REINVENTING VIDEO WITH EDGE AI

How Edge AI enables a more scalable and secure video collaboration solution

The future of video collaboration

80%

20%

8 in 10 meetings globally are now either fully remote or hybrid[1]

Video collaboration has become an essential tool for businesses and organizations of all sizes. In fact, our most recent Hybrid Ways of Working Global Report found that 80% of all meetings globally are now either fully virtual or hybrid.[1] This shift to video collaboration as our main mode of real-time communication allows for increased productivity and more flexibility in our workstyles.

However, as video collaboration usage increases, so too do the demands on the hardware and network infrastructure required to support it. A recent Frost & Sullivan forecast study found that the number of video conferencing devices will be six times higher by 2025.[2]

This means that IT teams will be managing a larger number of devices, putting more strain not only on their workload but also on cloud processing capabilities. Edge AI can help to address these demands by providing intelligent processing capabilities at the edge of the network, closer to the end-user.

[1] Jabra Hybrid Ways of Working 2022 Global Report

[2] Frost & Sullivan, 2021 –
State of the Global Video Conferencing Device Market, Forecast to 2025

Understanding artificial intelligence
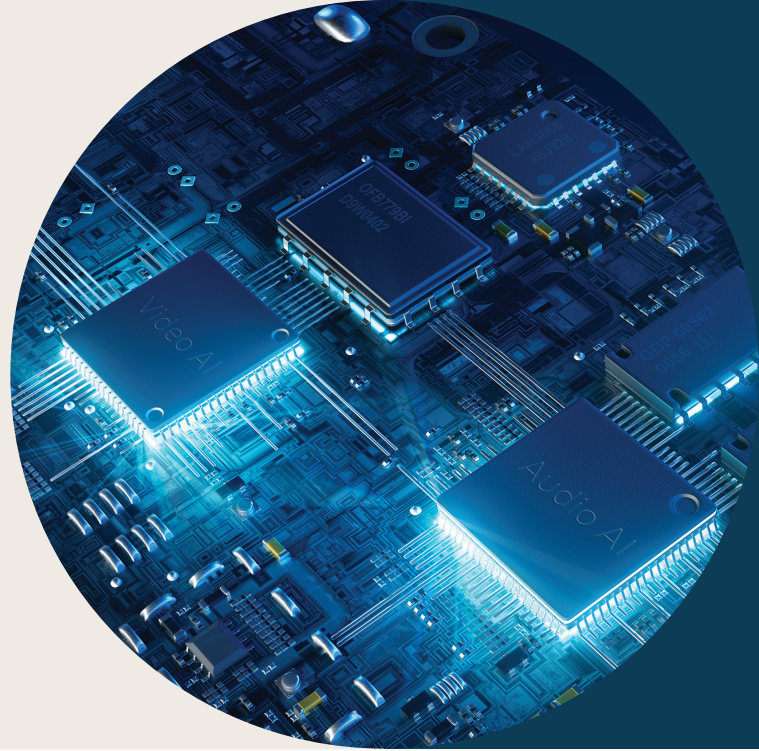
WHAT IS AI?

To describe what Edge AI and Edge devices are, it can help to first understand what artificial intelligence (AI) is. AI is the term applied to any tool that simulates and automates complex human intelligence processes. You'll hear many different terms associated with artificial intelligence - machine learning, deep learning models, neural networks - but essentially, they all are different ways to describe a machine or computer system that's been taught how to identify and decode patterns.

Some of today's most common applications of artificial intelligence focus on identifying patterns in text, sound, numbers, or images. However, they can also be used to help us better understand human behavior. In the case of video conferencing, this could mean that an algorithm has been taught how to understand which person is speaking in a meeting and to zoom in on that person, rather than the participants doing it manually.

WHAT IS EDGE AI?

In most cases, AI tools like the ones described above are run on cloud-based systems. In other words, data is collected by a device (i.e., a laptop, mobile phone, or meeting room video camera), sent to a cloud server for processing, and is then delivered back to the device.

