes built-in technologies to better support your business goals and objectives:

Windows Copilot key: The button unlocks your own personal AI assistant, so you can "get real answers, inspiration, and solutions."[4]

Clearer video calls: The 5MP camera (optional) features high dynamic range (HDR) technology, which "accurately captures image detail, even in challenging lighting conditions."[5]

Sustainability: This ENERGY STAR® laptop, with its improved twist and impact resistance as well as a modular USB-C port (attached to the motherboard by screws instead of solder), "meets the best-in-class standards for energy use and repair."[6]

Simplified IT: Use ProDeploy for ready-to-use laptops on day one, improve cyber resilience with Dell Trusted Workspace, and use Microsoft Intune to manage your fleet over the cloud.[7]

Remote management: The Intel vPro® platform also enables IT teams to monitor for threats and maintain their fleet on their schedule.[8]

Multilayered security: Intel vPro® Security helps "defend against modern threats at each layer: hardware, BIOS/firmware, hypervisor, VMs, OS, and applications."[9] The Intel® Threat Detection Technology (Intel® TDT) tool leverages AI power to detect and monitor threats.[10] The Dell Pro 14 Plus we tested was powered by an Intel® Core™ Ultra 5 235U processor with Intel vPro®. This processor is built on integrated CPU, GPU, and NPU architectures. The CPU architecture has two performance-cores and eight low power efficient-cores. The GPU architecture has four Xe-cores and supports up to four displays. The NPU architecture (Intel® AI Boost) supports OpenVINO™, WindowsML, DirectML, ONNX RT, and WebGPU AI software. Learn more at: https://www.intel.com/content/www/us/en/products/sku/241862/intel-core-ultra-5-processor-235u-12m-cache-up-to-4-90-ghz/specifications.html.

Note: The graphs in this report use different scales. Please be mindful of each graph's data range as you compare.

Jumpstart productivity

In January 2025, Dell Technologies introduced the Dell Pro line of AI PCs, which focus on AI integration, performance, long battery life, durability, and sustainability.[11] But how much of an improvement can you expect by upgrading from Latitude laptops that you recently bought to Dell Pro 14 Plus AI PCs with cutting-edge NPU architecture? The following results paint a compelling picture.

Make anywhere a more productive workspace

Having a long-lasting battery is essential for uninterrupted focus and collaboration. Additionally, investing in a more energy-efficient fleet can help your organization better support its ongoing sustainability goals. MobileMark 30 uses real-world applications to measure battery life in office productivity scenarios.[12] Power efficiency is the ratio of the useful output energy to the total input energy consumed. Higher minutes per watt-hour (Whr) scores point to better energy efficiency. In addition to gauging battery life, MobileMark 30 also calculates DC performance and creates an Index score, which considers DC performance and battery life results.[13] Higher Index scores reveal a better performance and battery life balance. Lower scores indicate that performance suffered in pursuit of longer battery life.

