

Dihuava — Digital Human Avatar Platform

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HS Global SG Pte. Ltd. · UEN: 202216907Z

20 Collyer Quay, #09-01, Singapore 049319

hsglobalai.com · sales@hsglobalai.com

100% On-Device AI · Zero Cloud Dependency · GDPR Compliant · Fully Offline · Multilingual

Key Statistics

Metric	Value
On-Device AI	100%
Daily Interactions	Up to 5,000
Voice Profiles	67+ cached
Offline Languages	3 (EN, ZH, ES)
Concurrent Sessions	Up to 10

1. What is Dihuava?

Dihuava is a fully self-contained, enterprise-grade **digital human avatar platform** developed by HS Global AI. It powers lifelike AI assistants on interactive display systems — kiosks, holographic screens, and smart panels — enabling businesses to deploy intelligent, conversational digital humans that operate with **zero cloud dependency**, ensuring uncompromised performance, privacy, and reliability.

Your Data Never Leaves the Device.

Unlike cloud-dependent solutions, Dihuava processes every voice input, language query, and AI response entirely on the local device. No audio, text, or personal interaction data is transmitted to any external server.

Core Platform Capabilities

- Fully offline AI speech recognition
- 67+ cached voice synthesis profiles
- Multi-environment VAD configuration
- Custom persona & avatar support
- Product catalog with AI vocabulary generation
- Multilingual: English, Chinese, Spanish (offline) + expanded library (online)
- Real-time system health monitoring
- License-based device activation
- Up to 5,000 daily interactions
- 10 concurrent session support

- Offline mode for air-gapped deployments
- Gender-selectable avatar presentation

2. Data Privacy & Compliance

100% On-Device Processing — Zero Cloud — GDPR-Ready Architecture

Dihuava is built from the ground up with a **privacy-first, offline-first architecture**. Every AI model — language understanding, speech recognition, voice synthesis, and semantic search — runs entirely on local hardware. No conversation data, voice recordings, or user interactions are transmitted to HS Global AI servers or any third-party cloud platform.

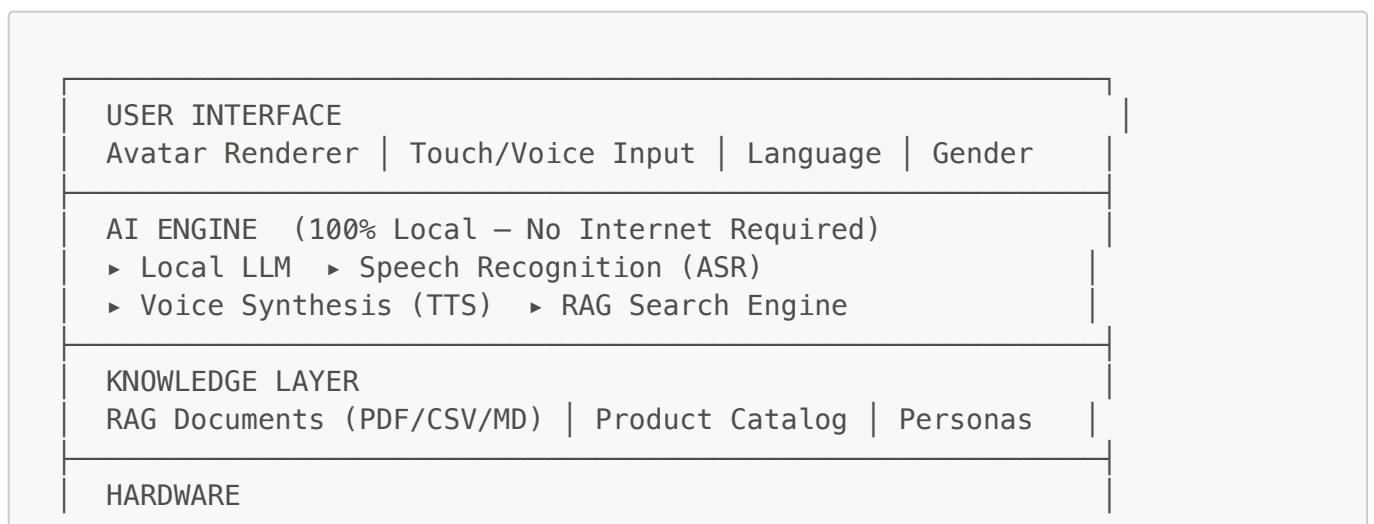
Compliance Certifications & Standards:

