

WORKFORCE MOBILITY

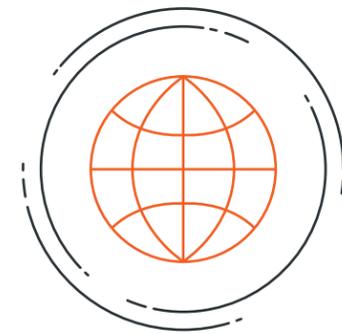


DEVICES ARE DECISIVE

WHITEPAPER



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ADDRESSING THE MOBILITY DILEMMA

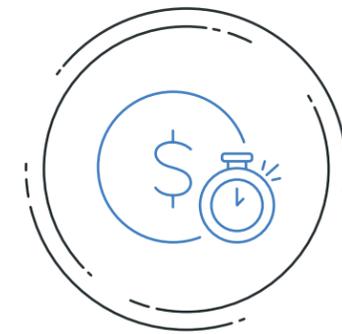
Today's workforce is on the move. And as an organization embracing the digital wave, you need to ramp up your mobility game to ensure that your workforce is productive. But enabling mobility can become a nightmare for your IT team. They need to ensure flexibility and interconnectivity for the mobile workforce, while keeping your data and devices secure.

Your move to mobility also increases cost and risk. So the dilemma you're probably faced with right now is: how to maximize the benefits of mobility while minimizing the costs and security risks?

In this whitepaper, we are going to elaborate on the technological nuances Lenovo incorporates in its devices that help the mobile workforce be at their productive best.

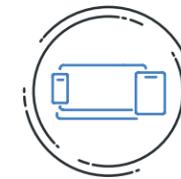


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TOTAL COST OF MOBILITY OWNERSHIP

Before getting started, it's important to look at the total cost of ownership of moving to a mobile workforce:



Direct IT costs pertaining to device lifecycle management, including purchase, delivery, infrastructure, security, user support, repair, and replacement.



End user time costs such as time spent troubleshooting, fixing older devices, and learning how to use a new device.



Productivity gains from higher-performance devices and devices that increase employee mobility.

If you are contemplating not enabling mobility for your organization, think again!

Benefits of a mobile workforce:

- Increased productivity
- Improved efficiency
- Streamlined business workflow

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HOW DO YOU GET STARTED?

It's clear that we're in a state of transition. While many of us are making the move to digital transformation, we're being urged by pundits to consider adopting new technologies: IoT, augmented reality (A/R), virtual reality (V/R), AI, robotics, and many more.

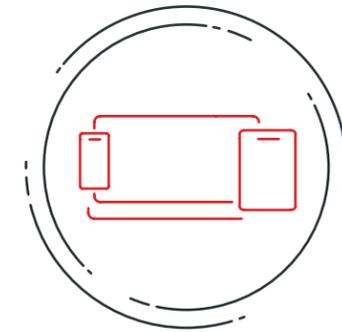
At Lenovo, we believe that it doesn't make sense to adopt new technologies until you have a future-ready infrastructure. Once you have such an infrastructure, the doors will be wide open for you to choose whatever tools you determine are right for your organization.

How do you get a future-ready infrastructure? You start with the right devices. The devices you choose to give to your employees will have a direct impact on their productivity, efficiency,

and ability to retain the right skills. The right devices can unlock massive potential for your employees where they can work nonstop, focusing only on their work.

The devices you choose will also have a huge impact on end-point security, which is of utmost importance with a mobile workforce.

Last but not least, it's critical that the devices you choose have the necessary features to fully support any high-end software that employees need to run on their devices.