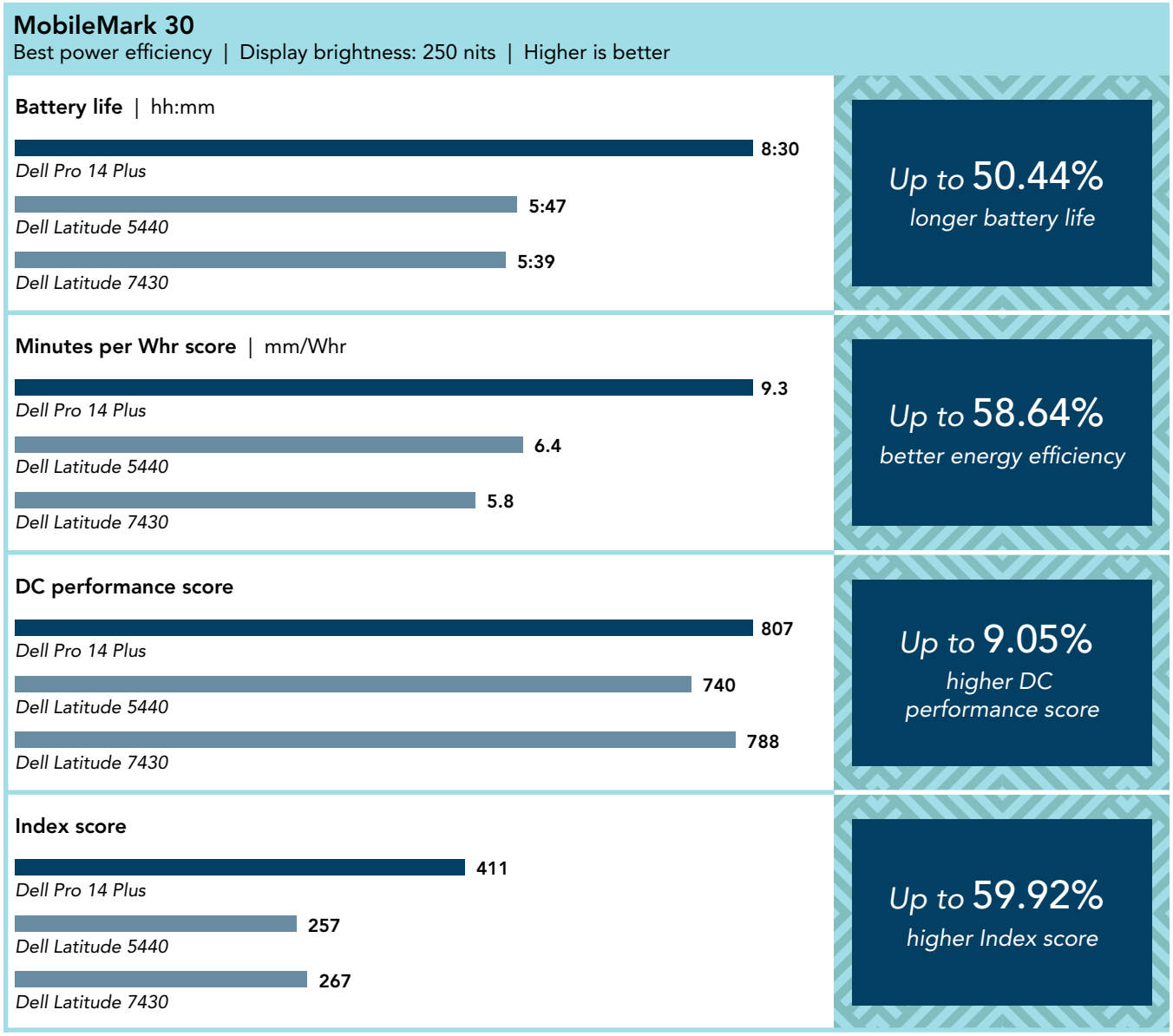


Figure 1: MobileMark 30 benchmark results. Source: PT.

Procyon Battery Life Benchmark measures battery life in real-world scenarios. For this comparison, we ran the office productivity scenario, which uses Microsoft 365 applications to simulate a typical workday use case.[14]

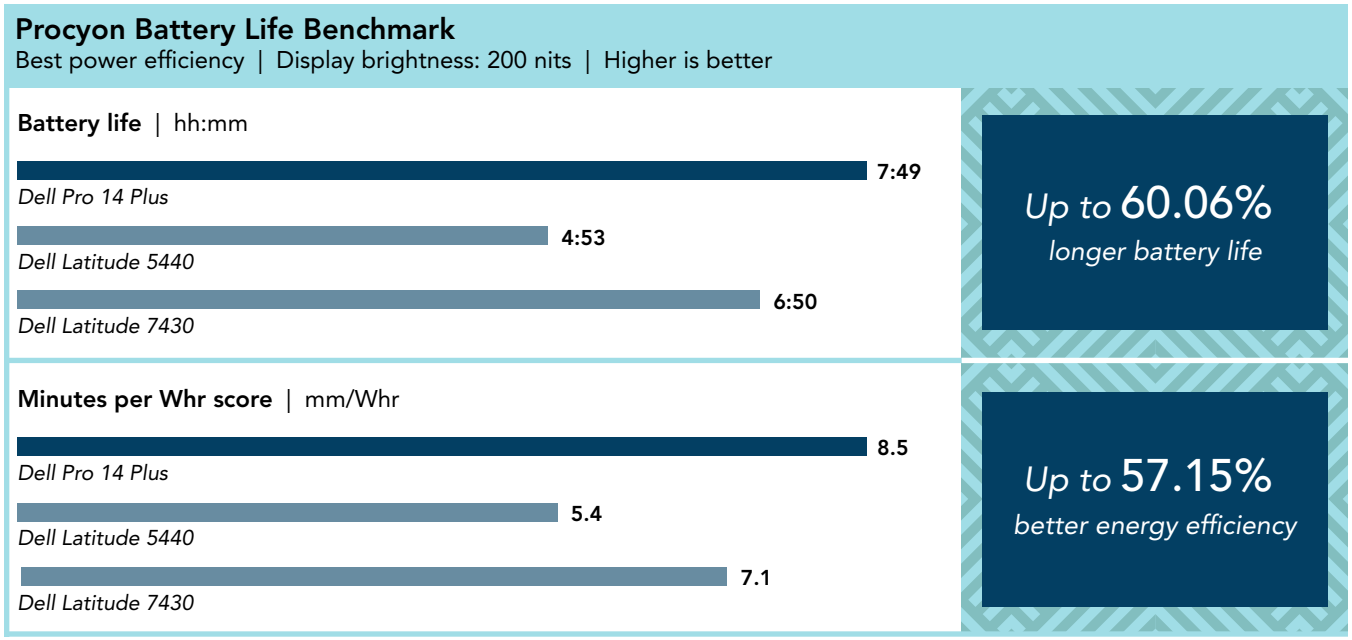


Figure 2: Procyon Battery Life Benchmark results. Source: PT.

For our video-conferencing battery life assessment, we set up a Microsoft Teams meeting with nine participants and measured how long the laptops' batteries lasted.

