



intel New AI  
Cockpit  
Experiences  
Powered



# intel New AI Cockpit Experiences Powered User Guide

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**intel New AI Cockpit Experiences Powered**



## Product Information

### Specifications:

- 4K high-refresh-rate displays
- Fully 3D user interfaces
- Multimodal interaction capabilities
- Large language models (LLM)
- Full-cockpit AI perception

### Product Usage Instructions

- **Display:**

Cockpits feature 4K high-refresh-rate displays and fully 3D user interfaces to provide an immersive experience. Ensure to adjust display settings to your preference for optimal viewing.

- **Enhanced Sensing:**

Privacy and safety are prioritized in cockpit designs. Utilize the panoramic views outside the vehicle while maintaining privacy inside. Configure sensing settings as needed.

- **Cognition:**

Utilize the multimodal interaction features, large language models, and full-cockpit AI perception for enhanced cognitive abilities. Explore different cognitive functions available and customize as desired.

### FAQ:

- **Q: What are the key features of the ThunderSoft Aqua Drive OS for Cockpit?**

A: The key features include support for up to seven high-definition screens with 3D rendering, six in-vehicle cameras for various purposes, enabling AAA gaming, deployment of local AI large models, and introducing light office applications.

- **Q: What is the Zhipu AI Car Assistant optimized for?**

A: The Zhipu AI Car Assistant is optimized for Intel's high-compute platform, including its powerful discrete graphics processing unit (dGPU), resulting in a smoother and more enjoyable driving experience.

- **Q: What distinguishes the Baichuan NPC AI Companion?**

A: The Baichuan NPC AI Companion is a conversational chat NPC designed for AI cockpits with advanced natural language processing technology, offering personalized customization features and emotionally responsive interactions based on user commands.

## **New AI Cockpit Experiences Powered by Intel**

- The transformative power of AI is reshaping industries across the board, and the automotive sector is no exception. AI is fueling innovation within intelligent cockpits, restructuring corporate strategies and revolutionizing user experiences.
- Intel believes a state-of-the-art AI cockpit should incorporate three fundamental capabilities:
  - Display: Cockpits feature 4K high-refresh-rate displays and fully 3D user interfaces to deliver an immersive experience for users.
  - Enhanced Sensing: Privacy and safety are prioritized in cockpit designs that capture panoramic views outside the vehicle while maintaining strict privacy inside.
  - Cognition: Cockpits are equipped with multimodal interaction, large language models (LLM) and full-cockpit AI perception, providing them with cognitive abilities.

### **Intel Automotive: Enabling AI Cockpit Adoption**



Intel's AI cockpit solutions already power innovative experiences across creativity, productivity and entertainment. Here's a glimpse into what's possible.

### **ThunderSoft Aqua Drive OS for Cockpit**

ThunderSoft has leveraged Intel Automotive solutions to create a cutting-edge in-vehicle cockpit platform. Key highlights include screen and camera expansion capabilities, deployment of high- computational-demand applications and support for AI PC rich applications.

- Screen and Camera Expansion: Supports up to seven high-definition screens with 3D rendering and six in-vehicle cameras for driver monitoring, panoramic exterior perception and more.
- High-Computational-Demand Applications: Enables AAA gaming and deployment of local AI large models for enhanced productivity and creativity.
- Mobile Office: Introduces light office applications and a rich app ecosystem to support smart mobile working within the vehicle.

### **Intel AI Cockpit Reference Design**

Harnessing the robust computing power of Intel's discrete graphics card, the AI Cockpit Reference Design enables the local operation of large language models. This means:

- **Lightning-Fast Performance:** Enjoy low-latency responses and seamless interactions, even offline.
- **Unwavering Privacy:** All data processing happens within the vehicle, eliminating the risk of information leakage and ensuring a rider's privacy is always protected.
- **Seamless Interaction and Intuitive Understanding:** Always-on voice dialogue, allows natural, continuous conversations with the AI assistant for effortless control.
- **Precise Intent Recognition:** The system intuitively understands the driver's and riders' needs and delivers relevant services efficiently.
- **Immersive and Engaging Experience:** High-quality voice interaction allows for crystal-clear communication with the AI assistant.
- **Immersive 3D HMI Display:** Experience a cinema-grade visual interface that enhances every interaction.

