Dell Pro 14 Plus: Be better prepared for what's coming

Compared to its predecessors, a Dell Pro 14 Plus powered by an Intel® Core™ Ultra 5 236V processor can help users finish AI workflows faster, work unplugged longer, and more

In January, Dell Technologies introduced the Dell™ Pro line of AI PCs, which focus on AI integration, performance, long battery life, durability, and sustainability.[1] In the past, many savvy laptop buyers would refresh their devices every 3 – 5 years and even consider previous-gen models at upgrade time. But this report shows the benefits you could miss with both strategies.

Our hands-on testing shows that a Dell Pro 14 Plus AI PC powered by an Intel® Core™ Ultra 5 236V processor with Intel vPro® delivered improved general and on-device AI system performance versus Intel® Core™ i5 processor-powered Dell Latitude™ 5440 and 7430 laptops. Plus, the Dell Pro 14 Plus lasted up to 4 hours and 30 minutes longer unplugged than its 2022 and 2023 predecessors.

Serious changes in the business landscape are on the way.[2] Having cutting-edge technology at your fingertips will put your company at an advantage moving forward.

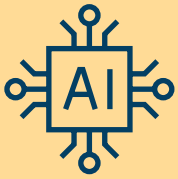
*Based on MobileMark 30 battery life benchmark results.
† Based on 3DMark Steel Nomad GPU benchmark results.
†† Based on Geekbench AI CPU (Half Precision) benchmark results.

Empower anywhere work

with over 10 hours of battery life and up to 73.23% better energy efficiency*

Finish GPU-hungry tasks in less time

with up to 5.1x the graphics performance†



Supercharge decision-making abilities

with up to 10.6x the on-device AI performance††

How we tested

To determine the benefits of investing in new Dell Pro 14 Plus laptops powered by the latest Intel® Core™ Ultra 5 236V 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, each running Windows 11 Pro:

Dell Pro 14 Plus AI PC (2025)

- Intel® Core™ Ultra 5 236V processor with Intel vPro®
- Intel® Arc™ Graphics
- 16 GB of LPDDR-5x memory
- 256 GB of NVMe storage
- 55-Whr battery

Dell Latitude 5440 (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 (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 system 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
- SYSmark® 30

We also set the Windows power mode to "best battery life" on all three laptops and conducted battery life tests from multiple perspectives. First, we measured battery life, office productivity, and system efficiency metrics with the 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."[3] With Windows 11 Pro, which offers "more security, more performance, more success,"[4] this AI PC also includes built-in innovation 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."[5]

Clearer video calls: The optional 5MP camera features high dynamic range (HDR) technology, which "accurately captures image detail, even in challenging lighting conditions."[6]

Sustainability: This ENERGY STAR® laptop, with its improved twist and impact resistance as well as a modular USB-C port, "meets the best-in-class standards for energy use and repair."[7]

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.[8]

Remote management: The Intel vPro® platform enables IT teams to monitor for threats and maintain their fleet on their schedule.[9]

Multilayered security: Intel vPro® Security helps "defend against modern threats at each layer: hardware, BIOS/firmware, hypervisor, VMs, OS, and applications."[10] The Intel® Threat Detection Technology (Intel® TDT) tool leverages AI power to detect and monitor threats.[11]

The Pro 14 Plus we tested was powered by an Intel® Core™ Ultra 5 236V processor with Intel vPro®. This processor is built on integrated CPU, GPU, and NPU architectures. The CPU architecture has four performance-cores and four low power efficient-cores. The GPU architecture has seven Xe-cores and ray-tracing capabilities. The NPU architecture (Intel® AI Boost) supports OpenVINO™, WindowsML, DirectML, ONNX RT, WebGPU, and WebNN AI software. Learn more at: https://www.intel.com/content/www/us/en/products/sku/240959/intel-core-ultra-5-processor-236v-8m-cache-up-to-4-70-ghz/specifications.html.

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

Improve productivity

For many professionals, productivity is reliant on a laptop that gives them what they need—long battery life to support marathon unplugged sessions and sufficient processing power to tackle whatever the day throws at them.

Empower anywhere work

Long battery life can be an important factor to productivity. If users don't need to be constantly on the lookout for an outlet, there's more time to focus on what's at hand. Plus, minimizing energy consumption can help your business support its long-term sustainability goals. MobileMark 30 uses real-world applications to measure battery life in office productivity scenarios. Higher minutes per watt-hour (Whr) scores point to better energy efficiency, which is the ratio of the useful output energy to the total input energy consumed. This benchmark also calculates DC performance and creates an Index score, which considers DC performance and battery life results.[12] Higher Index scores reveal a better performance and battery life balance. Lower scores indicate that performance suffered for the longer battery life.

