

Sustainability Report

2022



Technology Lights Up a Bright Future

Technology Sharing | Green Symbiosis | Value Creation | Community Responsibility

A photograph of two large white wind turbines standing on rolling green hills under a blue sky with scattered white clouds. The hills are covered in lush green grass, and the scene is bathed in bright, natural light. The text is centered in the middle of the image.

Create great products for users and
collaborate with partners to
build a healthier and longer-lasting
sustainability ecosystem.



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About the Report

This report is the second sustainability report ("the Report") released by vivo Holdings Limited (hereinafter referred to as "vivo", "the Company", or "we") to the public. Upholding the principles of objectivity, standardization and transparency, vivo discloses each year the Company's sustainable development management status, and promote mutual understanding, communication and interaction between vivo and stakeholders, as well as enhance the corporate information transparency.

The preparation of 2022 Sustainability Report remains the same as in 2021, with any changes noted separately.

Basis of Preparation

This Report is prepared with reference to the GRI Sustainable Development Report Standards (hereinafter referred to as "GRI Standards") issued by the Global Reporting Initiative (hereinafter referred to as "GRI"), the Sustainable Development Goals (hereinafter referred to as "SDGs") of the United Nations and the Ten Principles of the UN Global Compact.

Scope of This Report

The organizational scope of this Report covers all entities of the Company that have control or significant influences over financial and operational policies and measures. The information and data in this Report mainly cover the concepts, important progress, management practices, etc., of vivo Mobile Communication Co., Ltd, Guangdong BBK Electronics Technology Co., Ltd, Shenzhen iQOO Communication Software Co., Ltd and Nanjing vivo Software Technology Co., Ltd. from January 1, 2022 to December 31, 2022. To enhance the integrity of this Report, partial relevant contents that have been traced back to the time prior to the reporting period are stated separately.

Unless otherwise stated, the currency used in this Report is RMB.

Data Sources

All the data used in this Report is from vivo's internal official documents, statistical reports, third-party questionnaire surveys, and relevant public information.

External Assurance

This report has completed SGS's independent assurance, in review the reliability of the sources and data handling of the relevant information disclosed in the Report (Page 79 for details).

Availability

This independent Report is released in August 2023 in Chinese and English versions. You can read or obtain the Chinese and English electronic versions of this Report at:
<https://www.vivo.com/en/activity/csr>

Feedback

If you have any questions or feedback on this Report and contents, please contact us by:
Email: CSR@vivo.com

Responsibility Message

Act to the very beginning mind and collaborate for sustained development

vivo's sustainability strategy should stick to "Act to the very beginning mind". "Very beginning mind" indicates the belief in own inner passion and desire, while "Act to" refers to attaining them through creative ways.

vivo's fundamental mission is to create joyful experience to users and to make a meaningful difference to the world through great products and technological innovation. As technological innovation is the primary driving force for sustainable development in human society, it is the duty of tech companies as well as our original aspiration and goal to utilize technologies to light up our bright future.

Guided by company's Sustainable Development Vision and United Nations' SDGs, vivo has identified 4 strategic directions for sustainable development, namely "technology sharing", "green symbiosis", "value creation" and "community responsibility". We hope to build a more inclusive digital bridge, embrace green operation, institute a mutual-trust and win-win value ecology, promote balanced social development through public welfare, and effect more bliss and magnificence.

Technology sharing: We are seeing the fruits of benefiting everyone through technology a reality. vivo makes professional imaging capabilities available to everyone, which enables users to write their own memorable and lively moments with excellent photography. The development of AI, chips and other underlying technologies has made our operation system smoother and easier-to-use, advancing user ability to see, hear and work, as well as bringing the beauty of technological progress to more people. For example, we launched the "Sign Language Interpreter" function, which realizes the integration and transition of sign language, voice and text, effectively

assisting the hearing-impaired basic conversations with others. We also actively promote phones' elderly-oriented development, launching voice assistants, screen-reading operations, emergency medical care and other functions, making it easier for the elderly users to enjoy a more convenient digital life.

Green symbiosis: For vivo to succeed in the future, it is imperative that we respect, adapt and give back to the nature.

vivo considers green operation to be an opportunity for enterprise innovation and growth. Our photovoltaic power station completed in 2022 is expected to provide vivo with nearly 4 million kWh of clean electricity every year. We integrate the concept of green operation into every link of our value chain and continue to improve in design, packaging, material selection, electronic waste recycling, etc, creating values and protecting environment through innovation. In 2022, We also chose more renewable and degradable materials from the source, completely replaced traditional inks with plant-based inks, reduced the consumption of non-renewable resources, and increased the reuse of aluminium alloy materials. Such



Shen Wei
vivo Founder
President, and CEO

innovative efforts have been propelling circular economy, and no matter big or small, contributing to our planet protection and bright green future.

Value creation: We hold a firm belief that “Collaborate for sustained development” allows us to steadily reach the destination with partners in shared values, just like migrating geese flying in formation. vivo chooses to work with outstanding partners in various fields at home and abroad to achieve win-win results, drive the development of the industry chain, and create an excellent product experience for users. We work with value chain partners in R&D to overcome technical difficulties and create new markets through differentiated innovation. We open up our hardware and software platforms as well as development tools to our developer partners, to build a network security ecosystem. We work efficiently with our agency partners through digital management platform, helping them to improve customer management and store operation efficiency in all aspects.

Community responsibility: As a global corporate citizen, vivo, grounded on our technological advantages and humanistic ideas, implemented diversified public welfare programs. Since 2022, we launched the “Painting Our Future Public Welfare Program”, to help every child discover, feel and create beauty,

touching their great creativity by empowering rural teachers ability to aesthetic classes. As an ancient Chinese saying goes, “everything in our natural world, ranging from mountains, rivers to water ponds, is spiritually influential and essential to our human nature”, while we need to live in harmony with nature. For this purpose, we started the “National Parks Protection Campaign” to help rangers preserve biodiversity. Accessibility prolongs with love, and the mission of technology is to leave no one behind. We are committed to technology inclusion and care, promoting the “Voice with Breath Public Welfare Program” to encourage barrier-free communication.

The future is not to be predicted but rather created. Only by staying true to our original aspiration and our devoted career can we stimulate a constant flow of imagination and creativity, while creativity resonates out of co-frequency, and surges out of resonance. vivo strives to “Act to the very beginning mind”, “Collaborate for sustained development” with more partners sharing the same vision, and pursues the goal with perpetual effort, to create a more beautiful, majestic and sustainable future.

About vivo

Company Profile

vivo at a Glance

vivo is a design-driven technology company that creates great products with intelligent terminals and intelligent services as the core. We are committed to becoming a bridge connecting humans and the digital world and providing users with a more convenient digital life through unique creativity.

vivo's Strength

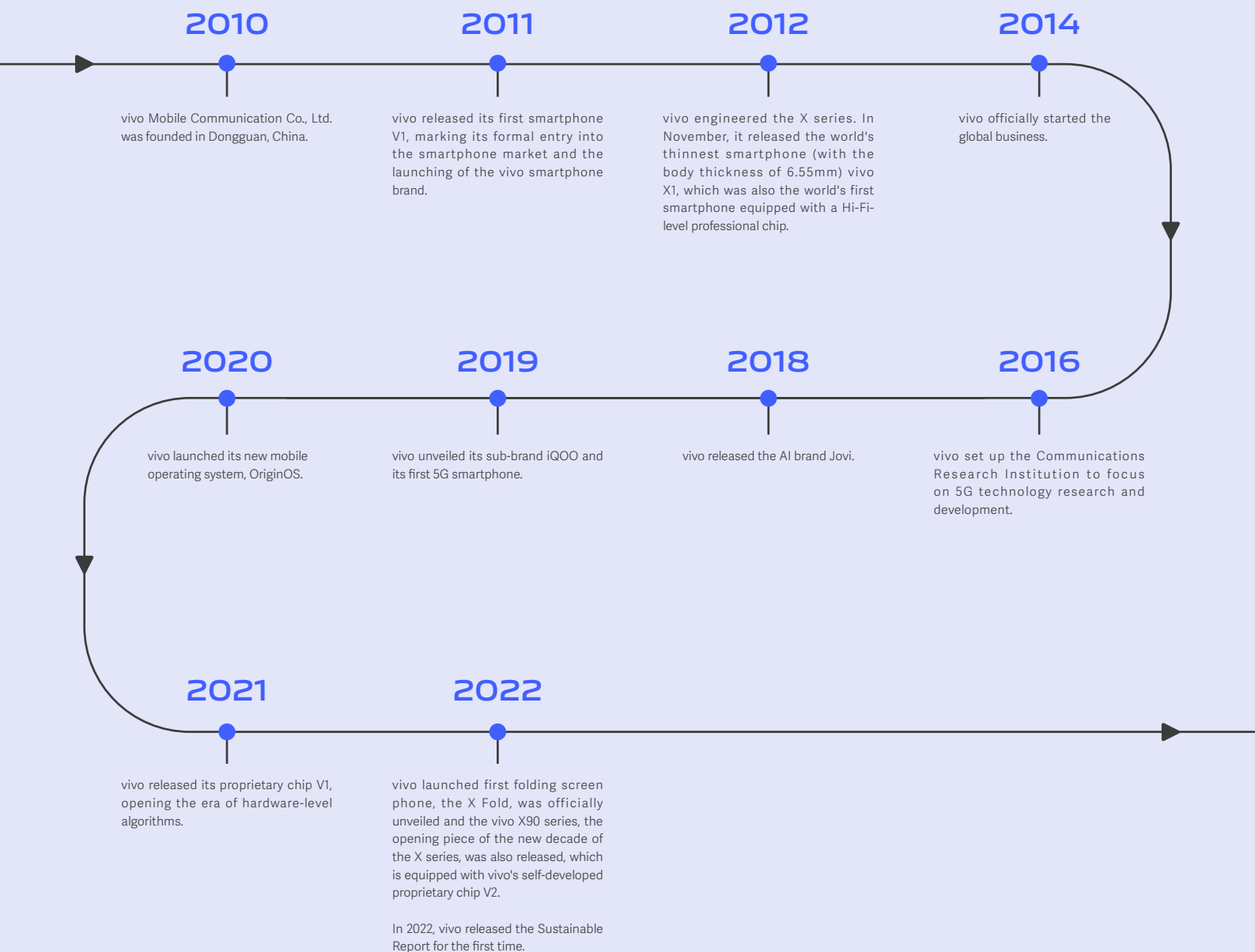
vivo has fully absorbed and developed local talent resources and deployed an extensive R&D network covering Shenzhen, Dongguan, Nanjing, Beijing, Hangzhou, Shanghai, Xi'an and other cities, focusing on the frontier fields of 5G communications, artificial intelligence, industrial design, imaging technology and many other personal consumer electronics products and services. Thanks to vivo's intelligent manufacturing network (including brand licensing), today, vivo has an annual production capacity of nearly 200 million units, providing high-quality products and services to more than 500 million users in more than 60 countries and regions.

vivo's Mission and Vision

vivo implements sustainability strategies throughout the value chain and upholds the corporate mission of "create great products for users, create a joyful and progressive environment for employees, create win-win platforms for partners based on mutual trust, and render steady long term returns on investment for shareholders." We aspire to develop into a healthier and more sustainable world-class corporation.



Historical Events



Products

vivo

X Flip series

Professional folding technology flagship



X Flip series

High-end folding flagship



X series

Professional photography technology flagship



S series

Stylish and light with excellent portrait photography



Y series

Ultra-slim body and crystal clear displays



Smart terminal

Multiple smart terminals that enrich users' digital experience



iQOO

Digital series

Future esports flagship



Neo series

New-generation performance flagship



Z series

Super effective



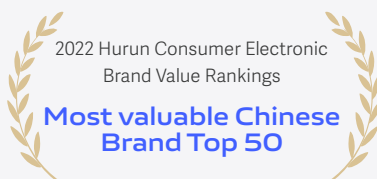
Smart terminal

Multiple smart terminals that focus on e-sports

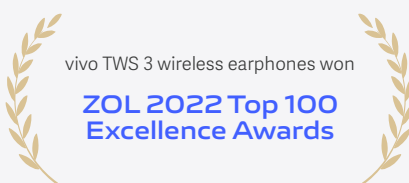
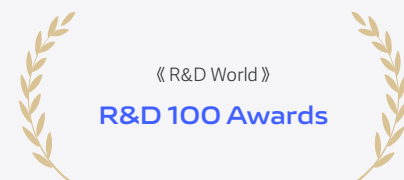


Honours and Awards

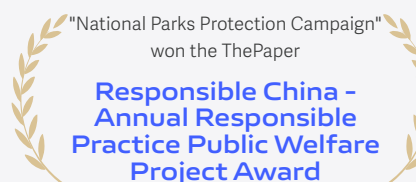
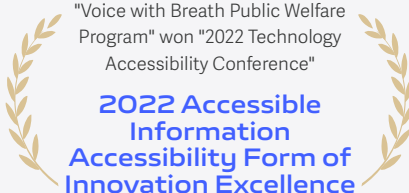
Corporate and Brand



Products, Design, Technology



Social Responsibility



Sustainability Governance

Sustainability Strategy
Sustainability Governance

Sustainability Strategy

vivo adheres to the sustainable development vision of "Healthier and More Sustainable" and persists in long-termism and sustainable development. Sustainability is an integrate part of vivo's mission since the establishment.

vivo joined the United Nations Global Compact (UNGC) in 2019 and is committed to abiding by the ten principles of the UNGC, keeping integrating vivo's sustainable development strategy with these principles to better direct our global operation, and supporting and fulfilling the global commitment to sustainable development with practical actions.

Aligning our own business with the United Nations' SDGs, we have set four major directions for sustainable development, namely "technology sharing", "green symbiosis", "value creation", and "community responsibility". We hope to build a more inclusive digital bridge to practice green development, establish a mutual-trust and win-win value ecosystem, and in effect provide happiness and greatness.

WE SUPPORT



● Technology Sharing

Continuous technological innovation and fulfillment of digital responsibilities to bring users convenience and pleasure with technology and connect to a bright digital future.

● Green Symbiosis

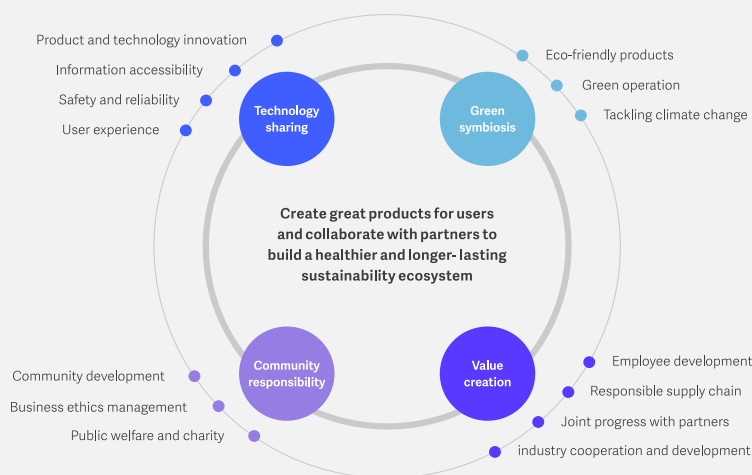
Low-carbon and green operation to promote circular economy, engineer sustainable products, jointly protect the earth, and usher in a bright green future.

● Value Creation

Guarantee of employees' rights, interests and development, partnership of empowerment and mutual assistance, and joint establishment of a mutual-trust and win-win eco-platform to shape a bright value future.

● Community Responsibility

Robust development with strengthened management of risks and business ethics to care for communities, contribute to public welfare, and shore up a bright responsible future.



Sustainability Governance

Guided by the sustainable development strategy, vivo integrates the concept of sustainable development into the whole process of enterprise operation by setting up and constantly improving the Corporate Social Responsibility (CSR) management mechanism. The Company's Management Committee (the highest decision-making body) has set up a CSR Committee, consisting of a director served by the Company's senior vice president and members including senior managers in various fields to ensure effective management and achieve targets of sustainable development issues. The CSR Committee is responsible for managing and supervising issues and ensures that the Company's CSR

management meets the requirements and expectations of important stakeholders through management implementation, continuous improvement, and active response to the concerns of important stakeholders. To guarantee the orderly progress of material sustainability issues, the CSR Committee holds quarterly meetings to discuss and make decisions on key issues, and report to the Management Committee. The CSR Committee has set up a special team for key issues, consisting of professional representatives in relevant fields regarding each issue. The team is responsible for the effective implementation and steady improvement of management initiatives to further promote sustainable development of the Company.

Stakeholder Communication

vivo highly values stakeholders' expectations and demands. We are committed to building a diversified, normalized, and effective communication mechanism to enable interaction and communication with stakeholders. Through active communication, we constantly improve our management on each sustainability issue and our sustainability strategy.

Stakeholders	Customers and consumers	Regulators and industry organizations	Business partners	Employees	Shareholders and investors ¹	Communities and the public
Main focus	Product innovation and inclusion	Legally compliant operation	Fair trade and contract performance in good faith	Good working environment	Stable operation and management	Promoting the development of community utilities
	Product quality and safety	Contribution to industry development	Resource sharing and win-win cooperation	Remuneration, benefits, and incentives	Company governance	Public charity
	Project lifecycle management	Creating social value	Training empowerment	Career development and self-fulfilment	Financial performance	Protecting the ecological environment
	User privacy protection	Response to climate change	Honest and transparent procurement	Work-life balance		Transparent information communication and sharing
	High-quality customer service					
Main communication methods	Business meetings	Policy document study	Business meetings	Various daily employee communication channels	Company annual report and results announcement	Company news and media reports
	Product exhibitions and publicity materials	Government communication meetings at all levels	Partner exchange meetings	Employee satisfaction survey	Investor meetings and activities tele-phone calls , in-person meeting and on-site visit	Public welfare programs
	Pre-sales communication and after-sales service	Industry conferences and forums	Daily phone and email communication	Democratic management mechanism		On-site communication
	New social media	Academic research and standard formulation	Information collaboration platform	Enterprise open day		
		Project cooperation				
		Reception of various visits				

¹ "Shareholder and Investor" is new addition in 2022.

Issue Materiality Analysis

According to the guidelines of the GRI Standards and ISO 26000 Guidance on Social Responsibility pertaining to methods for identifying and analysing material issues, we identified 20 sustainable development concerns most closely related to corporate operations in the four dimensions of environmental responsibility, social responsibility, product responsibility and corporate governance, and we invited a wide range of stakeholders of vivo to participate in a questionnaire survey on sustainability issues. Through comprehensive quantitative evaluation and prioritization, we developed the issue materiality matrix based on two dimensions of "importance to the sustainable development of the Company" and "importance to the stakeholders".



Step 1

Issue Identification

We identified 20 issues in 4 dimensions from sources that include:

- Guidelines and standard requirements for sustainability reporting;
- Corporate sustainable development status assessment and maturity analysis;
- Peer benchmarking analysis;
- Key concerns of important stakeholders.