### **Zhipu AI Car Assistant**

The Zhipu AI Car Assistant is powered by Zhipu large language models and optimized for Intel's high-compute platform, including its powerful discrete graphics processing unit (dGPU). This seamless integration delivers a smoother, richer and more enjoyable driving experience. Highlights include:

- **Effortless Vehicle Control:** Go beyond simple commands. The AI understands complex and nuanced instructions, like "It's too hot in here," to automatically adjust the car's settings for optimal comfort.
- **Interactive Car Manual:** Say goodbye to cumbersome paper manuals. Users can receive accurate real-time answers by asking questions directly while driving. Snap a photo of a malfunction, ask a question, and receive instant, accurate answers and solutions directly via the AI assistant.
- **On-the-Go Companion:** Enjoy engaging conversations, role-playing games and continued story chats. The AI adapts to riders' interests and uses multimodal capabilities to incorporate real-time information like vehicle recognition and illustrative drawings for a truly immersive experience.

### **Baichuan NPC AI Companion**

- The Baichuan NPC AI Companion is a specialized conversational chat non-player character (NPC) engineered for AI cockpits. It incorporates advanced natural language processing technology, enabling smooth, natural and lifelike dialogue experiences.
- Users can engage with the NPC using voice commands to enjoy an emotionally responsive companion. The NPC is designed to adapt its responses based on the user's tone and context, ensuring seamless and coherent conversations.
- Setting the Baichuan NPC AI Companion apart is its highly personalized customization features. With just a single phrase, users can create unique characters. This showcases not only the system's remarkable flexibility but also opens a world of possibilities for future interaction methods in AI cockpits.
- **SenseAuto Cockpit Multimodal Interaction**
- SenseAuto Cockpit Multimodal Interaction integrates a variety of input methods, including voice, gesture, touch and eye movements. Leveraging the advanced multimodal large model capabilities of
- SenseAuto Intelligence and Intel's high-performance in-vehicle computing platform, it delivers more accurate and intelligent interaction responses by processing and fusing data from across these different inputs.
- The system caters to a wide range of application scenarios, including casual conversation, image recognition,

text recognition and intent recognition. Primarily based on voice interaction, it supports multiple interaction modes such as text-to-text and text-to-image.

- It also features an AI Health Manager function that accurately perceives and understands users' health needs and their surrounding environment, proactively providing health management services.
- For instance, before a driver feels unwell or exhibits severe symptoms, the AI Health Manager can issue early warnings and provide solutions. In urgent situations, it can automatically contact medical professionals for remote consultations and relay real-time location and symptom information to emergency responders, ensuring prompt on-site first aid.

## Raisound AI Business Secretary


- The Raisound AI Business Secretary, built on Intel's high-performance computing platform, ensures all data is processed locally via optimized on-device speech models. This makes the intelligent cockpit responsive to every command at any given moment. It achieves highly accurate speech recognition, regardless of dialect accents or mixed Chinese-English expressions. Furthermore, it can precisely distinguish between multiple speakers in a conversation, ensuring no detail is missed.
- The Raisound AI Business Secretary can instantly transform the intelligent cockpit into an efficient mobile meeting room. Specifically designed for meeting scenarios, it can generate transcriptions corresponding to natural conversations in real time. Post-meeting, the system swiftly extracts key information and automatically generates meeting minutes, ensuring all important decisions, action items and responsibilities are clearly defined. This efficient functionality saves users time, allowing them to focus on higher-value thinking and execution.

## About Intel

Intel (Nasdaq: INTC) is an industry leader, creating world-changing technology that enables global progress and enriches lives. Inspired by Moore's Law, we continuously work to advance the design and manufacturing of semiconductors to help address our customers' greatest challenges. By embedding intelligence in the cloud, network, edge and every kind of computing device, we unleash the potential of data to transform business and society for the better. To learn more about Intel's innovations, go to [newsroom.intel.com](https://newsroom.intel.com) and [intel.com](https://intel.com).

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## Documents / Resources

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## References

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