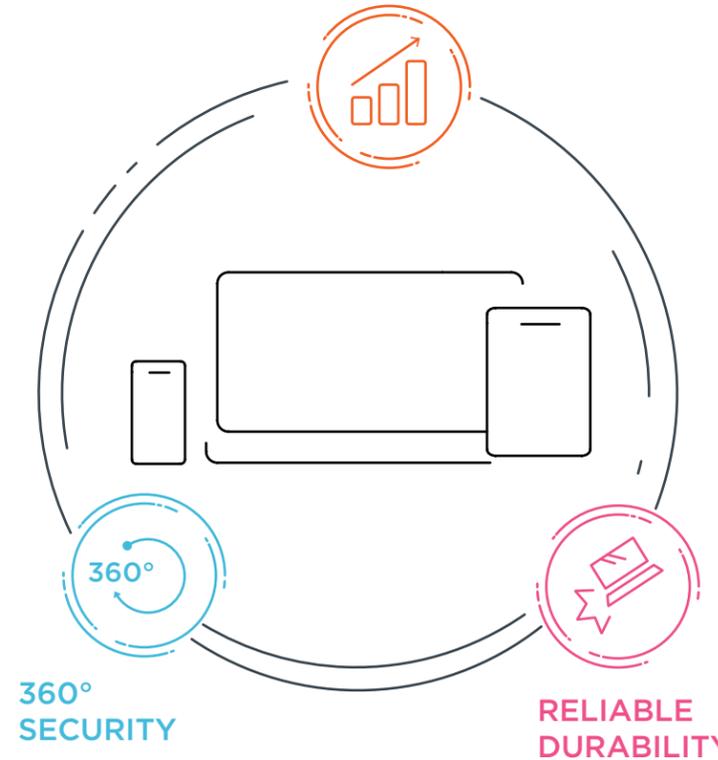
THREE ESSENTIALS OF MOBILITY

UNCOMPROMISED PRODUCTIVITY



Lenovo takes specific measures to make sure our devices are an extension of the new-age mobile workforce, giving employees the flexibility to work anywhere, anytime and any way they want while ensuring the IT department still has an upper hand when it comes to security and manageability.

On the next few pages, we will explore how the **ThinkPad X1 Series, ThinkPad X Series, ThinkPad P Series, Lenovo V Series, and Lenovo Tablets**, address each of these elements.



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THREE ESSENTIALS OF MOBILITY UNCOMPROMISED PRODUCTIVITY

When you think about productivity in a mobile world, you need to think about:



PERFORMANCE

The key elements for optimum mobile device performance are:



Powerful processors



Immersive graphics



Adequate RAM



Large displays



Long battery life

Lenovo devices come with Windows 10 Pro operating system. So, you never have to compromise on device performance again.

The ThinkPad X1 Series gives you the horsepower to handle heavy tasks and battery life to last all day. **The ThinkPad X1 Carbon and X1 Yoga can last up to 15 hours and can charge up to 80% in an hour.**



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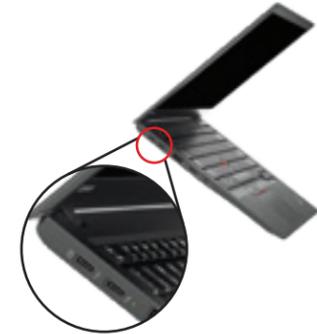
Apart from the heavy duty performance features, the X1 devices also take care of the finer details to ensure maximum productivity, like:

Latest Processors
Up to **8th Generation Intel® Core™ i7 Processors**



Display
Wide Quad High Definition (WQHD) OLED Display

Ports
2 **Intel® Thunderbolt™ 3**, 2 USB 3.0, HDMI, RJ45, MicroSD, MicroSIM



Better Connectivity
New antenna design with gold-plated shielding ensures strong signal strength

Low Blue Light
Reduces the amount of blue light that is emitted from the display and helps reduce eye fatigue



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THREE ESSENTIALS OF MOBILITY UNCOMPROMISED PRODUCTIVITY



FLEXIBILITY

Our devices ensure flexibility to keep up with modern collaboration options. Workforce mobility can be facilitated through:

Self-service Support Options

Boost the value of your mobile devices with Lenovo's accessories ecosystem. Connect ultrabooks and laptops to **multiple monitors** for better visualization and multitasking. Or attach a **wave keyboard** for more comfortable and accurate typing experience.