Step 2

Stakeholder Questionnaire Survey

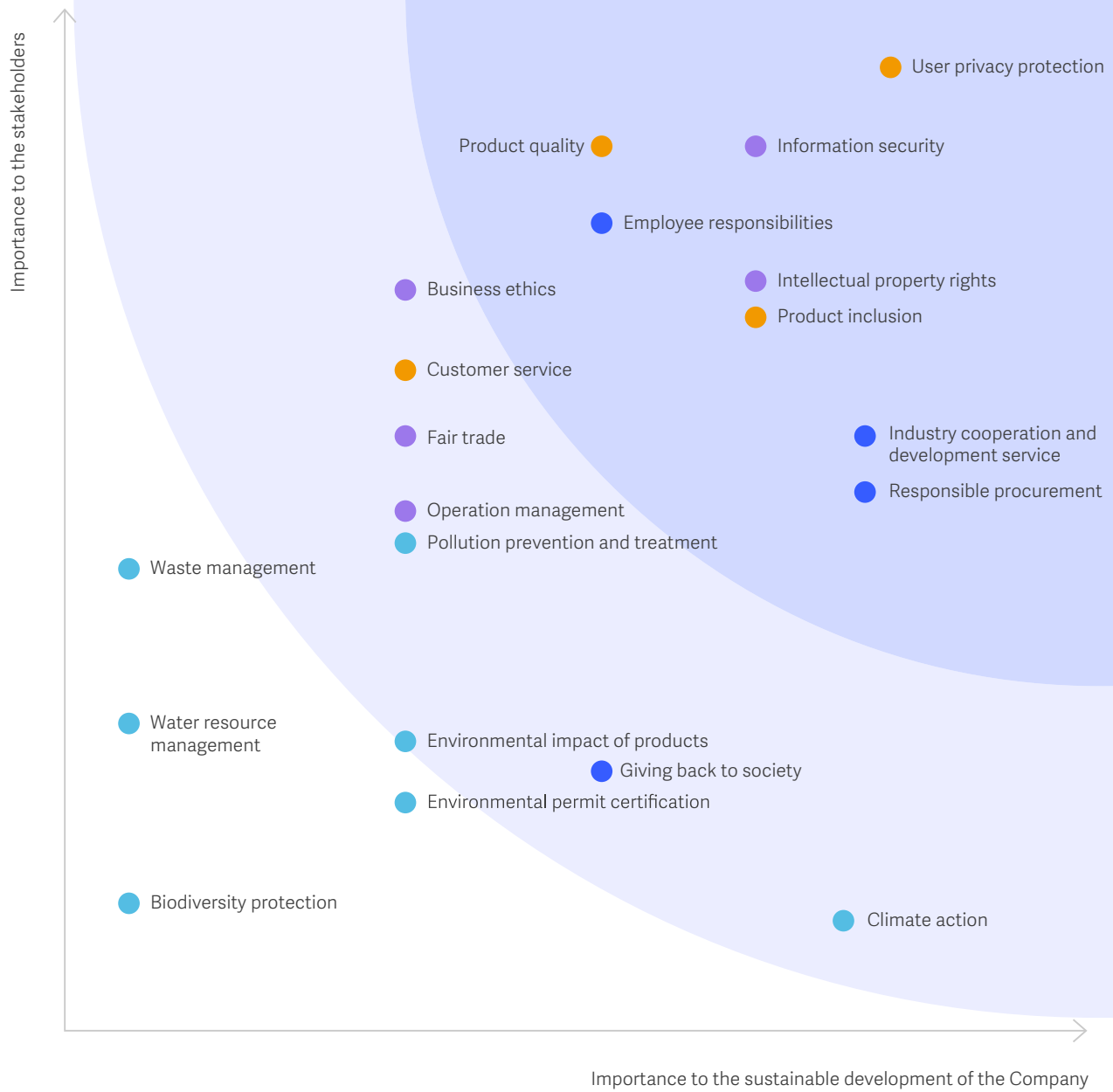
We distributed questionnaires to internal and external stakeholders such as employees, users, partners, suppliers, government and regulatory authorities, ICT-related industry associations, nonprofit organizations, and the public for assessment of the importance of vivo's sustainability issues, and a total of 800 valid questionnaires were collected. Among them, those regarding the importance to the sustainable development of vivo were filled out by vivo management members on behalf of the Company, and as for stakeholder part, we listened to the voices from vivo employees, users, partners, suppliers, shareholders, government and regulatory authorities, ICT-related industry associations, non-profit organizations, and the public (media, communities, the public, etc.).



Step 3

Materiality Analysis

We processed and analysed questionnaire data and assessed the issues according to the two dimensions of "importance to the sustainable development of the Company" and "importance to the stakeholders" and concluded a material issue matrix. According to analysis, the Company's material issues on sustainability for 2022 mainly include: user privacy protection, information safety, product quality, intellectual property, product inclusion, employee responsibilities, industrial cooperation and development and responsible procurement.



● Environmental Responsibility ● Social Responsibility ● Product Responsibility ● Corporate Governance

Technology Sharing

Continuous Innovation Ability
Commitment to Innovative Experience
Product Safety and Reliability
Whole-Hearted Customer Service

Innovation in digital technologies such as artificial intelligence, Internet of Things (IoT), cloud computing and 5G are blooming, which has become an important force in driving changes in people's lives. vivo adheres to the original aspiration of "bringing happiness and beauty to people with technology", and strives to the integration of technological innovation and digital responsibility, empower users with safe, dependable, innovative and high-quality products and provides thoughtful, inclusive and diverse services for them, aiming to create a bright digital future where everyone equally benefits from technological innovations.



Accumulative number of patents applied for worldwide

43,000 +



Accumulative number of patents granted worldwide

14,000 +



Number of service centres worldwide

2,500 +

Number of countries and regions covered by the maintenance network

60 +

Continuous Innovation Ability

Facing the fierce competition and rapidly evolving technology within the market, vivo adheres to a long-term approach of technological innovation and independent R&D. We focus on user-oriented innovation driven by design and technology, constantly seeking a good understanding of users' needs and key technological breakthroughs to achieve industrial technology upgrades and strategic brand development.

vivo has deployed an extensive global R&D network, and we continuously optimize our “technical iron triangle” system with product planning, technical planning, and technical pre-research as the core. We established several research centres and innovation laboratories, focusing on the development of state-of-the-art consumer technologies, including 5G, artificial intelligence, industrial design, photography, and other up-and-coming technologies. We also introduced nearly 60,000 sets of R&D equipment worth more than RMB 2.9 billion to improve our R&D and manufacturing capacities.


Technological Innovation and Breakthrough

vivo is dedicated to advancing innovation in imaging and communication technology, and continuously upgrading material process, product performance and intelligent solutions to provide better user experience.

Self-Developed Imaging Chip, A Breakthrough in The Ultimate Imaging Technology

In 2022, vivo launched a new generation of self-developed Imaging Chip V2, which adopts a new iterative AI-ISP architecture. This technology brings comprehensive improvements in compatibility and functionality and significantly upgrades the on-chip memory unit, AI computing unit, and image processing unit. Thanks to the DLA (vivo's self-developed AI deep learning accelerator module) and the large-capacity dedicated on-chip SRAM (high-speed and low-power cache unit), the V2 chip rematches the computing capacity, computing density, and data density, greatly enhancing the capacity and operation speed of on-chip cache.

- **High computing power:** The speed of SRAM is up to 1.3 trillion bits/s, with an increase by 40% in capacity compared to V1, equivalent to 45MB;
- **Low power consumption:** Compared to the DDR external memory design commonly used by NPUs, the dedicated Static RAM (SRAM) cache unit can reduce high power consumption by a theoretical maximum of 99.2%¹.



Imaging. Made for Professional Heights

Greater Photography is now at hand.
Powered by V2 Chip for professional levels of imaging and display.

MEMC dynamic frame interpolation

AI noise reduction

High dynamic range

3 Major Units Upgraded in Self-Developed Imaging Chip V2

¹ Both the computing power and power consumption data are derived from experiments performed under vivo's laboratory conditions.

Investing in Cutting-edge Research to Develop 6G Technologies

vivo is dedicated to building a bridge connecting people and the digital world, and therefore constantly exploring and deploying key capabilities and services of 6G with a forward-looking perspective. We keep on promoting 6G Enabling Technologies such as Integrated Sensing and Communication, AI-native system, Extremely Low Power Communication and etc., contributing vivo's power to the formulation of a universal 6G technical standard. In July 2022, the vivo Communications Research Institute officially released a white paper *vivo 6G Services, Capabilities and Enabling Technologies*, contributing to the development of global 6G technology standards.

vivo keeps putting users' needs at the centre and explores unrelentingly to address users' pain points by upgrading technology for finer product design, greater performance and better user experience at different scenarios.

- Development of folding hinge: We have developed two Aviation-level Strength Steels, FS53 and FS54, whose microstructure can be precisely controlled by adjusting

the composition ratio of alloy and heat treatment process. This can ensure stable material properties while effectively enhancing the strength and toughness of the material, leading to a breakthrough in hinge strength. As of April 2022, when X Fold was launched, the hinge was measured to be able to withstand 300,000 bends according to a TÜV Rheinland test and vivo X Fold became the first product to obtain the certification;

- Innovative intelligent in-vehicle solutions: vivo released Jovi InCar, an intelligent in-vehicle solution, to interconnect smartphones and cars across various devices of different brands. In 2022, we further optimized the product on performance, application adaptation and interface. By far, Jovi InCar has covered about 1,100 models from more than 90 automobile brands, enabling more than 80 million users to enjoy the seamless experience of switching the content of navigation, audio and video entertainment and files from smartphone to the vehicle.



Telecommunication Laboratory



vivo X Fold Obtained the World's First TÜV Rheinland Certification on Reliable Folding for 300,000 Bends



Voice Wake-up on Jovi InCar

vivo values the leadership role of talents in upgrading technologies and strategic brand development, and continuously builds a professional and reliable R&D team. In 2022, the R&D team accounted for nearly 75% of our personnel. To stimulate innovation within our team, we set up awards such as the Innovation Contribution Award, the Best Reputation Product Award, and the Hero Product Award to recognize the employees who made outstanding contributions.

Meanwhile, we show our respect and protection on intellectual property (IP) by conducting regular IP-related training and strengthening IP management. By the end of 2022, vivo had applied for over 43,000 patents worldwide, with the cumulative total of patents granted exceeding 14,000. Also, we won the Guangdong Patent Silver Award and the title of "Dongguan Patent Advantage Enterprise" in 2022.

Commitment to Innovative Experience

vivo delivers ultimate experience for users by continuously exploring consumer needs, promoting innovation in design, photography, system, and performance, and jointly building the three product ecosystems of application, content, and service. Meanwhile, we value the demands of different user groups to create a more convenient and pleasant life for the public with further inclusive development of digital technologies.

Superior Photography Experience

Photography serves to capture meaningful moments, share thoughts and feelings, and record the real scenes. vivo continues to strengthen innovative research and development of image processing, dark light shooting and lens quality to deliver professional photography for every user. For realistic and even more aesthetic photos supported by our professional capacities, vivo continues to improve the shooting effects in terms of imaging, shaking prevention and night scenes mode and optimize the colour, shading, and image quality.

Based on two strategic supporting pillars of joint and independent innovation, we strive to create a competitive advantage in the mobile imaging and better serve our customers. We have established a global strategic partnership with ZEISS in imaging, which aims to provide customers with advanced products experience with the combination of innovative optical technology and smart phone imaging innovation.



vivo X90 Pro+ Main Camera Structure



43,000

By the end of 2022, vivo had applied for over 43,000 patents worldwide.



14,000

With the cumulative total of patents granted exceeding 14,000.

AI-empowered Natural Beauty of Portraits

To make facial texture clearer and reveal the natural beauty of human faces, vivo has conducted deep learning on the HD face features with AI HD and AI skin retouching technology, which has been successfully applied to vivo X90 series. In addition, we utilized the AI perception engine to imitate the thinking and experience of professional photographers, making it possible to increase the brightness accuracy by around 65% compared to traditional metering methods, and that of white balance in pure colour scenes by around 12%. In this way, the problem of underexposure or overexposure at specific scenes can be resolved for bright and colourful photos in daily life.

Adopting Optical Super-Resolution Algorithm to Make Image Clearer

For better picture quality, we also adopt the optical super-resolution algorithm, which realizes an about tenfold increase in deep computing power and upgrades the picture quality processing from a single-point solution to a systematic AI one. Therefore, the defects of missing information by using mobile phone lenses can be mitigated as about 35% of lost information of images can be reconstructed for clearer images.

Using the Glare Effect for Professional Photography

To provide users more professional imaging styles, vivo cooperates with ZEISS to add to ZEISS Cine-Flare portrait effect on vivo X90 series by imitating professional flare photography. The ingenious use of glare could highlight the lights which form a more artistic effect for the image, thus providing users with unique and aesthetic backlight portrait.

Never Miss a Moment

vivo develops the “Zero-Shutter-Lag” motion snapshot to reduce the shutter delay to 30ms with the focus tracking 4.0 algorithm, which enhances the sensor start-up speed. In addition, the “Zero-Shutter-Lag” supports high-speed detection, which allows users to capture the shooting target quickly. vivo X90 series can record wonderful moments for users even in high-speed motion scenes with its suspension motion capture function.



10 fold

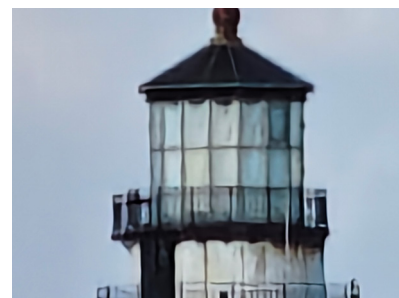
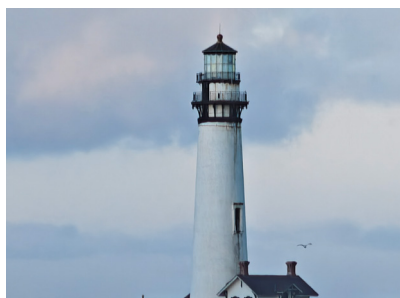
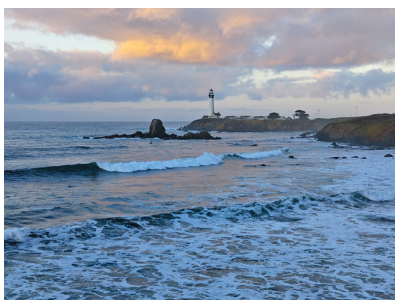
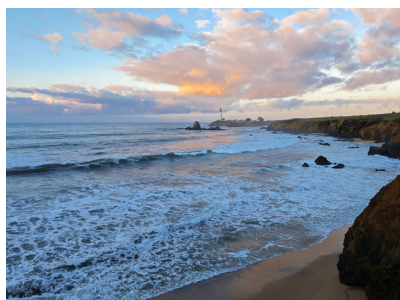
Which realizes an about tenfold increase in deep computing power .



35%

Reconstruct about 35% of the lost information in images.

Note: All data above are from product tests in vivo Laboratory.



Optical Super-Resolution Algorithm Enhancing the Photography Quality

Capturing All Extraordinary Scenes in Day and Night

vivo develops a new stabilization technology by simulating the shaking posture of hand-held shooting, and applies AI PD night focusing technology to improve the focusing function in extremely dark environments. Meanwhile, we endeavour to develop the bionic night sky enhancement algorithm to adjust tone and colour professionally. Thus, users can shoot the starry sky by one click without any tripod.

To further optimize the video effect at night, we utilize the self-developed Imaging Chip V2 through our Noise Reduction (NR) algorithm, enabling users to record bright and clear videos even

in the dime-light environment. This also breaks the industry bottleneck such as effect changing when switching between different algorithms. The chip V2 is currently applied to all X90 series phones.

In the future, vivo will continue to bring innovative mobile imaging technologies, promoting our imaging technology matrix from optical photography to computational photography, so that users can produce vivid works regarding landscapes, portraits, or videos.



Capturing Lively Moment with the Zero-Shutter-Lag Motion Snapshot of vivo X90 Pro+

Building the Bridge of Communication without Barriers

vivo has faith in the power of humanity culture, science and technology. As an enterprise that aspires to bring better lives for people with technology, vivo is dedicated to creating a fairer digital world through technological innovation. We look into users' needs in different life and work scenarios, based on which, we enhance the sound and image recognition capability and continuously design, develop, and upgrade products and functions. Thus, we help to diversify users' communication channels and bridge the communication gap, allowing every user to embrace the digital world and enjoy a better life.

In June 2022, we attended the 4th Technology Accessibility Development Conference and released the *vivo Humanity and Technology Report (Caring for Hearing-Impaired People)*, calling for a more inclusive digital environment.

"Sign Language Interpreter" App Facilitates User Communication

vivo continues to explore inclusive digital technologies and optimize the communication functions of mobile phones, constructing a more inclusive digital platform for users. We endeavour to tackle technical challenges of sign language recognition for better recognition and understanding of hand motions and semantic information. Based on this, we released the "Sign Language Interpreter" function. It can recognize sign language movements of the hearing-impaired and convert them into text and vice versa, helping user to improve communicational efficiency.

"Sign Language Interpreter" can recognize about 1,200 sign language words with an accuracy rate at over 80%, which can effectively assist hearing-impaired people in basic conversations with others. In addition, our sign language synthesis technology has covered more than 8,000 words in the Chinese dictionary glossary, enabling smooth translation from text to sign language. In the future, we will coordinate with our partners to share sign language recognition technology with the entire industry through JoviKit. We hope to work with all developers and industry partners to promote the development of this technology, so as to create a more friendly society for barrier-free communication.



1,200

"Sign Language Interpreter" can recognize about 1,200 sign language words.



80%

An accuracy rate at over 80%.



8,000 words

The sign language synthesis technology has covered more than 8,000 words in the Chinese national dictionary glossary.



Illustration of Sign Language Interpreter

While constantly innovating barrier-free product functions, we also keep on optimizing released functions, such as vivo Listening & Speaking, Barrier-free Call and Sound Recognition to help people better communicate and perceive the surrounding environment.

- We have launched the general version of vivo Listening & Speaking, which is also available for non-vivo users at the vivo barrier-free official website and major Android application stores, to benefit more people. Besides, a new version will be launched at the corner to enhance the listening function and the accuracy of Speech to Text conversion in noisy environment;
- We have launched version 1.1 of the Barrier-free Call¹, of which the interaction and UI design were optimized, and Speech to Text conversion and vice versa have been available for video calls at common social platforms by utilizing the floating window mode, so as to ensure more smooth instant communication for users;
- For the Sound Recognition², besides the baby cry monitoring, sound recognition of smoke alarm and car horn is added to better help users perceive the environment for safer lives. The detection rate of smoke alarm sound is up to 89% and the detection range expands to 5m; in the roadside scenario, the detection rate of car horn sound reaches 90% with the detection range covering 7m.



89%

The detection rate of smoke alarm sound is up to 89%.



90%

The detection rate of car horn sound reaches 90%.



Environment Sound Recognition Alert Shown in the Smart Watch



Environment Sound Recognition Alert Shown in the Phone

¹ The Barrier-free Call function can be applied on phones with Android 13 and above system.

