



Welcome to the PC revolution

Inside the breakthrough PC
architecture transforming
today's businesses

A new silicon platform is rewriting PC possibilities.

The way we work has fundamentally changed. Today's workforce is mobile, global, and increasingly AI-driven. Work happens everywhere and it demands devices that can keep up. Unplugged performance isn't a luxury anymore—it's a requirement. Battery life must stretch across meetings, flights, and deadlines. Mobility and connectivity are essential.

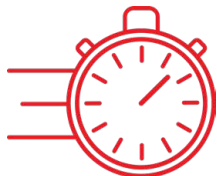
At the same time, AI has arrived, reshaping how work gets done. From productivity boosters to creative tools, AI is rapidly becoming integral to the modern workflow—and it's pushing traditional PC platforms beyond their limits.

The truth is: today's expectations have outgrown yesterday's PCs. The legacy x86 model wasn't built for this level of mobility, connectivity, or AI. A new era calls for a new foundation—one built from the silicon up for modern business.

The future of work is being shaped by silicon—and it's already here.

CHAPTER 1:

A timeline of semiconductor innovation



CHAPTER 2:

Head-to-head



CHAPTER 3:

Common misconceptions



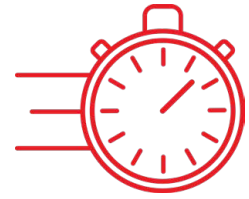
CHAPTER 4:

The Snapdragon advantage



Chapter 1:

A timeline of semiconductor innovation



Legacy to leading edge

For more than 50 years, nearly all PC processors took instructions from the same blueprint: the x86 architecture. But the world has changed. AI is officially here. People now work from anywhere, demanding seamless connectivity and longer battery life.

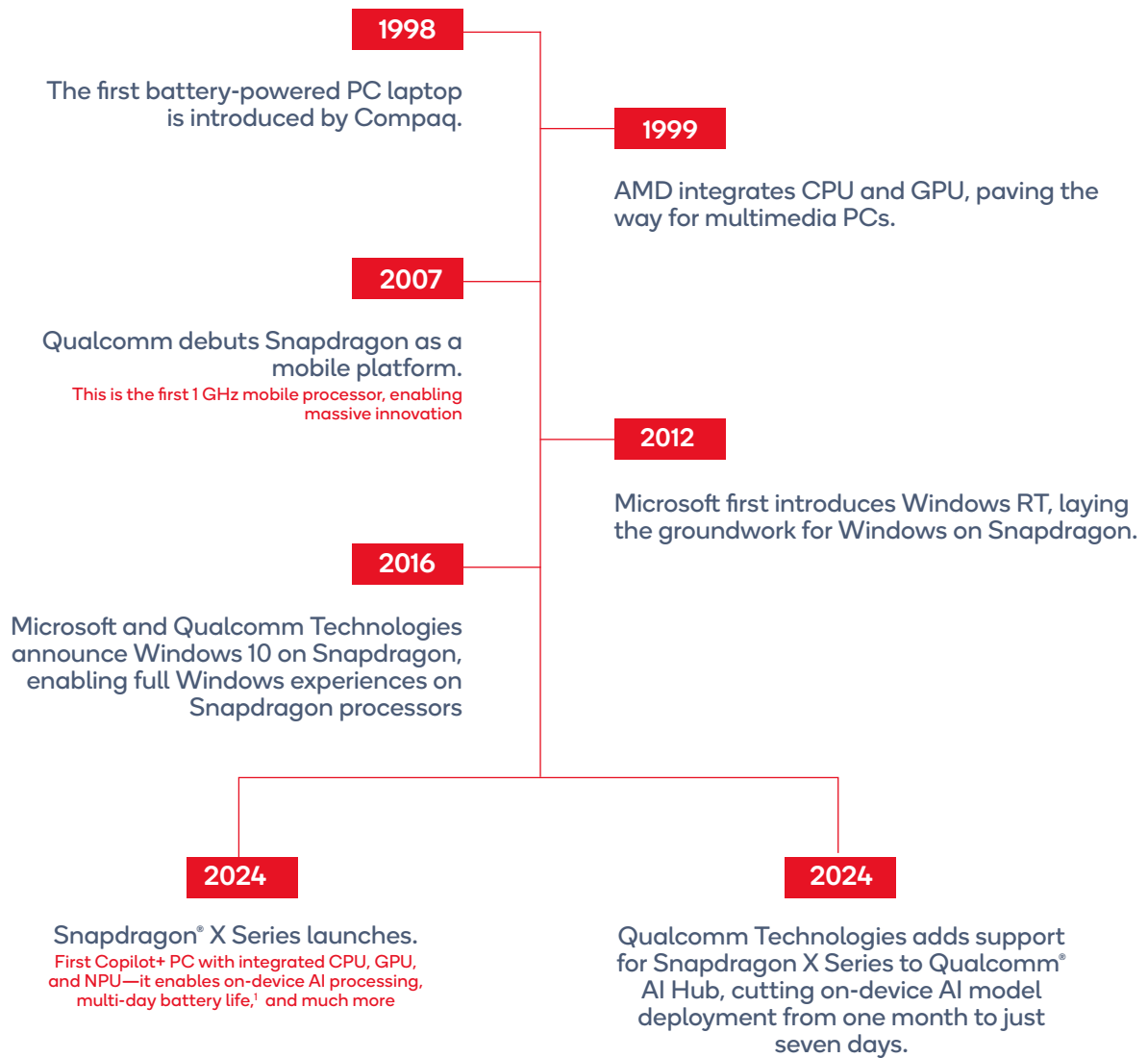
PCs are no longer tethered to desks and power outlets. They're intended for unplugged use and on-the-go productivity.