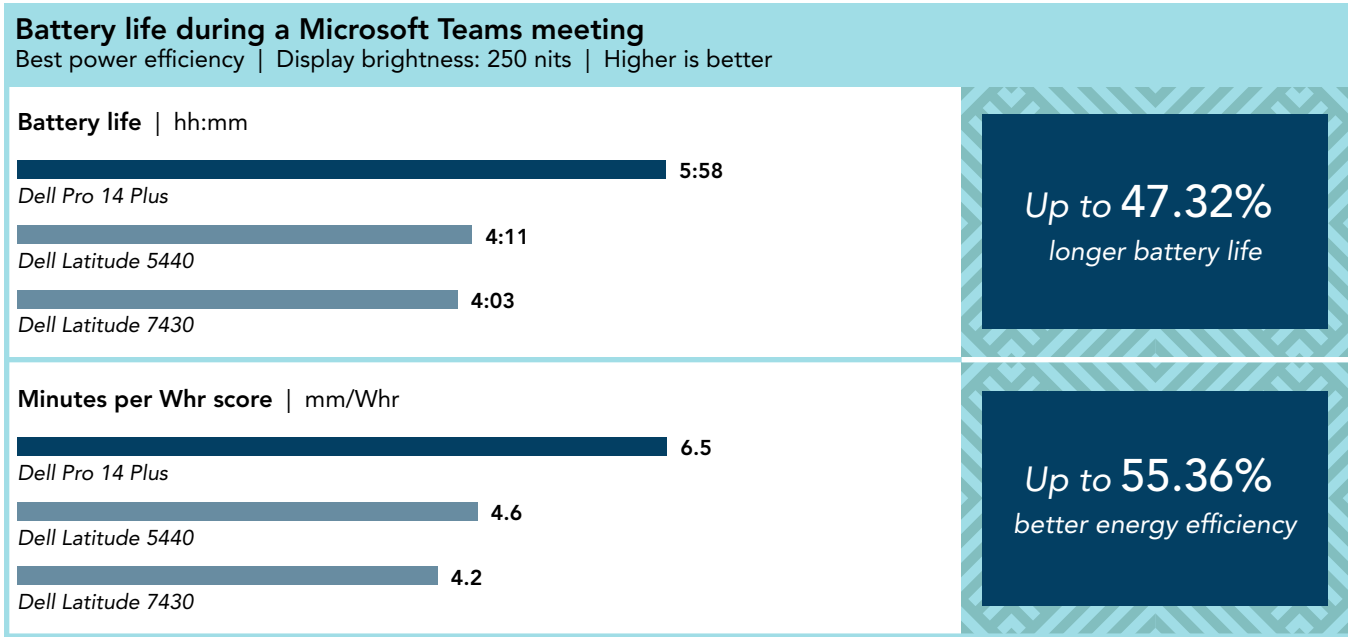


Figure 3: Battery life during a Microsoft Teams meeting with nine participants. Source: PT.

Providing a full workday's worth of battery life in productivity-based scenarios and longer battery life in processor-intensive scenarios is a great way to set up your teams for success.

Speed day-to-day tasks

We ran a comprehensive series of general performance tests—including content creation benchmarks—to represent a wide swath of business users and existing and emerging use cases. Content creation tasks are resource-intensive energy hogs, so they provide some insight into how your fleet could handle emerging CPU- and GPU-intensive workloads that don't have established benchmarks yet. Our results show that the Intel® Core™ Ultra 5 235U processor-powered Dell Pro 14 Plus AI PC delivered meaningful performance improvements—especially in the area of graphics performance.

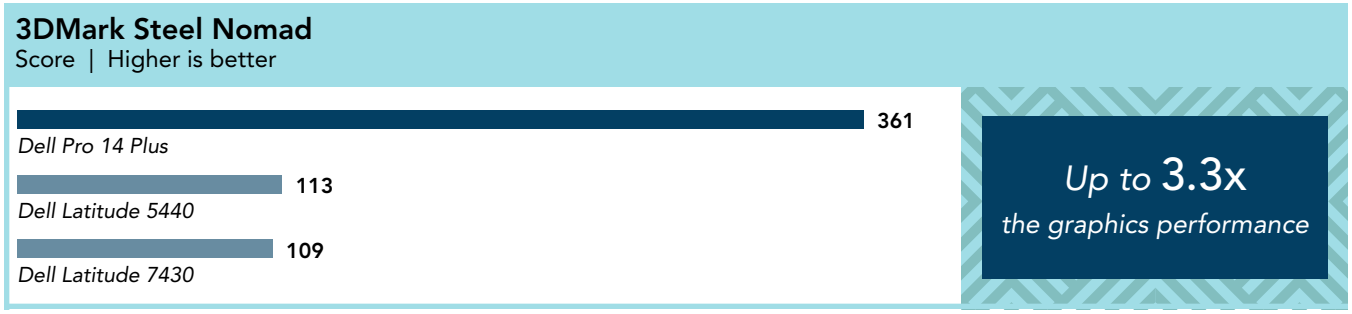


Figure 4: 3DMark Steel Nomad measures GPU performance. This content creation benchmark pushes the limits of graphics hardware by running a native 4K resolution render.[15] Source: PT.

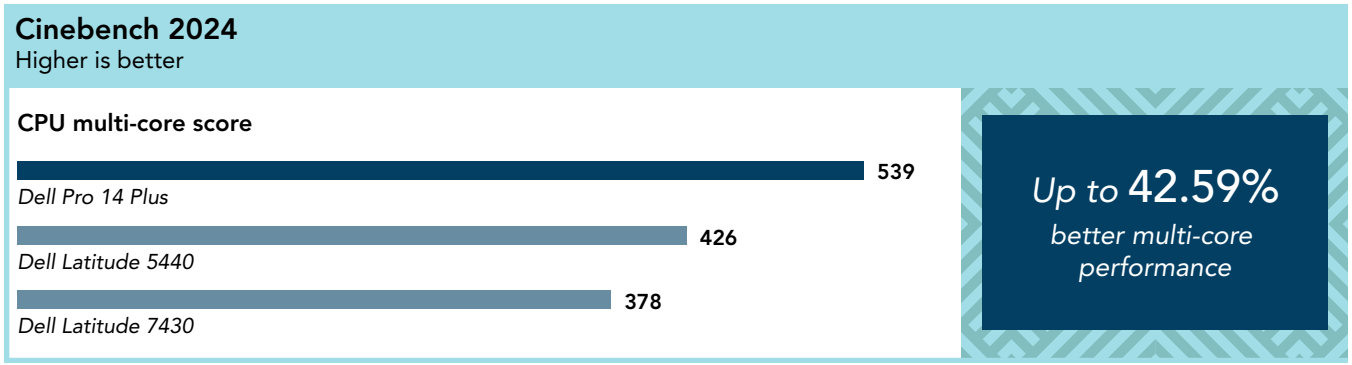


Figure 5: Cinebench 2024 measures CPU performance. This content creation benchmark utilizes Redshift for Cinema 4D to evaluate processor capabilities by rendering a 3D scene.[16] Source: PT.