Docking Options

Experience easy portability for the ThinkPad X1 Series, ThinkPad T Series, ThinkPad P Series, and Lenovo V Series devices as they include the **ThinkPad Thunderbolt™ 3**. Connect a cable from your USB-C port to a **Thunderbolt 3-enabled device**, and **get four times the data and twice the video bandwidth of any other port type**, while also supplying power. So you get **Thunderbolt**, USB-C, and DisplayPort. Plus, you can even **output to two 4K displays with the Thunderbolt Dock**.

High-quality User Experiences

Enjoy multiple modes for a comfortable working experience on convertibles.



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CONNECTIVITY

Connectivity is the heart of productivity. Our devices keep you up and running even if you are out of WiFi range. Fast mobile broadband ensures users are always connected to all their data and apps in the Cloud:

LTE-A (4G)

Even when WiFi is out of range, the optional Qualcomm® Snapdragon™ X7 LTE-A means **users always have connectivity and access to all their data and apps in the Cloud**.

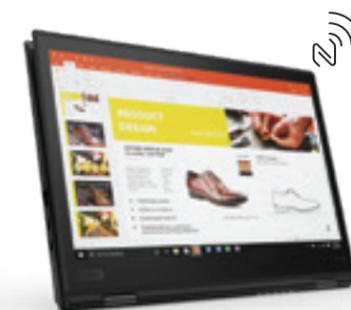


Tri-Band Wireless

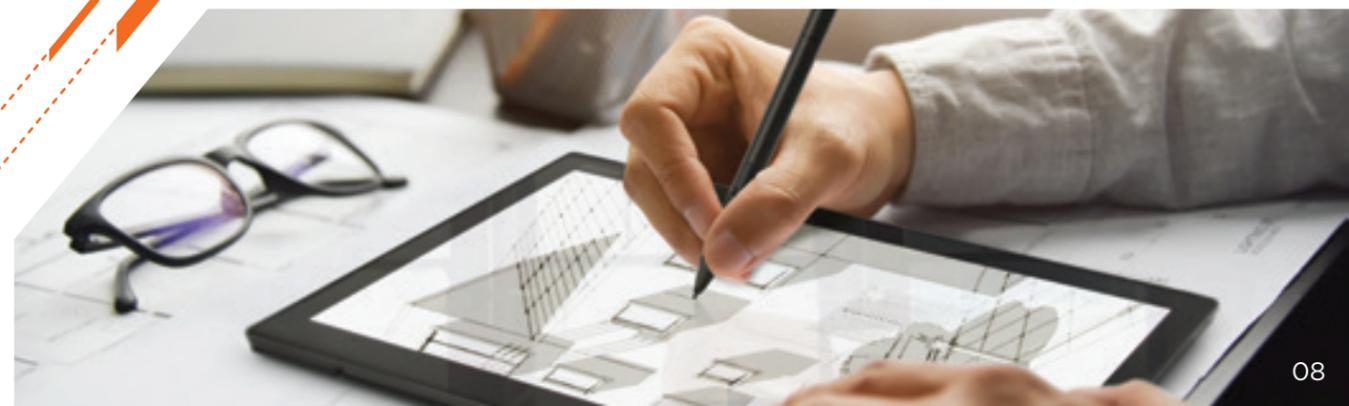
The **Intel® Tri-Band Wireless** delivers high-speed wireless docking connectivity for mobile devices like 2-in-1s, tablets, and laptops. This means users **can have WiFi-like connectivity anywhere, anytime, without any hassles**.

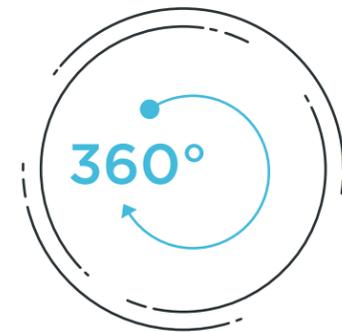
Near Field Communication (NFC)

Bluetooth-like feature to facilitate data transfers to nearby devices. To break in through an NFC signal, a user **needs to be physically close to the company's PC and have the right NFC tag**.