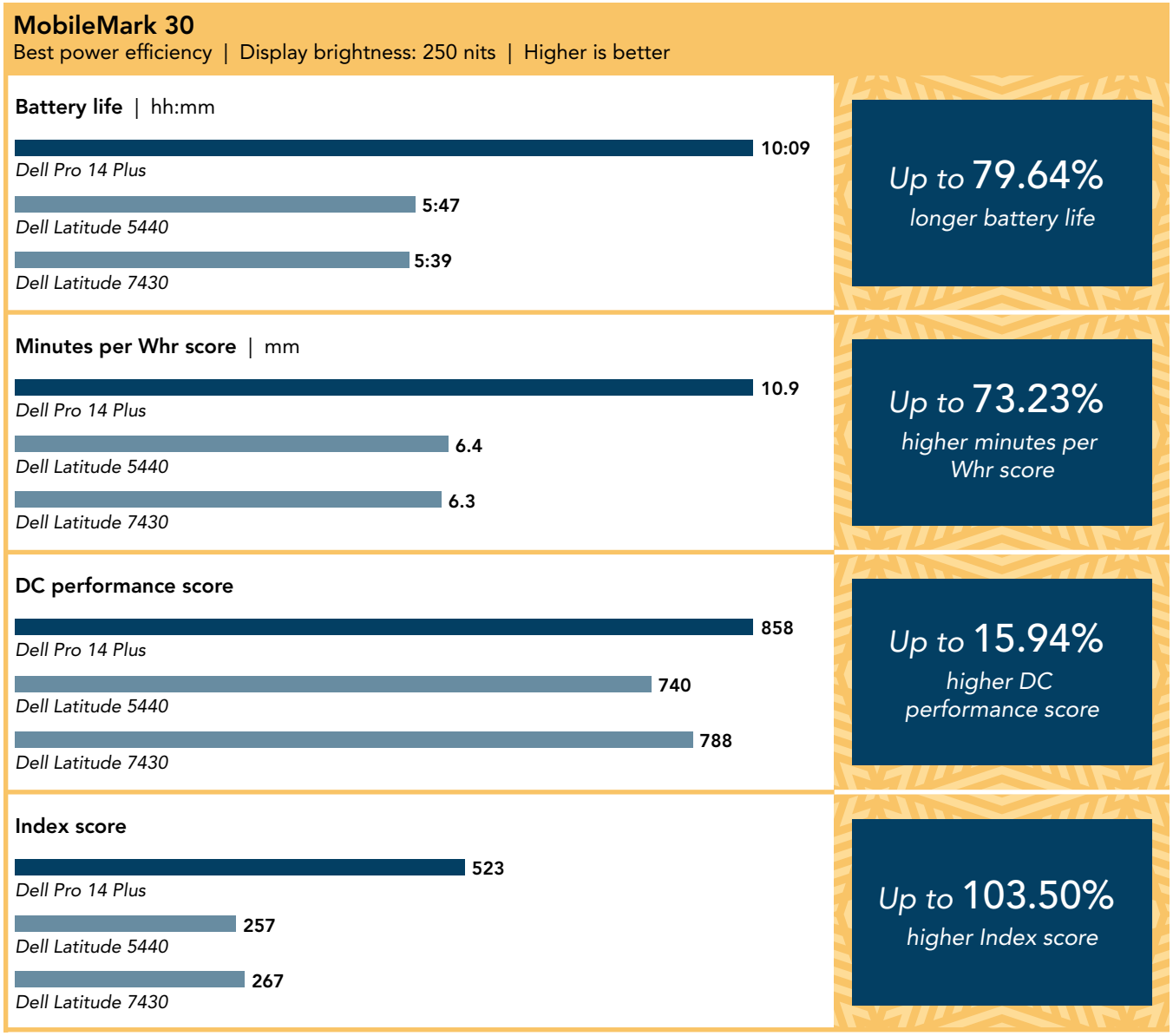


Figure 1: MobileMark 30 benchmark results. Source: PT.

Procyon Battery Life Benchmark measures battery life in real-world scenarios. For this comparison, we ran the office productivity scenario, which uses Microsoft Office applications to simulate a typical workday use case.[13]

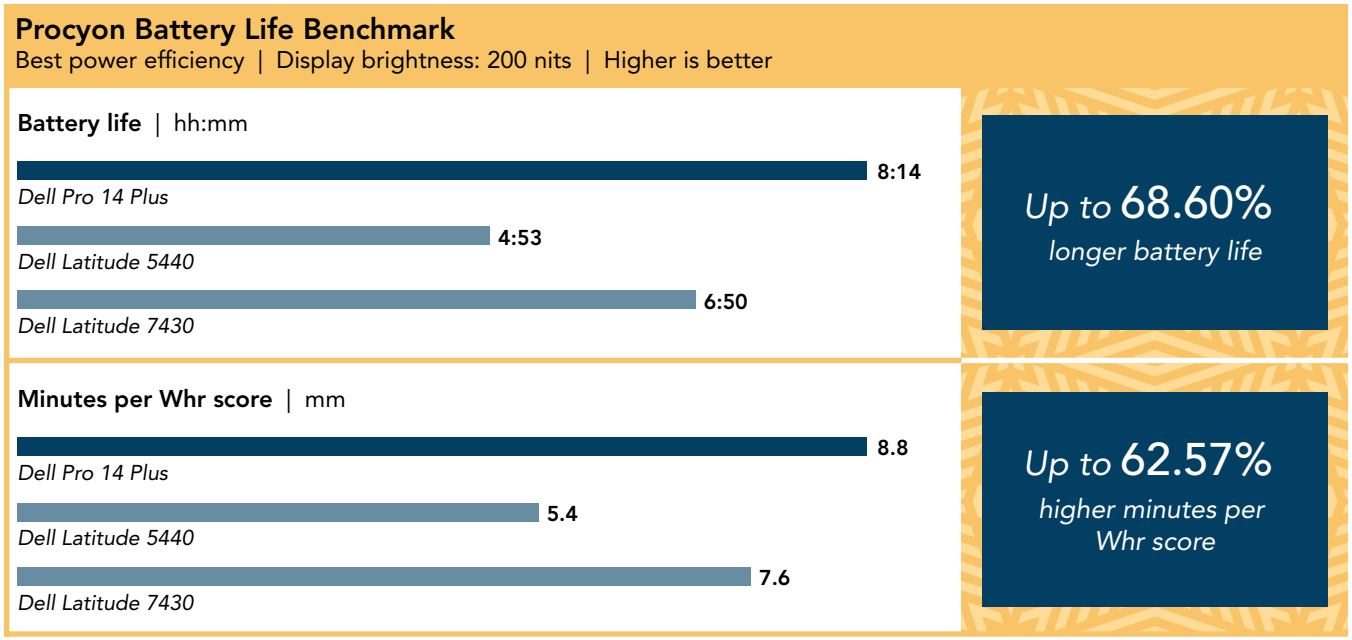


Figure 2: Procyon Battery Life Benchmark results. Source: PT.