However, by enabling processing on the device itself, Edge AI removes the need to send and receive data to and from the cloud, essentially limiting reliance on cloud services and cloud computing. With in-built processing capabilities, Edge AI-enabled devices can radically streamline the various functions enabled by artificial intelligence algorithms.

According to Fortune Business Insights, the global Edge AI market is expected to grow to USD 107.47 billion by 2029.[1] This will be driven largely by its increasing application in a wide range of consumer products and industry solutions, from self-driving cars and virtual assistants to wearable devices and traffic lights.

[1] GlobalNewsWire - With 31.7% CAGR, Edge AI Market Size worth USD 107.47 Billion in 2029

Benefits of Edge AI in video collaboration hardware

For businesses and IT teams grappling with the massive increase in video meetings and the strain it puts on cloud capacity, bandwidth, and security, Edge AI can offer major benefits. Let's take a look at some of these benefits.

INCREASED SCALABILITY

Edge AI can be used to offload some of the processing required for video collaboration from the cloud to the edge of the network, reducing the need for costly cloud resources. With built-in compute power, edge devices help to increase scalability and make video collaboration more accessible to organizations with limited resources and cloud capabilities.

ENHANCED SECURITY

Edge AI provides enhanced security for video collaboration. For example, it can be used to detect and block potential cyber threats, such as malware or unauthorized access to the video collaboration system.

Similarly, because data is anonymized before it ever leaves the device, video devices enabled by Edge AI minimize the number of transfer points at which potentially sensitive personal data could be intercepted by malicious actors. This allows users to benefit from advanced video analytics functions without the fear of what is happening with their data.

FUTURE-PROOFED EXPERIENCES

Because of their built-in processing capacity, Edge AI-enabled video devices can continually add and update experiences to ensure they remain compatible with those offered by virtual meeting platforms such as Microsoft Teams and Zoom. This means that your platform won't outgrow your hardware, helping you optimize your IT budget in the long run.

Thanks to their built-in processing capacity and unique AI-powered adaptive architecture, Edge AI enabled video devices stay at the forefront of video technology for evolving user needs.
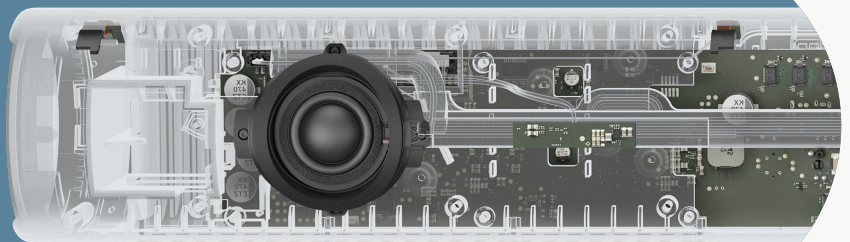
REDUCED BANDWIDTH

Rather than sending massive amounts of video data to the cloud to be processed, Edge AI compresses video data before it is transmitted, reducing the amount of bandwidth required. This can help to reduce the cost of video collaboration and make it more accessible to organizations with limited bandwidth. It also minimizes the amount of lag and interruptions caused by low bandwidth in your video meetings.

LOW LATENCY

Edge AI allows for real-time processing of video data, reducing latency and improving the overall user experience with faster response times. This is particularly important for video collaboration, where real-time communication is critical. Additionally, as the demand for in-room video analytics increases, devices will necessarily need to have more processing power to meet that demand without increasing latency.

IMPROVED QUALITY

Edge AI optimizes the video quality in real-time, based on network conditions and the capabilities of the device being used. Similarly, by enabling more interactive video functions, this not only improves the overall video quality but also provides a better user experience.

Jabra PanaCast 20 can provide an added layer of protection for personal video communications, effectively safeguarding against cyber attacks that target video conferencing signals in flight and securing sensitive data and visuals that could be otherwise exposed.