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THREE ESSENTIALS OF MOBILITY

360° SECURITY

Business PCs need several layers of security, including data encryption, theft and loss prevention, and protection from unauthorized use. All of these layers need to work together and be easy to manage.

Lenovo has a 360° approach to security which is a cohesive mesh of features and technologies that deliver maximum protection in a business PC. And with built-in Windows 10 Pro security, data security is never a worry.



Biometric Fingerprint Recognition Technology



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USER ACCESS CONTROL

Ensures PC access for authorized personnel only

Multi factor authentication

Lenovo's biometric fingerprint recognition ensures simplified access management and robust security. Leading in multifactor authentication, Lenovo also offers the following features in its devices:

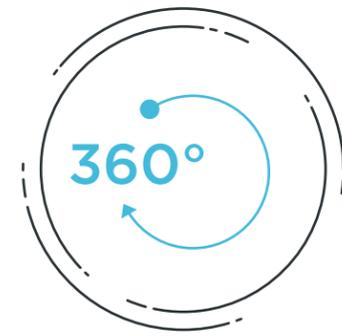
- **Match on chip (MOC)** is the most secure implementation of fingerprint technology on a PC — it stores biometric credentials on a separate chip inside the hardware with 256-bit AES (Advanced Encryption Standard) encryption.
- Since image processing and secure matching takes place on the sensor chip and not in software, the user data remains protected from malware attacks.
- Intel® Authenticate stores biometric, security credentials, and IT policy engine in the hardware instead of the OS or third-party software. Since the data is captured, encrypted, matched, and stored in hardware, reaching it becomes harder even for the most advanced threats.
- This reduces exposure to software-level attacks such as password cracking, phishing, and screen scraping, strengthening identity protection on the PC.

IR Camera with Windows Hello

With Windows Hello, the optional IR camera on selected devices simplifies and secures the login process. Windows Hello face authentication uses a camera specially configured for near infrared (IR) imaging to authenticate and unlock the device. Also, the IR camera doesn't capture photos - this prevents spoofing and provides uncompromised security.

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THREE ESSENTIALS OF MOBILITY

360° SECURITY

Smart Card Access

An intelligent way to manage access to multiple devices sans passwords, these tamper-resistant cards store the user's login information on an embedded chip. This user data can only be accessed through the smart card operating system with proper access rights. With a robust set of encryption capabilities including key generation, secure key storage, hashing, and digital signing, smart cards directly implement two-factor authentication, ensuring that devices are averse to threats.

Near Field Communication (NFC)

NFC is a type of radio communication standard, much like Bluetooth, WiFi, and other networking technologies. To snag the NFC signal to log in, the user needs to be physically close to the PC with the right NFC tag or a secondary device like their smartphone. Without the tag, it is impossible to hack into the device.



Smart Card Access



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PORT AND PHYSICAL PROTECTION

Prevent data theft from USB or other access ports on company PCs

Smart USB Protection

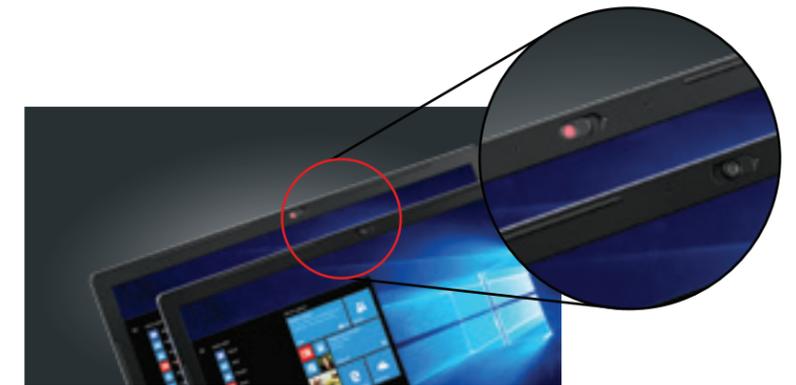
Blocks the data transfer capability of the USB port. But keeps the ports functional for input devices like mouse and keyboard.