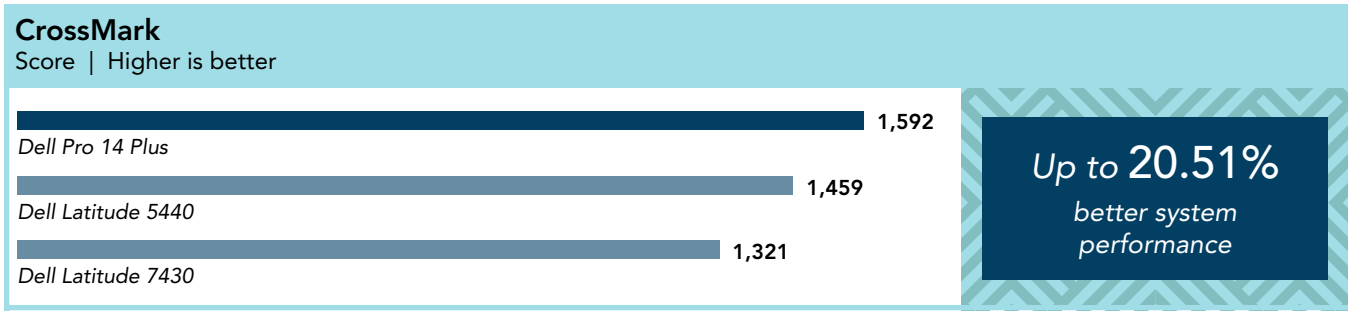


Figure 6: CrossMark measures overall system performance and system responsiveness. This general performance benchmark stresses system hardware by using models of real-world applications.[17] Source: PT.

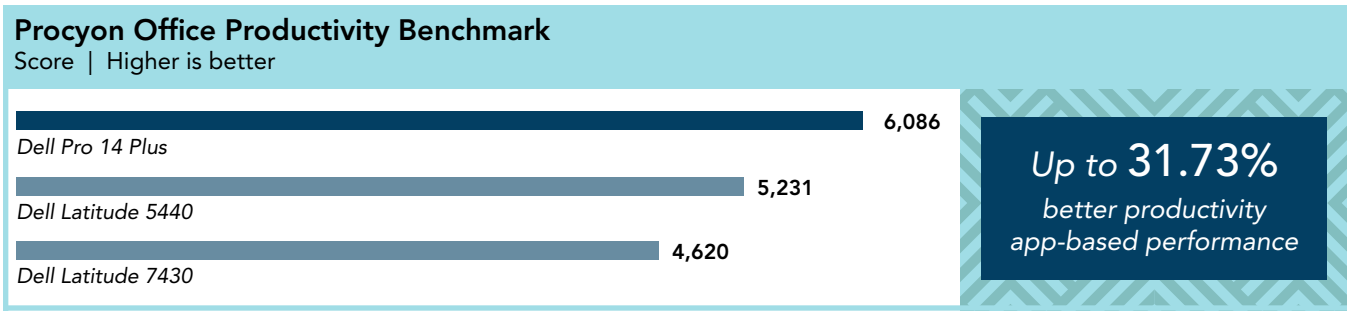


Figure 7: Procyon Office Productivity Benchmark measures CPU performance around common office productivity tasks. This general performance benchmark mimics a typical day at the office—even leaving Microsoft 365 apps "running in the background as the focus moves form one task to another."[18] Source: PT.

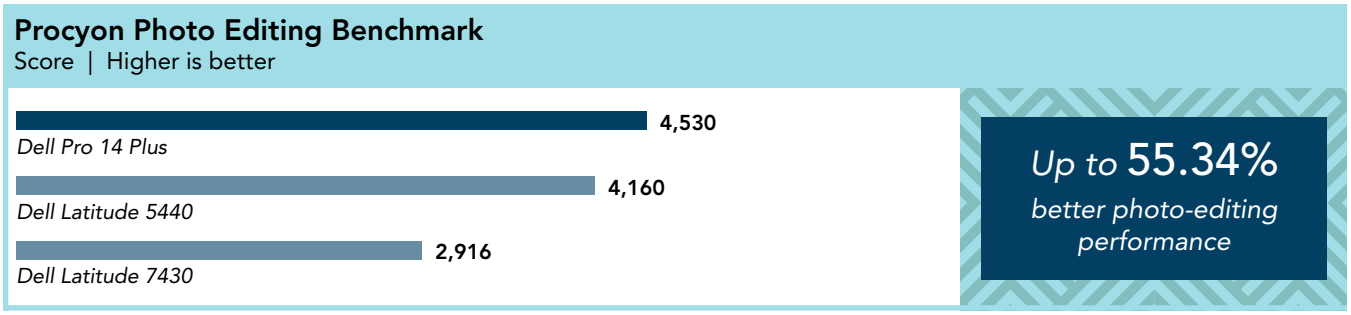


Figure 8: Procyon Photo Editing Benchmark measures CPU performance. This content creation benchmark uses Adobe® Photoshop® and Lightroom® Classic applications to mimic a "typical photo editing workflow that includes batch processing and image retouching."[19] Source: PT.