Standard	Status
GDPR (EU General Data Protection Regulation)	✅ Compliant by architecture
PDPA (Singapore Personal Data Protection Act)	✅ Ready
HIPAA (US Healthcare Privacy)	✅ Compatible
Air-Gap / Isolated Network	✅ Supported
Data Residency (on-premises)	✅ Guaranteed
External Telemetry / Phone Home	✅ Zero

Why Compliance is Built-In, Not Bolted-On

- **GDPR:** All personal voice and interaction data is processed and retained exclusively on the local device. Satisfies GDPR's data minimization and storage limitation principles.
- **Healthcare / HIPAA:** Patient interactions remain on-premises. No Protected Health Information (PHI) traverses public networks.
- **Banking & Finance:** Sensitive customer conversations, account inquiries, and advisory sessions remain within the institution's secure perimeter.

On-Device AI Architecture



Display (55"–86") | Edge AI Compute | Mic Array | Camera

Air-Gap & Offline Mode: DiHuava supports fully air-gapped deployments. Models are distributed via OneDrive/SharePoint during initial setup, then run autonomously on-device indefinitely — suitable for government facilities, secure financial offices, and high-security healthcare environments.

3. Software Features

3.1 Environment Configuration — Adaptive VAD Sensitivity Profiles




DiHuava's Voice Activity Detection (VAD) system dynamically adapts to the deployment environment. Administrators select a profile that matches the acoustic conditions of their location.

Profile	Environment	Description
Indoor Patient (Active)	Offices, homes	Natural conversations with longer pauses — ideal for patient, deliberate dialogue
Indoor Responsive	Meeting rooms	Fast back-and-forth exchanges with minimal latency between utterances
Outdoor Patient	Public spaces	Tolerates ambient noise and interruptions — robust for shopping centres and transport hubs

3.2 Persona Management — Customisable AI Assistant Personalities

DiHuava ships with multiple pre-configured persona profiles, each purpose-built for a different deployment context. Organizations can also upload entirely custom avatar packages for a fully branded digital human presence.

Built-In Personas

Persona	Use Case	Description
 Retail Sales Assistant	Retail / Commerce	Friendly and knowledgeable — greets shoppers, answers product queries, promotes offers
 Healthcare Assistant	Clinics / Hospitals	Professional, calm — patient direction, appointment guidance, multilingual explanations
 Corporate Helpful Assistant	Corporate offices	Polished — visitor reception, HR enquiries, executive presence, internal communications

Custom Avatar Upload

Organizations can supply a **signed avatar ZIP package** to deploy an entirely custom digital human — enabling brand-specific personas, executive hologram representations, or industry-specific characters.

3.3 AI Models — All Intelligence Runs On-Device

Dihuava bundles four distinct AI subsystems, each installed and executed locally. Models are distributed via a secure download mechanism and cached on the device for fully autonomous offline operation.

AI Model	Function	Status
Language Model	Local LLM for conversation generation — understands intent, generates responses	✓ Installed
Search Engine	On-device semantic search powering the RAG knowledge base	✓ Installed
Voice Synthesis (TTS)	Natural voice generation — 67+ cached profiles, multiple languages	✓ 67 Voices Cached
Speech Recognition (ASR)	High-accuracy voice-to-text, fully on-device, VAD-filtered	✓ Installed




Model Distribution: Initial download via OneDrive/SharePoint URL or custom URL. After download, models are cached on-device and require no further internet connectivity.

3.4 Voice Synthesis — Offline & Online Modes

Dihuava supports three voice synthesis modes, giving operators flexibility based on connectivity requirements and language coverage needs.

Offline Mode — Bundled Local Models

Operates entirely without internet. Packaged voice models are downloaded during setup and cached locally.

Language	Model Size
 English	45 MB
 Chinese (中文)	50 MB
 Spanish (Español)	32 MB

Offline mode is the recommended default for privacy-sensitive and air-gapped deployments. Zero latency, zero data transmission.

Online Mode — Cloud TTS (Expanded Languages)

When internet connectivity is available, Dihuava connects to a cloud Text-to-Speech service, unlocking a **significantly broader language and accent library**. This is ideal for:

- International deployments requiring additional regional languages
- High-fidelity voice quality with premium neural voices
- Deployments where data privacy requirements permit cloud TTS usage

Note: In Online mode, voice synthesis requests are processed by the cloud TTS provider. Organizations with strict data residency requirements should use Offline mode.