Camera Shutter

Camera hacking risks can be avoided by physically covering the camera. With the shutter built into the camera, protecting privacy just requires closing the camera cover.

Chassis Lock

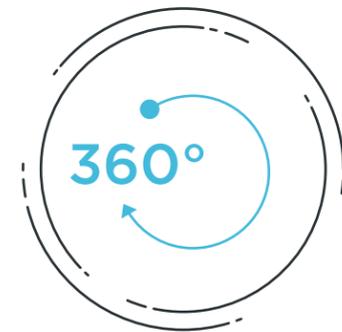
A lock and key mechanism prevents theft of components like hard drives and graphics cards.



Camera Shutter

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THREE ESSENTIALS OF MOBILITY

360° SECURITY



DATA PROTECTION

Prevent data theft and loss

Fast Identity Online (FIDO)

FIDO-enabled authentication reduces dependence on user passwords by using hardware, mobile, and biometric-based authenticators. This simpler and safer approach prevents potential data threats like phishing, man-in-the-middle, and stolen passwords. FIDO protocols are based on public key cryptography to access FIDO-enabled services, which creates a better security for accessing popular websites and online services.

Discrete Trusted Platform Module (dTPM) 2.0

The embedded dTPM 2.0 chip enables and stores unique RSA encryption keys specific to the host system for hardware authentication. Tamper resistant technology keeps it unaffected by the malicious software.

Better Management and Control

Experience Pro SSD integration with **Intel® Remote Secure Erase** from **Intel® Active Management Technology (Intel® AMT)**.



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In-built Mobile Device Management

Windows 10 Mobile Device Management (MDM) support, lets you use Cloud-based management services* to control business and personal devices. Your employees get access to corporate applications, data, and resources from virtually anywhere on almost any device, while IT helps keeping your business information secure.

*Sold separately

BUFFERZONE®

BUFFERZONE enables employees to browse the net safely by opening the browser in a container in case a threat is detected. With detailed reporting and integration with SIEM and Big Data analytics, BUFFERZONE helps identify targeted attacks.

Coronet

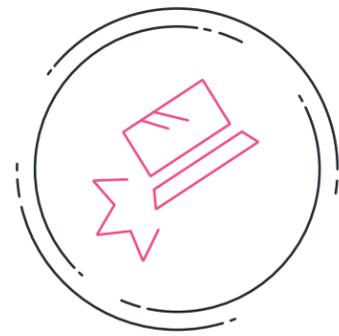
Coronet can detect and evade unsafe wireless connections over both WiFi and Cellular networks. It requires no installation and ensures that only trusted devices, networks, and Cloud services can access your data.



dTPM 2.0 chip

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THREE ESSENTIALS OF MOBILITY

RELIABLE DURABILITY

Durability doesn't mean bulky looking devices. Neither does it mean that sleek, good looking devices cannot withstand daily bumps and knocks they may be subjected to when employees are on the move. Want to know what durability truly means? Explore Lenovo ThinkPad devices.



FINEST MATERIALS

The lightness, rigidity, strength and feel of a laptop are highly influenced by the type and mix of materials used. Lenovo prides itself on using superior materials:

- The carbon fiber used in ThinkPads offers **superior strength and rigidity**
- The grade of carbon fiber used is the same as that used on satellites with 1/3rd the weight of Aluminum and **50% more strength than magnesium** at almost 1/2 the weight
- For parts like the palm rest area, which are subjected to extra stress, we use **magnesium, which provides maximum strength**