And with it all, comes a new chapter in PC architecture.

So how did we get here? The history of semiconductors dates back to the early 1800s, but for a more modern timeline, we can pick things up in 1998.



Innovation through the years



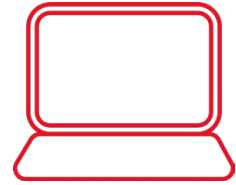
Why this matters

x86 had its moment—but now it's showing its age.

As work goes remote, apps grow more demanding, AI pushes boundaries, and yesterday's designs simply can't deliver the consistency, power efficiency, or intelligence that today's workforce needs. Enter: Windows on Snapdragon.

Chapter 2:

Head-to-head



x86 vs. Windows on Snapdragon

x86 worked fine for PCs of the past. But the rise of AI-driven software and hybrid workflows have pushed it to its breaking point. We're witnessing a new era taking place, where modern work demands the powerful capabilities of Windows on Snapdragon.

Understanding x86

The x86 architecture, originally developed by Intel and later embraced by companies like AMD, has long served as the backbone of computing. Known for its expansive instruction set capable of executing multiple low-level tasks in a single command, x86 evolved from 16-bit to 64-bit processing while preserving strong backward compatibility—cementing its role in PCs, servers, and enterprise systems.

Its flexibility and raw performance make it ideal for legacy applications and compute-heavy workloads. However, its complexity comes at a cost, with limitations in battery efficiency, higher power consumption, and challenges in handling modern AI workloads.

x86 processors often include:

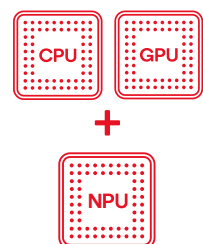
- A CPU as the central processing unit
- A discrete GPU (if present) for graphics tasks
- And in most cases, **no integrated NPU** for AI acceleration

Understanding Windows on Snapdragon

Windows on Snapdragon is a cutting-edge mobile computing platform powering a new class of Copilot+ PCs through tightly integrated hardware—including a CPU, GPU, NPU, and modem—on a single chip. Built through deep collaboration between Qualcomm Technologies and Microsoft, it brings a Windows 11 experience that's optimized for AI acceleration, delivers exceptional performance, multi-day battery life, ultra-fast connectivity, and enterprise-grade security—all by design.

Windows on Snapdragon design includes:

- A CPU for core processing
- An integrated GPU for graphics and multitasking
- A dedicated NPU for on-device AI acceleration



Strengths

x86	Windows on Snapdragon
<p>Mature and proven architecture Decades of industry use have created deep familiarity across IT and developer communities.</p>	<p>Built for modern work Designed from the ground up for AI, mobility, and multi-day productivity—ideal for hybrid teams.</p>
<p>High performance for bursty, compute-intensive workloads Suitable for legacy desktop applications, gaming, and 3D modeling—when plugged in.</p>	<p>Consistent performance, even when unplugged Delivers max performance when unplugged</p>
<p>Broad compatibility with existing enterprise software Traditional apps are optimized for x86 platforms.</p>	<p>AI-first architecture A dedicated NPU with 45+ TOPS enables smooth, real-time AI performance without draining CPU/GPU resources.</p>
<p>Flexible hardware configurations Supports add-in cards, discrete GPUs, and custom hardware setups, offering flexibility for workstation use cases.</p>	<p>System-on-a-Chip (SoC) design CPU, GPU, NPU, and more work together on a single chip—enabling quiet PCs, with minimal to no fan noise.</p>