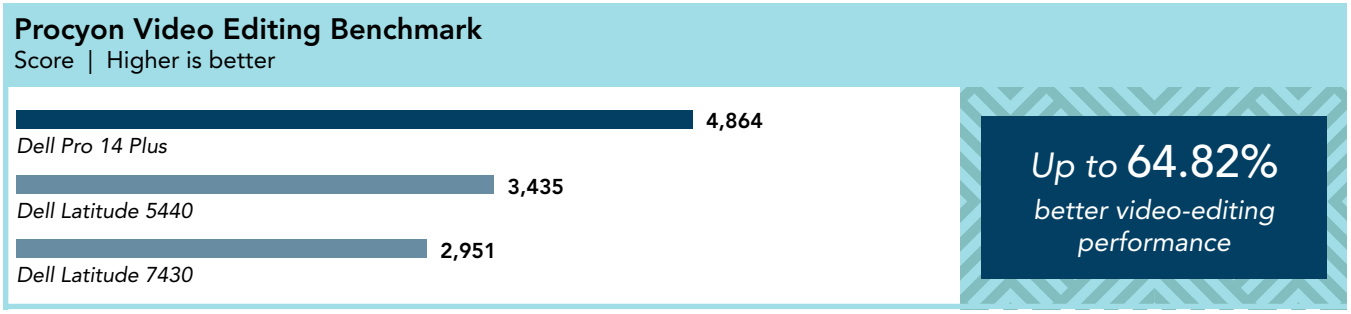


Figure 9: Procyon Video Editing Benchmark measures CPU and GPU performance. This content creation benchmark uses the Adobe Premiere® Pro application in a common video editing workflow that includes exporting video files.[20] Source: PT.

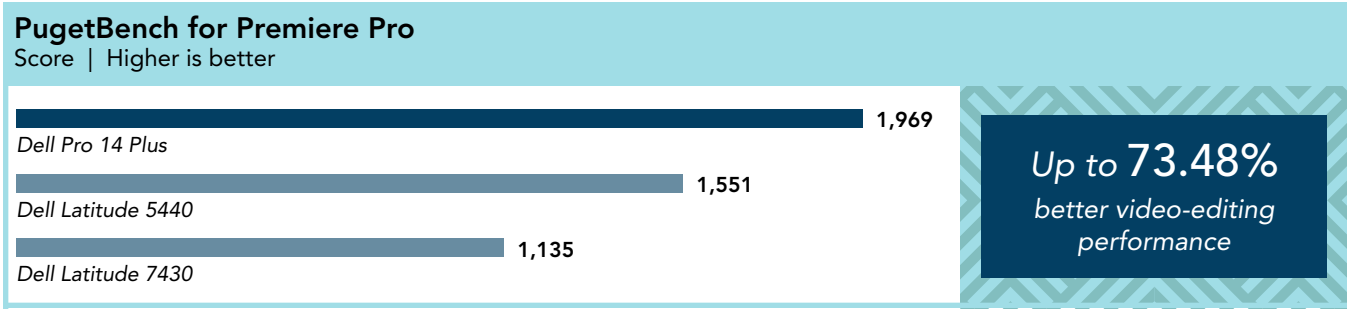


Figure 10: PugetBench for Premiere Pro measures CPU and GPU performance. This content creation benchmark uses the Adobe Creative Cloud® app in real-world workflows.[21] Source: PT.

An AI primer

AI is software that mimics human behavior, decision-making, or intelligence. Machine learning (ML) is a subset of AI. ML uses algorithms to learn from data and make decisions on patterns. Deep learning (DL) is a subset of ML that uses neural networks to learn from data and interactions. GenAI is a type of DL that produces context (text, image, video) based on input and training. Small and large language models (SLMs and LLMs) are trained on text data to process, understand, and generate natural language. In addition to powering customer service chatbots and virtual assistants, they can automate text-based tasks, such as email generation, document summarization, language translation, and customer data analysis.

For this analysis, we used benchmarks to measure both GenAI and LLM performance on the three Dell laptops under test:

GenAI apps can boost productivity in customer operations, research and development, sales and marketing, and software development.

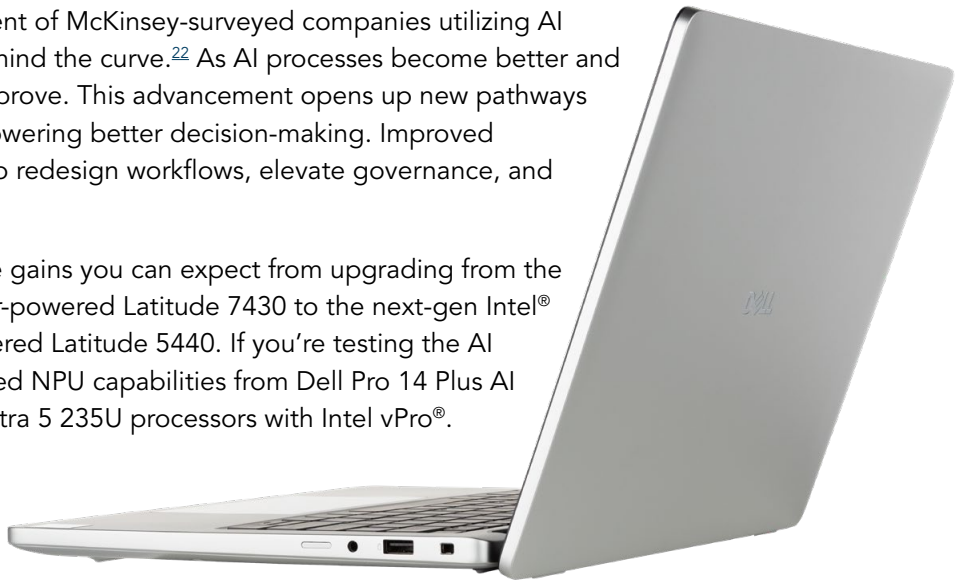
LLMs can help companies identify emerging trends, make informed and strategic decisions, and improve the customer experience.

Running AI on devices instead of in the cloud enables users to keep sensitive data local, which enhances your company's control of and security around that data. Secure local data access also has productivity advantages—users can access important information and complete assignments in areas with a limited or intermittent internet signal. Investing in laptops with better on-device AI system performance results means users can wait less when running AI locally.