² The low-power consumption plan for Sound Recognition function is applied to X70 Pro+, iQOO 8, iQOO 8 Pro and iQOO Neo7.

Convenient Digital World for the Elderly

As the information technology grows rapidly, payment, car-hailing and food delivery can all be realized online. vivo continuously develops phones that are more elderly oriented and have conducted the transformation of basic applications such as visual enhancement, auditory enhancement, touch delay and elderly-oriented interfaces. Besides, we also have equipped our phones with elderly-oriented functions such as voice assistant, screen reading operation, remote assistance, emergency application, and emergency medical information. By doing so, we aim to support them to enjoy a more convenient digital life.

In 2022, we further explored the elderly-oriented application and developed innovative design for screen display, screen-assisted interaction, audio control, voice interaction, remote assistance and so on. We also simplified the procedures of remote assistance function, so that the elderly can easily learn how to use more smartphone functions with others' online guidance.

We also contributed to the elderly-friendly industry. Together with the China Academy of Information and Communication Technology (CAICT), we carried out the *Research on Mobile Terminal Suitability for Elderly Persons*, which won the first prize of the Excellence Projects by Telecommunication Terminal Industry Forum Association.



First Prize of the Excellence Projects by Telecommunication Terminal Industry Forum Association

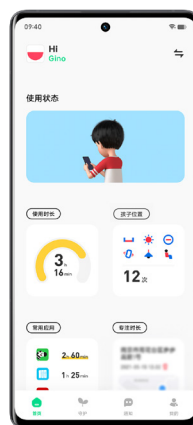
Fostering Children's Proper Use of Electronic Products

vivo proactively explores solutions for children's proper use of electronic products. By continuously improving the two official applications of "Kids Mode" and "Child Care", we aim to assist parents to cultivate children to use devices healthily, so as to better support their lives and study.

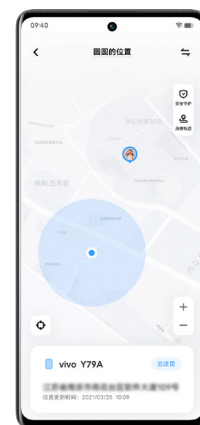
- The "Kids Mode" is designed for preschool and primary school children. Guardians can set the duration of use for each application and view children's use records for the past 7 days. In "Kids Mode", the system will adjust the display brightness to the soft light mode, supplemented with bad posture and ambient brightness alerts, to take good care of children's eyes;
- When "Kids Mode" is activated, the system will recommend suitable contents according to the age of the child. As of 2022, vivo, together with over 10 partners, launched diverse audio and video learning materials for children of different ages, with a total of over 13,000 audio albums, proving edutainment contents to encourage proactive learning;



Learning Materials on vivo Pad



"Child Care" Functions



- The "Child Care" App enables parents to stay informed of their kids' geographical locations, environmental brightness of and time spent on mobile phones by connecting their vivo phones to their kids', so that they can guide kids to use phones healthily and safely.

In addition to optimizing product functions, we also contribute to the formulation of industry standards. In 2022, vivo took part in formulating two industrial standards and issued them with other industrial partners, filling in the gap in the standards for the protection of minors when using mobile terminal products.

In September 2022, vivo Pad passed the TL Certification Center (TLC) test in terms of application management, time management, audio protection, blue light protection, emergency communication, calling, remote setting and monitoring, and acquired the Certificate of Functionality for Child and Youth Protection in Mobile Terminal, which is the first tablet in the industry to obtain this honour.



Certificate of Functionality for Child and Youth Protection in Mobile Terminal on vivo Pad

Promoting Healthier life with Technology

vivo hopes to serve more in practicing healthy living concepts and habits for users with scientific and technological innovation. We keep pushing the frontier of innovative technologies regarding healthy living through continuous hardware and software development and have launched various vivo smart wearable devices and approximately 100 health functions to support users in scientific health management.

- vivo WATCH 2 focuses on sports and connectivity, allowing users to monitor heart rate, oxygen saturation and sleep quality anytime so that they can keep track of their cardiorespiratory health; it also provides over 40 sports modes and sports effect analysis to help users record and assess workout effect;
- Deep noise reduction mode is available on vivo TWS 3
- series headphones, which can reduce wind noise in sports mode, to lower the risk of hearing loss. Currently, the vivo TWS 3 model features noise reduction by up to 48dB, which has been certified by the China Audio Industry Association as the A-class noise reduction; vivo TWS 3 Pro is equipped with a specialized high-precision temperature sensor, which enables non-sensing body temperature monitoring and alerts when temperature is beyond normal range;
- The "Health" App adds the health module and the exercise tracking video, allowing users to check the detailed analysis and cycle trend analysis of exercise steps, calories, distance, medium and high-intensity exercise, which helps users understand their own exercise information from more dimensions.



vivo TWS 3 earphone



vivo WATCH 2's Health Monitoring Function



Product Safety and Reliability

Secure and reliable products are the cornerstone for us to gain users' trust. vivo committed to continuous innovating technologies. We strive to bring better and more convenient lives to the public and practicing the product safety responsibility. We keep improving the product safety assurance system in terms of organization, system, process, technology, and standards. In the meantime, we stick to the bottom line of "transparency and control, on-device intelligence and data minimization" to improve our cybersecurity and privacy protection system.

Product Quality and Safety

Adhering to the management concept of "quality is the baseline of products", vivo continues to optimize quality management system, implement strict product quality standards and effective product safety management.

We insist on enhancing our competence in product quality and safety management from both organizational and technological perspectives. Besides the vivo Testing Centre that obtained ISO/IEC 17025 2017 CNAS Laboratory Accreditation Certificate, vivo Regulatory Compliance Laboratory was established in 2022. The new laboratory is equipped with professional equipment in terms of Electro Magnetic Compatibility (EMC), Specific Absorption Rate (SAR) and Radio Frequency (RF) for strengthening radiation safety testing capability on products.

In terms of products, we put particular emphasis on the quality, safety, and reliability of equipment batteries during the production and use phase. Furthermore, we strive to enhance product quality and safety management in terms of sound pressure control and radiation safety, with professional recognition obtained in the corresponding fields.

In 2022, in terms of battery safety, vivo focused on strengthening its competence in technology and management regarding project management, testing capability, as well as storage and

transportation to ensure finished products comply with safe storage and transportation normatives.

- Lifecycle project management: Clarify battery safety and quality objectives and battery application strategies at the project frontend; strengthen the feasibility assessment and risk identification on battery protection during the project design; and reinforce the testing planning at the project backend to ensure the smooth testing and verification;
- Testing capability upgrading: Analyse users' behaviour and formulate detailed testing and verification plan for the battery and whole device accordingly;
- Safe storage and transportation: Specify safety management rules on battery storage and transportation to avoid potential safety hazards in advance.

In 2022, vivo became the first in the mobile phone industry to obtain the CEIV Certificate for the safe battery transportation from the International Air Transport Association (IATA).

At the same time, we keep upscaling the R&D of software and hardware technologies for charging safety during the use phase.

- Provide 24 software and hardware security guarantees: Apply 24 safety precautions in terms of current, voltage, temperature, etc. to the charger, charging cable, charging interface, charging IC, battery, and whole device;
- Slow battery ageing: Enable the smart charging strategy based on the ageing degree of battery to slow the ageing rate and extend the service life; and monitor the battery performance, reminding users to replace the battery in time.



ISO 9001 Quality Management System Certificate



CEIV Certificate by IATA



ISO/IEC 17025 2017 CNAS Laboratory Accreditation Certificate



SAR Certificate by the Shenzhen Institute for Technology Innovation (SITI), National Institute of Metrology, China

In terms of ear health, vivo is committed to providing users with good acoustic experience with a focus on their hearing health. For this purpose, we have built a vivo Audio Laboratory to conduct further research on the sound pressure control of vivo products and obtained CNAS testing qualifications.

In addition, vivo insists on exploring technologies and products that ensure radiation safety. In 2022, vivo product has obtained the first SAR Certificate in China, which proved that vivo had been recognised by the authority in terms of radiation safety of mobile phones.

Cybersecurity and Privacy Protection

vivo believes that cybersecurity and privacy protection are the basic rights of consumers, the cornerstone for enterprises to gain consumer trust, and the inviolable red line in enterprises' business activities. We have been committed to creating secure and reliable digital products and services, providing a secure digital living experience for users.

Practicing 3 Privacy Protection Principles

vivo makes continual analysis of the pain points in user privacy security to formulate 3 privacy protection principles and integrate them throughout the design, development, operation, and other processes of vivo's products and services, achieving comprehensive protection of user data security in the entire data flow and the entire scenes of user experience. In 2022, we have implemented a number of specific practices to continuously improve our product privacy and security capabilities:

- **Principle 1 Data Minimization:** We are advancing the work to replace permanent equipment identifiers (IMEI) with complementary identifiers to reduce unnecessary IMEI data collection, thereby conforming to the principle of data minimization;
- **Principle 2 Transparent and Control:** We have upgraded and optimized more than 50 self-developed applications, to demonstrate application behaviours, such as accessing to sensitive information, and introduce privacy dashboard, application quarantine box and other features, helping users understand and manage their data;
- **Principle 3 On-Device Intelligence:** We have performed on-device identification and processing of more than 70 phone functions involving sensitive data, to enable the data to be properly processed and used offline, thereby assuring user security.

Perfecting the Security and Privacy Protection System

Security and privacy protection is a strategic "iron law" in vivo. To implement vivo's security and privacy protection strategy and principles, we have established a professional security organization and the Network Information Security and User Privacy Protection Committee (SPC) as the highest decision-making body on security-related matters at vivo. The business team, professional security and compliance team and security audit team under the committee are responsible for executing and implementing the Company's security and privacy protection concepts.

vivo kept promoting the implementation of the "PROTECT"¹ security strategy. For the reason, we have kept optimizing our security and privacy protection system, designed and improved the security and compliance management process, embedding cybersecurity and privacy protection requirements and platform technical capabilities into the integrated product development (IPD) process. By doing so, we endeavour to build product safety capability comprehensively throughout the product service life cycle, including project concept, demand, design, development, testing, and operation and maintenance. In 2022, vivo has no proven complaints or confirmed cases for data leaks in vivo were verified.

¹ The "PROTECT" security strategy includes 7 dimensions which are Privacy Protection, Data Security Risk, Product Object Security, Key Security Technologies, Security Engineering, Compliance Management and Security pen-Testing.

Creating Product Safety Experience

vivo makes continued efforts to explore trusted product safety solutions, with the goal of enhancing users' product safety experience with innovative technologies. In 2022, we officially released the kMirror Trusted Engine.

kMirror Trusted Engine is an on-device, system-level security risk detection engine that can assess the overall security status of a mobile phone through trusted measurement of the chip, core, framework and application, and determine whether "the right person" "the right data" and "the right device", to provide personal users and corporate clients with trusted services such as payment security, privacy protection, application security, system security and risk control enhancement. By the end of 2022, kMirror Trusted Engine had served more than 11.4 million users.

vivo uses its powerful engine capacity in business operations, and greatly improves the ability of its products to detect security threats in a variety of application scenarios:

- **Fraud identification:** Before a user makes a payment, it can detect cheat from fraudulent application and effectively alert or block them if there is a risk of fraud. In 2022, kMirror Trusted Engine conducted about 250 million tests, and about 520 thousand potentially fraudulent transactions were identified;
- **Device risk detection:** When a user makes a financial transaction, kMirror Trusted Engine can quickly analyse whether the equipment environment is safe and trustworthy, provide security scores for payment software, and then give risk warnings;
- **User status determination:** For enterprises, it helps to determine whether a consumer is using a spare phone or an illegal operator from business side, to prevent illegal transactions.



11.4 million

As of the end of 2022, kMirror Trusted Engine had served more than 11.4 million users.



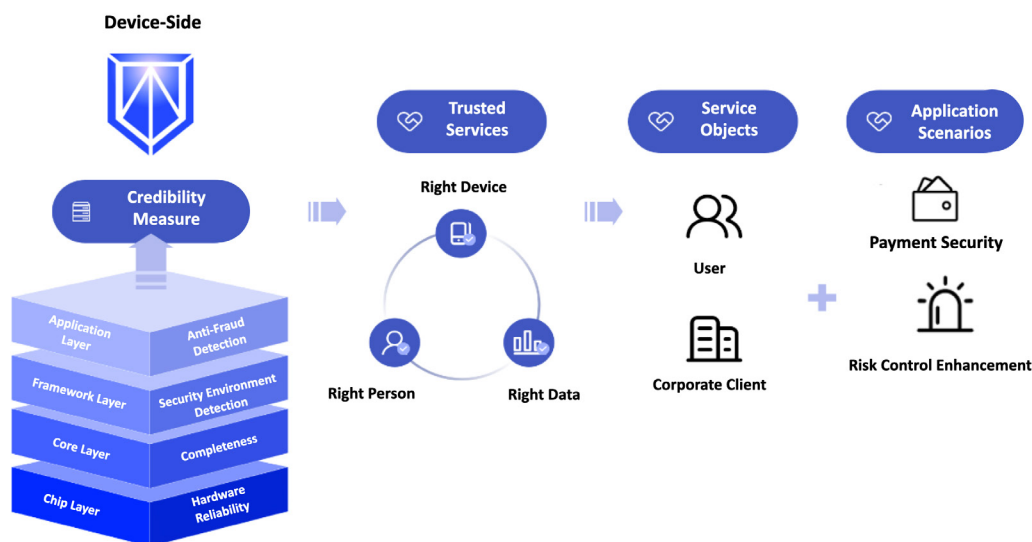
250 million

In 2022, kMirror Trusted Engine conducted about 250 million tests.



520 thousand

About 520 thousand potentially fraudulent transactions were identified.



Fostering Security and Privacy Culture

To build a security and privacy culture centred on user safety experience and improve the privacy security level of different products and services, we have carried out a variety of security and privacy culture training and activities, including cybersecurity and privacy protection month and theme week, expert lectures, and security pretesting contest. In 2022, vivo conducted a total of 83 security and compliance training sessions, covering 37 departments with a total of 6,050 participants attending.

In 2022, vivo offered a series of security courses to employees, covering security situation assessment, scenario-based security, data localization operation and other topics, which effectively helped enhance employees' knowledge of security.

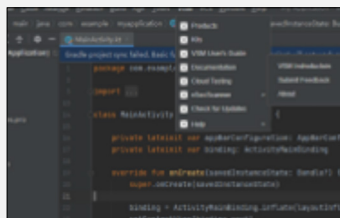
Creating a Secure Cyber Ecology

vivo considers it vital to collaborate with all partners to better safeguard user privacy. To foster a cooperative and mutually beneficial cyber environment, we introduced a number of developer security tools in 2022 to strengthen developers' security compliance capabilities and help them carry out user privacy data protection, thereby creating a more reliable and secure digital environment together.

We also actively participate in industry exchanges on security and privacy protection, and closely connect and interact with all sectors of society to address related concerns, encourage knowledge and information sharing, proactively respond to China national anti-fraud campaigns, and raise public awareness of cybersecurity.

Plug-in for Lightweight Code Security Scan

Based on vivo's code quality and safety detection algorithms, this plug-in allows developers to scan and identify unsafe codes in real time during the development process.



Automatic Application Security Detection Platform

The platform provides comprehensive security analysis from the dimensions of code security and configuration security in the development and testing phases of an application, assisting developers in finding security risks and making timely fixes.



Intelligent Privacy and Compliance Detection Platform

The platform conducts privacy and compliance analysis of applications based on AI detection and other technologies to help developers identify compliance issues of applications containing user personal information.



vivo Developer Conference 2022 - Safety Forum

In November 2022, vivo held its annual event - vivo Developer Conference 2022. Lu Jinghui, chief security officer of vivo, delivered a keynote speech to introduce the progress of vivo in product safety experience and safety ecosystem construction in the past year. At the convention, vivo unveiled 5 security functions that can further enhance users' product security experience and launched 3 security tools to help developers build a safer and healthier cyber ecology; in addition, the *vivo Transparency In Security And Privacy Protection White Paper* was also published to disclose vivo's security and privacy protection system.



In 2022, vivo released *the vivo Transparency In Security And Privacy Protection White Paper* to share the Company's thoughts and practices on user security and privacy protection: To provide stakeholders with a transparent demonstration of our actions around security and privacy management system, and introduce the efforts made by vivo in co-construction of the industry.

Download path:

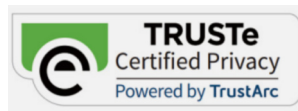
<https://privacy.vivo.com.cn/static/pdf/privacy-transparent.pdf>



vivo has always followed the most authoritative security compliance standards in the world and has passed numerous domestic and international security and privacy certifications.



European Privacy Certification
ePrivacySeal



TRUSTe
Enterprise Privacy Certification



Cybersecurity Level Protection Level 3(Covering multiple system, including vivo official website, app store, cloud service, vivo wallet, etc.)



ISO/IEC 27001
Information Security
Management system Certificate



ISO/IEC 27701
Privacy Information Management
System Certificate



X Fold 2 CC MFDP Certificate
(Version v3.3)



vivo OriginOS passed all tests
and obtained the highest five-star
security rating



vivo X Fold and X Note ultimately passed all tests and obtained the highest security level: Level 5



Whole-Hearted Customer Service

User's satisfaction stands as vivo's persistent pursuit. We provide users with professional, convenient and attentive service in a timely and efficient manner by centering on user experience. We interact with every user with sincerity and resolve every doubt with professionalism and enthusiasm in the hope of long-term trust from users with our unremitting efforts.

Specialized Service Teams

Driven by users' needs, we have taken multiple measures to improve customer service capacity.

- Improved the standard service manual by clarifying handling principles and 4 specific instructions to enhance the teams' competence in positive communication, so as to better respond to users' demands;
- Updated the after-sales service management system to normalize services in experience centers, stores, dealers and other channels for higher service quality, and conducted the semi-annual after-sales service quality evaluation to reinforce the service capacity;
- Provided training for all customer service personnel on service skills, product knowledge, corporate culture, etc. In 2022, we held more than 310 training sessions and post-training coachings to improve the quality and efficiency of customer services;
- Established a sound user complaint acceptance process to ensure 100% closed-loop management of customer feedback.



310

In 2022, we held more than 310 training sessions and post-training coachings for customer service teams.



100%

vivo conducted 100% closed-loop management of customer feedback.



95%

User satisfaction rate on after-sales service of vivo has maintained above 95% for years.



Training on Customer Service Teams



SGS Certificate for "Evaluation System for After-Sales Service of Commodities" in 2022

Diversified Attentive Service

vivo keeps delivering professional and attentive service and continues to build a service system which is for all users, applicable to all scenarios, and covering all channels.

Caring for the Elderly and Kids with Quick Response

vivo continues to launch plans to provide warm service for elderly users. In 2022, we identified usage scenarios through survey to better meet their common needs and updated the *Quick Guide to Smartphone Use for Parents* in a more easy-to-follow way to better serve the elderly users. By the end of December 2022, we had printed about 3,300 copies of this handbook.