Considerations

x86	Windows on Snapdragon
<p>Slower adaptation to AI workflows Many x86 devices lack integrated NPUs, so AI tasks consume CPU/GPU resources—leading to heat and battery drain.</p>	<p>Still gaining mainstream familiarity Adoption is growing fast, but IT teams may be less familiar than with legacy x86 systems.</p>
<p>Performance throttling when unplugged Can drop to as low as 55% performance on battery, negatively impacting user experience.²</p>	<p>App ecosystem still evolving Most apps run natively or seamlessly, but a few specialized tools may require emulation or updates.</p>
<p>Bulkier, more power-hungry designs Discrete and modular components increase size, require active cooling (fans), and limit portability.</p>	<p>Less modular hardware Highly integrated design means fewer upgrade paths for power users seeking custom configurations.</p>
<p>Legacy burden Architectural decisions from decades ago impose performance ceilings and restrict integration of modern features.</p>	<p>Built specifically for modern workflows Best suited for productivity, collaboration, content creation, and AI—not legacy workstation tasks.</p>

Head-to-head

	x86	Windows on Snapdragon	The Snapdragon advantage
Energy Efficiency	Can waste energy and burn through battery	High efficiency with real multi-day battery life ¹	Teams can work unplugged through full days, travel, and back-to-back calls—no outlet hunting.
AI Capabilities	Only those with NPUs qualify as AI PCs	All PCs are AI PCs with dedicated NPU (45+ TOPS)	Run advanced AI features (e.g., Recall, Studio Effects) in real time—without slowing performance.
Unplugged Performance	Can drop to as low as 55% performance when unplugged ²	Max performance when unplugged	Users stay productive in meetings, flights, and fieldwork without throttling.
Processor Features	CPU only, maybe a separate GPU; often no NPU	Integrated CPU, GPU, and NPU on a single chip	Enjoy faster, cooler, quieter devices with no fan noise and no compromise—just seamless speed.
Battery Life	Highly variable and app-dependent	Up to 22 hours of video playback on a single charge ¹	Have confidence your device will last through your workday—and beyond.
Security	Software-dependent, varies by vendor	Built-in Microsoft Secured-core PC with Pluton	Enterprise-grade protection from chip to cloud, out of the box—ideal for hybrid teams.

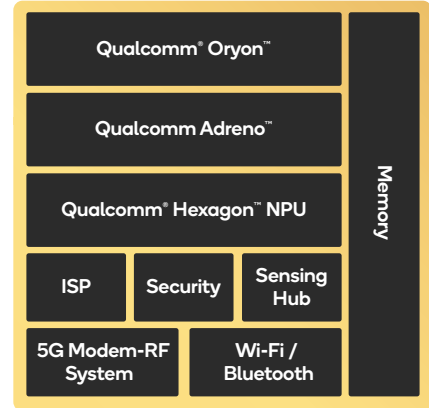
The components

System-on-a-chip

Snapdragon X Series: Designed for how we work today

The Snapdragon System-on-a-Chip (SoC) is built specifically for a whole new world and way of working. Every key component—CPU, GPU, NPU, ISP, and more—is integrated on a single chip, working together to deliver fast, efficient performance. This unified design removes reliance on external components, enabling cooler, quieter, and more mobile devices.

More performance for less power is the Qualcomm design philosophy, rooted in its 20-year heritage of powering mobile devices.



Qualcomm Oryon CPU

UNRIVALED PERFORMANCE

A custom CPU built for blazing-fast speeds, ultra-efficient power use, and multi-day battery life.¹

While x86 chips often balance between “performance” and “efficiency” cores, Snapdragon delivers a unified computing experience—high performance and energy efficiency, working hand in hand.



Adreno GPU

UNBELIEVABLE GRAPHICS

An integrated GPU that delivers stunning visuals and supports up to three 4K external monitors—perfect for multitasking and media-rich workflows.³



Hexagon NPU

POWERFUL AI EXPERIENCES

A top-performing NPU for laptops, designed to handle AI tasks in the background without slowing down your CPU or GPU.