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

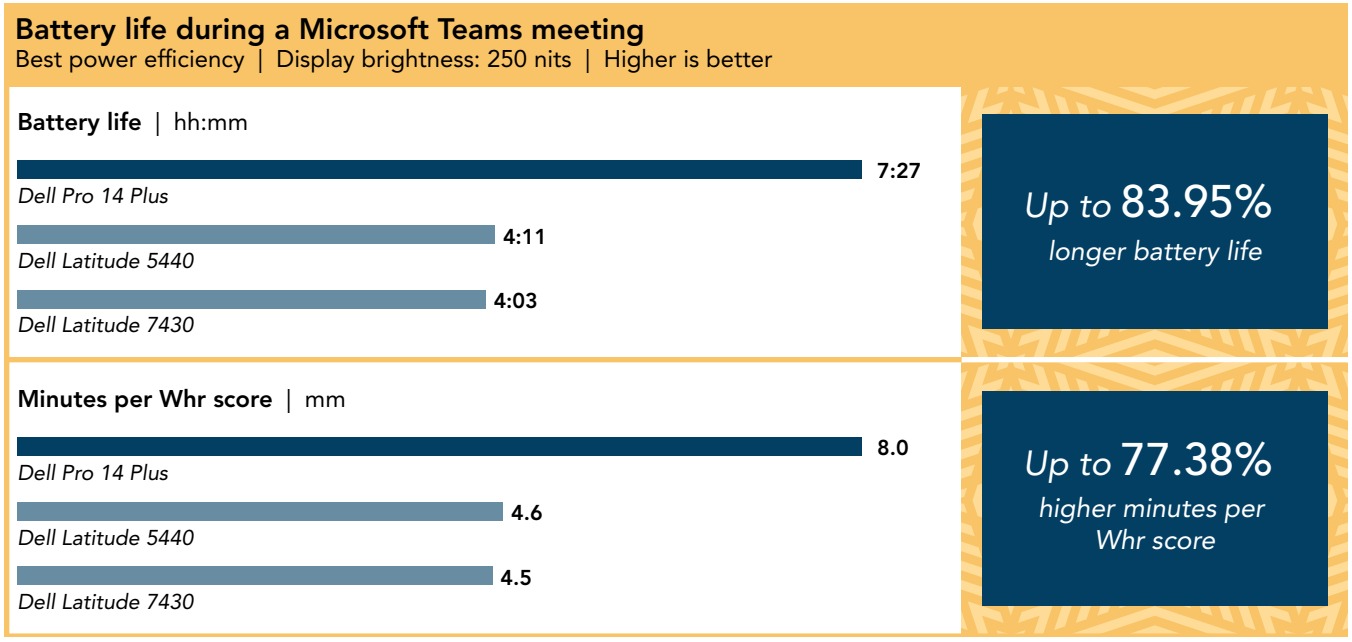


Figure 3: Battery life during a 3x3 Microsoft Teams meeting results. Source: PT.

If you want to set up your mobile users for success, providing them with all-day battery life in productivity-based scenarios and nearly all-day battery life in processor-intensive scenarios is a good beginning.

Speed day-to-day tasks

As modern applications get more complex and operating systems utilize more CPU and memory with multitasking and background processes, the hardware you invest in is more important than ever.

We ran a wide swath of tests—including content creation benchmarks—to represent as comprehensive a set of business users and existing and emerging use-cases as possible. Content creation tasks typically are very processor-intensive energy hogs, and having built-in NPU architecture and optimized software can free up valuable time, energy, and resources. Underperforming laptops in these areas can fuel frustration and decrease productivity. The more capable the laptops in your arsenal, the faster and more efficiently you and your teams can handle a changing landscape of demanding tasks and projects.

As you look through these results, note how little improvement upgrading to the 2023 model would give you. The big productivity wins are, across the board, from the latest-gen Dell Pro 14 Plus AI PC powered by an Intel® Core™ Ultra 5 236V processor with Intel vPro®.

Figure 4: 3DMark Steel Nomad measures GPU performance. This content creation benchmark pushes the limits of graphics hardware by running a native 4K render resolution.[14] Source: PT.

