

Measuring Modern Al PCs: Accelerating the Modern Office Worker

Ryan Shrout

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AI PCs are Accelerating Office Workers

The personal computing landscape is undergoing its most significant transformation in decades. As we witness the evolution from traditional computing to Al-enabled PC platforms, we're seeing a reimagining of how users interact with computers, accomplish work, and measure productivity in the modern enterprise.

This transformation extends far beyond just theory. Today's Al-enabled PCs deliver tangible improvements to productivity and creativity that can be measured, quantified, and translated into real business value. Organizations embracing these technologies are discovering that Al's promise isn't just about future possibilities, it's about present-day advantages that could impact the bottom line.

Microsoft's introduction of Copilot+
PCs in 2024 served as a crucial catalyst,
establishing hardware and software
standards that have driven adoption of
Al capabilities. These systems, requiring
a minimum of 40 TOPS of Al compute
performance through the NPU (neural
processing unit), represent a vision where

Al assistance is seamlessly integrated into every aspect of your device.

Yet Microsoft's initiative is just one part of a larger ecosystem. Software developers across the industry have started to embrace this shift, creating specialized AI, or adding AI-powered features to existing toolsets, that address industry needs and new use cases.

We are at an inflection point. While complete transformation is ongoing, today's AI PCs can already deliver measurable benefits that justify investment. Early adopters report time savings ranging from 30% to 70% on routine tasks, with particularly dramatic improvements in content creation, data analysis, and communication workflows.

For businesses evaluating AI PC infrastructure investment, the question is not whether these systems will eventually provide value, but how quickly they can deploy them to maintain competitive advantage. The current generation represents a pragmatic balance between revolutionary potential and practical

implementation, offering immediate productivity gains while positioning organizations to capitalize on increasing software innovation.

Key Highlights:



Office workers that employ Al-enabled devices and software could save the equivalent of **7+ work weeks** in productivity time every year



Employees can see up to **5x gains** in individual workflow steps using Al tools



Al enabled PCs can save **30 minutes** across a typical 90 minute office worker workflow

The General Office Worker Workflow

The General Office Worker persona encompasses the backbone of modern knowledge work:

- Professionals navigating productivity applications and managing daily communications
- Workers creating content and collaborating across typical workflows
- Testing structured to mirror natural task progression from email triage to content development
- Comprehensive view of Al's potential to transform millions of workers' daily experiences



Summarize Emails



Summarizes email chain in Outlook using Copilot



Morning Teams Call



Copilot

Use Copilot in Teams to create AI notes from transcription



Phishing Attack Email



AI PC is protected from the simulated Phishing attack



Update Presentation



Click to Do

Find text and images to update new PPT with Click to Do and generate messaging bullets



Send Email with Update



Copilot

Change email tone from casual to formal with Copilot subscription



Feedback on Document



EXECUTE LM Studio

Get mock review and recommendations to improve text from LLM using LMStudio

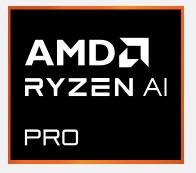
Testing Configuration

Our analysis employs a single hardware platform to isolate the impact of Alenabled versus manual workflows.

This methodological choice eliminates hardware variables, ensuring that measured differences stem from workflow methodology rather than processor variations or system capabilities. By maintaining hardware consistency, we provide cleaner insights into Al's practical benefits without the confounding factors that would arise from comparing different systems. At a later point we may choose to dive into direct platform comparisons.

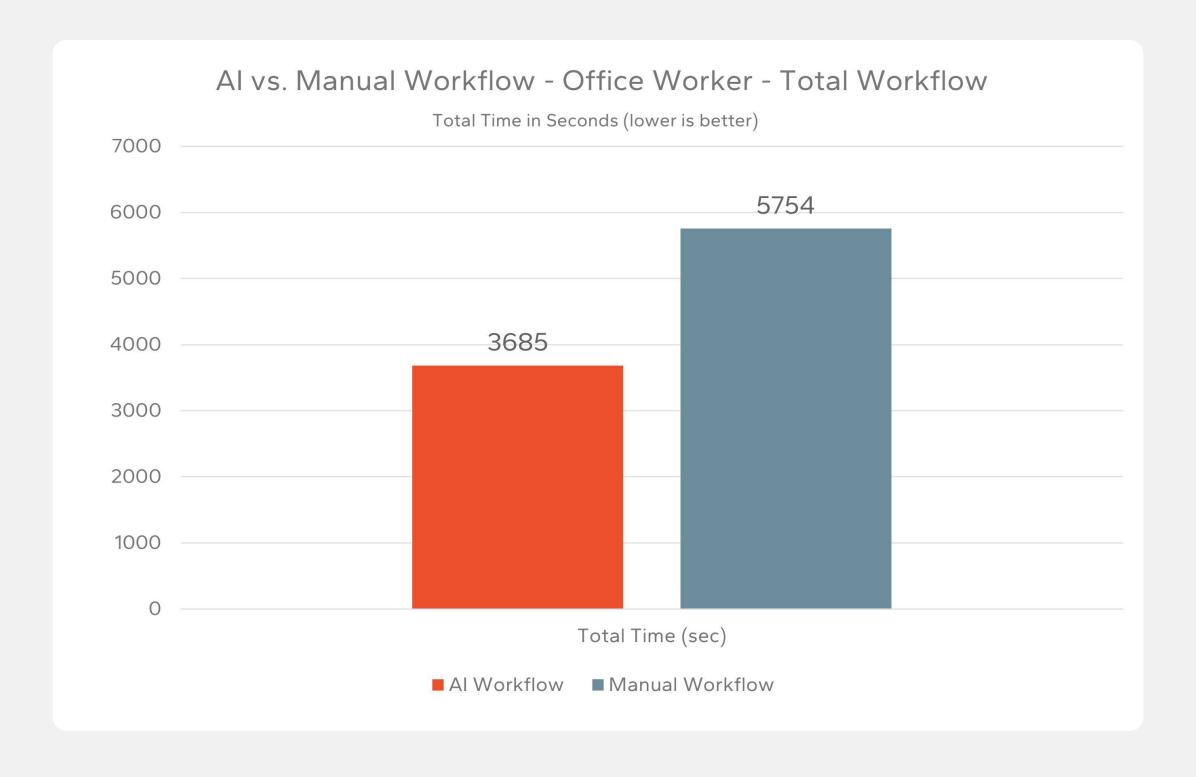
	LENOVO THINKPAD T14S GEN 6
CPU	AMD Ryzen AI 7 PRO 360
Graphics	AMD Radeon 880M
RAM	32GB LPDDR5X-7500
Storage	1TB Kioxia KXG8AZNV1T02
Display	14" 1920x1200
System BIOS	R2NET36W (1.10)
Operating System	Windows 11 Pro 26100.2894