Quick Guide to Smartphone Use for Parents

vivo Class helps elderly users better fit into the digital society

To help elderly users better fit into the digital era, vivo held a series of vivo Class activities in 2022 in collaboration with business partners. In this way, we taught elderly users on using smartphones for shopping, payment, travel, social networking and photography, enabling them to enjoy the digital life in a more engaging and happier way.



vivo is also concerned about the healthy and safe smartphone use among children. To this end, we, together with business partners, have organized parent-child classes such as *How to Use Smartphone for Online Classes*, *How to Use Smartphone for Efficient Learning* and *How to Add a Curriculum in Smartphone*, to help parents guide children to a healthy use of smart devices.

Optimizing Service Experience across Global Business Layout

vivo carries out "Service Day" campaign every month, providing overseas users with characteristic services such as free screen protectors, free phone cases, free mobile phone examinations, which is gaining increasing popularity. We also provide convenient and affordable exclusive services and technical supports for domestic users to eliminate their pain points in a targeted manner and strive to impress every user with our warm and thoughtful services.

- vivo service centers: Provide one-stop service for vivo users covering professional repair, free screen protector, free system update, mobile phone maintenance, high-speed Wi-Fi, vivo Service Day, enjoy toy service, desert service, and festival service;
- One-to-one engineer service: Provide one-to-one online services to support users in a timely manner. In 2022, 1.39 million users were supported;
- Discounted repair service: Cover numerous components such as display screen, mainboard, battery and battery cover. In 2022, the service involved about 730,000 users, saving them more than RMB 40 million maintenance;
- Intra-city quick repair: Cooperate with SF Express to provide users with convenient and quick intra-city repair service within 4 hours at the fastest pace. In 2022, the service covered nearly 300 service centers nationwide in China.



2,500+

In 2022, vivo operated 2,500+ service centers and 700+ service stations worldwide.



60+

vivo global service covers 60+ countries and regions



40,000 users

In 2022, vivo served more than 40,000 users in more than 20 regions around the world through the "Service Day".



"Intra-city Quick Repair" Service

Green Symbiosis

Eco-Friendly Products
Green Operation

Facing the challenges posed by global climate change and environmental crisis, vivo believes that the destiny of humankind is intricately linked and it is incumbent upon us to protect our planet.

We have been implementing green development idea with innovative technology and creative thinking. We constantly explore sustainable product solutions and create quality products with higher environmental value for consumers; at the operational level, we are dedicated to enhancing resource efficiency and reducing environmental pollution by upgrading processes and optimizing management, thereby steadily moving towards a brighter and greener tomorrow.



Proportion of vivo's mobile phone packaging boxes printed with eco-friendly soy ink:

100%

Water saved from concentrated water recycling project in Dongguan Park: About

7,705 tons

Annual clean electricity provided by distributed photovoltaic power generation project (Phase I) in Dongguan Park: Nearly

4 million kWh

Annual emission reduction of nitrogen oxides from the retrofitted plants air-conditionings in Chongqing Park: About

450 kg

Amount of waste old and broken parts recycled (vivo Global): About

524.5 tons

Eco-Friendly Products

vivo actively practices environmental responsibility, striving to protect earth resources while promoting self green development. We strive to bringing forward more environment-friendly products, and with the reference to the circular economy mode and Life Cycle Assessment (LCA), we keep exploring the design and innovation solutions for our products.

vivo's eco-design assessment system in place enables us to comprehensively evaluate the environmental load generated throughout the life cycle of the products. On top of that, we integrate eco-attributes such as ease of disassembly, recyclability, maintainability, and reusability into product design, to improve the nature-friendliness level of products throughout the life cycle.

In 2022, vivo selected more sustainable materials, renewed products and packaging, and reduced the use of restricted substances. Furthermore, we improved the product energy efficiency and extended product life through process optimization and tech-innovation, explored green solutions for end-of-life recycling and disposal plans, thus making the reliable product performance, better user experience, less material used and lower energy consumption all committed to the green development idea.

Full lifecycle solutions for vivo's sustainable product

● Design

- Improve products' energy efficiency
- Try more designs of easy disassembly
- Unlock more sustainable material formulas
- Seek low-carbon product solutions
- Explore more durability solutions

● Procurement

- Select more recyclable/renewable materials
- Procure rare materials with a higher recycling rate

● Production

- Avoid using hazardous substances in production
- Increase the precious metal recycling and reuse rate
- Increase the water and energy resource usage rate
- Increase the recycling and reusing rate of industrial waste
- Increase the production and usage of renewable energy
- Reduce waste to landfill

● Use and end-of-life disposal

- Provide convenient maintenance solutions
- Optimize take-back process
- Encourage users to participate in the take-back program
- Trace deeper at recycling & reusing of key components



Sustainable Materials for Building Green Products

Sustainable materials, with higher rates of recycling and reuse, usually consume fewer resources and energy, and impose lower environmental burdens while providing good performance or functions. During the material selection stage, we continuously explore the use of more sustainable materials, gradually promote the use of bio-based plastics, silicone leather, and increase the recycling rate of aluminium alloys.

Using Bio-Based Plastics

Compared with traditional plastics, the raw materials of bio-based plastics are mainly from corn and sugar cane rather than petroleum, of which the production process brings about less pollutants. From 2019, vivo has joined hands with partners to develop low-density bio-based PA (polyamide) materials and has used them for built-in structural parts in multiple series of phone products¹ in 2022, with the added advantages of components weight loss by up to 38.7% and the better eco-friendliness and durability of our products. At the end of 2022, we began to use the second generation of low-density bio-based PA, improving material strength by 40%² over the first generation. As of December 31, 2022, the weight of all types of bio-based plastics used exceeded 200 tons, and that of bio-based plastics in V25E accounted for 27.68% of its plastic parts.



38.7%

The low-density bio-based PA can reduce the weight of product components by up to 38.7%.



40%

The material strength of second generation of low-density bio-based PA improved by 40% over the first generation.

Using Silicone Leather for Cover Plate

Silicone leather is one of vivo's preferred materials. It has excellent attributes such as dirt resistance, easy cleaning, hydrolysis resistance, aging resistance and flame retardant. Compared with traditional polyurethane (PU) leather, silicone leather is made of silicon ore instead of petroleum, which is more accessible from the nature. Meanwhile, its production is free from organic solvent, thus emits fewer volatile organic compounds (VOC) and can avoid harmful substances such as plasticizers, heavy metals, and phthalates. The silicone leather has been successfully applied to iQOO 10 Pro Legend and other smart phones.



Silicon Ore



White Leather Re-Applied to iQOO 10 Pro Legend

¹ The low-density bio-based PA has been applied to S Pro, iQOO Pro, iQOO, vivo X Fold, etc.

² The statistic is from official standard Technical Data Sheet (TDS) of the material.

Renewing Shielding Material to Reduce Resource Consumption

In the pursuit of product upgrade, vivo also actively develops lighter and thicker phones to reduce resource consumption. In 2022, we adopted a new shielding material with higher yield strength to all vivo phones, having saved about 50 tons of copper in total.



50 tons

In 2022, the application of the new material helped save a total of 50 tons of copper.

Recycling and Reusing Aluminium Alloys

vivo proactively explores opportunities to convert usable waste into production resources. For this purpose, we work with partners to recycle drainage opening materials generated from the production process of diecast aluminium alloys, and re-cast them into the new aluminium alloy materials while ensuring the quality of the finished products. The process utilization rate of aluminium alloys can achieve 93% or above. In 2022, vivo has recycled new aluminium alloy materials for about 63.2%, which were applied to 20 phones. It drives vivo circular economy.



93%

The process utilization rate of aluminium alloys is 93% or above.

Sustainable Package to Care for Nature

vivo insists on optimizing both sustainable product material design and packaging. Through promoting lightweight, the use of recyclable materials and de-plasticization efforts, we enhance the sustainable packaging while safeguarding user experience.



63.2%

The proportion of recycled aluminium alloy materials in the new aluminium alloy materials is about 63.2%.

Transforming Packaging Design to Reduce Weight

Sticking to the principle of sustainable design, we keep optimizing the material selection and structural design to reduce the weight and size of the packaging appropriately. In 2022, the grey board in the printed box for most vivo's phones has been reduced from 1,000g to 800g to save more resources. For example, the packaging of V27 weighted about 24g less, equivalent to saving 24 tons of paper for every 1 million phones produced.



24 tons

With weight-reducing effort, 24 tons of paper could be saved for every 1 million phones produced.

Adopting More Renewable Materials

Comprehensive use of soy ink: All vivo smartphone product boxes are now printed on 100% renewable soy ink. Compared to traditional ink deriving from mineral oil, soy ink uses soy oil as the main component, which is easier to recycle and decompose and produces less VOC that imposes harm on the environment during its production and usage;



Y55 Packaging Printed on Soy Ink

Increasing use of eco-friendly paper: 100% of the product packaging in the EU market applies paper with Forest Stewardship Council (FSC) certification;

Promoting the use of recycled fibre: In EU market, the inner packaging of smartphone products is fitted with pulp trays, with at least 50% of its material made from renewable bagasse.

Advancing De-plasticization of Packaging

vivo is committed to reducing white pollution as evidenced by promoting de-plasticization of product and accessory packaging, an effort to practice the concept of environmental protection.



De-plasticization of Packaging Lining for TWS Air Earphones

Type of Packaging	Measures for De-plasticization	Environmental Performance
Shipping carton and its cushioned lining	Replaced the original EPE materials with kraft paper.	Kraft paper, with less decomposing time and environmental burden, is used for 100% of the product shipping cartons in the EU market.
Shipping carton	Replaced PET material with biodegradable alternative, copperplate paper, for stickers on cartons.	100% of PET material for shipping carton stickers is replaced in the Chinese market.
Lining of smartphone packaging	Used pulp trays and paper cards instead of thermoformed plastic sheets.	100% of smartphone packaging in the EU market applies pulp trays or paper cards.
TWS earphone case	Replaced PS thermoformed or EVA material with paper-plastic or paper insert in the lining.	Earphone case is nearly 100% made of paper-based materials. The plastic used in TWS Air earphone case weighs about 2.3g and accounts for only about 3.4% of the case, with 77.7% plastic reduction over the original packaging.
Wired earphone case	Replaced PET thermoformed trays with paper inserts.	The amount of plastic used weighs about 2g and accounts for only about 6% of the case's weight, with 86.8% plastic reduction over the original packaging.



77.7%

Reduction of plastics in TWS Air earphone case reach around 77.7%.

Note: Plastic reduction for TWS Series headset cases and corded headset cases is calculated based on plastic usage in 2021 and 2022.



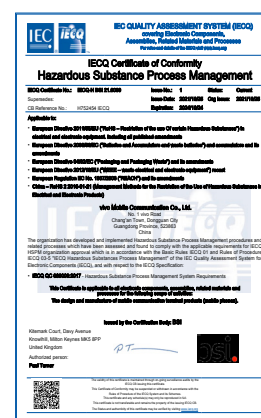
86.8%

Reduction of plastics in wired earphone case reach about 86.8%.

Minimizing the Use of Hazardous Substances

vivo strictly controls hazardous substances involved in the product procurement and the producing process. We formulate the control standards for hazardous substances applicable to vivo products in accordance with local laws and regulations and industry standards where we operate, and have built and optimized an internal management system following the international standard *QC080000 Hazardous Substance Process Management System* to inspect, manage and control the hazardous substances in products and raw materials, while obtaining the QC080000 Certificate.

At the raw material selection stage, we followed RoHS directive, REACH regulations and other standard to update *Environmental Protection Standards for Material Purchasing* in 2022. Apart from specifying the prohibition on brominated flame retardants, chlorine-based flame retardants and PVC materials as well as the limit control requirements for antimony trioxide, beryllium and their compounds, the new standard also extended control requirements on bisphenol A¹ (BPA) and mineral oil. By the end of 2022, the number of hazardous substances under vivo strict restraint increased to 50. At the product assembly stage, We carry out hazardous substance exemption (HSF) identification and control, utilizing automatic equipment and systems to conduct real-time control on production elements such as materials, equipment and instruments in the production workshop, which can instantly trace and intercept hazardous components of key materials. We completed Phase III development of PCM system² to guarantee foolproof material verification and smooth system operation. The environmental certification completion rate of product material reached 100%, including BOM and non-BOM auxiliary, to ensure that the whole process of product manufacturing meets vivo's environmental protection standards. No environment-related abnormal events occurred at the vivo market-end in 2022.



QC080000 Hazardous Substance Process Management System Certificate

¹ Bisphenol A, which is used in industry to synthesize materials such as polycarbonate and epoxy resins, is harmful to human health.
² PCM system refers to Product Compliance Management System.

Optimize Product Design, Reducing the Consumption of Non-renewable Resources

As a precious metal, gold is non-renewable for a long time after exploited by humans. To reduce the consumption of gold during the production and the claim on the earth resources, vivo cooperated with suppliers to jointly optimize the product design. We have managed to reduce the gold content of vivo Y22s by 8.4mg, a 24.9% reduction compared to 2021.

Improving Product Energy Efficiency

Smart products bring people convenience life experience, while its energy efficiency level is essential for reducing consumption of energy resources. vivo endeavours to improve the energy efficiency, continuously exploring energy-efficient product design through choosing chip processors with more advanced process technology, equipping the product with higher-quality cameras and promoting the development of LTPO¹ and other screen technologies, to co-achieve higher performance and energy efficiency. Besides, we also optimize intelligent adjustment function, adapting the device performance smartly according to use scenarios and application needs, to guarantee user experience while minimizing the energy consumption. A number of vivo products have obtained the ERP energy efficiency certification, which will be promoted to more product lines in the future.

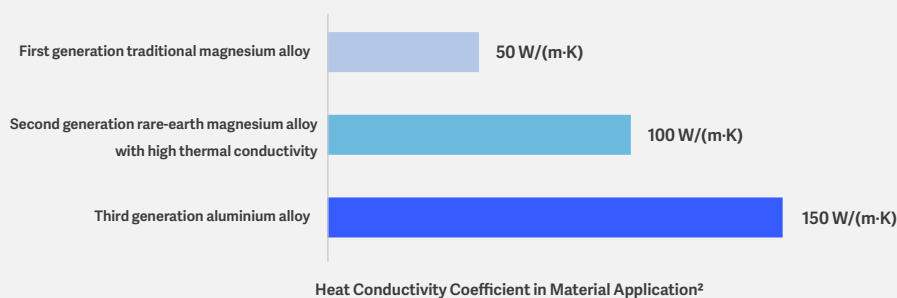
Extending Product Service Life

A longer service life of product can effectively reduce the need to replace e-products, thus avoiding unnecessary waste of resources. vivo continues to study the technical path to extend product lifespan. We take product durability, repairability and upgradeability into consideration, comprehensively improving product performance and ensuring the reliability of vivo products.

Improve Product Durability

vivo keeps enhancing the product durability to reduce passive replacement frequency of users. By doing this, we not only ensure easeful usage experience, but also reduce the loss of natural resources. While seeking breakthroughs in material and technology, we always focus on consumer experience and actively collect users' feedback on product service life from stores and online platforms. When designing and developing products, we will fully consider and make targeted improvements in product design and develop, for providing safer and reliable product usage.

The selection of materials and devices is an important factor affecting the service life of products. vivo is committed to applying more reliable and durable materials and devices to our products. In terms of material selection, in 2022, we optimized the plating of the USB port power PIN surface by



¹ LTPO: Low Temperature Polycrystalline Oxide, a technology that allows for a display to dynamically change its refresh rate on the fly.

² All data of heat conductivity coefficient in material application is from vivo laboratory testing.

replacing the traditional gold plating with platinum plating to improve the corrosion and wear resistance of the USB port power. Besides, we upgraded the inner inserts of the front case from rare-earth magnesium alloy to aluminium alloy with better thermal conductivity to improve the heat dissipation capability and impress consumer for long-term product using. At present, the aluminium alloy have been applied to inner inserts of the front case of all vivo products.

In terms of device selection, vivo adopts flexible screens with high flexibility. Flexible screens can be bent and squeezed, while being able to withstand greater impact and squeezing forces, making them the preferred accessory for durable device screens. We increased the proportion of flexible screens used in various product lines to comprehensively improve product fall resistance and reduce failure rates from drop. In 2022, the overall failure rate of vivo main screen crack is down by 13%¹ compared to 2021. In addition, vivo sets up multiple testing practices at each stage of development to verify product durability in a rigorous and responsible manner, conducting durable-related test rigorously in multiple dimensions to ensure the safety and reliability of single material units, PCBA, semi-finished products and the whole device.

Besides the performance of anti-drop and anti-bending, the waterproof and dustproof performance also affects the use safety in various scenarios. vivo continues to improve the protection performance of products. We have been increasing the proportion of products that have passed IP54² protection level certification. vivo X80 Pro, X90 Pro and X90 Pro+ have passed IP68³ certification.

Create Easier-to-Repair Products

The improvement of product reparability can largely avoid the interruption of use due to accident and reduce resources waste causing by product change. vivo has developed a reparability index matrix to evaluate and track the reparability of each product in terms of product removability, availability of repair parts, and price of parts. In 2022, the French Repairability Index of vivo X90 Pro is 8.3/10.

We try to reduce the types of screws through canceling the use of non-standard screws, decreasing the ratio of child screws, and unifying the screw specifications etc. In 2022, we have eliminated 8 types of screws, to improve product ease of disassembly, make product maintenance more convenient and further reduce the need to replace phones.

In addition, we have removed the fixed screw settings on the main board and sub board of some products. This could eliminate the need to disassemble the main board and sub board when repairing this component, and further simplify the repair process.



13%

In 2022, the overall failure rate of vivo main screen crack is down by 13% compared to 2021.



8 types

In 2022, vivo eliminated 8 types of screws to facilitate product disassembly and maintenance.

¹ The failure rate is from vivo laboratory testing.

² IP54: IP refers to the protection rating in an electronic product. IP54 means dustproof is rated 5 - although it cannot completely prevent dust from invading, the intrusion of dust will not affect the normal operation of the electrical appliances, and waterproof is rated 4 - prevent water from splashing in all directions from invading.

³ IP68: IP68 is the highest dustproof and waterproof rating.

Practicing More Eco-Friendly End-of-Life Disposal Program

Recycling and disposal of waste products is critical for promoting circular economy. Over the years, we have been optimizing the recycling program for used products. While improving our own recycling solutions for used parts, we have launched various recycling activities for users, to promote the development of the circular economy.

Optimizing Recycling Program

vivo, through the official website and offline stores, conducts activities for users such as trade-in activity and repairing and retaining broken parts at a favourable price, benefiting users' repairing costs, improving their recycling experience, and encouraging users to participate in vivo's circular economy program.