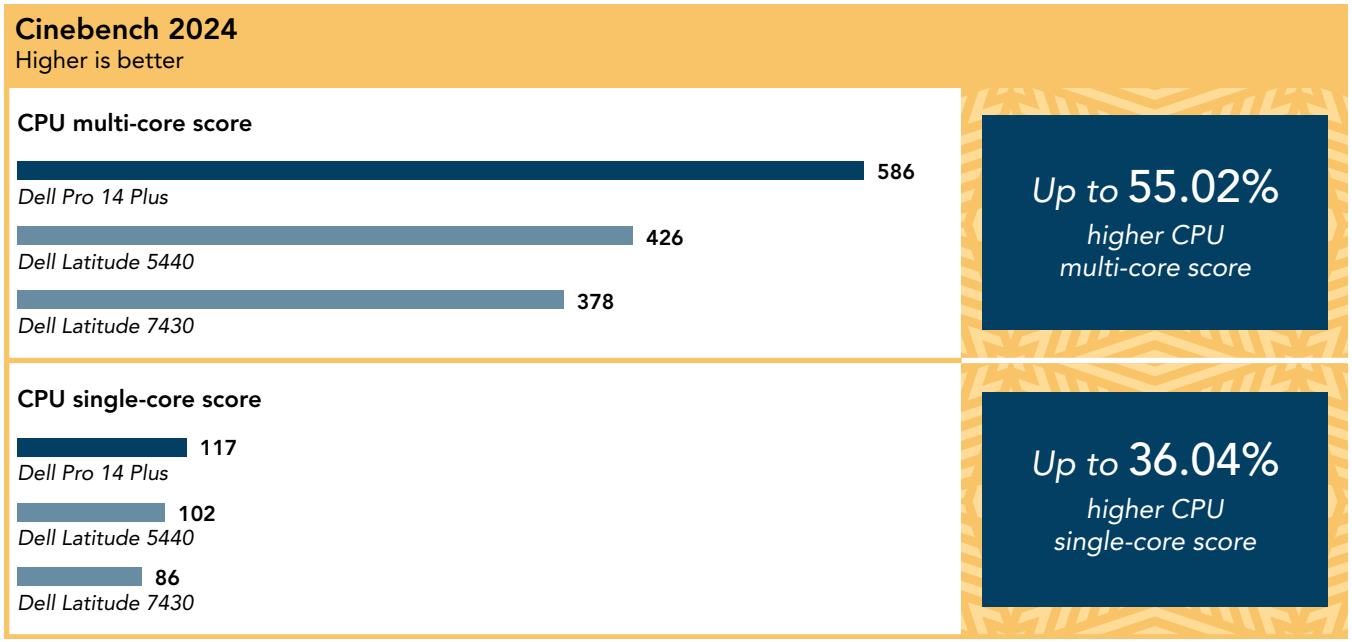


Figure 5: Cinebench 2024 measures CPU performance. This content creation benchmark utilizes Redshift for Cinema 4D, a processor-intensive 3D and video editing software, to evaluate processor capabilities by rendering a scene.[15] Source: PT.

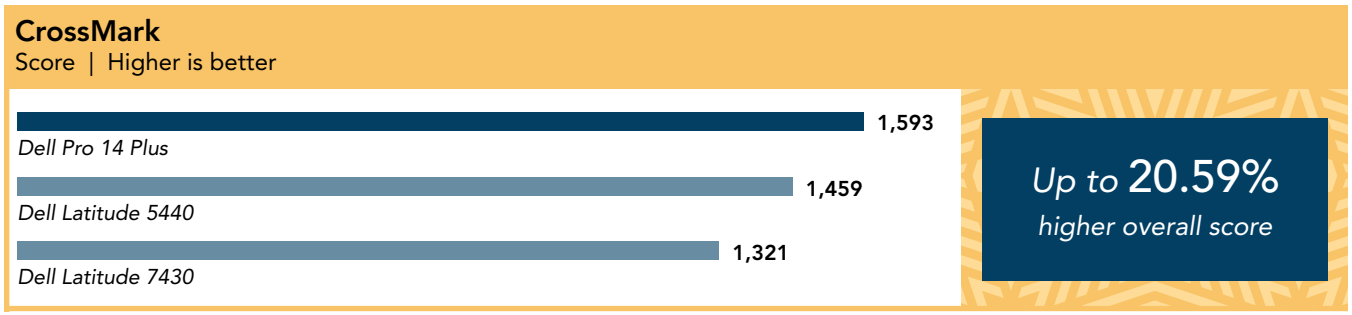


Figure 6: CrossMark measures overall system performance and system responsiveness. This general performance benchmark stresses system hardware by using models of real-world applications.[16] Source: PT.

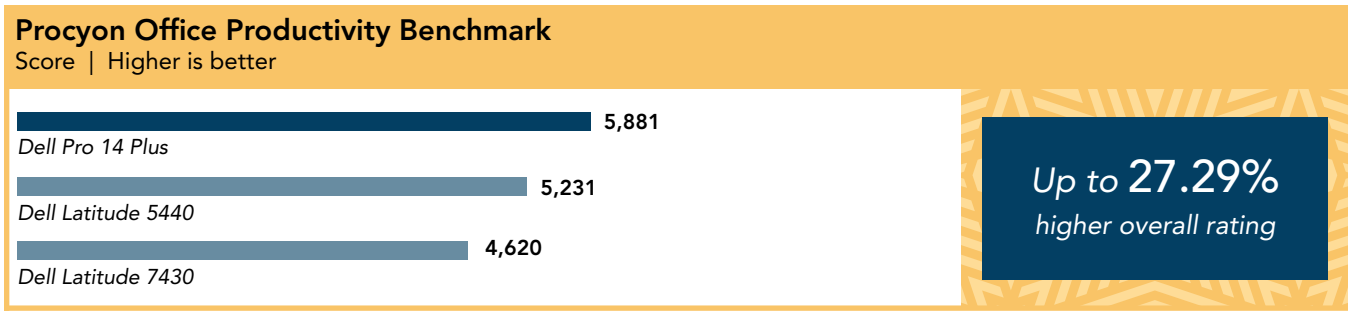


Figure 7: Procyon Office Productivity Benchmark measures CPU performance around common office productivity tasks. This general performance benchmark mimics a typical day at the office—even leaving Microsoft Office apps "running in the background as the focus moves from one task to another."[17] Source: PT.