Compiling the Real-World Measurements

When individual productivity improvements combine into complete workflows, their cumulative effect can paint an interesting picture. The compounded benefits arise from reduced context switching, lower mental load, and the momentum that builds when tasks flow smoothly without friction. Our example testing of the General Office Worker workflow demonstrates this compounding effect in action.



The complete manual workflow, encompassing all tested tasks from morning email triage through afternoon content creation, requires 95 minutes to complete. This represents more than an hour and a half of focused work time for tasks that occur daily in various forms across knowledge worker roles. The Al-enabled version of the same workflow completes in just 61 minutes, a reduction of 34 minutes or 36% of the total time.

Compiling the Real-World Measurements

The consistency of improvements across diverse task types helps to validate Al's broad applicability to knowledge work in today's market. Email-related tasks showed the highest individual improvements, with summarization running 5x faster and composition 88% faster with Al assistance. Content creation tasks including presentation updates and document development demonstrated consistent 80%+ improvements. Even meeting documentation, which showed smaller percentage gains due to the fixed meeting duration, provided significant absolute time savings that compound across multiple daily meetings.

These measurements might actually understate the full impact of Al on

productivity. The security scenario, while not included in time calculations due to its variability, represents potential savings of days per incident when considering breach prevention and remediation avoidance. Quality improvements in output, better writing, consistent formatting, fewer errors, reduced revision cycles also aren't captured in initial task timing. The cognitive load reduction from Al assistance decreases employee fatigue, enabling sustained productivity throughout the workday rather than degrading performance as mental exhaustion accumulates. Additionally, Al enables entirely new capabilities like realtime translation or complex data analysis that open workflow possibilities that weren't feasible in manual processes.

Projecting these benefits across a typical work year reveals some very intriguing implications. If knowledge workers save 1-2 hours daily through AI enhancement, a reasonable estimate based on our findings, this translates to 300+ hours annually per employee. That's equivalent to 7 or more full work weeks of additional productive capacity without extending work hours or adding staff. Obviously from there you can extrapolate dollar savings, effective productivity increases without headcount increases, or any other CFO-friendly key points when building out new infrastructure investments.

Al assistance decreases employee fatigue, enabling sustained productivity throughout the workday.

Beyond Time Savings

- Content quality improvement
- Cognitive load reduction, lower mental wear
- New worker capabilities and skills





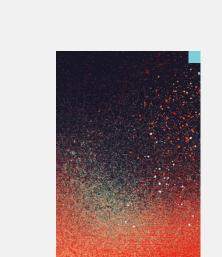


Email Summarization

Email management represents one of the most time-consuming aspects of modern knowledge work. Our email summarization test evaluates the productivity difference between Al-powered email summarization and traditional manual email review, using a realistic scenario that mirrors the complexity of actual business communications.