- Trade-in activity: Users can obtain additional cash subsidies by purchasing vivo/iQOO designated new mobile phones through the platform within the specified time and completing the recycling of old mobile phones. In 2022, 311,570 old mobile phones were recycled at China offline stores, 439,508 old mobile phones were recycled via the official website, and such recycling activities for old mobile phones were also carried out through other channels, such as e-commerce channels, on a continuous basis.
- Service of repairing and retaining broken parts at a favourable price: Users agreeing to send back the damaged original parts to vivo service centre can enjoy a preferential repair cost, which not only reduces the repair costs but also enables vivo to recycle the damaged parts for the environmental purpose, achieving a win-win situation for both user experience and environmental protection. This service covers display screens, main boards, batteries and battery covers of more than 60 models. In 2022, in the global market, the recycling and compliant disposal rate of old and broken parts from all channels reached 100%. The weight of discarded old and broken parts that vivo recycled and treated worldwide in eco-friendly ways through after-sales stores was about 524.5 tons.

Exploring the Recycling Possibility of the Used

Even for old and broken products and parts that are difficult to operate normally, vivo still explores the possibility of reuse, never missing an opportunity for recycling. For some of the old and broken devices, vivo uses them as spare phones for internal services or training purpose after they are repaired, to realize secondary use internally and grant the products a "second mission". For the damaged parts recycled from service providers and after-sales stores, we will evaluate the recyclability of certain parts and hand over the parts non-reused to designated factories or third-party recyclers for eco-friendly treatment to avoid environmental pollution.



311,570

In 2022, 311,570 old mobile phones were recycled at domestic offline stores.



439,508

439,508 old mobile phones were recycled via the official website.



100%

In 2022, in the global market, the recycling and compliant disposal rate of old and broken parts from all channels reached 100%.



524.5 tons

In 2022, the weight of discarded old and broken parts that vivo recycled and treated worldwide in eco-friendly ways through after-sales stores was about 524.5 tons.

Green Operation

As a champion of low-carbon green development, vivo takes the initiative to practice clean production and builds a green manufacturing system as part of its commitment to minimizing the environmental impact of its business operations.

Environmental Management System

Pursuant to the laws and regulations on environmental protection in the countries and regions where we operate as well as the requirements of the ISO 14001 Environmental Management System, the Company has developed and updated the *EHS Management Manual* and other internal management documents. We can standardize the management of environmental factors in operations, improve energy and water efficiency, and ensure that the solid waste, wastewater, waste gas and noise are managed in compliance. Besides, we have undertaken a number of green initiatives in industrial park offices to raise employees' environmental awareness. vivo's Dongguan headquarters and Chongqing Industrial Park have both obtained the ISO 14001 Environmental Management System Certificate, ensuring that our environmental management systems are effectively operated.

Focusing on climate change, we have been integrating climate risk management practices into our environment, health and safety (EHS) goal setting, daily operation, and supervision and management in an orderly way. vivo's EHS Committee and its subordinate execution teams are responsible for identifying the risks and opportunities presented by climate change and actively communicating with stakeholders to understand their expectations. By incorporating climate change awareness into all operation phases, we are steadfast in practicing the concept of green development. To this end, vivo's Dongguan headquarters conducted annual greenhouse gas inventory and was certified ISO 14064 in 2022, providing a reliable basis to further identify carbon reduction opportunities and mitigate global climate risks.

Energy Management

We have established a sound energy management system and formulated and implemented regulations such as the *Operational Guidance for Energy Management Scheme Formulation and Implementation*, the *Operational Guidance for Energy Operation and Management*, and the *Contingency Plan for Energy Security* to direct all levels to achieve the annual energy conservation and emission reduction goals. In addition, we have conducted process control and optimized energy performance management to ensure the implementation of energy-saving programs. In 2022, we achieved the emission reduction targets in terms of operation of vivo's global headquarters with a 8% decrease of total carbon emissions in industrial parks compared with that of 2021.

In addition, we have built a class-A energy management platform at vivo's global headquarters that utilizes advanced intelligent systems to monitor energy consumption data of equipment in real time and identify potential energy-saving opportunities. vivo's global headquarter obtained ISO 50001 Energy Management System Certificate.

Capitalizing on Clean Energy

vivo responded to the national goals and policies of "Carbon Peaking and Carbon Neutrality" and actively plan for the usage of clean energy in operation to reduce the consumption of non-renewable resources.

We have been exploring and practicing the utilization of clean energy, such as photovoltaics, and have completed the distributed photovoltaic power generation project (Phase I) at vivo's global headquarters in 2022, with an installed capacity of 3.67 MWp, which could provide vivo with nearly 4 million kWh of clean electricity every year. By the end of 2022, this project had become the largest local



ISO 14001 Environmental Management System Certificate



4 million kWh

The installed capacity of the distributed photovoltaic power generation project (Phase I) at vivo's global headquarters could provide vivo with nearly 4 million kWh of clean electricity every year.

photovoltaic power generation project. At present, the Phase II of the photovoltaic power generation project has already been under construction, expected to generate more than 5 million kWh of electricity every year, equivalent to a reduction of 2,851.5 tCO₂e.

Meanwhile, vivo has replaced fuel buses with electric ones to provide a more energy-saving and environmentally friendly commute for employees in various places. Compared to 2021, we have cut down 6 fuel buses, saving a cumulative 80.3 tons of diesel, which equals to a reduction of 276.2 tCO₂e.

Energy-saving Technological Transformation to Improve Energy Efficiency

In 2022, we launched a number of technological improvement projects, all of which yielded good results in energy conservation and consumption reduction.

- **Optimization of the air-conditioning system:** vivo further optimize major power consumers in the industrial parks in 2022. We lowered the frequency of air-conditioning cabinet motor, adjusted the operation mode of refrigeration pump, and reduced the operating frequency, which estimated to save 7.116 million kWh of electricity per year, equivalent to a reduction of 4,058.3 tCO₂e;
- **Optimization of the exhaust fan system:** By improving the control circuit of the exhaust fans at Dongguan Industrial Park to adjust their running time in 2022, we could maximize the benefits while reducing energy consumption, saving approximately 163,000 kWh of electricity per year, equivalent to a reduction of 93 tCO₂e;
- **Special energy-saving project for plant equipment:** In 2022, we made overall improvements on the plant equipment by adding automatic air cut-off control optimizing the actual gas pressure and standard of the production equipment, adjusting the lighting control inside the equipment, and scheduling the display usage time in the production line. This special energy-saving project helps vivo to save 2.5 million kWh of electricity per year, equivalent to a reduction of 1,426 tCO₂e.



80.3 tons

In 2022, we cut down 6 fuel buses, saving a cumulative 80.3 tons of diesel.



7.116 million kWh

The optimization of the air-conditioning system helps to save approximately 7.116 million kWh of electricity per year.



163,000 kWh

The optimization of the exhaust fan system helps to save approximately 163,000 kWh of electricity per year.



2.5 million kWh

The special energy-saving project for plant equipment helps vivo to save 2.5 million kWh of electricity per year.

Gasoline consumption	1,437 MWh
Diesel consumption	1,341 MWh
Natural gas consumption	8,169 MWh
Purchased power consumption	99,371 MWh
Total GHG emissions	65,700.75 tCO ₂ e
Direct GHG emissions (Scope 1)	9,029.56 tCO ₂ e
Indirect GHG emissions (Scope 2)	56,671.19 tCO ₂ e

Energy Consumption at vivo's Global Headquarters in 2022

Note: The energy consumption and greenhouse gas (GHG) data were collected in Areas A, B, and C of Dongguan Industrial Park.



Water Resource Management

vivo highly values the proper use of water resources and takes practical actions to increase water efficiency via saving and recycling attempts. In 2022, we realized the annual water-saving target of vivo's all factory areas in Dongguan with water saving at around 642,200 tons and a 26.67% year-on-year decrease.

In our daily operations, we improve the fine management of water resources in various scenarios. We have taken multiple measures to reduce water waste, such as adopting inductive facilities or water-saving materials, optimizing the water-use pattern and frequency in the park, carrying out water-saving publicity, and regularly maintaining water-using equipment. In 2022, Chongqing Industrial Park saved 25% of ineffective water losses from 2021 with the maintenance of pipeline networks of tap water.

We continue to explore water recycling scenarios, and carry out special work, such as recycling laboratory water and collecting the concentrated water in the park, etc., to effectively improve the reuse efficiency of water resources.



642,200 tons

The annual water-saving of vivo's all factory areas in Dongguan reached 642,200 tons.

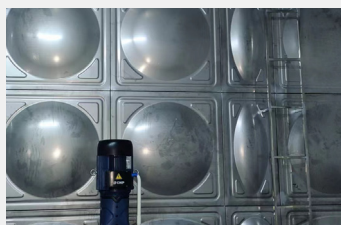


26.67%

The annual water-saving target was reached, with a 26.67% year-to-year decrease.

Concentrated Water Recycling Project in Dongguan Park

vivo has launched a concentrated water recycling project in Dongguan Park. After recycling and processing the reverse osmosis concentrated water generated during the production of direct drinking water, the concentrated water will be reused for sanitary cleaning in the kitchen, canteen, toilet, garbage collection room and other areas of the park, thus achieving the dual effect of recycling water and reducing water waste. In 2022, Dongguan Park saved about 7,705 tons of water with the help of the concentrated water recycling project.



7,705 tons

In 2022, vivo's Dongguan Park saved about 7,705 tons of water with the concentrated water recycling project.

Waste Management

vivo strictly manages and controls the generation and disposal of waste and actively looks into comprehensive utilization solutions. We have formulated the *Standards for Classification and Management of Wastes* to guide the classification, transfer and disposal of wastes. In 2022, we installed an online monitoring system in Dongguan Industrial Park to track and monitor the generation, temporary storage and disposal of solid waste in the park in real time for better processing efficiency of solid waste.

- Standardize the classification of recyclable materials from general solid waste and construction waste, such as cardboard, plastics and metals, and transfer those that pass the material reuse suitability assessment to other projects for reuse. By doing so, we saved a total of about RMB 2.45 million in construction costs in 2022. Other materials that can not be reused within the Company will be sorted, stored and then sent to external professional organizations for recycling;

- As for general solid waste and construction waste that cannot be recycled, such as canteen waste and construction waste, we engage professional third-party suppliers for removal and disposal;
- For hazardous wastes, such as PCB light boards, waste acid and alkali and empty chemical bottles, we collect, store and manage them in a safe manner, and then hand over to third parties with professional qualifications for compliant transfer and disposal.

In 2022, vivo generated 163.46 tons of hazardous waste¹, 100% of which was disposed of in compliance; the amount of non-hazardous waste² generated was 11,602.21 tons, 100% of which was recycled.

¹ The statistical scope of the hazardous waste data includes the all factory areas in Chang'an Town, Dongguan City, and Chongqing factory area in China. In 2022, we further refined data collection scope with 4 hazardous waste categories covered in reference to *the National Catalogue of Hazardous Wastes*.

² The statistical scope of the non-hazardous waste data includes metals, plastics and cardboards from all factory areas in Chang'an Town, Dongguan City, and Chongqing factory area in China.

Pollution Prevention and Control

Although the pollution emissions from vivo's production and operation have little impact on the environment, we insist on implementing pollution prevention and control with high standards. While strictly complying with the requirements of local environmental laws and regulations, we make sustained investments in pollution prevention and control during production phase, continuously optimize production processes and upgrade relevant techniques, in a bid to mitigate environmental risks and promote green production.

Retrofit of Air-Conditioning Humidification System in plant of Chongqing Industrial Park

vivo has upgraded the air-conditioning humidifiers in the assembly plants in Chongqing Industrial Park. The original steam humidifiers relied on natural gas combustion for energy supply, which would inevitably generate pollutants like sulphur dioxide and nitrogen oxides during operation. After in-depth investigation, we retrofitted them into wet film humidifiers that adopt a cleaner water washing mode to filter the air, which could improve the operating efficiency of the air-conditioning system while reducing air pollution. In 2022, we successfully retrofitted 29 plant air-conditioners, reducing about 105kg of sulphur dioxide and 450kg of nitrogen oxide emissions every year.

We have developed complete treatment processes for pollutants like waste gas, wastewater and noise, striving to mitigate the negative impact on the environment in a professional and scientific manner. In 2022, we constantly stick to compliant discharge of exhaust gas, wastewater and noise.

We regularly review and evaluate our environmental management performance and entrust third-party professional organizations to conduct annual assessments of our pollutant emissions every year, including noise at boundaries, indoor noise, domestic sewage, plant waste gas, indoor air quality and canteen fumes. According to the examination report issued in 2022, 100% of pollutant discharge of vivo's parks is compliant to standards.



100%

100% of pollutant discharge of vivo's parks is compliant to standards.



105 kg

Retrofit of air-conditioning humidification system Chongqing Industrial Park is estimated to reduce about 105kg of sulphur dioxide every year.



450 kg

Retrofit of air-conditioning humidification system of Chongqing Industrial Park is estimated to reduce about 450kg of nitrogen oxide emissions every year.

Pollutants	Examples	Disposal Measures
Exhaust gas	Exhaust gas from production	We gather it to the roof and process it with a pre-treatment process and a purification device.
	Exhaust gas from canteen	We treat it with an oil smoke purification device and discharge it at a high altitude after reaching the standard.
Wastewater	Domestic wastewater	We process domestic wastewater in strict compliance with local requirements and discharge it based on the principle of rainwater and sewage diversion, and regularly update the license qualification of the drainage pipe network.
	Industrial wastewater	We collect and engage a qualified third party for transfer and harmless disposal.
Noise		We preferentially select low-noise equipment or techniques to prevent noise hazards from the source and install sound insulation materials and increase the greening of the parks to continuously improve noise control.

Value Creation

Employee Growth
Win-Win Cooperation
Industrial Co-Prosperity

An enterprise's long-term and sustainable development depends on the concerted efforts of its employees, business partners and suppliers. vivo respects the rights and interests of our employees, provides them with a broad development platform, and supports our business partners and suppliers to the best of its ability, with a view to joining hands with all stakeholders to pursue common growth. We also leverage our advantages to advance industry development and cultivate high-quality professionals, to inject new momentum into the vigorous development of the industry.



Proportion of workers covered by our occupational health and safety system:

100%

Total duration of employee training:

143,748 hours

Proportion of suppliers that signed the agreement on sustainable procurement: maintain above

95%

Note: Workers: the personnel engaged in production or other work within the scope of the Company's control, including its employees and the staff (non-employees) whose work/workplace is controlled by the Company.

Employee Growth

vivo regards “creating a joyful and progressive environment for employees” as one of our core missions, effectively safeguarding the rights and interests of our employees, protecting the occupational health of employees, and supporting their development. We work to create a diverse, equal, and inclusive working environment and develop a fair and effective incentive system. With these efforts, we strive to encourage employees to grow and enhance their happiness.

Health and Safety

Ensuring the occupational health and safety of employees is the prerequisite for all operations and the bottom line we adhere to. While strictly observing relevant laws and regulations of each operating location, we have formulated the *EHS Management Manual* and other regulations and developed an EHS management system that covers all business lines of the Company. Also, under the EHS Committee, we set up a dedicated EHS execution team, responsible for implementing matters pertaining to employee occupational health and safety, hoping to create a safe and healthy working environment for employees. By the end of 2022, our Chang'an Industrial Park (in Dongguan City, the location of our global headquarters and manufacturing centre) and Chongqing Industrial Park had obtained the ISO 45001 Occupational Health and Safety Management System Certificate.

We set EHS-related objectives every year, clarify the responsibility subjects of each work, and supervise how well the objectives and indicators are being accomplished. By developing and implementing targeted improvement measures centred around dimensions, i.e., risk assessment, chemical management, office safety management, safety training, occupational disease prevention, emergency management, accident handling and management of related parties, we can continually optimize the management of employees' occupational health and safety. We largely achieved all our key objectives in 2022 with no fires, no fatalities, and no occupational diseases. Meanwhile, our occupational health examination and annual physical examination covered 100% of occupations. We have set up infirmaries in Dongguan and Chongqing office and factory areas, and we owned 288 certified first-aiders to provide employees with general physical examination, minor trauma treatment, medical emergency treatment and other medical services.

We continue to strengthen our occupational health and safety culture by actively implementing safety culture implementation months and fire safety campaigns and providing health and safety training to our staff. In 2022, vivo carried out a total of 875 EHS-related training sessions¹, with a total of 25,486 participants. The total course duration were about 1,357 hours.



100%

In 2022, our occupational health examination and annual physical examination covered 100% of occupations.



25,486

In 2022, vivo carried out a total of 875 EHS-related training sessions, with a total of 25,486 participants.



Fire safety awareness campaign



ISO 45001 Occupational Health and Safety Management System Certificate



¹ The EHS training statistics cover new employee training and specific training for key positions at vivo's Dongguan factory park and Chongqing factory park.

Rights and Interests of Employees

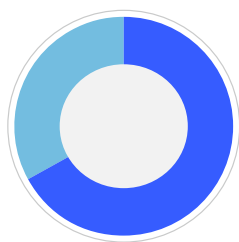
We uphold the concept of “anti-discrimination, equal pay for equal work, freedom of religious belief”. In accordance to the International Labour Organization (ILO) Conventions, we have been formulating and perfecting our administrative provisions such as the *Anti-discrimination Management System*, the *Religious Belief Management System*, the *Anti-Workplace Sexual Harassment Regulations*, and the *Administrative Regulations on the Protection of Female Employees*. By integrating the humanistic philosophies of diversity, equality and inclusion into the Company's daily management and operations, we can effectively safeguard the legitimate rights and interests of all employees and create an inclusive and equal working environment.

Following the principles of “equal employment and person-post match”, we have strictly standardized the recruitment process and selection criteria. We oppose any form of discrimination and do not treat employees differently due to their ethnicity, region, household registration, gender, age, physical characteristics, physical conditions, marital and parental status, and others.

vivo expressly prohibits child labour and any type of forced labour. To this end, we have specially formulated the *Administrative Regulations on Prohibiting the Employment of Child Labour and Remedial Measures for Mistaken Recruitment of Child Labour*, the *Administrative Regulations on the Prevention of Forced Labour*, etc., established complete employee personnel file registration to strictly confirm the authenticity of recruits' information. We have also set up a monitoring and reporting mechanism to preclude the recruitment or misuse of child labour.

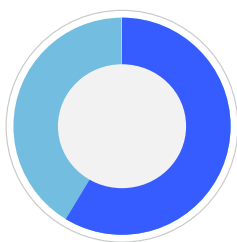
vivo has been incorporating important such human rights concepts as anti-discrimination, anti-sexual harassment, freedom of choice of employment and freedom of association into employee CSR induction training and daily operation. Meanwhile, we endeavour to accommodate the various requirements of our employees:

- Care our female employees, and set up maternity rooms for their convenience; in 2022, we further optimized the maternity leave benefits, giving female employees more care and support;
- Provide an inclusive and harmonious working environment for foreign employees and organize various language learning and cultural activities to help them resolve problems in language, life, and culture;
- Emphasize cultivating expatriate employees' diversity consciousness and organize pertinent cultural training to help them blend into local culture.



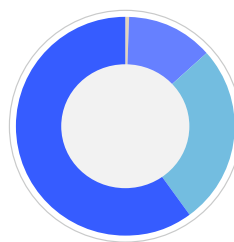
Number of employees (by gender)

● Male: 67.26%
● Female: 32.74%



Number of employees (by age)

● Aged below 30: 58.37%
● Aged 30-50: 41.39%
● Aged over 50: 0.24%



Number of employees (by education)

● Doctor: 0.49%
● Master: 16.77%
● Bachelor: 30.59%
● Junior collage and below: 52.15%

Note: The scope of the employee statistics covers all factories and office parks of vivo China.