Prepare for what's coming

If you're not one of the 78 percent of McKinsey-surveyed companies utilizing AI technologies in 2025, you're behind the curve.[22] As AI processes become better and more efficient, their datasets improve. This advancement opens up new pathways for innovation and discovery, powering better decision-making. Improved performance also enables you to redesign workflows, elevate governance, and better mitigate risks.

Notice the meager performance gains you can expect from upgrading from the Intel® Core™ i5-1245U processor-powered Latitude 7430 to the next-gen Intel® Core™ i5-1345U processor-powered Latitude 5440. If you're testing the AI waters, you really need the added NPU capabilities from Dell Pro 14 Plus AI PCs powered by Intel® Core™ Ultra 5 235U processors with Intel vPro®.



Enhance decision-making abilities

As always, the less time you and your teams have to wait for answers, the better. Utilizing effective LLMs and GenAI tools can also free up valuable time for more strategic and creative work.

Geekbench AI measures on-device AI performance using LLMs.[23] We chose to highlight the Half Precision scores because Half Precision (FP16) "provides a good balance between speed and accuracy."[24] In our testing, we used the Intel OpenVINO™ AI framework for these tests. For a deeper dive into our results, which include Single Precision (FP32), Half Precision (FP16), and Quantized (INT8) scores, go to the science behind the report.

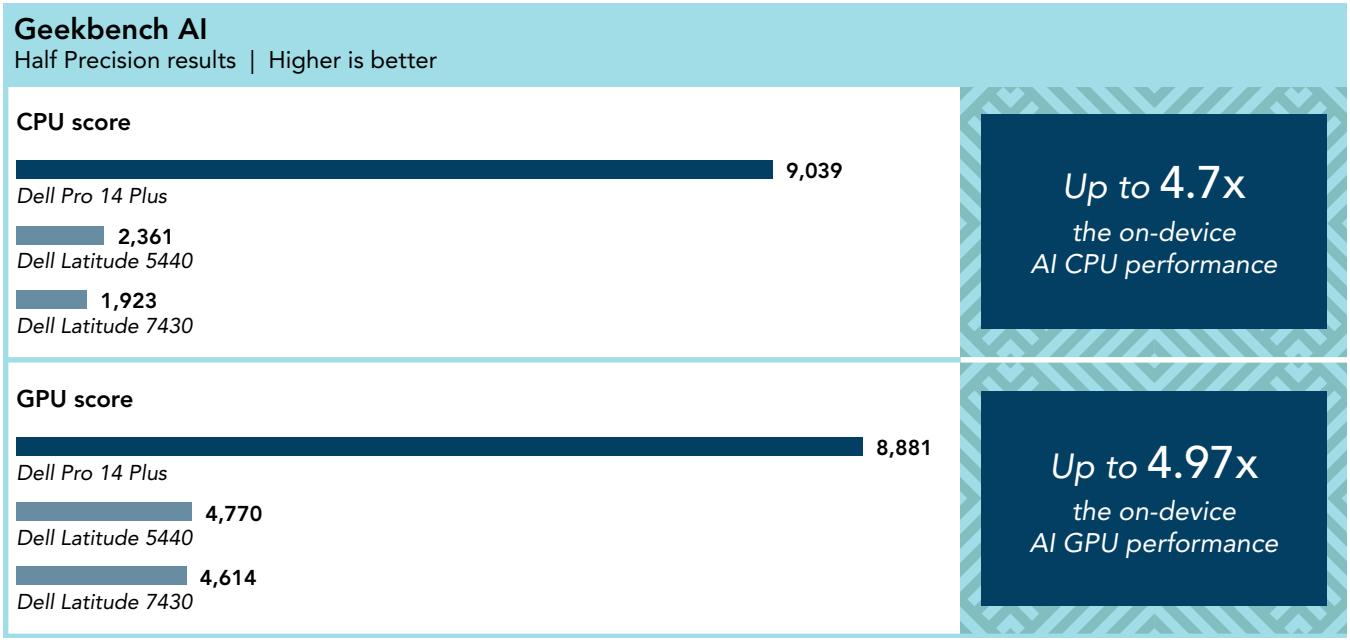


Figure 11: Geekbench AI benchmark results. Source: PT.

Speed image processing and recognition tasks

Whether you're using computer vision algorithms to process visual data at the edge, analyze 3D images, or classify images and objects, the faster the computer you're using accomplishes this task, the sooner you can move on to the next item on your to-do list.

Procyon AI Computer Vision Benchmark measures AI inference performance using different AI inference engines.[25] In our testing, we used the Intel OpenVINO™ toolkit. These are the inference engines and their use cases:

MobileNetV3, ResNet-50, and Inception-v4: Research institutions, tech companies, and individuals use these models for image recognition, object detection, and image classification tasks.[26,27,28]

YOLOv3: Video surveillance companies, healthcare providers, and manufacturers use this deep neural network (DNN) architecture to distinguish between different objects and features within images and videos.[29]

Real-ESRGAN: Digital artists, medical professionals, and real estate firms use this generator and discriminator network (GAN) architecture to enhance image quality and resolution.[30]

In the integer-optimized testing, we found that while the inference counts were highest on the Real-ESRGAN model—which is a super-resolution model that uses complex calculations to restore and improve existing media—[31] the Intel® Core™ Ultra 5 235U processor-powered Dell Pro 14 Plus also performed admirably across the board. For a deeper dive into all of our results, which include integer, float16, and float32 scores, go to the science behind the report.

