

# Artificial Intelligence (AI) Privacy White Paper of Huawei Consumer Business

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# 1 Personal Data Management for AI Businesses

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The mobile web is continuing to develop fervently. Mobile chips, which just a few years ago were limited in their processing capabilities, continue to become more powerful. Cloud computing services are also becoming more widespread, Artificial Intelligence (AI) algorithms are becoming more refined and mature, and data volumes and variety are growing with explosive velocity. In turn, the AI industry is developing rapidly and becoming more prevalent. AI products and services provided by Huawei Consumer Business Group are developed based on Huawei Emotion User Interface (EMUI) system, integrating the basic capabilities of chips, mobile operating systems (OSs), cloud services, and big data analytics, as well as mature AI solution capabilities of third-party service providers. These AI products and services are oriented to deliver convenience for users' daily life and work, delivering optimal user experience. In the AI era, both opportunities and challenges exist, with better products and services offered to users while risks to privacy protection may increase. Huawei will never place commercial interests above its commitment to ensure compliance to local regulations and both the security and protection of personal data.

## 1.1 Personal Data Processing Principles

Huawei protects user privacy based on the Generally Accepted Privacy Principles (GAPP) and complies with the EU General Data Protection Regulation (GDPR) as well as the personal data protection laws and regulations of other countries. Basic principles for personal data processing are as follows:

**Lawfulness, fairness and transparency:** Personal data shall be processed lawfully, fairly and in a transparent manner in relation to the data subject.

**Purpose limitation:** Personal data shall be collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes.

**Data minimization:** Personal data shall be adequate, relevant and limited to what is necessary in relation to the purposes for which it is processed. Anonymization or pseudonymization shall be applied to personal data when possible to reduce the risks to the data subjects.

**Accuracy:** Personal data shall be accurate and kept up to date. Every reasonable step will be taken to ensure that personal data that is inaccurate, with regard to the purposes for which it is processed, is erased or rectified without delay.

**Storage limitation:** Personal data shall be kept for no longer than is necessary for the purposes for which the personal data is processed.

**Integrity and confidentiality:** Personal data shall be processed in a manner that ensures appropriate security, including protection against unauthorized or unlawful changes, processing and against accidental loss, destruction or damage, using appropriate technical or organizational measures.

**Accountability:** Data controllers shall be responsible for and be able to demonstrate compliance with the principles outlined above.

In addition to the basic principles, AI businesses have additional requirements for the collection and processing of personal data: local processing first, separation of personal identifiers from cloud personal data, and limited data processing by third parties.

## 1.2 AI Data Lifecycle Management

Huawei provides privacy and security management throughout the entire data lifecycle and provides specific protection policies based on the characteristics of data processing activities in each phase of the lifecycle.



**Collect:** Personal data is collected lawfully, fairly and in a transparent manner, and limited to what is necessary to the purposes for which it is collected.

**Transmit:** Personal data is transmitted in a secure manner.

**Store:** Personal data is stored in a secure manner on devices or servers, and appropriate technical and organizational measures shall be implemented to secure stored personal data.

**Use:** The use purposes, processing methods, and retention periods of personal data is consistent with those specified in the privacy notice and as authorized by users. Security protection is provided to secure personal data against breach, theft, misuse, and abuse.

**Disclose:** In business scenarios where Huawei collaborates with third parties to provide AI services, suppliers and business partners authorized by Huawei to process personal data on Huawei's behalf shall be certified by Huawei to ensure they provide appropriate measures to secure personal data processing. Suppliers and business partners shall be contractually required to provide the same level of data protection as Huawei. They shall process personal data only as stipulated in the contracts and as instructed by Huawei, not for any other purposes. If Huawei and an independent third party both process personal data, Huawei shall specify the rights and obligations of each party and the data processing regulations with which both parties must comply in a contract.

**Destroy:** When the retention period of a user's personal data expires, the data is deleted or anonymized, and the destroyed data cannot be restored.