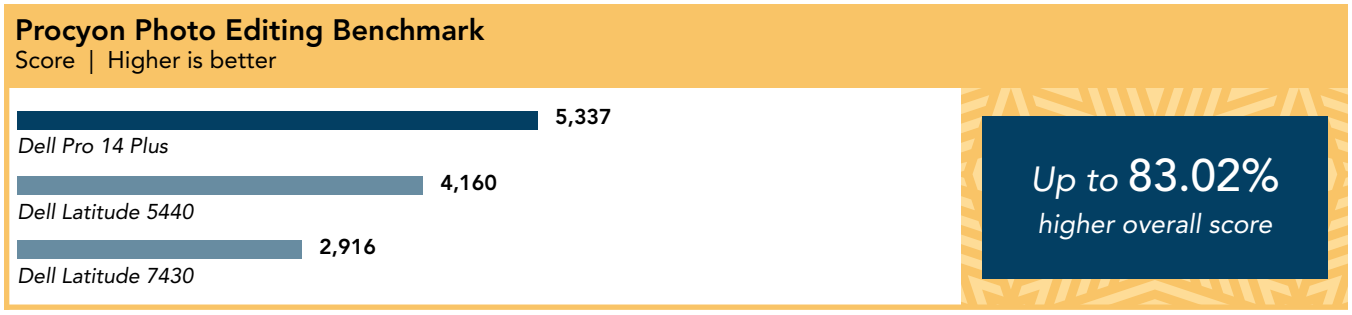


Figure 8: Procyon Photo Editing Benchmark measures CPU performance. This content creation benchmark uses Adobe® Photoshop® and Lightroom® Classic applications to mimic a "typical photo editing workflow that includes batch processing and image retouching."[18] Source: PT.

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.[19] Source: PT.

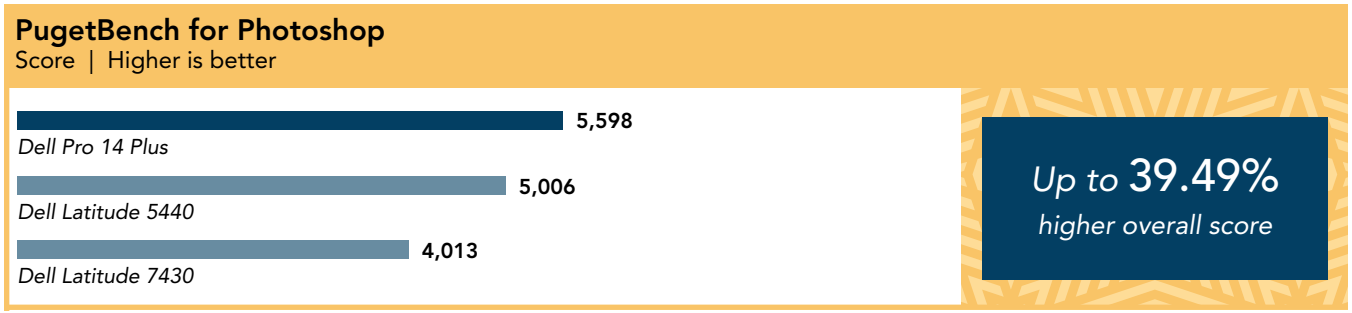


Figure 10: PugetBench for Photoshop measures CPU performance. This content creation benchmark uses the Adobe Creative Cloud app in real-world workflows.[20] Source: PT.

Figure 11: PugetBench for Photoshop measures CPU and GPU performance. This content creation benchmark uses the Adobe Creative Cloud app in real-world workflows.[21] Source: PT.

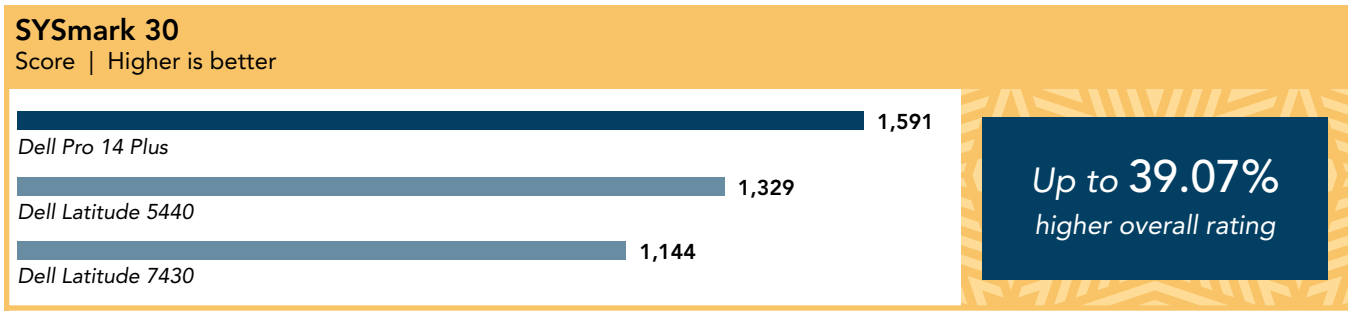


Figure 12: SYSmark 30 measures CPU performance. This general performance benchmark uses Microsoft 365 apps, real user workloads, and real data sets that reflect real-world user experience.[22] Source: PT.