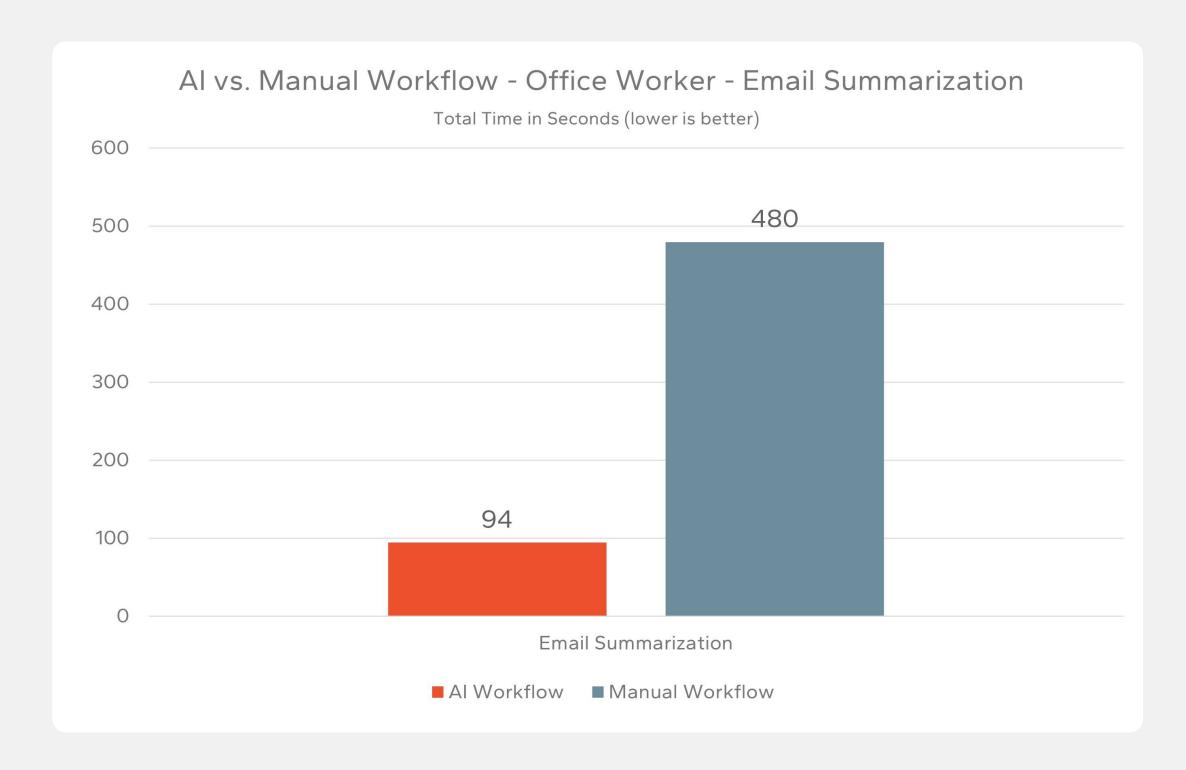
The test scenario involves a detailed email thread discussing a project update. This thread includes typical business communications elements: status updates, decision points, action items, and scheduling discussions. The complexity and length of the thread reflect real-world email exchanges that knowledge workers encounter multiple times daily. Both the Al-enabled and manual workflows must extract the same critical information from this thread: main decisions made, tasks assigned to specific individuals, and clearly defined next steps.

Al-Enabled Steps	Manual Steps
The AI version leverages Copilot to provide instant email thread summaries.	The manual version simulates reading each email without Al assistance.
Opens Outlook in browser environment	Opens Outlook web app
Authenticates with test email account	Navigate to email thread
Selects first email thread in inbox	Reads each message individually with realistic timing
Activates Copilot summarization feature	Simulates human reading speed
Displays comprehensive thread summary	Processes complete thread without summarization









The performance results starkly illustrate Al's impact on email productivity. The Al-enabled workflow completes in an average of 94 seconds across three test runs, while the manual workflow requires 480 seconds, almost 8 minutes. This represents a time savings of almost 6.5 minutes, for a single email thread. The Al-enabled approach proves 5x faster than manual reading. When we consider that knowledge workers typically process many threads daily, the time savings expand to more than an hour per day.

Al email summarization not only saves time but also improves work quality by highlighting key points from long email threads and reducing cognitive load. It helps users quickly identify important information, action items, and deadlines, minimizing missed commitments. The technology supports multi-language threads and presents summaries in the user's language, streamlining communication for global teams.

Additionally, Al makes searching historical emails easier by instantly summarizing past conversations for quick recall of decisions and project history.

9

Workflow Total Time Savings (minutes)

6.5
6.5







Teams Call Notetaking

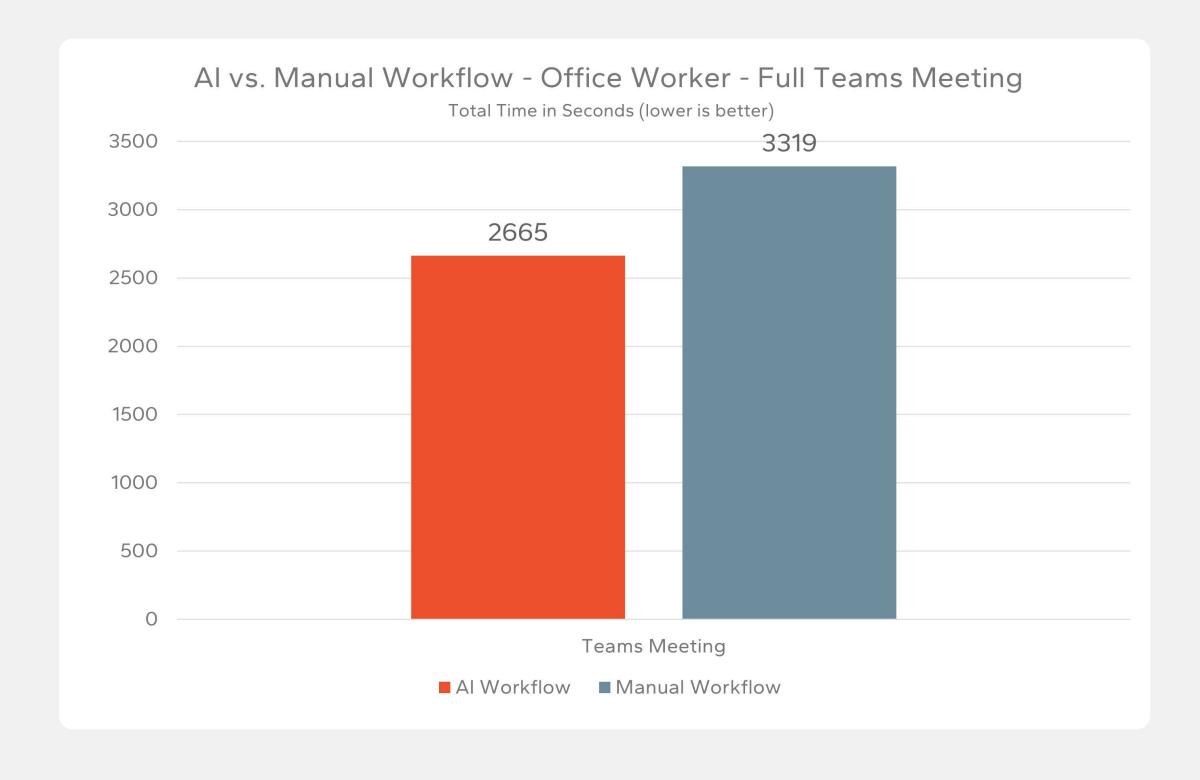
Virtual meetings have become fundamental to modern business operations, with the average knowledge worker attending 8-10 meetings per week. Our Teams call notetaking test simulates a realistic 40+ minute project planning meeting with four participants discussing quarterly objectives, resource allocation, and project milestones. This scenario includes all typical meeting elements: agenda review, presentation of updates, discussion of challenges, decision making, and action item assignment. Both workflows must produce properly formatted meeting minutes suitable for distribution to stakeholders who didn't attend the meeting.