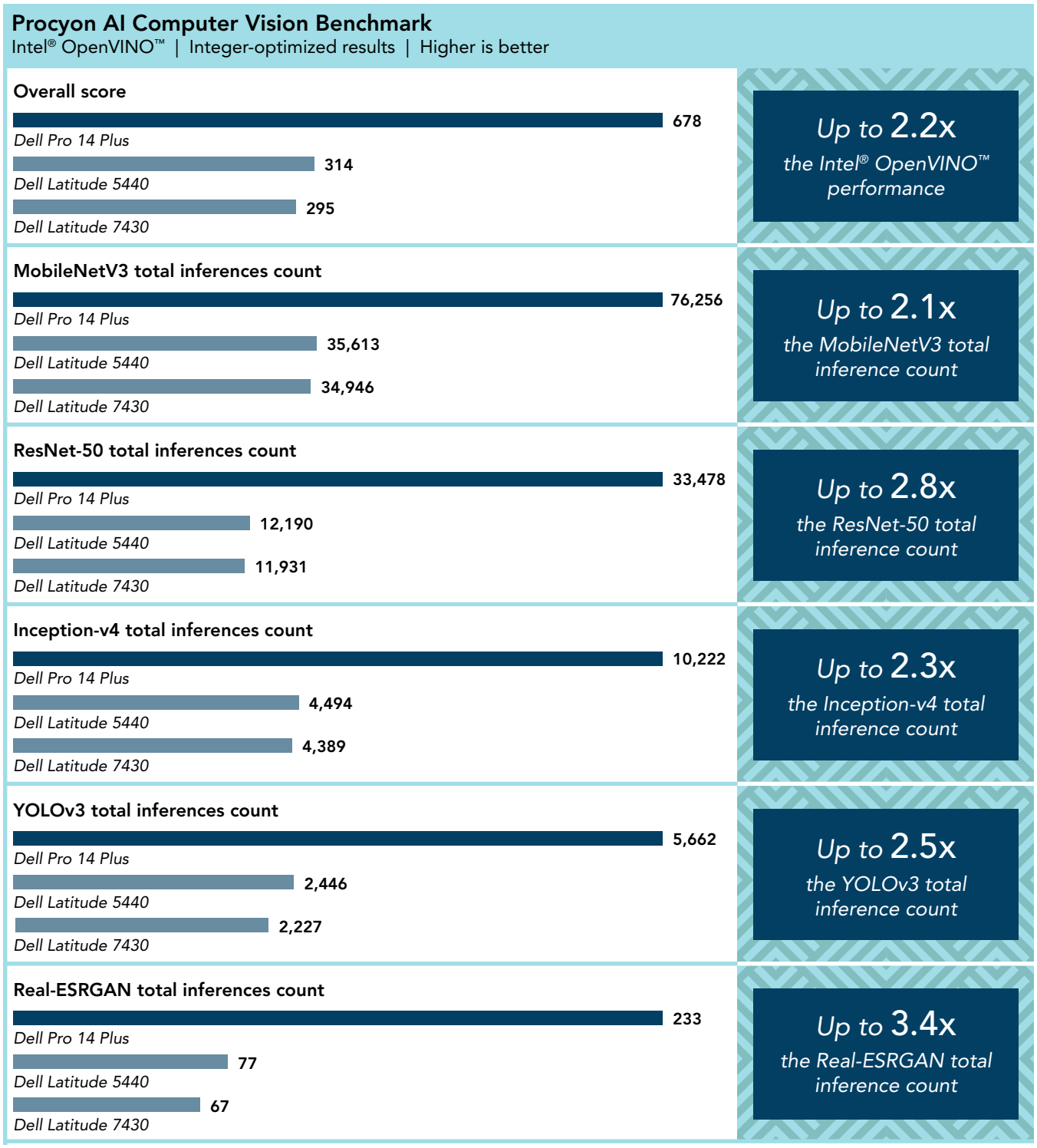


Figure 12: Procyon AI Computer Vision Benchmark results. Source: PT.

Reduce image and text generation wait times

Imagine your laptop users as skilled race car drivers, navigating complex tracks and making split-second decisions. The processor is the powerful engine under the hood, delivering speed and performance to keep the car—and the user's tasks—running smoothly. GenAI acts as the expert pit crew, ready to jump in at any moment with rapid support: optimizing strategies, providing quick insights, and fine-tuning operations so the driver can maintain peak performance and cross the finish line efficiently.

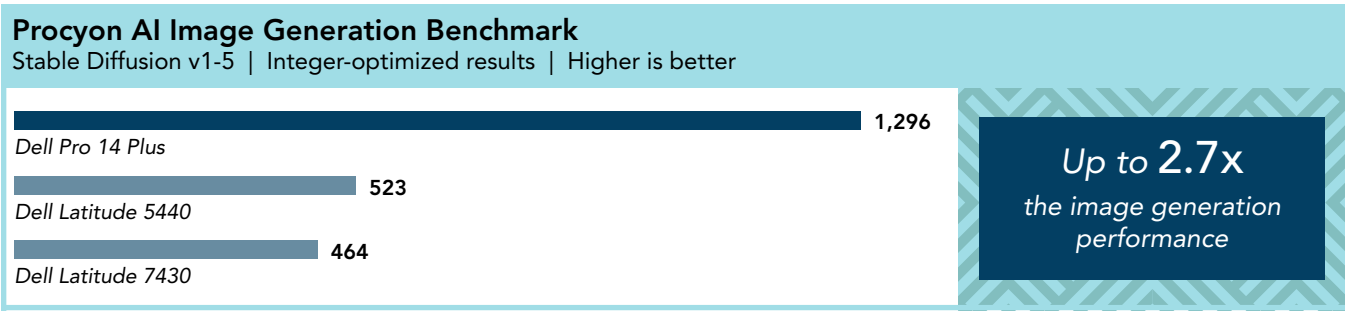


Figure 13: Procyon AI Image Generation Benchmark measures the inference performance of on-device AI accelerators.[32] Stable Diffusion v1-5 generates photo-realistic images from text prompts.[33] Source: PT.