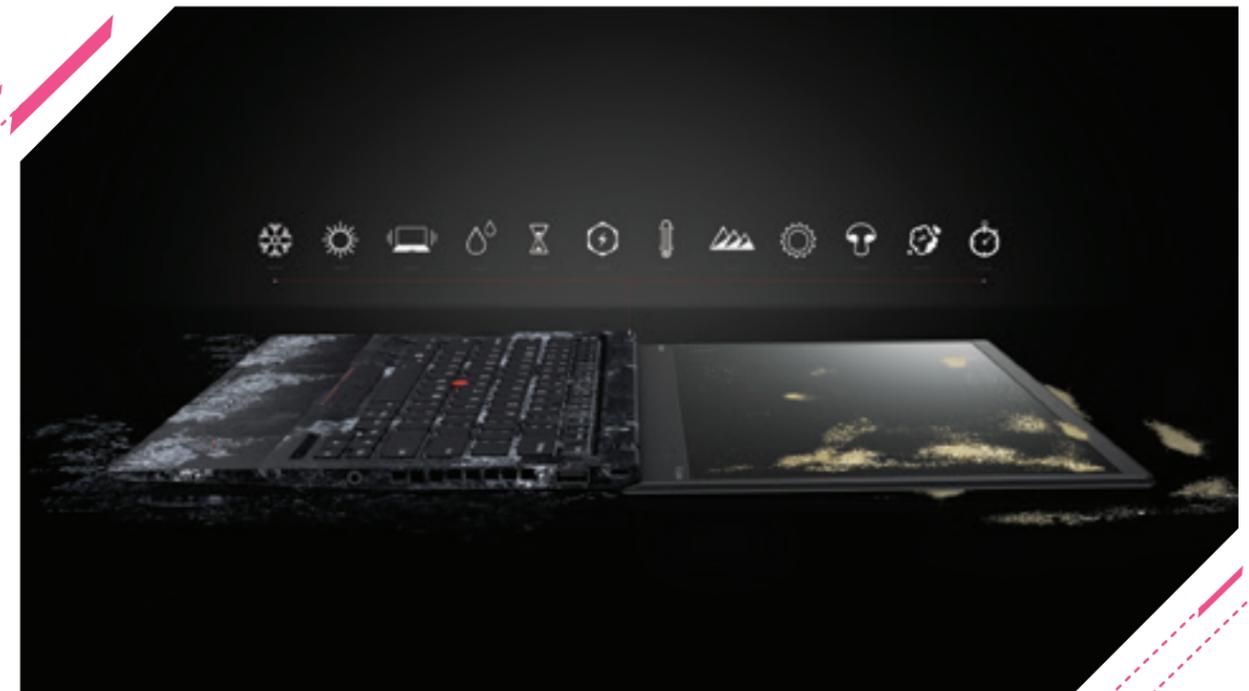


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The benefits:

- Optimal balance of strength and lightness
- Superior performance of all wireless features
- Premium finish, feel, and paint durability
- Extended resistance to physical wear and tear
- Lighter, stronger, and more durable than other products in the market

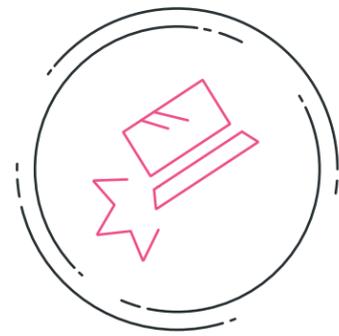
Lenovo™



MIL-SPEC Tested

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THREE ESSENTIALS OF MOBILITY

RELIABLE DURABILITY



INNOVATIVE TECHNOLOGY

Innovative technology is about using proven techniques in new and creative ways to solve genuine user problems, address electronic and mechanical design challenges, and enhance features and functions of the operating system.

Innovative technology in PCs should influence features like design and user input systems, performance, reliability and durability, thinness, lightness, cooling and heat dissipation, wireless performance, and overall user safety.

Here are Lenovo's latest innovations that will have a big impact on business users:

User Input

Precision touchpad and Wave keyboard on convertibles and 2-in-1s for easy usability in various modes.

Security

ThinkPad Glance (using IR camera) and Match on Chip Fingerprint Reader (MoC FPR) to ensure PC access for authorized personnel only.



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Performance

New antenna location and narrow bezel design that enhance wireless performance and durability.

Durability

New carbon fiber top cover to protect ThinkPads from everyday bumps and knocks.

Reliability

Diagnostic SmartBeeep and Diagnostic App to identify the nature of any problem with a simple smartphone app for faster resolutions.

Cooling and Heat Management

Intelligent sensing and cooling to reduce heat and ensure user comfort while working with the ThinkPad placed on the lap.