- 3.7x faster than Intel Core Ultra 7⁴
- 2x faster than Apple M3⁵



Qualcomm Spectra ISP

EVERY DETAIL REVEALED

Qualcomm Spectra ISP is always-sensing and enables smartphone camera quality with enhanced security features.



Security

ULTIMATE DATA PROTECTION

Out-of-the-box support for Microsoft Secured-core PC, including Microsoft Pluton, with multilayered, chip-to-cloud protection to help keep your data safe—everywhere you go.

Every Snapdragon X Series-powered PC is a Copilot+ PC

Microsoft defines a Copilot+ PC as one with 40 TOPS or more—from the NPU alone. That’s because AI experiences can be subpar if they’re competing with requirements from other apps. Snapdragon X Series goes above and beyond with 45 NPU TOPS or higher.

- CPU and GPU resources are limited and get maxed out fast if they’re trying to run core PC tasks along with AI.
- The dedicated AI engine in Windows on Snapdragon allows you to tap into the latest AI advances without compromise.
- AI extends beyond LLMs, enabling dedicated on-device engines to power features like real-time translation and enhanced video calls—without lag or dependency on the cloud.



Wi-Fi / Bluetooth® Connectivity

CONNECTIVITY EVERYWHERE

With Wi-Fi 7 built in, PCs powered by Snapdragon X Series keep you reliably connected—even in remote or low-bandwidth environments.



Chapter 3:

Common misconceptions

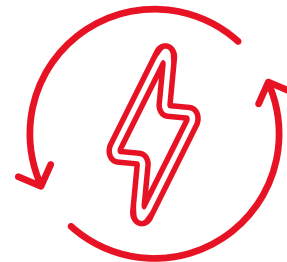


Five PC myths that need busting

Myth #1: “Low power means low performance”

The truth: Low power can and should mean energy efficiency. In other words, more performance with less power exertion. In fact:

- Snapdragon X Elite matches competitor single-threaded CPU performance at **70%** less power.⁶
- Snapdragon X Plus matches competitor multi-threaded CPU performance at **54%** less power.⁶



Myth #3: “Battery life claims are all the same”

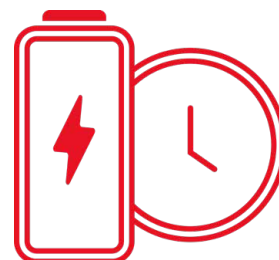
The truth: Battery life claims are often too good to be true, especially with the power-inefficient, outdated x86 architecture. In fact:

- On x86 PCs, battery life hinges on the apps you run and how long you run them—and it quickly diminishes with everyday usage.²
- With Windows on Snapdragon, you get consistent high performance—and a battery that really does last for up to 22 hours.^{1,9}

Myth #2: “App compatibility is a barrier for Windows on Snapdragon”

The truth: Snapdragon partners with Independent Software Vendors (ISVs) to enable the best, most popular apps run seamlessly on its platform. In fact:

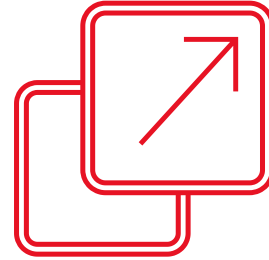
- **93%** of time spent on Copilot+ PCs powered by Snapdragon X Series processors is in Windows apps that run natively on Snapdragon.^{7,8}
- **99%** of the top 200 enterprise apps run on Snapdragon.⁷



Myth #4: "It's too much of work to integrate Snapdragon"

The truth: Moving to a new platform doesn't mean starting over. PCs powered by Snapdragon X Series integrate seamlessly into existing IT environments, with full support for tools your team already uses. In fact:

- Devices are easy to deploy and manage with Microsoft Intune, Windows Autopilot, and other leading Mobile Device Management (MDM) solutions.
- Enterprise-grade support, reliability, and image readiness make the transition simple for IT and invisible to employees.



Myth #5: "Secured-core PCs aren't secure enough for my business"

The truth: PCs powered by Snapdragon X Series are built from the silicon up for modern security needs. In fact:

- Every device ships with Microsoft Secured-core PC support, including Microsoft Pluton for chip-to-cloud protection.
- Hardware-level isolation, firmware protections, and biometric authentication help safeguard sensitive data—no matter where work happens.