Al-Enabled Steps	Manual Steps
The Al-enhanced version focuses on streamlined meeting participation with post-meeting Al assistance.	The manual version simulates typical user behavior of taking notes during meetings.
Simulate participation in a Teams video call through pre-recording multi-user meeting, playback, file sharing, etc.	Join a Teams meeting
Allow Al to transcribe the meeting	Take active notes during the call
Use Copilot to generate formatted meeting notes after the call	After the call spend time formatting the notes into meeting minutes









The results reveal significant but nuanced benefits from AI enhancement. The Al-enabled workflow completes in 45 minutes, the base meeting time plus just 3-4 minutes for Al processing and review. The manual workflow extends to over 55 minutes, with the same 41-minute meeting followed by more than 10 minutes of note formatting and cleanup. While the overall time savings of 10 minutes might seem modest as a percentage, the impact on post-meeting productivity is dramatic, a 65% reduction in documentation time. For professionals attending 3-4 meetings daily, this represents 45-60 minutes of recovered productive time that can be redirected to actual work rather than administrative tasks.

Al-enhanced meeting documentation offers more than time savings. It keeps participants focused on discussions instead of note-taking, resulting in better outcomes. Al-generated transcripts provide verbatim quotes for compliance or technical needs, while automatic speaker attribution clarifies responsibilities and reduces confusion. The Al highlights themes across meetings, aiding in issue tracking and project continuity. Searchable transcripts make it easy to reference past decisions without reviewing full recordings.

Workflow Total Time Savings (minutes)

6.5 10 16.5





Email Phishing Attack Prevention

Cybersecurity remains one of the most critical challenges facing modern organizations, with phishing attacks representing the primary vector for data breaches. Our security scenario demonstrates the difference between Alenhanced threat prevention and traditional reliance on user vigilance. While this test doesn't contribute to our measured time savings due to the high variability of security incident outcomes, it illustrates Al's crucial role in protecting organizational assets and productivity.

The test employs a sophisticated phishing email that mimics internal IT communications about password expiration, a common and effective social engineering tactic. The message includes typical phishing indicators such as urgency messaging, requests for immediate action, credential input requirements, and disguised malicious links that appear legitimate. However, these elements are crafted subtly enough that they might bypass a distracted or hurried user's scrutiny, reflecting the reality that even security-aware employees can fall victim to well-crafted attacks.

Al-Enabled Steps	Manual Steps
The Al-enhanced version demonstrates modern security systems with automatic threat interception.	The manual version demonstrates what happens without Al-enhanced security protection.
User receives convincing phishing email in "Security" subfolder	User encounters same phishing email
User attempts to click on dangerous link	No automated protection system available
Al security system (Bufferzone) automatically intercepts threat	User clicks malicious link successfully
Protection screen displayed with threat explanation	System navigates to simulated "hacked" page
User proceeds with their day	Attack succeeds, compromising system security
	User is assigned mandatory security training





BUFFERZONE Email Phishing Attack Prevention

The benefits of Al-enhanced security extend far beyond individual productivity impacts. Industry research indicates that successful phishing attacks result in an average of 23 hours of IT remediation effort per incident, not including potential data loss, regulatory fines, or reputational damage. The cost of a single breach can exceed \$100,000 when factoring in investigation, remediation, legal consultation, and potential regulatory penalties. Al security eliminates human error factors including fatigue, distraction, and sophisticated social engineering tactics that exploit psychological vulnerabilities. Real-time threat intelligence updates ensure protection

against zero-day phishing campaigns before user awareness training can be updated. Perhaps most importantly, Al security scales consistently across the organization, providing the same level of protection whether examining the first email of the day or the last email during overtime hours.