System Mode — OS Speech Engine

Uses the operating system's built-in speech engine as a lightweight fallback option. Language support depends on the OS languages installed on the device.

3.5 Knowledge Base (RAG Documents)

Upload your business documents directly into DiHuava's **Retrieval-Augmented Generation (RAG)** engine. The avatar can answer queries grounded in your own content — all processed locally.

- **Supported formats:** PDF, TXT, Markdown (.md), CSV
- **Maximum file size:** 10 MB per file
- **Processing:** Indexed and searched entirely on-device
- **Use case:** Product manuals, FAQs, policies, price lists, healthcare protocols

3.6 AI Product Catalog

Upload a structured product catalog — DiHuava automatically generates AI vocabulary from your products, features, and assets.

- **Versioning:** Each update creates a new version while preserving the previous one
- **Rollback:** Roll back to any prior catalog version without downtime
- **AI Vocabulary:** Automatically generated from catalog entries for natural language matching
- **Statistics:** Tracks Products, Features, and Assets count per version

4. System Management

4.1 Real-Time System Health Monitoring

DiHuava's built-in health dashboard provides operators with live visibility into every internal service. **Auto-refresh** mode continuously monitors system integrity.

Service	Status	Detail
Communication Service	● ONLINE	21ms response time
Conversation Engine	● ONLINE	14ms response time
Voice Engine	● ONLINE	Ready · 67 voices cached
Speech Recognition	● ONLINE	Ready for input
API Service	● ONLINE	0ms (local socket)
Search Service	● ONLINE	9ms semantic search
Knowledge Base	● Coming soon	—

4.2 License Management

Each Dihuava deployment is activated via a unique license key tied to the specific device hardware ID.

- **Device-bound activation:** Cryptographically bound to hardware fingerprint — cannot be transferred
 - **Usage quotas:** Up to 5,000 daily interactions, 10 concurrent sessions
 - **Validity tracking:** Clear expiry date and days-remaining counter with on-demand refresh
 - **Offline mode:** Licensed devices operate fully offline — no license "phone home" required
 - **Included features:** Voice Enabled · 5,000 Daily Interactions · 10 Sessions · Offline Mode
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4.3 Multilingual Interface

Dihuava's operator interface supports multiple languages, ensuring deployment teams worldwide can configure and manage the system in their native language.

Interface Element	Available Languages
Settings Panel	English, Chinese (Simplified)
Environment Screen	English, 环境
Persona Screen	English, 角色
License Screen	English, 许可证
Models Screen	English, 模型
Health Screen	English, 健康
Testing Screen	English, 测试

5. Industry Applications

Dihuava's offline-first architecture and customizable persona system make it uniquely suited for industries where data privacy, uptime, and natural human interaction are non-negotiable.

Banking & Financial Services

AI digital advisors that assist clients in a private, compliant manner — entirely on-premises.

- Account opening & loan guidance
- Investment advisory in-branch
- KYC & document explanation
- 100% local — no client data leaves the branch
- Real human hologram for executive presence & high-trust sales

Retail & Commerce

Interactive AI brand ambassadors that work 24/7, even during network outages.

- Product discovery & recommendations

- Real-time promotional offers
- Catalog-driven product queries
- Multilingual customer engagement
- Fully operational during network downtime

Healthcare & Clinics

Patient guidance and front-desk assistance with full privacy compliance.

- Patient wayfinding & registration
- Multilingual health information
- Appointment check-in assistance
- HIPAA-compatible — no PHI transmission
- 24/7 lobby & reception coverage

Corporate & Enterprise

AI receptionists and executive holograms that streamline workplace interactions.

- Visitor check-in & management
- HR & policy FAQ assistant
- Executive hologram presence
- Internal communications kiosks
- Secure — no data leaves the office perimeter

Education & Training

Lifelike AI tutors and trainers that deliver engaging learning experiences.

- Interactive classroom-style tutoring
- On-demand training delivery
- Student Q&A from knowledge base
- Operates in schools without internet
- Supports multilingual instruction

Tourism & Exhibitions

Immersive holographic guides that enrich visitor experiences in any venue.

- Museum & gallery interactive guides
- Trade show & exhibition assistants
- Tourist information in local language
- Works in remote areas without connectivity
- Attracts and engages crowds visually

6. Why DiHuava? — Competitive Advantage

Most digital human solutions route every spoken word and every user query to external cloud AI servers. DiHuava takes a fundamentally different approach: every AI component runs locally.