Chapter 4:

The Snapdragon advantage



Exceptional performance. Everyday impact.

Now let's shift from the technical to the practical.

All that cutting-edge design we've talked about? Here's what it actually means when you're trying to get things done.

Limitless power for teams without limits

For teams that are expected to do anything, anywhere, Snapdragon X Series delivers the performance they can count on.

Creating, coding, collaborating—no matter the task, Snapdragon keeps your PC running, plugged in or not, with the speed and responsiveness today's teams expect.

Max performance when unplugged

Whether your people are in a meeting room, at a client site, or working from anywhere in between, their PCs deliver maximum performance—even when they're unplugged.

Some x86 PCs drop performance to as little as 55% when unplugged,² which just isn't acceptable for a modern, mobile workforce.

Real-deal multi-day battery life

No compromises—just genuine multi-day battery life even when running the most powerful apps, or multiple apps at once.

Up to 22 hours of battery life your team can count on, for anything that gets thrown their way.^{1,9}



Snapdragon X Series: Built for today. Ready for what's next.

The expectations of the modern workforce are anything but traditional. Yesterday's technology might barely be able to keep up with today's demands—but just barely. And for how long?



powering over 55 intelligent devices with 100+ more in the pipeline.

Snapdragon X Series is a fundamentally different platform, entirely architected for the way teams are working right now. Powering over 55 intelligent devices—with 100 more on the way—it's leading a PC revolution that's happening this very moment.

Kick off a Proof of Concept and put PCs powered by Snapdragon to work in your world.

Put it to the test



Snapdragon is a product of Qualcomm Technologies, Inc. and/or its subsidiaries. Qualcomm, Snapdragon, the Snapdragon logo, Oryon, Adreno, Hexagon, and Spectra are trademarks or registered trademarks of Qualcomm Incorporated.

© 2025 Qualcomm Technologies, Inc. and/or its affiliated companies. All Rights Reserved.

1. Battery life varies significantly based on device settings, usage, and other factors.
2. CPU Performance is based on Geekbench v6.2 Single-Core on Windows 11 OS run in October 2024. Snapdragon X Elite (X1E-80-100) was tested using a Dell XPS 13 (9345) on "Balanced" Power Mode in Windows and "Optimized" in Dell Power Manager. Intel Core Ultra 7 256V was tested using a Dell XPS 13 (9350) on "Balanced" Power Mode in Windows and "Standard mode" in Windows and "Optimized" in Dell Power Manager. The AMD Ryzen AI 9 HX 370 was tested using an ASUS VivoBook S14 (M5406WA) on "Balanced" Power Mode in Windows and "Standard mode" in MyASUS. Power and performance comparison reflects results based on measurements and hardware instrumentation of given devices.
3. Qualcomm, Snapdragon X Elite Overview, accessed June 18, 2025.
4. NPU Performance is based on UL Procyon AI Benchmark on Windows 11 OS run in August and November 2024. Snapdragon X (X1-26-100) was tested using a Qualcomm laptop reference design on Windows 11 OS. The Intel Core Ultra 7 155U was tested using an Asus ZenBook S 13 (UX5304MA) laptop on Windows 11. Power and performance comparison reflects results based on measurements and hardware instrumentation of given devices.
5. PLACEHOLDER for claim: 2x faster than Apple M3.
6. CPU Performance is based on Geekbench v6.2 Multi-Thread on Windows OS run in October 2023. Snapdragon X Elite was tested using a Qualcomm laptop reference design on Windows OS. The i7-1360P (12 core) and i7-1355U (10 core) were tested using a Samsung Galaxy Book3 360 13" 2023 (NP730QFG) laptop and Samsung Galaxy Book3 15.6" 2023 (NP750XFG) laptop, respectively on Windows 11. Maximum performance reflected by i7-1360P and i7-1355U represent maximum achievable results in given platforms under unconstrained PL1/PL2 settings and no thermal limitations. Power and performance comparison reflects results based on measurements and hardware instrumentation of given devices.
7. Based on aggregated app usage data from Copilot+ PCs in US, UK, CA, FR, AU, DE, JP as of August 2024.
8. Laptop Magazine, "Surface Laptop 7 Intel vs. Qualcomm: Which Copilot+ PC is better for you?" February 1, 2025.
9. Battery life based on video playback testing on reference designs. Actual results will vary based on use case, configuration, and device.