Workflow Total Time Savings (minutes)







Click to Do Updating a Presentation

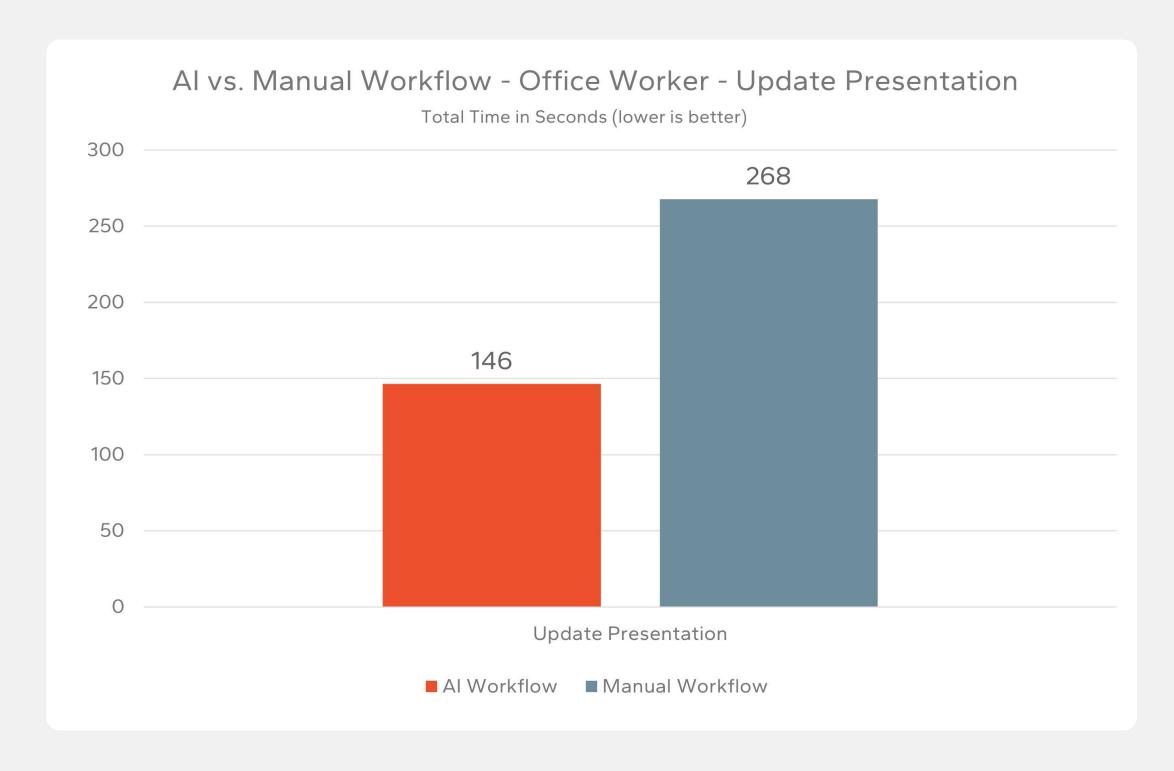
Creating and updating presentations represents a common but complex workflow that requires coordinating information across multiple sources and applications. Our presentation update scenario tests Al's ability to streamline multi-application workflows through context understanding and content manipulation. The task involves extracting product information from a detailed Word document, editing imagery, and incorporating formatted content into a marketing presentation, all while maintaining professional standards suitable for executive review.

Al-Enabled Steps	Manual Steps
The Al-enhanced workflow leverages Copilot+ Click-to-do to interpret user commands and directly manipulate on-screen elements, streamlining the creation process.	The manual version simulates the traditional process of switching between applications, copying, pasting, and manually creating the slide content.
User has a target PowerPoint presentation and a source Word document open.	Manually navigate between open Word and PowerPoint application windows.
Uses Click-to-do to select an image within the PowerPoint Presentation	Highlight and copy the desired image from PowerPoint.
User selects background blur in Click-to-do dropdown – and replaces background of the image.	Switch to Paint to edit image.
Invokes Click-to-do to select the source text in the Word document.	Switch to PowerPoint and paste the image.
Instructs Click-to-do to summarize text into bullet points.	Switch back to Word, read and mentally summarize the content.
Paste Click-to-do's summarized bullet points into PowerPoint Presentation.	Switch back to PowerPoint, create a text box, and type the summary from memory.
	Adjust formatting manually





Click to Do Updating a Presentation



efficiency gains from AI enhancement.
The AI-enabled workflow completes in just 2 minutes and 26 seconds, while the manual approach requires 4 minutes and 28 seconds, making the AI approach 1.8x faster. Beyond raw time savings, the AI workflow reduces context switches from seven to just two, minimizing the disruption that occurs when shifting between applications.

Al-enhanced presentation updates offer more than just faster results. Click-to-do's contextual understanding removes the need to learn multiple interfaces, making advanced features user-friendly. Al-powered summarization maintains professional bullet points and language, while background removal mimics graphic design tools without extra cost. Semantic search speeds up content discovery, even without exact file names. Al also enforces brand guidelines automatically for consistent materials.