1 Ethnic minority employees include only Chinese ethnic minorities.



9.01%

Percentage of employees from minorities¹ is 9.01%.



4.55%

Percentage of senior management from minorities is 4.55%.



16%

Percentage of female senior management (excluding members in the Management Committee) is 16%.

Establishing Democratic Management Mechanism to Guarantee Employees' Right to Deliberate

vivo respects employees' legitimate rights and interests as well as their democratic rights. We give full play to the functions of the labour union to provide employees with a platform for democratic communication. In 2022, we established a democratic publicity process to solicit employees' opinions on the Company's management system and engaged in equal consultations with the labour union and employee representatives. Based on employees' demands, the Company's development needs and feasibility, we could improve relevant management systems, and in the end, truthfully published the finalized systems to all employees.

Employee Development

vivo attaches importance to the capacity building and career development of our employees. We have established a diverse training system, which could give employees access to a wealth of internal and external learning resources as well as diversified growth opportunities. By creating a fair incentive mechanism, we intend to extensively empower employees' career development and co-create value with them.

To meet the varied development needs of employees and support their all-around development while reinforcing their professional skills, we draw up annual training plans for different positions, and develop tailored training programs.

VCAN Aesthetics Open Class to Cultivate Key Talents

vivo has included the "design-driven" concept into the Company's core values, believing that the application of design thinking and aesthetic concepts to the extreme can create more value. We invite professors from well-known art schools to give on-site lectures on music, painting, drama, film, etc. to improve employees' aesthetic perception. vivo arranged 2 VCAN aesthetics open classes in 2022, with a total of 1,298 person-times participation, and the average satisfaction rate for the open classes was over 90 points.



Onboarding Training



General Vocational Ability Training

Leadership training	Professional/technical training	General vocational ability training	Onboarding training	Special support
Continue to undertake programs such as NMP (New Manager Program) to assist new managers in developing management skills and quickly transitioning from individual contributors to team managers.	Help employees gain professional knowledge and skills needed for their roles in various forms, such as inviting experts to give lectures for the marketing team, organizing special training camps for the Internet team, etc., to enable teams to react to business needs more flexibly.	Provide employees with general knowledge and skills training required for career development, and comprehensively improve their overall capabilities such as growth, action, communication, thinking and collaboration.	Organize training for new employees who have not finished the probationary period to help them quickly fit in with the corporate culture and improve their job competency.	Provide targeted skill learning opportunities and full-cost support for employees with specific job needs, such as learning languages and obtaining Project Management Professional (PMP) certificate, to encourage employees to continuously improve professional skills and expand career development opportunities.



Professional/Technical Training - "Escort Program" Internet Data Analysis Training Camp



Leadership Training - New Manager Program (NMP)

In addition, vivo is dedicated to creating the best learning conditions for employees and therefore constantly enriches the training resource system. It includes training platforms, professional instructors, training courses, etc., to ensure that employees have access to innovative and abundant learning resources. In 2022, vivo developed a total of 1,046 training courses, including 953 online courses and 93 face-to-face courses, and organized 600 training sessions, with a total training duration of 143,748 hours, and approximately 13.77 hours of training per person.

● Construction of digital learning platform

We have developed "vCollege", a digital learning platform for staff members to study online. In 2022, "vCollege" innovatively introduced the "Knowledge Sharing Plan" module to encourage employees to exchange experiences and share knowledge; added core functions such as learning map, independent homepage, and thematic courses to further enhance user and learning experience. As of December 2022, a total of 55 core functions and 2,069 courses had been developed and launched on "vCollege", with an average of 20.5 thousand monthly logins.



1,046 training courses

In 2022, vivo developed a total of 1,046 training courses.



143,748 hours

In 2022, the total training duration was 143,748 hours.



学习报名

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移动端正逆向介绍



Android相机软件介绍



商务内控革新大揭秘——助力商

- **Training resources development**

With reference to internal and external excellent practices and industry benchmarks, we have developed a total of roughly 39 hours of innovation courses during 2022, conducted through online and offline workshops, and other means. More than 3,000 employees have attended these courses, all with a course satisfaction rate of 95 or higher, continuously driving the improvement of organizational innovation capabilities.

- **Construction of internal lecturer team**

vivo keeps scaling up its internal certified lecturer team. In 2022, 86 new certified lecturers joined the team, bringing the total number to 695. Additionally, we provide coaching, promotion and excellence selection, training, etc. to assist internal lecturers in improving their teaching quality. We have also developed 9 lecturer training camp programs, with the iteration of a number of courses.

- **Utilization of external resources**

To continuously broaden employees' knowledge and improve their comprehensive capabilities, we launched 143 expatriate training sessions in 2022, covering 13 key areas, including Internet, public administration, hardware development, materials procurement, and brand image, etc., with a total of 649 employees of all types participating.

vivo supports employees to achieve their career development goals. vivo has established a mechanism to evaluate the potential of employees from their work performance and development potential, and tailor a career development path based on the job requirements and talent suitability while taking into account the employee's development needs. We set up fair promotion channels and reasonable incentive mechanisms. By honouring outstanding employees and granting innovation contribution awards, employees are encouraged to innovate and gain personal breakthroughs, which leads to realize their personal value while creating value for the Company.

Besides, we support employees to upgrade vocational skills through government-enterprise cooperation. In 2022, in response to government call of "Silicon Valley of Skills", vivo completed the registration of vocational skill levels and obtained the evaluation qualification for two types of work. vivo's first round of vocational skill level certification attracted 281 employees to apply and pass the certification.



Employee Communication and Care

vivo listens carefully to the voice of every employee and maintains transparent and smooth communication with them. We proactively grant considerate employee benefits and care, striving to improve employees' happiness, enhance their sense of belonging, and strengthen team cohesion.

In 2022, we continued to conduct employee surveys on happiness, 3S (Say, Stay, Strive) model engagement survey, and 4C (good return, good development, good company, good atmosphere) model satisfaction for all employees. The purpose was to fully understand and collect employees' demands and suggestions, and gradually improve the Company's internal management processes.

In addition, we collaborated with well-qualified external institutions to offer Employee Assistance Program (EAP) and implemented the 7×24h online vCare employee care program. It was able to provide all employees with physical and mental health consultation, EAP theme training, pandemic care, crisis intervention, etc., so that employees can experience meticulous care.

- **Daily operation**

Post tips and monthly magazines on employee care on Company Management System and vivo Community.

- **Employee care**

Focus on employees' mental health and emotions through channels such as vivo Community and vAssistant, and promptly provide care and counselling.

- **Emotion management training**

Provide regular emotional management training for employees and managers to help them keep a positive attitude toward problems in life and at work:

- **Employees:** Provide special training like "Facing Challenges with Calm Instead of Anxiety";
- **Managers:** Provide special training such as "Identification and Response to Employees with Psychological Risks", "Interview and Assessment of Employees with Psychological Risks", etc.;
- **All staff:** Provide special training such as "Emotional Charging Station: Moderate Exercise Can Ease Chronic Anxiety", "Workplace Charging Station: How to Deal with Nervousness in Public Speaking?", etc.

At the same time, we increase investments in hardware and software facilities, and have set up a basketball court, badminton court, billiard room, and other fitness and recreational places in the office park, in a bid to create a comfortable and energetic working environment for employees.



Employees at vivo

vLife

vivo attaches importance to the life quality of employees. In each office park and production area, we set up self-service canteens that can accommodate thousands of employees dining together and provide nutritious and balanced meals and meal allowances for employees; in Dongguan and Chongqing office parks, we provide comfortable dormitories for employees and accommodation allowances for those in other regions to ease the housing problem of employees.

vHealth

We care for the physical and mental health of employees and provide them with advice and guidance on work and life, including stress adaptation management, health management, etc.; we also

set up infirmaries in all parks to allow employees to see a doctor for free, and provide them with more comprehensive medical security.

vActivity

We organize colourful activities for employees, giving them opportunities to fully express themselves and release vitality. In 2022, we carried out various activities such as Family Day, sports games and football matches, all of which were designed to foster the healthy development of corporate culture, as well as to facilitate employee communication and deepen their relationship.

Parent-Child Happy Times on Family Day

On Family Day, we built a "vivo Amusement Park" for employees and their families, where we set up interactive tasks, an environmental craft workshop and a science lab to promote parent-child interactions. We also organized a special public service activity together with "Star Grocery Store", a creative IP for children with autism. At the event, we shared the poems and paintings created by "little artists from the stars" to call for a public attention on autistic children and encourage kids to perceive the larger world and more diverse groups while having fun. It gave the Family Day a more humanistic significance.



Win-Win Cooperation

vivo is convinced that only by cooperating with partners and developing together can enterprises obtain stronger support and more solid guarantee. We focus on the core demands of partners and has leveraged on our advantages to empower our partners. While enhancing the synergistic efficiency of the entire value chain, we help our business partners to be more competitive to add value to the entire industry chain and achieve mutual growth.

Growing with Business Partners

vivo pays high attention to the interests of business partners. Adhering to the principles of fairness, impartiality, integrity, we establish long-term, stable, and sustainable cooperative relationships with business partners. We continue to explore scientific and efficient cooperation models, and provide substantial support for our business partners, being committed to building a healthy, stable, and sustainable value chain.

- **Support for store operations**

vivo offers one-stop assistance to agent partners, ranging from cooperation application to store construction, and conducts vocational training for employees before the store opens. Besides, we share business information and training materials with agents through the digital management platform and develop guidelines like *Operation Guidance Targeting Existing Users* and *Customer Segmentation Planning* to help them further improve the level of customer management and store operations.

- **Business capability training**

Based on the business development needs of stores and the necessity to enhance agent partners' capabilities, we conduct regular training for business partners to help them enhance their business capacity. The content of the training includes capacity building consists of the sales team, talent management, etc., and we update it from time to time to better support their operational capacity and service quality advancement.

Empowering Store Managers with "User Thinking" to Drive Development

In 2022, vivo helped agents and store managers establish "user thinking" based on the idea of "study what users need and provide what they want", to better satisfy user demands and deliver them warmer and more attentive services, thereby truly achieving "user first". Focusing on the topics of agency business and store manager duties, we have established a store manager capacity-building system in various forms and contents. This system is designed to improve the store managers' ability while helping our agent partners to build a quality talent pool of future store managers.



Sales Enablement Program to Help Partners Respond to Market Changes

To help our agents better adapt to market trends, we have launched a sales skills training program, “Customer-Winning vCamp”, which is accessible both online and offline. Through this program, we coach and support partners to use the short video platform to expand sales channels and eventually increase sales. In 2022, more than 4,000 sales consultants from 22 provinces across China attended this training program. During the introduction of the new products, the short videos produced by partner’s teams were viewed about 160 million times, demonstrating significant business upskilling of the sales consultants.



Sustainable Supply Chain

With the concept of “coordinated development, mutual trust and win-win cooperation”, we comply to the International Code of Business Ethics and the United Nations Global Compact based the laws and regulations of the regions where we operate. Accordingly, we establish the *Employees’ Code of Business Conduct*, the *vivo’s Principles of Responsible Procurement*, and the *vivo’s Supplier Code of Conduct* to clearly regulate our own procurement practices, while expanding our sustainable development practices to the supply chain. We propose our suppliers to sign the *vivo’s Supplier Code of Conduct*, and to

fulfil requirements on labour rights, occupational health, and business ethics work with suppliers. We encourage them to operate business with sustainable development concept. By doing such, we endeavour to co-create a sustainable supply chain with suppliers. In 2022, the percentage of vivo’s suppliers that signed the agreement on sustainable procurement stayed above 95%.

Sustainability issues covered by vivo’s *Supplier Code of Conduct* (partial)

1 Labour Rights

Covers labour issues such as freedom of employment, protection of minor workers, free association, fairness and diversity, remuneration and benefits

2 Occupational Health and Safety

Covers issues such as health and safety permission, health and safety management, and emergency response

3 Business Ethics

Covers issues such as integrity, information disclosure, intellectual property protection, responsible procurement of raw materials, privacy protection and fair trade

4 Environmental Protection

Covers issues such as environmental licensing and reporting, product environmental protection requirements, pollution prevention and control, greenhouse gas control and resource conservation

5 Management System

Covers internal management issues such as company commitment, management responsibilities, risk assessment and management, audits and assessments, documentation and records, and supply chain management

Supplier Lifecycle CSR Risk Management

vivo has set up a supplier CSR management team in charge of managing CSR entry risk control of new suppliers and CSR improvement of existing suppliers etc. In 2022, we drafted the *Supplier CSR Management Specification* to clarify the control measures pertinent to suppliers' code signing, access inspection, training, risk assessment, audit, performance evaluation, etc. We perform CSR risk assessment and site inspection on new suppliers, and conduct pilot CSR risk review on 100 existing suppliers, which managed to assist them in identifying CSR risks from several dimensions of management system, labour rights, health and safety and environmental protection. We also provide follow-up improvement guidance for suppliers to help them enhance CSR capabilities.

Meanwhile, vivo conducts special audits on suppliers in key areas of CSR on a continuous basis:

- **Risk review on the management of hazardous substances in products**

We conduct regular comprehensive risk assessments on suppliers' process control of hazardous substances in products. The assessment methods include on-site reviews and supplier self-assessment, involving 6 aspects, namely environmental management systems, design, and development, procurement, and supplier management, incoming materials, and finished product sampling management (IQC), production management, and logistics and warehousing management. In 2022, we conducted on-site environmental reviews on a total of 112 suppliers identified with medium to high environmental risks, and the pass rate of the audit result was 100%.

- **Information security verification**

Information security of the supply chain is related to the common information security of vivo and our business partners. To guard against the risk of leaking business secrets in supply chain business communication, we conduct special reviews on information security management for key business partners with high risks, examining the appropriateness, adequacy and effectiveness of the business partners' information security management system, confidentiality agreements, physical security, file management and IT management. We also provide such partners with supplier information security training and one-on-one tutorial assistance to help them strengthen their information security management capability. In 2022, the pass rate of special reviews on information security of vivo's business partners was 100%.



100%

In 2022, we conducted on-site environmental reviews on a total of 112 suppliers with medium to high environmental risks, with a pass rate of 100%.



100%

In 2022, we conducted special audits on information security management of key business partners with high risks, with a pass rate of 100%.

Conflict Minerals Management

vivo strictly observes the laws and regulations related to conflict minerals. We have released the *vivo Statement on Sourcing of Responsible Minerals* on the official website, and formulated the vivo Specifications for Managing Procurement of Responsible Minerals with reference to the main guiding principles of the *Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas* of Organization for Economic Co-operation and Development (OECD), to implement strict management of conflict minerals in the supply chain.

vivo has established a cross-functional team on compliant mineral procurement, responsible for carrying out due diligence, risk identification and risk control related to conflict minerals. We adopt the Conflict Minerals Reporting Template (CMRT) created by the Responsible Minerals Initiative (RMI), requiring suppliers to procure relevant raw materials from smelters or refineries that have obtained the Responsible Minerals Assurance Process (RMAP) certification or other equivalent agency certification. In 2022, we conducted due diligence on all suppliers involving conflict minerals, and the response rate was 100%. In addition, to help suppliers better understand conflict minerals compliance requirements, we organized conflict minerals compliance training for suppliers, covering a total of 260 person-times from 163 suppliers.



100%

In 2022, we conducted due diligence on all suppliers involving conflict minerals, with a response rate of 100%.

Supplier Sustainability Enhancement

We fully utilize our own resources and technical advantages to empower suppliers in multiple dimensions, aiming to grow together with all partners. In addition to providing training on professional technical capability, we have developed a sustainability enhancement program for suppliers, guiding them to focus on sustainability issues and co-construct a responsible supply chain.

- **Information collaboration platform**

Share hazardous substance management compliance standards with suppliers via the Product Compliance Management (PCM) platform and communicate vivo's sustainability values, various procurement principles and management standards via the Cooperation Management Platform (CMP).

- **Special ability improvement**

Provide training for improving capabilities, such as technological innovation, quality, delivery, and capacity, and track the learning progress of suppliers through the closed-loop management system.

- **Code of Conduct training**

Carry out training on environmental protection, health and safety, business ethics and other sustainability topics, convey vivo's management philosophy and expectations for suppliers on sustainable development, and strengthen suppliers' social responsibility awareness and relevant capabilities. In 2022, a total of 195 participants from 76 manufacturers attended vivo's business partner CSR training and exchange session.



195 participants

In 2022, a total of 195 participants from 76 manufacturers attended vivo's business partner CSR training and exchange session.

Supplier Engagement and Cooperation

vivo holds the Business Partners Conference on Quality and Improvement every year, where we communicate with supplies on supply chain performance, product quality requirements, technical innovation cooperation and other topics. In December 2022, we held the conference with the theme of "Shaping the Future with Mutual Trust, Win-Win Cooperation and Excellent Quality", with a total of 1,585 supplier representatives attending the meeting, where the suppliers were engaged in open dialogue. The meeting enhances mutual communication and trust between vivo and business partners, allowing us to cooperate to create value for the industry.

Joining Hands with Suppliers to Overcome Technical Difficulties and Achieve Win-Win Results

In 2022, vivo collaborated with the suppliers of glass back cover to conduct technical research and discuss technical improvement options. We provided the necessary resources and technical support to the suppliers, and successfully co-developed the fluorite AG (Anti-Glare) liquid medicine and spraying AG process. We applied them to improve the quality of our iQOO, X and other product series, which, at the same time, enabled our suppliers in technological innovation.



Industrial Co-Prosperity

Open cooperation and reciprocal sharing between corporations are important drivers for the development of the industry. Upholding the vision of "healthier and more sustainable" development, vivo partners with key stakeholders for value creation, actively fulfils our responsibilities to promote the sustainable progress of the industry. We vigorously contribute our strength in various areas of ICT industry, including innovation in the key and innovative technologies. We also cooperate with partners to cultivate high-quality talents, with the aim of promoting industrial co-prosperity.

Technological Development

While continuously promoting our own technological development, vivo also actively participates in the technical standards-setting of industry, to provide consumers with better products and services. vivo has constantly led and driven the development of the industry by directly or indirectly participating in or leading the formulation of standards in hardware and software fields such as communication, wireless charging, lithium-ion battery, terminal performance, artificial intelligence (AI) and Internet of Things (IoT). In 2022, we established a technical team to study innovative standards, so as to promote the development and implementation of industry technologies in a more systematic and efficient manner.

In 2022, vivo was engaged in the formulation of more than 270 standards of various types and output more than 1,000 proposals or suggestions, contributing vivo's wisdom to the industry standardization.

Facilitating Development of Communications

vivo is actively engaged in the research and application of 6G technology, striving to propel the development of global mobile communication technology. We have set up a dedicated research team to study, pre-research and verify 6G technologies, and has released a series of white papers including *Digital Life 2030+ and 6G Vision, Requirements and Challenges*, and *vivo 6G White Paper - 6G Services, Capabilities and Enabling Technologies*. We work together with research institutes to conduct research on 6G development trends, and share our research outcomes and preliminary views in the 6G field, to contribute our strength to advance the industry's 6G vision.