An AI primer

Artificial intelligence (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 contains, among other things, generative AI (GenAI). DL 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 previous-gen and next-gen laptops:

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 on 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 limited or intermittent internet access. Investing in laptops with better on-device AI system performance results means users have to wait less when running AI locally.

Be ready for what's coming

AI business use and implementation is accelerating. In our tests, we looked at two types of on-device AI performance—GenAI and analytic AI using LLMs. This is important to you because, as these AI processes become better and more efficient, the datasets they produce are improving. More accurate data opens up new pathways for innovation and discovery and powers better decision-making. In addition to speeding analytical AI processes, improved performance enables you to redesign workflows, elevate governance, and better mitigate risks.

This is where you really begin to see how the built-in NPU (Intel® AI Boost) architecture in the Dell Pro 14 Plus reduces the load on the CPU and the GPU. Again, as you review these results, notice that upgrading from the 2022 device to the 2023 model won't get you the performance you need. If you're dipping your toe into AI or will across the next few years using these devices, you really need AI support from the latest-gen Dell Pro 14 Plus AI PC with its Intel® Core™ Ultra 5 236V processor 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 "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 includes Single Precision (FP32), Half Precision (FP16), and Quantized (Int8) scores, go to the science behind the report.

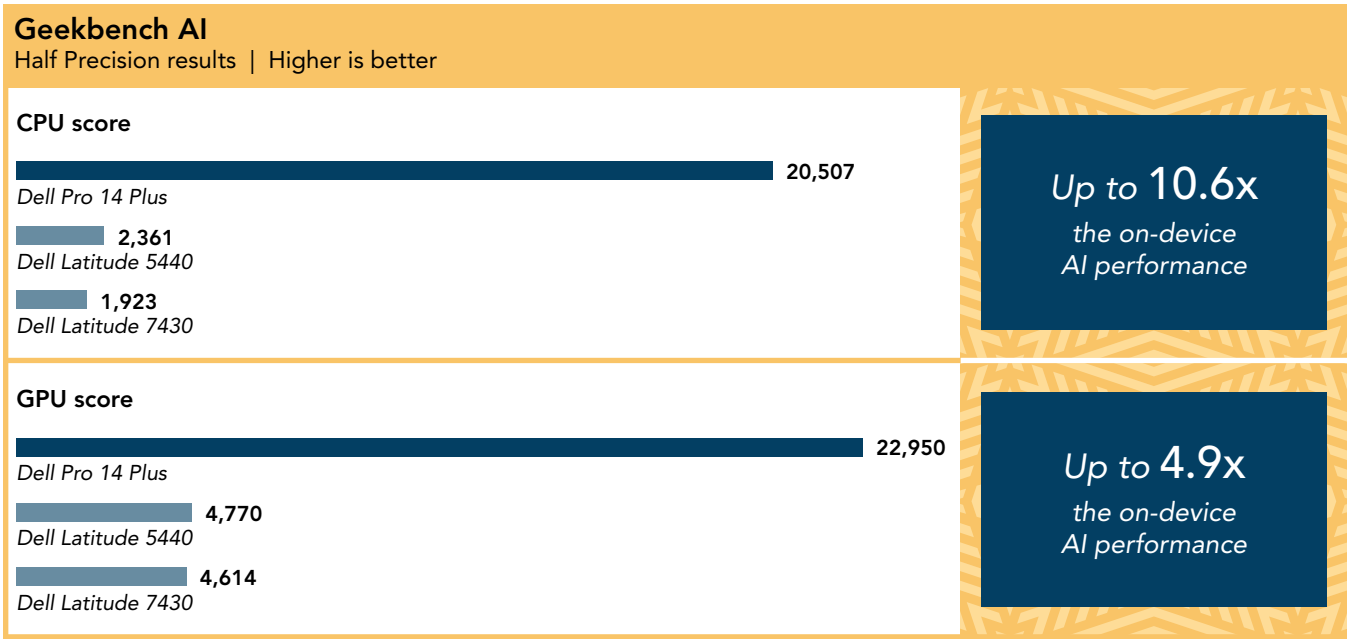


Figure 13: Benchmark results. Source: PT.

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]

DeepLabv3 and YOLOv3: Video surveillance companies, healthcare providers, and manufacturers use these deep neural network (DNN) architectures to distinguish between different objects and features within images and videos.[29,30]

Real-ESRGAN: Digital artists, medical professionals, and real estate firms use this Generative Adversarial Network (GAN) architecture to enhance image quality and resolution.[31]

In the integer-optimized testing, we found the inference counts were highest on the MobileNetV3 model, which is designed for real-time applications on mobile devices.[32] And inference counts were lowest on the Real-ESRGAN model, which is a super-resolution model that uses complex calculations to restore and improve existing media.[33] For a deeper dive into all of our results, which includes integer, float16, and float32 scores, go to the science behind the report.