Workflow Total Time Savings (minutes)

6.5 10 2 18.5
18.5







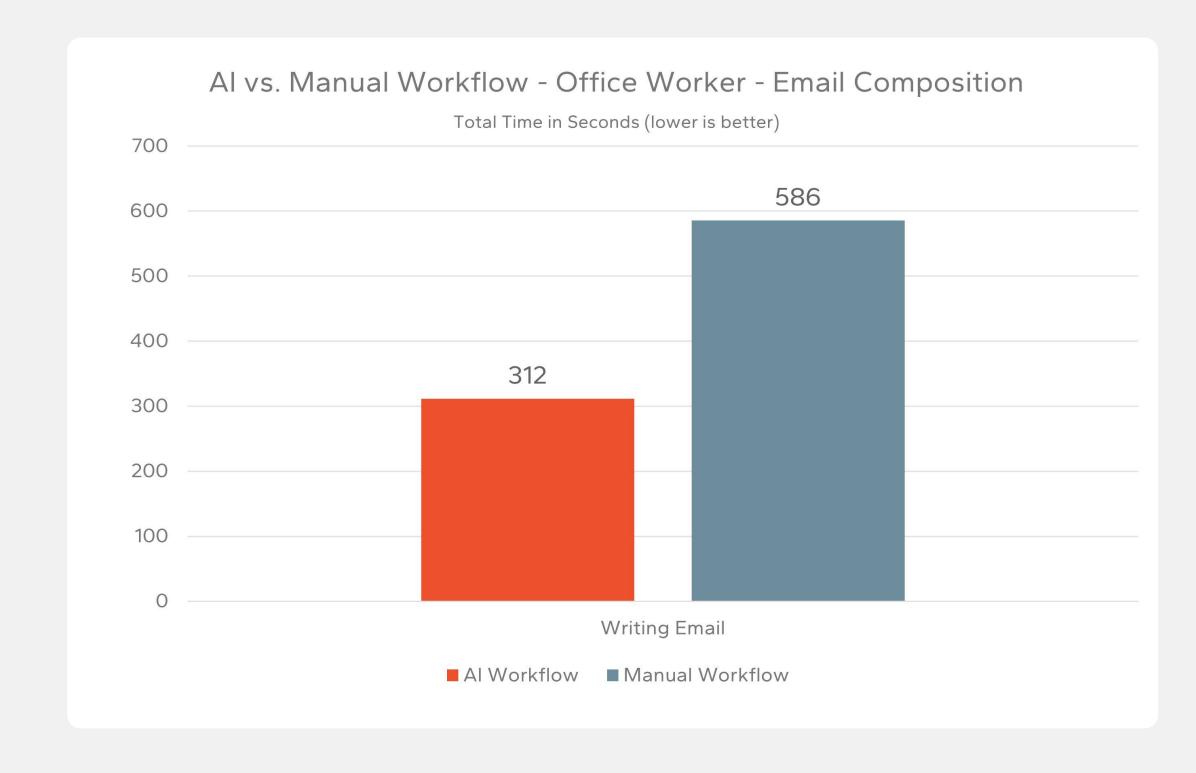
Email Composition

Written communication remains fundamental, yet crafting appropriate, professional emails consumes time and mental energy. Our email composition test measures the productivity impact of Al-assisted writing and tone adjustment, addressing a common scenario where initial casual drafts must be refined for different audiences. The test involves composing a project update email initially written in an informal style, then transforming it into polished correspondence suitable for executive leadership review.

Al-Enabled Steps	Manual Steps
The Al-enhanced version leverages Microsoft Outlook's integrated Copilot functionality to automatically transform casual email drafts into professionally toned communications.	The manual version simulates the traditional workflow where users must manually identify tone issues and rewrite emails through personal effort and editing skills.
Compose a casual, informal email	Compose a casual, informal email
Use Outlook's Copilot to Change Tone to More Formal	Manually edit email with multiple revision cycles as users refine their language, through multiple iterations
Send Email	Send Email







Workflow Total Time Savings (minutes)

6.5 10 2 4.5 23

The performance differential is compelling: Al assistance makes email composition 1.88x faster, reducing a nearly 10-minute task to just over 5 minutes. For professionals who send 15-20 of this type of email daily, this translates to a decent amount of recovered time.

Al-driven email composition not only saves time but also ensures consistent professionalism in organizational communications, regardless of individual writing abilities. It especially helps nonnative speakers communicate effectively and reduces misunderstandings through improved grammar and clarity. By learning from company patterns, Al maintains brand voice and style, alleviates email anxiety for many employees, and helps users enhance their writing skills over time.









Document Writing and Feedback

Content creation for public consumption requires multiple rounds of review and refinement, traditionally creating bottlenecks in org communications.

Our document creation and feedback scenario tests Al's capability to accelerate creative content development while maintaining the privacy and security required for confidential announcements. This scenario particularly highlights the advantages of local Al processing, using LM Studio to run large language models entirely ondevice without any cloud connectivity.