In addition, vivo actively participated in the 3rd Generation Partnership Project (3GPP), the standard setting body for international mobile communications. By the end of 2022, we have submitted a total of approximately 10,300 proposals in the field of 5G and other telecommunications. In 2022, vivo has filed more than 1,000 new 5G-related patents, with a cumulative total of more than 5,000.

Improving the Standardization of Lithium-Ion Battery

In 2022, as one of the major organizations, vivo participated in the revision of the national standard GB 31241-2022 *Lithium Ion Cells and Batteries Used in Portable Electronic Equipment—Safety Technical Specification*. This standard puts forward a series of mandatory requirements for the safety of lithium-ion batteries and battery packs used in mobile phones, tablets, wearable devices and other electronic products. It provides a basis for regulatory authorities to carry out testing, certification and market supervision and sampling in the safety compliance of portable electronic products, thus promoting the healthy and orderly development of the industry.



270

In 2022, vivo engaged in setting more than 270 standards of various types.



1,000

vivo offered more than 1,000 proposals or suggestions.



10,300

By the end of 2022, we have submitted a total of approximately 10,300 proposals in the field of 5G and other telecommunications.



vivo 6G White Paper - 6G Services, Capabilities and Enabling Technologies

Supporting the Standardization of Charging Segment

vivo is deeply involved in the development and implementation of the industry association's Universal Fast Charging Specification (UFCS), leading the formulation of group standards such as the *Universal Fast Charging Specification for Mobile Devices* and the *Support to the Universal Fast Charging Specification for Mobile Devices*, and the former won the Outstanding Project Award in the Green Energy Technology Category 2022. The standards provide a solution to incompatible fast charging standards in the market, improving the user experience while promoting energy saving and environmental protection. The UFCS protocol has gradually become a universal standard in the fast-charging industry and a number of devices from different manufacturers support this protocol.

Furthermore, vivo gives full play to its technical advantages and outputs vivo's knowledge and practical experience in the field of wireless charging and mobile power-related technologies. As a major organization, vivo was engaged in revising the wireless charging-related policies, namely the *Interim Regulations on Radio Management of Wireless Charging (Power Transmission)*

Equipment and the only national standard regarding portable mobile power, the *Portable Mobile Power for Electrical and Electronic Products*. With our expertise in standardization, our proposed suggestions were adopted.

Participating in the formulation of cybersecurity and privacy protection standards

vivo actively participates in the formulating standards in cybersecurity and privacy protection, covering personal information protection, software and system security, data security, application shop ecological management, the combat against telecom network fraud and other areas. We are passionately committed to jointly maintain a safe and stable cyberspace with industry partners. By the end of 2022, vivo had led or participated in the development of more than 130 standards.

国家标准



行业标准



团体标准



Standards in the field of cybersecurity and privacy protection

Driving Standardization of Terminal Software

- **Participating in the formulation of standards related to elderly-oriented technology and information accessibility**
vivo participated in the formulation of the *Technique Requirement and Test Method of Mobile Terminal Suitability for Elderly Persons* and the *Test Method of Mobile Terminal Information Accessibility Rating*. By integrating vivo's products design and the user questionnaire results, we submitted over 30 suggestions to reflect the actual demands of the elderly and people with disabilities, contributing to build a warm digital society.

- **Driving development of standards for the protection of minors**
Together with China Academy of Information and Communications Technology and the Telecommunication Terminal Industry Forum Association, we developed the *Technical Requirements for Minors Protection for Mobile*

Terminal and the *Test Method of Minors Protection for Mobile Terminal*, aiming to properly guide minors to appropriately use devices and to protect their physical and mental health and safety when using mobile products.

- **Supporting the upgrade and revision of system and terminal anti-aging standards**

As a co-leader, vivo and the China Academy of Information and Communications Technology jointly promote the revision of two group standards, namely, the *Module and Test Method of Aging Test on File System Based on Android Mobiles and Smart Terminals* and the *Evaluation Specification of Aging Performance for Mobile Intelligent Terminal*, which provide reliable guidance for the development of anti-aging technologies and promote the upgrading of products in the industry.

Facilitating Construction of Industrial Technology Ecology

vivo believes that bringing together the wisdom of all parties can vigorously accelerate the technological breakthrough in the industry. We have established ecological alliances and associations with upstream and downstream partners, striving to break the technical blockage in the industrial chain and promote collaborative innovation to co-cultivate an innovation-driven and sustainable industrial ecology.

In addition, vivo is an active member in ICT technology associations and alliances to contribute to the innovative development of industry technologies and its implementation.

Meanwhile, vivo makes unremitting efforts to build an open, inclusive, and shared industry ecology. By attending industry technical conferences, we share our experiences and gains in artificial intelligence, mobile application security, mobile computing and database operation and maintenance. We also encourage peers to share technical views and application cases to cultivate new ideas and achieve mutual learning and common progress.

Sharing vivo's Experience in ARM Tech Symposia¹

In December 2022, vivo attended the ARM Tech Symposia and shared our experience and outcomes in the field of mobile computing at the roundtable session "The New Future of Mobile Computing: Trends and Prospects of the Consumer Market", discussing future technology trends and demonstrating our own views for boosting the mobile technology.

List of Associations/Alliances Established by vivo as One of the Initiators:



Guangdong Fast Charging Alliance
(FCA)

Conducting a series of upstream and downstream cooperation to accelerate further integration of the domestic fast charging industrial chain and promote the safe development of the industry ecology.



Intelligent Terminal Golden Seal Alliance
(ITGSA)

Studying technical standards on intelligent terminal software, accelerating the implementation through pilot demonstration and industrial cooperation, and building a service platform for technical standards ecology of the intelligent terminal software.



Intelligent Car Connectivity Open Alliance
(ICCOA)

Carrying out research on technologies and standards for the interconnection of intelligent terminals and automobiles to realize integration of mobile phones and automobiles as well as technology and data and promote the interconnection between mobile terminals and automobiles.

List of the Associations / Initiatives vivo has Joined:



3GPP
(3rd Generation Partnership Project)



CCSA
(China Communications Standards Association)



ETSI
(European Telecommunications Standards Institute)



ITU
(International Telecommunication Union)



OLA
(Open Link Association)



TAF
(Telecommunication Terminal Industry Forum Association)



IEEE
(Institute of Electrical and Electronics Engineers)



CSA
(Connectivity Standards Alliance)

¹ The ARM Tech Symposia is an annual technology conference that brings together thousands of hardware engineers and software developers from foundries, chip designers, OEMs / ODMs, software service providers and startups. The conference focuses on industrial trends and presents the next generation computing possibilities and the latest and most innovative technologies based on the ARM infrastructure (Advanced RISC Machine).

Talent Cultivation

High-quality talents are the driving force for industrial innovation and development. vivo keeps investing in talent cultivation, providing them with scientific research platforms and development opportunities, which could enhance talents abilities, while bringing more vitality to the development of the ICT industry.

We give full play to the industry-university-research institute collaboration model. In this regard, we join hands with Tsinghua University, Zhejiang University, Swiss Federal Institute of Technology Zurich, and other top universities at home and abroad, integrating our technical strength and practical experience with the scientific research advantages and teaching resources of the universities. By jointly establishing R&D centres and holding technical competitions and expert forums, we co-explore new modes for talent cultivation and incubate new innovations.

- **Jointly establishing industrial technology research centre with universities**

vivo has established the Zhejiang University - vivo Information Technology Joint Research Centre with Zhejiang University, aiming to achieve complementary advantages and build a technological innovation highland. As of December 2022, the Joint Research Centre had conducted 7 research projects regarding phone imaging, intelligent terminals and other frontier technologies, with a research investment of more than RMB 7 million. In the future, vivo and Zhejiang University will develop a collaborative innovation system that “drawn by the actual needs of the industry, constrained by the laws of discipline development, and features market-oriented and enterprise-oriented with deep integration of industry, universities and research institutes” to promote industrial progress.

- **Organizing the network security attack and defence challenge**

In 2022, vivo launched the 2nd session of “kMirror Cup Cyber Security Challenge”. University students are invited to evaluate the privacy and security performance of vivo’s products through attack and defence competition and technical forums. The competition attracted more than 160 teams from Wuhan University, Huazhong University of Science and Technology and others, assisting talents discovery in information security.

- **Hosting technical expert forum**

vivo holds the VCAN AI Expert Forum, a platform for knowledge exchange and technological development in AI. In 2022, we invited professors and senior experts from Xiamen University, Microsoft Research Asia and other well-known to share their research findings and practical experiences. It covers a wide range of innovative technologies such as deep neural networks, large-scale multimodal pre-training and multilingual neural machine translation, bringing new ideas and enlightenment to industry talents.



Community Responsibility

Sound Operation
Business Ethics
Public Welfare
Global Welfare

Upholding the concept of “shoring up a bright responsible future”, vivo is committed to delivering sustainable value for society with strong enthusiasm. We have been insisting on compliance operation, promoting robust internal governance, following business ethics and fully supporting fair trade. As an active participant in global public welfare, we promote social development at home and abroad by leveraging our strengths, with a particular focus on public demands. With these efforts, we strive to promote a virtuous cycle of our development and social growth.



Percentage of employees (including the Management Committee) that vivo's anti-corruption policies and procedures have been communicated to

100%

Percentage of employees covered by Information Security Training reached

100%

Signing rate of the *Integrity and Honest Cooperation Agreement* with key suppliers reached

100%

The "National Parks Protection Campaign" covered

3 national parks and **38** nature reserves

Note: The cut-off date for the data on the proportion of anti-corruption policies and procedures conveyed to Management Committee members, employees and suppliers is May 2023.

Sound Operation

vivo adheres to the bottom line of compliance operation. In strict accordance with laws and regulations, we keep strengthening risk management and building a solid information security barrier to ensure long-term compliance of corporate governance.

Enterprise Risk Management

Compliance and sound operation are the foundation for corporate development. vivo strictly complies with the laws and regulations of the regions where it operates in business activities and daily operations. We have formulated the *Corporate Risk Management System*, and constantly sorted out the interim rules for *Corporate Risk Management System for New Businesses* and the series of rules for internal control of the procurement process. In this way, we keep improving the mechanism and guidance for risk management and consolidate the foundation in this regard from multiple aspects, integrating risk management into daily operations.

● Risk Management System and Structure

We have laid out a risk management system with the vertical layout of three lines of defence, the risk reporting mechanism, and the horizontal ex-ante, in-event and ex-post management. Our risk management structure is composed of the Management Committee, the Finance and Internal Control Audit Department and business departments. The Management Committee is responsible for coordinating and guiding the risk management, including managing risks related to sustainable development. The Finance and Internal Control Audit Department has set up an internal control and audit team for management, such as risk assessment, training and rectification at regular intervals, and supervises the effectiveness of the risk management system. We have appointed a direct responsible person and a risk manager

for each business department to fulfil risk management requirements accordingly.

● Risk Control Digitalization

We have developed the digital risk control and internal audit system, security attack and defence system, and business risk system, which constitute vivo's digital risk management platform. It provides digital support for risk vulnerability prevention, risk event review and risk rectification for more accurate risk identification and efficient risk management. In 2022, we expended the identification scope of business risks and optimized risk monitoring techniques. We plan to build a more sensitive risk warning mechanism to better prevent and control risks.

● Risk Culture Cultivation

vivo insists on reinforcing the risk culture. To this end, we have proposed internal requirements for a top-down risk culture, from the management to front-line business teams, and implemented publicity routines about three times a month. Led by the management, we keep strengthening the risk awareness of employees at all levels. In 2022, we further enriched the training courses on risk management to further familiarize employees with our risk management system.

● Risk Assessment and Review

Centring on business objectives and risk management requirements, we carry out internal risk assessment and review for each business line. Through annual assessment and review, departmental self-assessment and third-party special review, we ensure the scientific and effective risk assessment and review in an all-around manner.

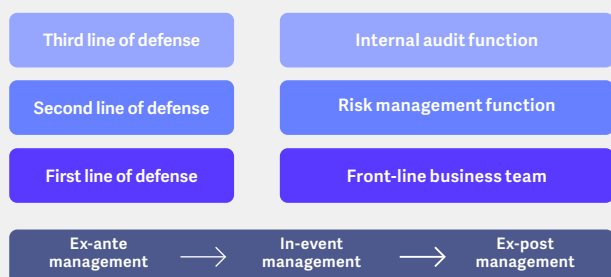


Diagram of vivo's Risk Management System

Annual assessment and review

We conduct comprehensive internal risk assessment and review every two years to identify and assess the top ten risks. By formulating rectification measures and urging the rectification, we ensure that the risks are under proper control.

Departmental self-assessment

We require each business line and department to carry out internal control self-assessment at regular intervals. Especially, the Finance and Internal Control Audit Department should conduct a risk assessment for internal controls over high-risk businesses at least once a year.

Third-party assessment

We irregularly invite third parties to conduct special internal control review. For the areas and businesses with higher risks, we align with the advanced industry practice to improve the level and intensity of risk control.

Information Security Compliance

Information security safeguards our core competitiveness. For this purpose, we have built five protective screens for information security. Specifically, we have established and improved the information security management framework, with execution teams appointed accordingly. We also insist on upgrading information security protection technology. In accordance with laws and regulations as well as industry standards, we have established a sound process and system for information security. Meanwhile, we regularly conduct information security training and drills, to build a robust information security firewall. In case of an information security incident, relevant departments will act immediately, and an intensive training will be organized for the relevant departments to prevent the recurrence of similar incidents. In 2022, no major information security incidents occurred at vivo.

Information Security Management System

- **Information Security Management Policies**

vivo strictly complies with the *Cybersecurity Law of the People's Republic of China*, the *Measures for Administration of Classified Protection of Information Security*, the *General Data Protection Regulation* and other applicable Chinese and international laws and regulations. We have formulated the *Information Security Manual*, *Information Security Management Strategy*, the *Information Security Management System*, the *Cybersecurity Management System*, the *IT Network Security System* and other administrative documents. Such systems have provided a framework for the safe operation and maintenance of information security. In 2022, we strengthened information security management and amended the *Information Security Management System* to further clarify information security policies and objectives, as well as the classification of confidential information.

- **Information Security Management Structure**

vivo has established an information security management structure with clear responsibilities. In addition, we have also set up an Information Security Committee and information security teams at the corporate, region and department level. Through active cooperation with information security representatives of various business areas, they ensure that the information security management is in place and the information security structure is effective.

- **Information Security Management Process**

In practice, we stick to the “five components of information security word”, that is risk control, training and communication, measure verification, continuous refinement, as well as rewards and punishments. We strictly implement the safety responsibility system, requiring all employees to sign a confidentiality agreement during the induction. We restrict employee behaviours through a reward and punishment mechanism: those who go beyond the bottom line will be severely punished, and who can report security vulnerabilities in time will be rewarded. In terms of external cooperation, we have developed the *Information Security Requirements for Core Suppliers of vivo*, and signed the *Mutual Confidentiality Agreement* with all key suppliers to ensure that they consciously protect the security of vivo's confidential information.

Meanwhile, heads of various areas, departments and projects are responsible for conducting regular publicity and training on information security risks and control measures, while a template for spot check should be formulated for cross check. If the verification (spot check) reveals new leakage risks or loopholes, or if the existing controlling measures do not work as expected, we will optimize the systems to establish new benchmarks. Good practice with excellent effect will be analysed and promoted for continuous refinement.

In 2020, vivo has obtained the ISO/IEC 27001 Information Security Management System Certificate by the British Standards Institute (BSI), and continually updates the certificate to ensure an effective management.



ISO/IEC 27001 Information Security Management System Certificate

Security System Improvement

Adhering to a more comprehensive information security system with excellent solutions in the industry, vivo integrates the development of information security protection technology into corporate strategic planning. We strengthen information security management with innovative technology and keep enhancing our competence in data security management to better combat the challenge about digital security challeng. We have been operating two WeChat official accounts, which are “vivo Mirro” and “vivo Internet Technology”. Through such accounts, we regularly share security technology information and our proprietary technology, in a bid to promote technology sharing and exchange in the industry.

Identity authentication technology

We adopt single sign-on (SSO) system, as well as two-factor authentication and FIDO2 authentication for identity authentication, safeguarding the identity system security. In addition, we regulate the complexity design of authentication passwords of the IT business system, preventing the illegal use of user information, thus enhancing the data confidentiality for employees, partners, consumers and others.

As of 2022, we had integrated more than 120 business systems, which could provide users with a convenient login experience and unified authentication and authority control.

Access control technology

We adopt the advanced firewall technology for access control isolation and manage access to private cloud servers with a bastion host. All access applications require a two-factor authentication. With 7 security detection capabilities, the technology can accurately control access through user identity, application protocol, request content, etc. It can meet the needs of providing resource isolation, threat detection and precise access to sensitive data or business systems and is an important safeguard for enterprise network access control technology.

Data governance technology

We classify data into three levels of confidentiality, with differentiated governing approaches. In terms of software technology, we ensure data security with multiple approaches such as data encryption, anonymization, desensitization and audit. Such approaches have been applied to more than 40 business systems. In terms of terminal security, we also protect sensitive files of office users to ensure that only authorized users have access to authorized information, limiting the dissemination of sensitive information.

By the end of 2022, we had implemented over 13,000 projects for protecting the use of documents in office terminals.

Information Security Culture

In terms of developing an information security compliance culture, we adhere to the principle of “putting the safety first for core information, and the efficiency for internal sharing information” and held a wide range of specialised training and awareness-raising sessions in 2022. We carried out information security training for all employees, and special training and assessment for key positions, with 100% passing rate.

We post up the *Information Security Management Requirements* and related flyers in the workplace. We also provide whistleblowing channels for information security incidents, guiding employees to report emergencies in a timely manner. In addition, we actively organize information security teams to participate in internal and external exchanges and competitions, providing them with diversified learning opportunities.

In 2022, vivo participated in the Amazon Web Services (AWS) Security JAM, competing with more than 10 IT teams from other Internet enterprises. After the fierce competition process, vivo's team stood out and won the first place.



Business Ethics

vivo adheres to the core philosophy of “operating with integrity and abiding by business ethics.” We keep improving the integrity and compliance system, with a resolution to resist and prevent illegal acts such as commercial bribery and corruption, unfair competition, and commercial fraud. While pursuing self-achievement, we vigorously practice the principle of “openness, integrity and win-win cooperation” with our partners, jointly contributing to the honest and transparent industrial ecology.

Fair Trade

vivo strictly complies with all applicable domestic and international laws and regulations on anti-monopoly and competition, sticking to zero tolerance for unfair competition. In addition, we have developed management documents such as the *vivo Overseas Anti-Trust and Competition Law Compliance Policy* and the *vivo Anti-Monopoly Compliance System* for different regions around the world, requiring all employees to comply with relevant regulations on anti-monopoly and unfair competition in daily operations.