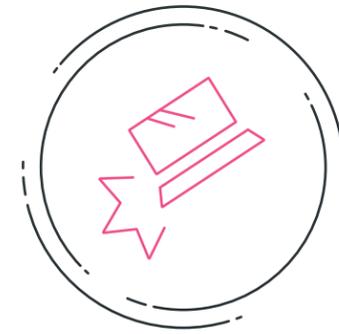
Safety and Device Protection

Anti-fry protection on USB-C protects the ThinkPad from accidental exposure to higher voltage.



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THREE ESSENTIALS OF MOBILITY

RELIABLE DURABILITY



RELIABILITY

For users who work on the go, it's important to have PCs that can perform consistently in all conditions and can withstand anything from accidental drops to extreme temperatures.

ThinkPads go through a range of tests and comprise some trademark features that make them more reliable.



MIL-SPEC Tested

With four layers of carbon-fiber reinforced chassis and a **magnesium alloy roll cage for added strength**, we've engineered our devices to handle whatever comes your way. From **spilled drinks, to drops and knocks**, these devices are tested against **12 military-grade requirements and pass more than 200 durability tests.**

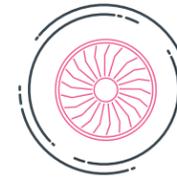


Intelligent Sensing and Cooling

Lenovo's in-built intelligent sensing and cooling system helps to reduce heat and ensure user comfort while working with the ThinkPad placed on the lap. It uses the on-board accelerometer **to detect the mode of usage and vary power consumption to deliver effective cooling levels which allows ThinkPads to be up to 15% cooler and 10% quieter.**



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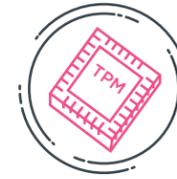
Owl Wing Fan

ThinkPads have the new 8th Generation, patented owl wing inspired fans which churn out 38% more airflow and **15% better thermal performance over previous generations to ensure it is dustless for enhanced reliability.**



SmartBeep Technology

Lenovo's SmartBeep technology allows you to quickly identify the nature of any problem with a simple smartphone app for faster resolutions. A series of musical tones are produced by ThinkPad Intelligent Diagnostics which are interpreted **by the smartphone app to show precisely the origin and nature of issue for faster resolution.**



Discrete TPM Security

All models of the ThinkPad now have a Discrete TPM 2.0 hardware security chip with TCG certification. **The dTPM 2.0 chip encrypts user data on the PC.**

CONCLUSION

As the workforce is on the move, there are several factors of end-user computing that need to be considered. Apart from performance features, Lenovo looks into the finer details to ensure maximum productivity of the mobile workforce. Lenovo's solutions with respect to the three essentials for mobility - **Uncompromised Productivity, 360° Security, and Reliable Durability** - showcases its prowess in the IT solutions space and why Lenovo is an obvious choice when it comes to workforce mobility solutions.

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THINK MOBILITY THINK LENOVO

When you're thinking about an **end-to-end partner** for all your workforce mobility requirements, **think Lenovo**.

THINKPAD X1 SERIES

ThinkPad X1 Yoga



ACCESSORIES



ThinkPad Thunderbolt dock

THINKPAD X SERIES

ThinkPad X380



ACCESSORIES



Lenovo USB-C Travel Hub

THINKPAD T SERIES

ThinkPad T480s



ACCESSORIES



ThinkPad T580

Lenovo stereo headset



**THINK MOBILITY
THINK LENOVO**

THINKPAD P SERIES

ThinkPad P52s ThinkPad P71

ACCESSORIES

Lenovo fingerprint biometric wired mouse

LENOVO V SERIES

Lenovo V330

ACCESSORIES

Lenovo V730

Portable hard drive

LENOVO TABLETS

Lenovo Tablet 10

ACCESSORIES

Lenovo 17" Passage Backpack

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5

reasons

why Lenovo is a difference maker



Trusted around the world



Expertise across categories



Confidence in our products



Business-boosting technology



Flexible support network



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