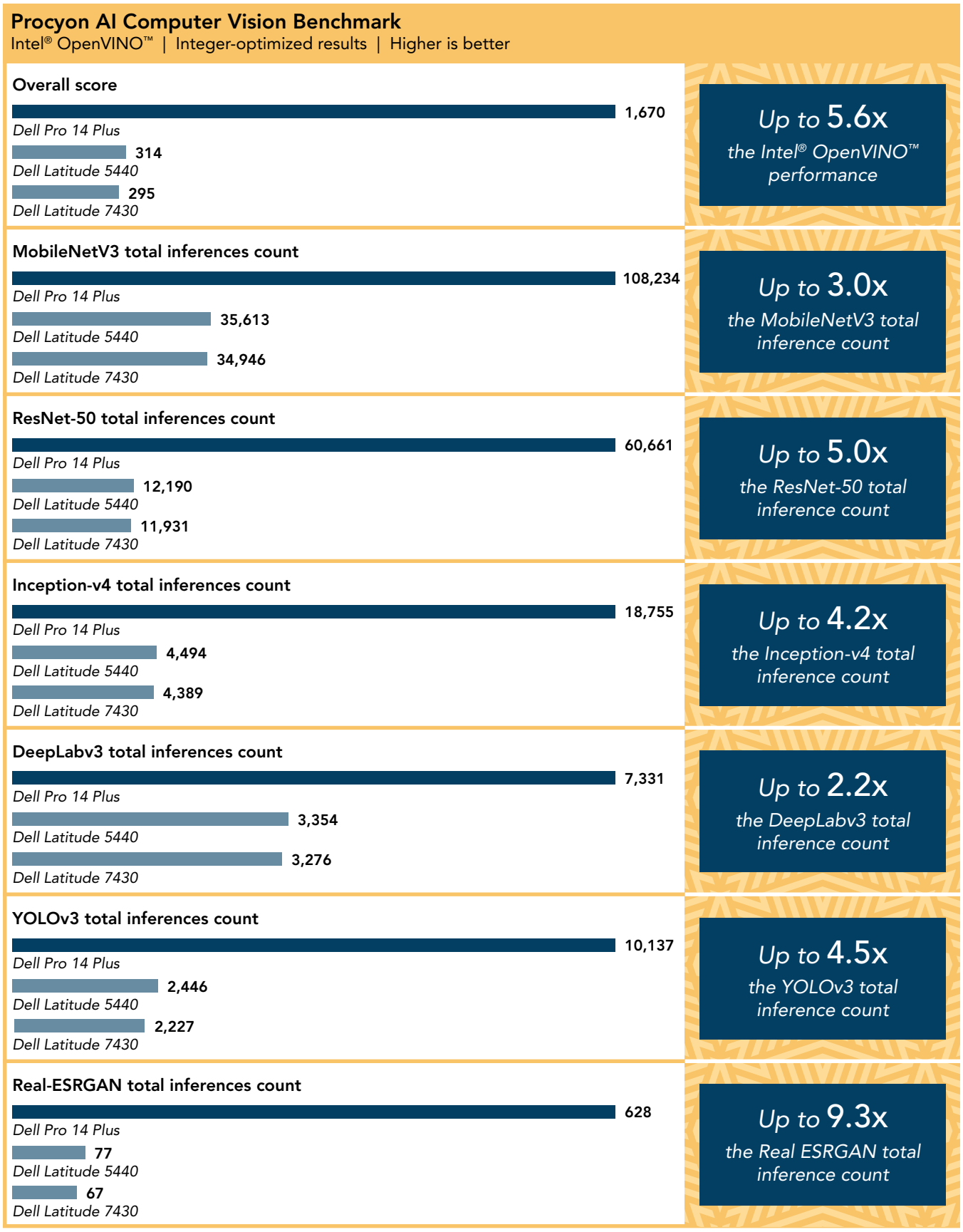


Figure 14: Benchmark results. Source: PT.

Reduce image and text generation wait times

When you hear an accomplished musician play a finely made violin, the responsiveness and sensitivity of the instrument enhances the performance… but it's the musician who makes it sing. The same could be said of GenAI applications. Less talented, less experienced individuals can use these tools for the basics—the "Twinkle, Twinkle" level of task. But in the hands of a virtuoso, the world of creativity and productivity opens up.

Procyon AI Image Generation Benchmark measures the inference performance of on-device AI accelerators.[34] Stable Diffusion v1-5 generates photo-realistic images from text prompts.[35]

In addition to scoring higher on the image generation benchmark, the Dell Pro 14 Plus, powered by an Intel® Core™ Ultra 5 236V processor with Intel vPro®, completed the task in just under a minute and a half. The same task took almost 8 minutes on the 2023 Dell Latitude 5440 laptop powered by the Intel® Core™ i5-1345U processor. To check out the overall duration and image generation speed sub-scores, go to the science behind the report.

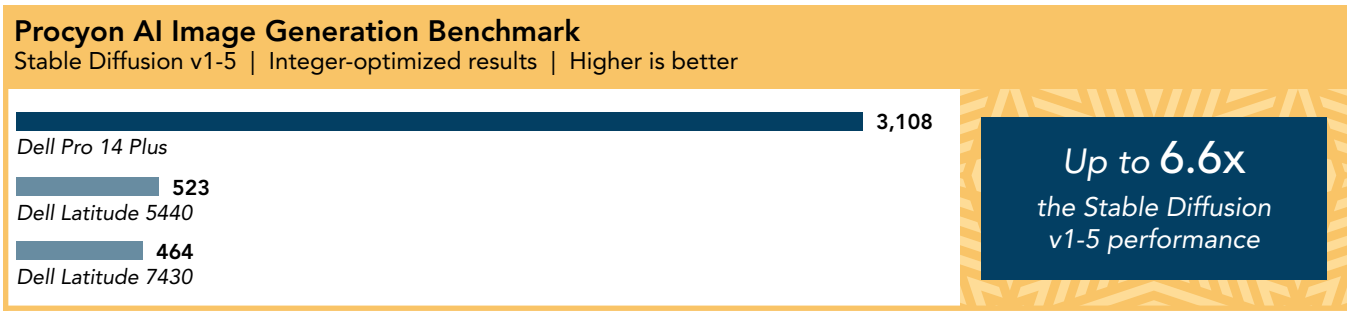


Figure 15: Benchmark results. Source: PT.