In 2022, vivo set up the Anti-Monopoly Compliance Committee in China, responsible for setting goals and establishing prevention and improvement mechanisms based on internal anti-monopoly compliance strategies. This is conducive to improving the efficiency of anti-monopoly compliance management for all businesses and strengthening vivo's overall competence in anti-monopoly compliance risk control.

vivo has built and keeps improving anti-monopoly compliance management processes. Through competition law compliance and anti-monopoly compliance management project at home and abroad, we have strengthened the self-check and monitoring indicators of related risks for better compliance, and actively engaged in risk prevention, supervision and control. In 2022, we put emphasis on strengthening internal awareness, rooted vivo's anti-monopoly compliance concept into every employee's mind.

To further strengthen anti-monopoly risk prevention, in 2022, we launched the domestic sales anti-monopoly compliance project (Phase II) to further specify the internal compliance and urge rectification. We also conducted special diagnosis and risk assessment for the current status of anti-monopoly and competition in overseas markets, interpreted relevant laws and cases in different countries and regions and delivered several special training, to reduce anti-monopoly risk in overseas operations.

Integrity Building

vivo always acts with high integrity and observes the laws and regulations of the regions where it operates. We have formulated and strictly follow such management policies as the *Code of Integrity*, the *Code of Business Conduct for Company Employees*, the *Code for the Declaration Management of Conflict of Interest*, and the *Rules for the Management of Business Gift Presentation and Acceptance* to strengthen internal integrity and compliance control and prevent corruption risk in all round manner. We actively engage in external cooperation in industry integrity, and have joined two integrity platforms, including the Trust and Integrity Enterprise Alliance and the Enterprise Anti-Fraud Alliance. Through the platforms, we jointly build an honest environment for win-win cooperation and uphold workplace ethics and business ethics.



● Prevention Mechanism

In 2022, besides the existing integrity system and management documents, we continued such management tasks as monitoring, reminders, black and grey lists, and the filing of integrity cases, while refining requirements for the internal prevention. Meanwhile, we require 100% of our Chinese employees to sign the *Integrity Commitment* to ensure that all employees are fully aware of our integrity requirements.

● Handling Principle

vivo upholds the anti-corruption concept of “zero tolerance”, “full coverage” and “accountability system”, and the anti-corruption investigation principles of “prudence, compliance and confidentiality”. We conduct integrity investigations into any act of corruption. We lay bare the truth of the corruption in premise of protecting the legitimate rights and interests of employees. We punish or dismiss the person who committed the act of corruption according to the severity and hold accountable the supervisor and management personnel who are guilty of dereliction of duty.

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● Management of Conflict of Interest

vivo's *Integrity Commitment* requires that all employees are obligatory to report any conflicts of interest. Once found, such conflicts should be reported in advance. Punishments will be given to those who suppress any conflicts of interest accordingly.

● Reporting Management

vivo encourages employees, suppliers and other business partners, and the public to supervise and report any form of corruption and business ethics issues through the channels disclosed on the official website. vivo's integrity investigation team is responsible for handling and following up all reports and complaints. We promise to keep the information of whistleblowers and complainants confidential permanently.

● Anti-Corruption Training

vivo upholds the core value of "Benfen", and actively carries out various integrity training and featured cultural activities to build a comfortable and healthy workplace. We tailored integrity publicity and training for employees at different levels. In 2022, we held 24 employee integrity training sessions, covering 4,185 employees in key fields and positions, with a total of about 150,660 training hours. With these efforts, we keep enhancing our employees' awareness of anti-corruption.

In response to the 19th international Anti-Corruption Day of the United Nations, we held the "vivo Integrity Week" campaign themed "Integrity for Transparency" in 2022. Through a series of activities, we strived to spread the integrity culture and knowledge to employees.

● Procuratorate-Enterprise Cooperation

In 2022, we signed a *Memorandum on Fully Safeguarding the "Procuratorate-Enterprise Cooperation" for High-Tech Enterprises in Binhaiway Bay Area* with People's Procuratorate of Dongguan City. Through such mechanisms as interaction with specially assigned person, information sharing, daily exchanges, and multi-party collaboration, we jointly create a more honest workplace.

● Open Expert Lectures

vivo invited representatives of the People's Court of Dongguan City and People's Procuratorate of Dongguan City to deliver "open lectures on laws and regulations" and "open lectures on integrity" respectively for employees. These lectures covered issues such as the status of enterprise integrity and anti-corruption, analysis of enterprise duty-related crimes, and regulatory suggestions on self-prevention and control. With these lectures, we aim to deepen employees' cognition of enterprise crimes and help them establish the right working values.

● Public Auctions

vivo held the public auction themed "Transparent and Honest Values", and auctioned various gifts handed in, with all proceeds included in vivo's public welfare account. The auction had more than 400 participants and acquired proceeds of about RMB 5,990. While promoting the values of anti-corruption and integrity, this is also a new attempt for vivo in practicing public welfare.



24

In 2022, we held 24 employee integrity training sessions.



4,185

Our integrity trainings covered 4,185 employees in key fields and positions.



150,660 hours

Our integrity trainings run with a total of about 150,660 training hours.



100%

In 2022, the signing rate of the *Integrity and Honest Cooperation Agreement* with key suppliers reached 100%.

Good-Faith Cooperation

vivo sticks to the principles of “honesty, integrity, mutual trust, and win-win cooperation” throughout partnerships for honest operation. In 2022, we updated the Code of Integrity to clarify the integrity management and reward and punishment standards. We also disclosed documents such as the *Anti-Corruption Commitment and the Statement of Integrity and Honest Cooperation* on the official website to clarify our anti-corruption policies among partners. In 2022, the signing rate of the *Integrity and Honest Cooperation Agreement* with key suppliers reached 100%. All the key suppliers were committed to abiding by vivo's anti-corruption guidelines and requirements. We also actively share our experience in integrity building with partners. We regularly conduct exchanges, as well as learning and communication activities with them to enhance mutual awareness and recognition of the integrity values, and jointly lay a solid foundation for honest cooperation.

Public Welfare

As a corporate citizen, vivo keeps focusing on the public development and human well-being and paying earnest attention to basic and development needs of all sectors of society. By leveraging the strengths of our platform and technology, we contribute to the information accessibility through a wide range of featured public welfare programs to bring convenience and delight to everyone through technology. We also support rural education and pay attention to the development of rural aesthetic education to comprehensively improve the aesthetic of rural children. Meanwhile, through the means of technology, we actively fulfil environmental obligations and support the construction of national parks and biodiversity protection to build a green and beautiful homeland.

Love Without Hindrance, Voice with Breath

Adhering to the humanistic care and social thinking of “Technology Lights Up a Bright Future”, vivo works with partners to improve the communication status and life quality of people with hearing impairment. Through the development and upgrade of accessibility features of vivo's products, donation of accessibility devices, joint research, public welfare advocacy, we help those with hearing impairment listen to beautiful voices of the world.

"Voice with Breath Public Welfare Program"

In 2022, vivo joined hands with the Audiology Development Foundation of China (hereinafter referred to as "ADFC") to launch "Voice with Breath Public Welfare Program" to help those with hearing impairment better integrate into the digital world.

- On March 3, 2022, the occasion of the "National Ear Care Day", vivo donated mobile phones and watches with accessibility features to 133 hearing-impaired parents with infants and kids, so that they could convey their care to their loved ones with voices.
- In September 2022, we launched a particular public welfare program for supporting the employment of the young with hearing impairment. We provided about 500 hearing-impaired young people with accessibility devices and skill training on AI tagger; in collaboration with the ADFC and Southern Weekly, vivo released the Employment Research Report of the Hearing-Impaired and filmed the documentary Silent Youth. With these efforts, we call on the society to offer them a more inclusive and diverse workplace and care.

"Voice with Breath Public Welfare Program" has drawn great attention from all sectors of society. It was awarded the "Social Value Co-creation Excellence Award" in the Outstanding Corporate Social Responsibility Practices in China in 2022, the "Innovation Case of the Year" in the Southern Weekly Public Welfare Conference 2022, the "2022 Excellent Case of Accessibility Form Innovation on Accessible Information" in the Technology Accessible Development Conference (TADC). In future, vivo will keep striving to building the digital bridge, creating a more friendly and accessible environment and delivering greater values for society.



vivo was awarded "2022 Excellent Case of Accessibility Form Innovation on Accessible Information" in the TADC"

Driving Ecological Construction with Technology, Safeguarding the Natural Harmony

As the ecological environment is the foundation for human survival and development, vivo has been vigorously contributing to the ecological civilization. Integrating technology into environmental protection practices, we drive the public to pursue green lifestyle.



In 2022, vivo's "National Parks Protection Campaign" was awarded the "Practice of Public Welfare Award of the Year" by the Responsible China.

"National Parks Protection Campaign"

In 2022, vivo, together with the One Planet Foundation (OPF), launched the "National Parks Protection Campaign" to support the building of national parks and biodiversity protection in a technical approach, and promote the safe and efficient patrol of nature reserves. By the end of 2022, the campaign had covered 3 national parks and 38 nature reserves. We provided more than 250 patrols with professional kits containing vivo products, digital smart solutions and capacity training. At the same time, we joined hands with news media to launch three documentaries themed public welfare, including the Snow Leopard Guardian, the Dancing with Wolves and the Footprint. With these efforts, we pay the highest respect to the patrols who are sticking to the front line of ecological protection.

The "National Parks Protection Campaign" represents a vivid practice for vivo to support ecological construction with its proprietary technology. In 2022, the campaign was awarded the "Practice of Public Welfare Award of the Year" by the Responsible China, which conveys the beauty of life on Earth with the power of science and technology.



国家公园守护者行动 三三三

vivo X80系列

Publicity on Mangrove Protection

On September 30, 2022, vivo, together with SSPAI and Mangrove Wetlands Conservation Foundation (MCF), focused on protecting the homeland of migratory birds, Shenzhen mangrove wetlands, on the World Migratory Bird Day. Supported by our X series, we recorded the progress on protecting mangroves and migratory birds. We called on users to photograph coastal mangroves in Shenzhen with vivo mobile phones and capture the progress of local ecological protection to explore the harmony between humankind and nature. We recorded a story about migratory birds and humankind in the form of a video, which has been forwarded more than 10,000 times on Weibo, with over 1.4 million viewers by the end of 2022. Through the video, we convey natural and humanistic values and call on the public to jointly safeguard the green hills and lucid waters

Supporting Rural Revitalization with Aesthetic Education, Enlightening the Next Generation

Aesthetic education plays an increasingly important role in inspiring the all-round educational development of the next generation in rural areas. In 2022, vivo, together with the public welfare foundation, launched the public welfare program "Painting Our Future". The program has promoted aesthetic education and training in 29 rural primary schools, aiming to enhance the aesthetic of rural children. As of December 2022, the program had conducted 3 training sessions. A total of 104 rural teachers from Jiangxi, Guizhou, Yunnan and Gansu provinces had registered for the program, and a total of 1,532 boxes of art material packages had been donated, benefiting about 40,000 students. In the future, we will continue the cause of rural aesthetic education and the aesthetic development of rural children by constantly supporting rural teachers in aesthetic education, so that children can find, feel and create beauty.



1,532 boxes

As of December 2022, the public welfare program "Painting Our Future" has donated a total of 1,532 boxes of art material packages.



40,000 students

The public welfare program "Painting Our Future" benefits about 40,000 students.

Creating Public Values Through Digital Platforms

We strive for digital platform-based public welfare and encourage the public to engage. In 2022, we continued to launch v public welfare activities on vivo credit point mall, including "Voice with Breath Public Welfare Program" and the "National Parks Protection Campaign", enabling more people to pay attention to information accessibility, environmental protection, and rural aesthetic education. Through the mall, the value behaviour of users in the vivo ecosystem will eventually be transformed into social contributions. By the reporting date, vivo credit point mall had received more than 100 million donated credit points, involving more than 1.5 million participants and more than 3 million boosts of loving hearts.

In addition to practicing public welfare by itself, vivo also highlights long-term partnerships with external public welfare organizations. Since 2014, we have been working with One Foundation to carry out a series of public welfare activities, offering support and warmth to countless children in need. In 2022, vivo continued the deep cooperation by fully supporting projects such as the One Foundation Warm Package, One

Foundation Traffic Safety Training Camp, and One Foundation Ocean Paradise, leaving our impacts in an increasing number of public welfare fields.



Public Welfare Program "Warm Package" of One Foundation Supported by vivo's vPublic Welfare Activity

1 The public welfare program "Painting Our Future" was filed as "Adream Foundation - vivo Aesthetic Education Foundation" in the Civil Affairs Bureau, which was jointly initiated by vivo, Adream Foundation and China Academy of Art Education Foundation.

Global Welfare

vivo holds an international perspective. While expanding its global operations, vivo also spreads warmth to overseas countries by assisting local communities in sustainable development. In 2022, vivo global team conducted public welfare projects such as childcare, disaster relief, and infrastructure construction, leaving our public welfare footprints in many places.

Caring for Development of Needy Children

Engaging in children-related public welfare in the world, vivo pays special attention to the all-round development of needy children in developing countries. For this purpose, we actively contribute to children's health, education, welfare and other fields. In 2022, we held a series of children caring activities in Colombia and other places, sending them exquisite learning and living materials. We hope to call on all sectors of society to contribute to improving the well-being of needy children overseas.



Water Purification Equipment in Mbinudita Village

Supporting International Disaster Relief

In the face of frequent global natural disasters, vivo cares about the safety of local people, and supports overseas rescue and relief tasks, for which we commit to our responsibilities as a global citizen. In August 2022, when Pakistan was hit by devastating floods, vivo donated over PKR 10 million to the affected areas, through the Prime Minister's Flood Relief Fund 2022, to support the lives of the affected people. vivo's warm-hearted assistance was recognized and appreciated by the then President of Pakistan, Arif Alvi.





Assisting Infrastructure Construction












vivo vigorously supports the government-led poverty alleviation projects in the regions where it operates to facilitate the infrastructure construction. In 2022, in response to the Indonesian government's water infrastructure planning, we have helped build the water access and assisted the construction of water purification equipment and public toilets in Mbinudita Village, East Sumba Regency. In addition, we conducted education and training on clean water usage to better meet local demands for water use and sanitation, improving the living standards of local communities.













Supporting Poverty Alleviation in Indonesia





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Independence Assurance Report



ASSURANCE STATEMENT

SGS SGS-CSTC'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE VIVO HOLDINGS LIMITED SUSTAINABILITY REPORT FOR 2022

NATURE OF THE ASSURANCE/VERIFICATION

SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD. (hereinafter referred to as SGS) was commissioned by VIVO HOLDINGS LIMITED to conduct an independent assurance of the Chinese version of VIVO HOLDINGS LIMITED's (hereinafter referred to as vivo) 2022 Sustainability Report (hereinafter referred to as the Report).

INTENDED USERS OF THIS ASSURANCE STATEMENT

This Assurance Statement is provided with the intention of informing all vivo's Stakeholders.

RESPONSIBILITIES

The information in the Report and its presentation are the responsibility of the management and relevant functional departments of vivo. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all vivo's stakeholders.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE

The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognised assurance guidance and standards including:

- The principles and reporting processes contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) :
 - GRI 1: Foundation 2021 for report quality
 - GRI 2: General Disclosure 2021 for organisation's reporting practices and other organizational detail
 - GRI 3: 2021 for organisation's process of determining material topics, its list of material topics and how to manage each topic
- The guidance on levels of assurance contained within the AA1000 series of standards.

The assurance of this report has been conducted according to the following Assurance Standards:

- ☒ SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)

Assurance has been conducted at a moderate level of scrutiny.

SCOPE OF ASSURANCE AND REPORTING CRITERIA

The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below and evaluation of adherence to the following reporting criteria:

- ☒ GRI Standards 2021 (Reference)

ASSURANCE METHODOLOGY

The assurance comprised a combination of pre-assurance research, interviews with relevant employees onsite at vivo headquarters; documentation and record review and validation with external bodies and/or stakeholders where relevant

LIMITATIONS AND MITIGATION

Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

Data tracing on headquarters level, not including original data of all subsidiaries.

The assurance process only involved interviews with the heads of relevant departments and certain employees of headquarters and consultation with relevant documents. No external stakeholder involved.

STATEMENT OF INDEPENDENCE AND COMPETENCE

The SGS Group of companies is the world leader in inspection, testing and certification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from vivo, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment.

FINDINGS AND CONCLUSIONS

ASSURANCE/VERIFICATION OPINION

On the basis of the methodology described and the verification work performed, the specified performance information included in the scope of assurance is accurate, reliable, and has been fairly stated.

The assurance team believes that the Report with reference to the GRI Standards 2021.

Principles

Accuracy

Information in the report was accurate, enable to release more qualitative and quantitative information with indicators for stakeholders.

Balance

The Report followed the balance principle and truthfully disclosed the positive and negative information.

Clarity

The Report was presented different ways with words, charts, graphics and pictures, also described with actual cases to ensure the stakeholders understanding easily.

Comparability

The Report had disclosed performance indicators in 2022, previous data of partial indicators were disclosed, which could help stakeholders to understand and compare the improved performance year by year.

Completeness

The Report included coverage of material aspects and boundaries, to reflect significant economic, environmental and social impacts and enable stakeholders to assess the organization's performance in the reporting period.

Sustainability Context

The Report included coverage of material aspects and boundaries, to reflect significant economic, environmental and social impacts and enable stakeholders to assess the organization's performance in the reporting period.

Timeliness

Verification shown that the reported data and information was timely and effective. vivo disclosed its first sustainability report in Jul. 2022 and has disclosed it annually since then, which indicates good timeliness.

Verifiability

The data and information can be traced and verified.

Management Approach

The Report had disclosed the management approach of identified material topics.

General Disclosures

The general disclosures were partly presented in accordance with GRI 2: general disclosures 2021.

Topic-Specific Disclosures

Vivo's topic-specific disclosures related to the material topics in economic, environmental, and social areas were in accordance with GRI Standards.

Findings and recommendations

Good practices and recommendations for sustainability report and management process were described in the internal management report which has been submitted to the management of vivo for continuous improvement.

Signed:



For and on behalf of SGS-CSTC

David Xin

Sr. Director – Knowledge

16/F Century Yuhui Mansion, No. 73, Fucheng Road, Beijing, P.R. China

10th Jul, 2023

WWW.SGS.COM

Feedback Form

Dear readers:

Thank you for reading this Report. Your views and insights are very important to us. We sincerely hope that you could evaluate this Report and make valuable comments to help us make continuous improvement.

Should you have any comments or suggestions on our sustainability governance or information disclosure, please feel free to email us by CSR@vivo.com.

Feedback Form for vivo Holdings Limited Sustainability Report 2022

Name

Work Unit

Position

Tel

Email

Your comments on this Report: (please tick ✓ where appropriate)

Very good

Good

Average

Needs improvement

Do you think this Report has highlighted the important information about vivo in terms of sustainable development?

Do you think the information and indicators disclosed in this Report are clear, accurate and complete?

Do you find the layout and style of this Report easy to read?

Other opinions:

Which part of the Report are you most interested in?

What information you think you need to know is not reflected in the Report?

Do you have any other suggestions for us to issue the sustainability report in the future?

vivo