Dihuava vs. Cloud-Based Competitors

Feature	Dihuava (Local AI)	Cloud-Based Competitors
Data Transmission	✔ Zero — fully on-device	✘ Voice & text sent to cloud
GDPR Compliance	✔ Compliant by architecture	⚠ Requires additional controls
Internet Dependency	✔ None — fully offline	✘ Required for all AI features
Response Latency	✔ Sub-50ms (local inference)	⚠ 200ms–2s (round-trip cloud)
Network Outage Resilience	✔ Fully operational	✘ Service stops entirely
Data Residency Control	✔ 100% within your premises	✘ Data in provider's data centres
Recurring Cloud Cost	✔ None — one-time license	✘ Per-query API billing
Air-Gap Deployment	✔ Supported	✘ Not possible

7. Technical Specifications

Software Platform

Specification	Details
Platform Version	Dihuava v2.1.24
AI Architecture	100% On-Device Edge AI — no cloud dependency
Language Model	Local LLM — on-device inference
Speech Recognition	On-device ASR with Voice Activity Detection (VAD)
Voice Synthesis	Local TTS · 67+ voice profiles · Offline: EN/ZH/ES · Online: Expanded cloud library
Knowledge Base	RAG · PDF, TXT, CSV, MD · Max 10 MB per file
Product Catalog	AI-generated vocabulary · Version control · Rollback support
Session Capacity	Up to 10 concurrent sessions
Daily Interaction Limit	Up to 5,000 interactions/day (license-controlled)
Offline Languages (TTS)	English (45 MB) · Chinese/中文 (50 MB) · Spanish/Español (32 MB)
Online Languages (TTS)	Expanded multilingual library via cloud TTS
Persona Profiles	Retail · Healthcare · Corporate · Custom avatar upload (signed ZIP)
Environment Profiles	Indoor Patient · Indoor Responsive · Outdoor Patient
License Type	Device-bound license key · Annual renewal · Offline-capable

Specification	Details
Health Monitoring	Real-time dashboard · 6 service indicators · Auto-refresh
Model Distribution	OneDrive/SharePoint URL or custom URL · One-time download
Data Privacy	Zero external transmission · GDPR-compatible · Air-gap deployable

Hardware Integration — Holographic Display Units

Specification	HS55OTB (55")	HS65OTB (65")	HS75OTB (75")	HS86OTB (86")
Screen Resolution	4K UHD	4K UHD	4K UHD	4K UHD
Brightness (cd/m ²)	300–500	300–500	300–500	300–500
Contrast Ratio	5000:1	5000:1	5000:1	5000:1
Viewing Angle	178° (H&V)	178° (H&V)	178° (H&V)	178° (H&V)
Touchscreen	Infrared	Infrared	Infrared	Infrared
HDMI Input	2× HDMI 2.0	2× HDMI 2.0	2× HDMI 2.0	2× HDMI 2.0
Audio Output	2× 8W	2× 8W	2× 10W	2× 10W
Camera	4K Ultra HD	4K Ultra HD	4K Ultra HD	4K Ultra HD
Cabinet	Galvanised Steel	Galvanised Steel	Galvanised Steel	Galvanised Steel
Power	150W	150W	200W	200W
Power Requirement	100–240V AC, 50–60Hz			
Warranty	One Year			

8. Startup & System Flow

When DiHuava launches, it performs a structured initialization sequence:

1. **✓ Connecting to voice services** — initializes audio pipeline and VAD
2. **✓ Warming up AI assistant** — loads language model into memory
3. **✓ Preparing knowledge base** — indexes RAG documents
4. **⊙ Getting voices ready** — loads and caches TTS voice profiles

This process completes within seconds and requires no network access in offline mode.

9. About HS Global AI

HS Global AI is pioneering the future of intelligent human–AI interaction. Our mission is to make digital humans as natural, lifelike, and immersive as real conversations — while respecting data privacy and

operating reliably in real-world conditions.

Why HS Global AI:

- Trusted technology partner in UAE & Singapore
- Strong expertise in multi-modal AI systems
- Proven track record of delivering innovative, scalable solutions
- Committed to responsible AI and future-ready technology
- Offline-first Edge AI architecture for secure, internet-independent deployments

Contact

Website	hsglobalai.com
Email	sales@hsglobalai.com
Headquarters	20 Collyer Quay, #09-01, Singapore 049319
LinkedIn	linkedin.com/company/hsglobalai

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