Procyon AI Text Generation Benchmark measures LLM performance.[36] These are the models and a few common 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.[37]

Mistral 7B: This LLM converts text between languages, generates educational materials, automates data analysis, and aids code generation and analysis.[38]

Llama 3.1: This LLM provides advanced reasoning and context for multilingual customer service agents and coding assistants.[39]

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

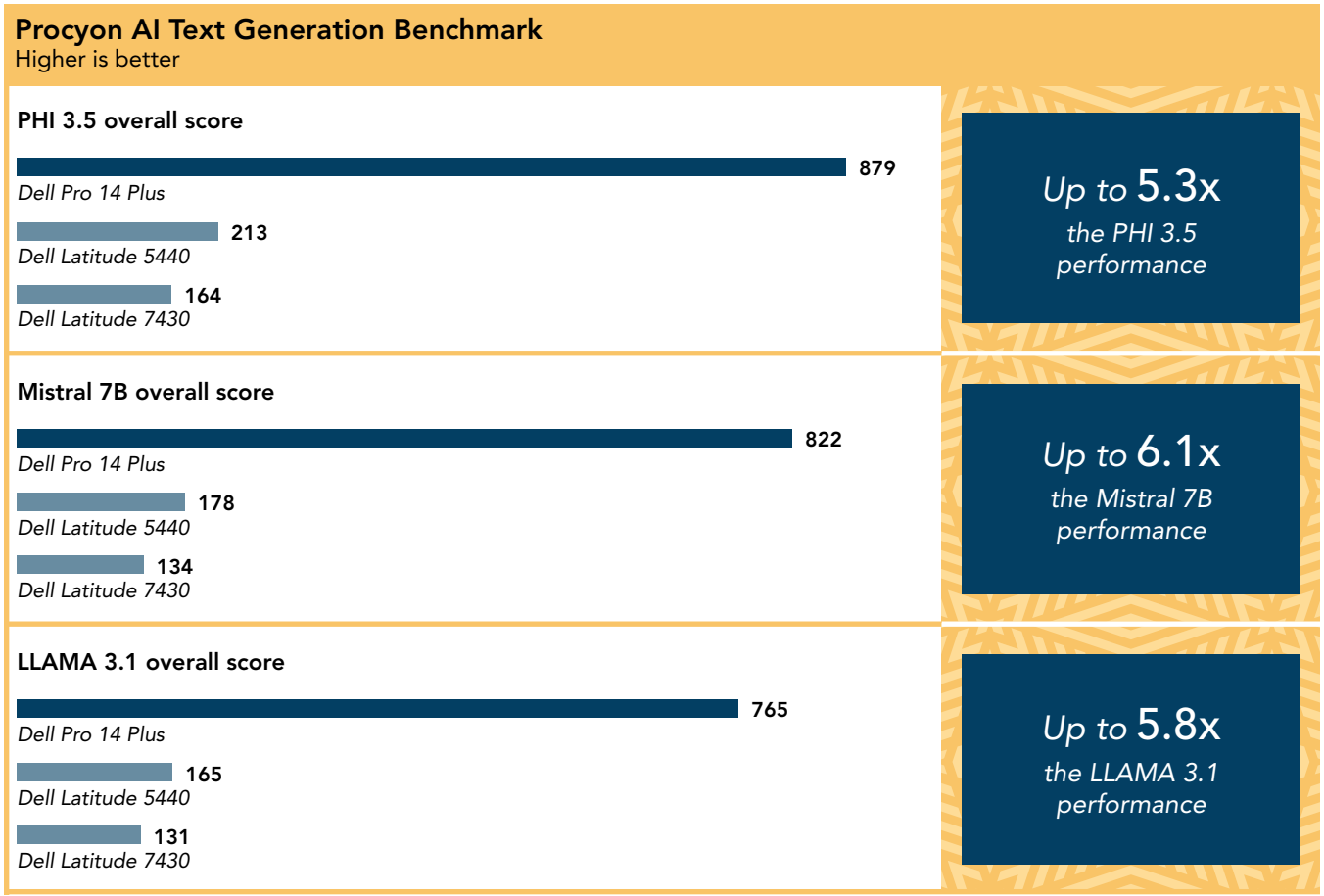


Figure 16: Benchmark results. Source: PT.

Conclusion

In our hands-on testing, the Dell Pro 14 Plus AI PC, powered by a next-gen Intel® Core™ Ultra 5 236V processor with Intel vPro®, clearly outperformed its two- and three-year-old Latitude predecessors across a wide range of benchmarks, delivering significant improvements in battery life, general performance, graphics capabilities, and on-device AI processing. With up to four hours and 30 minutes longer battery life, this AI PC empowers professionals to work anywhere more efficiently and creatively, whether tackling demanding content creation tasks or leveraging advanced AI applications for faster decision-making and innovation.

Its combination of cutting-edge hardware, enhanced energy efficiency, and built-in AI acceleration makes the Dell Pro 14 Plus with an Intel® Core™ Ultra 5 236V processor a great choice for businesses looking to stay ahead in a rapidly evolving technological landscape.

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Read the science behind this report at https://facts.pt/8pks1yd ►

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