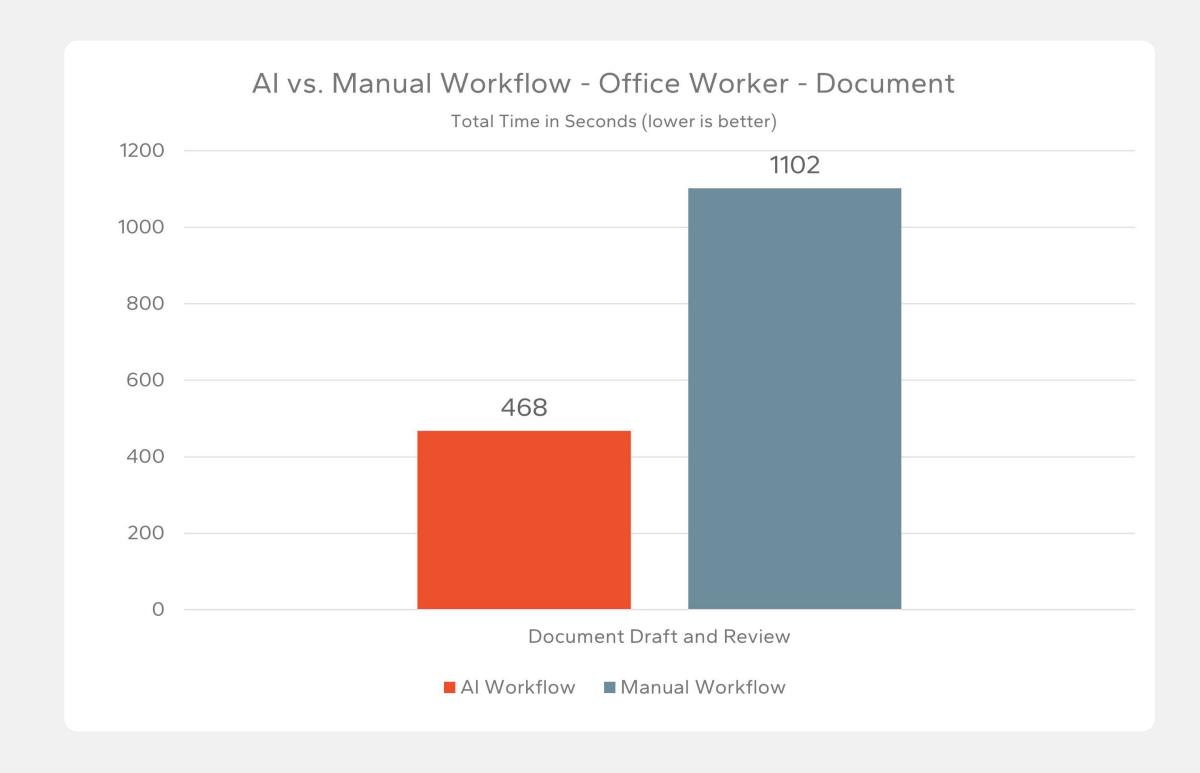
The implementation addresses a critical concern for many organizations: how to leverage Al assistance for sensitive content without exposing confidential information to cloud services. By running the Llama 3.18B model locally, all processing occurs within system memory without any network communication. This approach maintains complete data privacy for unreleased product information, financial announcements, or strategic initiatives that must remain confidential until official release.

Al-Enabled Steps	Manual Steps
Launch LM Studio to run local LLM and maintain privacy of unreleased product.	Manually type out first draft of document
Submits prompt to generate a document to local LLM with product documentation attachment	Revise document with request for quotes and product information, release date, etc.
Copy and paste output into Word	Send document to team via email or project management system
Revise document using AI assisted feedback and fill in missing blocks for quotes, release dates, etc.	Request a response within a fixed time
	Wait for a response





LM Studio Document Writing and Feedback



Workflow Total Time Savings (minutes)



The Al-assisted approach proves 2.3x faster than manual creation, and this advantage multiplies when considering typical review cycles. In real-world scenarios where writers might wait 2-4 hours (or longer) for colleague feedback, Al's immediate availability provides even more dramatic time savings.

Just like our other scenarios above, Alenhanced document creation offers more than just time savings. It provides 24/7 support, overcomes time zone and scheduling issues, ensures consistent brand messaging, and enables fast responses to market events. Al can generate multiple drafts for A/B testing, integrate SEO suggestions during drafting, and use analysis of past successes to recommend effective structures. This reduces reliance on staff, letting organizations increase efficiency or even quantity.



Implications for Office Workers Empowered with AI PCs

Waiting for "perfect" solutions risks missing current benefits while competitors advance and capture market advantages.

Our testing demonstrates that AI PCs can deliver measurable, significant productivity improvements with current technology. The 36% time reduction in routine tasks translates directly to competitive advantage and cost savings that justify laptop and software investments. These benefits don't require speculative future developments, they're achievable with current commercial solutions from major OEMs and ISVs.

Organizations that delay AI PC integration risk falling behind competitors already realizing efficiency gains and building AI-enhanced workflows into their operational DNA. The learning curve requires consideration, as users need time to become comfortable with AI-enhanced workflows, learn new interfaces, understand AI capabilities and limitations, and develop trust in AI-generated outputs.

For IT decision makers, several factors demand attention. Hardware refresh cycles should prioritize Al-capable systems to avoid obsolescence, as software vendors (including Microsoft)

will increasingly assume AI acceleration availability. Systems lacking NPU capabilities or sufficient local processing power may be unable to run emerging AI applications. Software licensing strategies must account for AI-enhanced application versions that might carry premium pricing, new subscriptions, or potential token consumption for cloud-based AI services. Security policies require comprehensive updates to address both AI capabilities and new attack vectors.

The case for integrating AI workflows today is increasingly clear. This move represents a significant productivity opportunity comparable to the internet's introduction, in time. The rapid pace of AI improvements means today's impressive gains are likely to represent just the beginning. Waiting for "perfect" solutions risks missing substantial current benefits while competitors advance and capture market advantages.