In addition to scoring higher on the image generation benchmark, the Dell Pro 14 Plus powered by an Intel® Core™ Ultra 5 235U processor with Intel vPro® completed the image generation task in just over 3 minutes. The same task took almost 9 minutes on the 2022 Dell Latitude 7430 laptop powered by an Intel® Core™ i5-1245U processor with Intel vPro®. To check out the overall duration and image generation speed sub-scores, go to the science behind the report.

Procyon AI Text Generation Benchmark measures LLM performance.[34] These are the models and their use cases:

- **PHI 3.5:** This Microsoft SLM provides text summarization for researchers, code generation and assistance for developers, and multi-lingual translations for customer service chatbots.[35]
- **Mistral 7B:** This LLM converts text between languages, generates educational materials, automates data analysis, and aids code generation and analysis.[36]
- **Llama 3.1:** This LLM provides advanced reasoning and context for multilingual customer service agents and coding assistants.[37]

To check out the time to first token, output token speed, and load time results, go to the science behind the report.

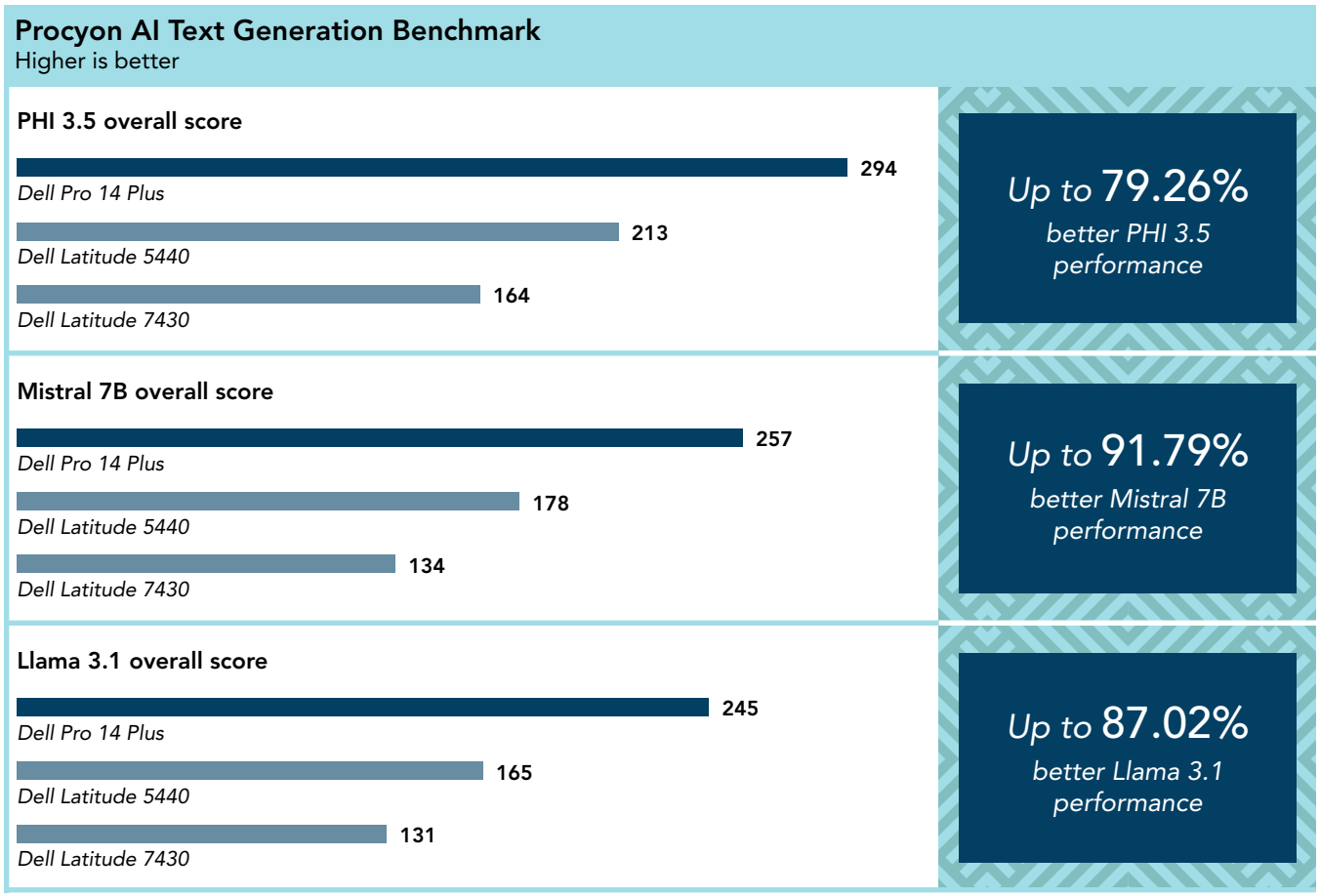


Figure 14: Procyon AI Text Generation Benchmark results. Source: PT.

Conclusion

In our hands-on testing, the Dell Pro 14 Plus AI PC, powered by an Intel® Core™ Ultra 5 235U processor with Intel vPro®, clearly outperformed its 2022 and 2023 Latitude predecessors across a wide range of benchmarks, delivering significant improvements in battery life, general performance, graphics capabilities, and on-device AI processing. With a full day's worth of battery life in productivity-based scenarios, this AI PC empowers professionals to work more efficiently and creatively without having to focus on finding an available outlet.

Its combination of cutting-edge hardware, enhanced energy efficiency, and built-in AI acceleration makes the Dell Pro 14 Plus powered by an Intel® Core™ Ultra 5 235U processor with Intel vPro® a strong choice for businesses preparing for the future.

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Read the science behind this report at https://facts.pt/24NLdKC ►

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For additional information, review the science behind this report.

This project was commissioned by Dell Technologies.