The following example shows the personal data processing for the object recognition function of HiVision:

<b>Data Type</b>	<b>Purpose of Processing</b>	<b>Security Protection Measure</b>
Device ID	Used for gray upgrade	Secure transmission over HTTPS; AES-encrypted for storage
Location information	Used for location-based object recognition services, such as identifying buildings and shops	Secure transmission over HTTPS; not stored
Picture	Used for identifying objects, landmarks, and shops by extracting information in pictures	Secure transmission over HTTPS; AES-encrypted for storage

# 2 AI Products and Services

Huawei provides an extensive range of AI products and services in the consumer market aiming to deliver convenience along with ultimate experience for users during daily life and work. User privacy is extremely important to us and we take our responsibilities seriously. We collect and process only personal data necessary for users to use AI products or services. We process data preferentially on the users' devices. If we need to process data on our servers, we anonymize and encrypt the data before uploading it over a secure channel. Before any processing of personal data by a third party is performed, users will be notified and authorization obtained from them. Users can obtain details about the processing of personal data in the privacy statement of the specific product or service. We respect the rights of users to make informed choices, and users can enable or disable any function provided by Huawei AI products and services.

## 2.1 HiVision

HiVision is an image recognition app provided by Huawei Consumer Business Group. It uses visual processing techniques to process images captured by mobile phone cameras, enabling users to scan to identify objects, products, food (and calories), barcodes & QR codes, and more.

On initial use HiVision prompts the user for the users' consent prior to collecting personal data necessary to provide services. HiVision will not collect or process personal data if users do not give consent or subsequently withdraw consent.

HiVision is integrated with professional service capabilities of third-party service providers and Huawei's AI capabilities to provide services to users. For example, HiVision classifies objects into different categories, such as pets, flowers, buildings, and famous paintings in implementing the object recognition function. After a user scans an object, HiVision will upload the picture to the Huawei cloud server and identify the category of the object in the picture. HiVision then sends the picture to the relevant third-party service provider's server, which then returns the identification result.

To provide HiVision services, Huawei needs to collect image information captured by the mobile phone camera. When HiVision is used to identify a store, Huawei will also obtain



the geographic location information of the mobile phone to analyze the location of the store. This information is obtained only for processing this service request only. Huawei will not store the historical location records of the mobile phone, nor will it track and analyze users' locations. HiVision services are provided by Huawei in collaboration with third-party service providers, and therefore the data collected by Huawei will need to be sent to third-party service providers for processing. Huawei, however, will not send a user's mobile phone number, HUAWEI ID, original device ID, or other data to the third parties. Therefore, the third parties will not be able to locate the device or individual. In addition, if a third-party shopping platform needs to further use personal data for its own business purposes, Huawei will display the name and brand logo of this third party on the identification result page and provide links to the privacy policy and service terms of the third party. It is recommended that users read such information carefully.

## 2.2 HiVoice

HiVoice is a voice recognition app provided by Huawei Consumer Business to offer device voice wake-up, placing and answering calls, and HiVoice provides other services to users by using technologies such as speech recognition, semantic interpretation, and natural language processing to identify, analyze and process users' voice.

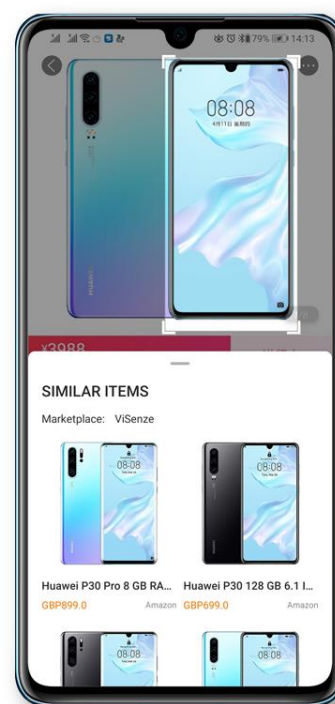
Users need to voluntarily turn on voice service or use voice wake-up to enjoy HiVoice services. When users use HiVoice for the first time, HiVoice will ask users to give consent. If users do not give consent or subsequently withdraw consent, Huawei will not provide HiVoice services, nor will it collect and process users' voice data.

When HiVoice analyzes users' voice data, sensitive personal data, such as voiceprint data, is processed only on the mobile phone. For example, when a user uses voice wake-up, the voiceprint data is encrypted and stored on the mobile phone, and will not be uploaded to Huawei Cloud or any third-party cloud. When the user wakes up the mobile phone using a voice command, HiVoice will match the input voice with the voiceprint stored on the mobile phone. When the user makes a call using a voice command, the voice command is processed only on the mobile phone. The voice command is not sent to Huawei.