Our analysis overwhelmingly supports beginning the AI PC transition today, combining immediate productivity gains, rapid technology advancement, and increasing competitive pressure.

Organizations embracing AI PCs now position themselves not just for current benefits, but for a future where AI enhancement becomes table stakes for business competitiveness. The question is no longer whether to adopt AI PCs, but how quickly can organizations deploy them to capture transformative benefits.

Key Highlights:



Office workers that employ Al-enabled devices and software could save the equivalent of **7+ work weeks** in productivity time every year



Employees can see up to **5x gains** in individual workflow steps using Al tools



Al enabled PCs can save
30 minutess across a
typical 90 minute office
worker workflow

Appendix

Developing a fair and comprehensive comparison between Al-enabled and traditional workflows requires careful consideration of methodology, metrics, and real-world applicability. Our approach centers on creating reproducible, realistic workflows that mirror actual user behavior across different personas. Rather than constructing artificial benchmarks that might favor one approach over another, we've developed complete task sequences that try to encompass the full complexity of modern work.

For each scenario we test, we create two distinct implementations: one that leverages currently available Al capabilities and another that follows traditional processes. Both workflows target identical outcomes

and deliverables, ensuring that we're measuring different paths to the same or similar destination rather than comparing fundamentally different tasks. This approach acknowledges that Al-enabled workflows may use entirely different applications or involve novel steps that have no traditional equivalent, such as automated content generation followed by human refinement.

It's important to note that these workflows don't always use the same applications or follow the same procedural steps. Al might fundamentally change how we approach certain problems, enabling solutions that were previously impractical or impossible. For instance, where a traditional workflow might require manual data entry and analysis, an Al-enabled

approach might use natural language processing to extract and interpret information automatically. Despite these differences, both workflow types have identical business objectives: delivering required outputs with acceptable quality standards in a timeframe that meets business needs.

Our testing philosophy embraces the current reality of hybrid Al deployment. Despite the rapid evolution of Al PCs and the trajectory toward local, ondevice processing, today's optimal solutions often combine cloud-based and local compute resources. We haven't artificially constrained our workflows to use only local processing, as this would misrepresent the tools and techniques available to users today. Instead, we've

documented where cloud processing is currently required, providing readers with the information they need to make informed decisions about security, privacy, and infrastructure requirements.

This pragmatic approach to cloud versus local processing reflects our belief that the market is clearly moving toward increased on-device capabilities. Each new generation of AI PC hardware enables more local model execution, gradually reducing dependencies on the cloud. By documenting which workflow elements currently require cloud processing, we're providing a roadmap to understand how infrastructure needs may evolve as technology advances.

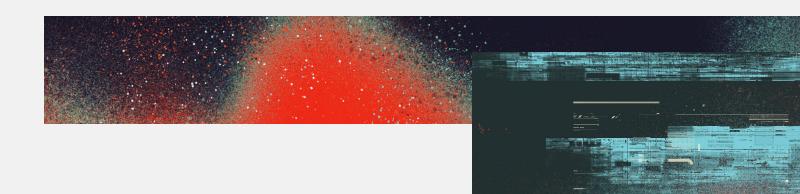


Appendix

The metrics we capture extend well beyond time measurements, though efficiency does form the quantitative basis of our analysis. These granular measurements allow us to differentiate between active work time, where user engagement is required, and passive processing time, where users can potentially multitask. This distinction proves crucial for understanding the true productivity impact of Al enhancement.

Our testing infrastructure combines automated scripts with manual execution to ensure both reproducibility and realism. We employ AutoHotKey scripts to standardize user interactions, eliminating variability from factors like typing speed or navigation patterns. Python automation handles data collection, timing measurements, and result aggregation, while specialized tools like Camo Studio for screen recording/playback, LM Studio for local large language model deployment, and VB Cable for audio routing ensure comprehensive workflow capture. Each workflow undergoes a minimum of three iterations, with results averaged to account for system variability and ensure statistical validity.





Important Information About this Report

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Contact us if you would like to discuss this report and Signal65 will respond promptly.

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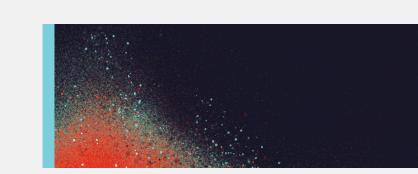
AMD

together we advance_

About Signal65

Signal65 exists to be a source of data in a world where technology markets and product landscapes create complex and distorted views of product truth. We strive to provide honest and comprehensive feedback and analysis for our clients in order for them to better understand their own competitive positioning and create optimal opportunities to market and message their devices and services.





System Configurations

LENOVO THINKPAD T14S GEN 6

CPU AMD Ryzen Al 7 PRO 360 **Graphics** AMD Radeon 880M **RAM** 32GB LPDDR5X-7500 Storage 1TB Kioxia KXG8AZNV1T02 14" 1920x1200 Display System BIOS R2NET36W (1.10) **Operating System** Windows 11 Pro 26100.2894 **Windows Power Mode (Performance Testing) Best Performance OEM Power Application Settings (Performance Testing)** Intellegent Cooling Windows Power Mode (Battery Life Testing) Best Power Efficiency **OEM Power Application Settings (Battery Life Testing)** Intelligent Cooling **Virtualization Based Security** Enabled