## 2.3 HiTouch

HiTouch is a content recognition app provided by Huawei Consumer Business to identify the on-screen content when users touch the screen with two fingers. Huawei will not automatically obtain the pictures or text on the screen for analysis and processing. Instead, HiTouch is started only when users voluntarily touch the screen with two fingers. When users use HiTouch for the first time, HiTouch will ask users to give consent. If users do not give consent or subsequently withdraw consent, Huawei will not provide HiTouch services, nor will it collect and process the pictures or text on the screen.

When a user uses HiTouch to identify a product on the screen, HiTouch will send the snapshot of the product





and the pseudonymous device ID to the third-party shopping platform. The third party then identifies the product and returns a link for shopping, allowing for one-click shopping. Huawei will display the name and brand logo of this third party on the result page and provide links to the privacy policy and service terms of the third party. Huawei will not store users' product search records or purchase records, nor will it push advertisements.

## 2.4 HiBoard

HiBoard is a mobile assistant app provided by Huawei Consumer Business Group. It provides entries to multiple services in a convenient manner, such as Instant access, SmartCare, Save for later, news, and fitness data. When users use HiBoard for the first time, HiBoard will ask users to give consent. HiBoard provides an independent switch for each sub-function. If a sub-function is disabled, HiBoard will not collect or process the relevant personal data.

HiBoard reads and processes data (such as travel cards, phone usage, data consumption, daily tasks, and fitness and health data) only on mobile phones. For example, if the Huawei Health app is installed, HiBoard will synchronize and display data such as the step count, calories, and distance. This data is processed on users' mobile phone only, and will not be uploaded to our servers.

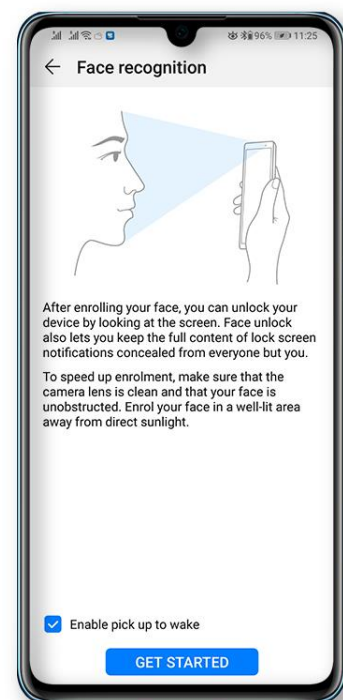
Huawei collaborates with third-party service providers to provide some HiBoard services. In delivering such services, HiBoard provides the entry to service requests, and the third-party service providers provide specific services. For example, in delivering news content to users, HiBoard will send information such as the ad ID and country information of users to the third-party service provider that provides news content. If users reset the ad ID on the mobile phone, the third party can no longer associate the ad ID with the mobile phone.

## 2.5 Facial Recognition

Facial recognition is a biometric recognition technology that identifies users based on facial characteristics. It is mainly used in face unlock and face payment scenarios.

Huawei mobile phones implement face-related processing, such as face image collection and feature extraction, comparison, and storage, in the Trusted Execution Environment (TEE) based on the chip hardware isolation. The Android facial framework is only responsible for facial authentication initiation and authentication result, and does not process facial data. Third-party Android apps cannot obtain facial data or send the facial data outside of the users' mobile phone.

Facial feature data is stored in the TEE secure storage or Replay Protected Memory Block (RPMB). A built-in security chip is used to encrypt and decrypt facial feature data and the encrypted key in the built-in security chip cannot be obtained externally, preventing facial data breaches.



## 2.6 AI Camera

Huawei mobile phones provide an AI camera that uses preset camera algorithms to recognize specific scenes, for example: portrait, pet, food, blue sky, beach, and sunset scenes, and associate each scene with specific processing. For example, in portrait scenes, the mobile phone will provide beautifying and blurring effects and achieve intelligent image composition. Users can also disable scene recognition.

AI camera is subject to preset camera algorithms and training models. It will not collect any personal data, nor will it upload any personal data to the cloud server for processing purposes or share data with any third party. All data is processed on the users' mobile phone.

# 3 Summary

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Huawei attaches great importance to user privacy and security, and tries to adopt the industry's most rigorous privacy protection standards and best practices to protect personal data in AI business scenarios, delivering secure and trustworthy AI services to users.

For details about Huawei Consumer Business Privacy Statement, go to <https://consumer.huawei.com/en/legal/privacy-policy>.