The Edge AI-enabled PanaCast 50 experience

Edge AI is already changing the way employees collaborate in virtual environments. At Jabra, we have a wide range of video conferencing solutions leveraging Edge AI to deliver more seamless, inclusive, and data-driven virtual meetings. For example, our Jabra PanaCast 50 intelligent video bar is packed with a total of nine powerful Edge processors, including two state-of-the-art Edge AI processors, which provide audio, video, and intelligent features like no other video bar on the market. Some examples of these intelligent features are Virtual Director, which tracks and follows the active speaker in the room, as well as and our always-on PeopleCount.

Similarly, because on-board processing power enables the device to learn and adopt new experiences, we've already been able to roll out entirely new features, such as Dynamic Composition. With Dynamic Composition, the PanaCast 50's Edge AI processing power is able to simultaneously identify all in-room participants in a hybrid meeting and produce an individualized stream for each of them. This helps bring those joining from remote locations onto the same playing field as those in the room.

In short, Edge AI allows us to deliver a meeting experience that's not just better, but which is able to completely reinvent itself to meet each new challenge that arises in the modern hybrid work era.

Edge AI enables intelligent features like the Virtual Director mode, which dynamically follows the action in the meeting and adjusts the view according to who's speaking.

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The future of Edge AI
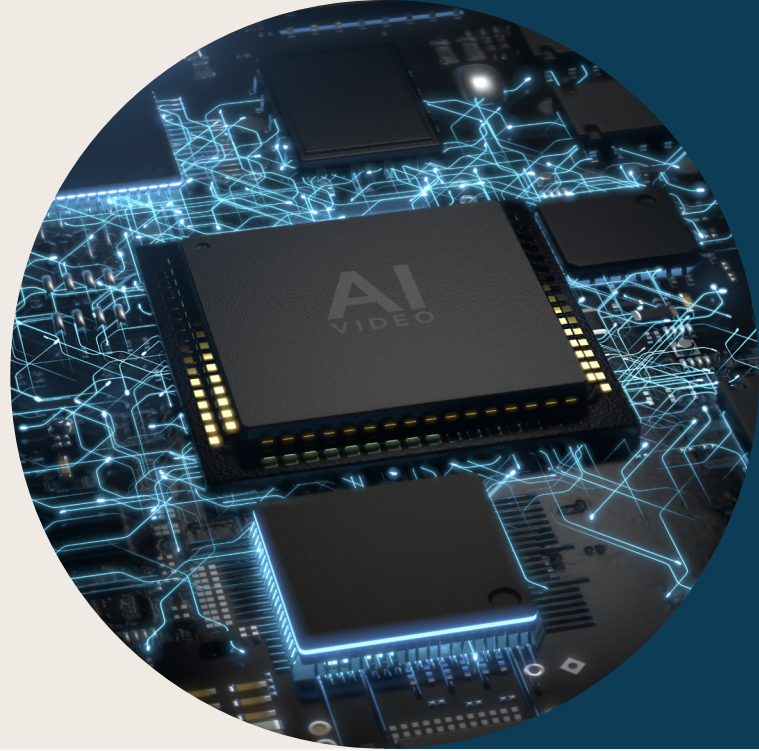
Edge AI provides a number of benefits for video collaboration hardware, including low latency, improved quality, reduced bandwidth, enhanced security, and increased scalability. By providing intelligent processing capabilities at the edge of the network, Edge AI can help to improve the overall user experience and make video collaboration more accessible to organizations of all sizes.

As such, implementing Edge AI in video collaboration hardware can help organizations to improve the performance, security, and overall efficiency of their video collaboration tools. With the ability to constantly learn and adapt built directly into the device, the future of Edge AI in video-conferencing solutions is essentially limitless.

PANACAST 50
BRING-YOUR-OWN-DEVICE
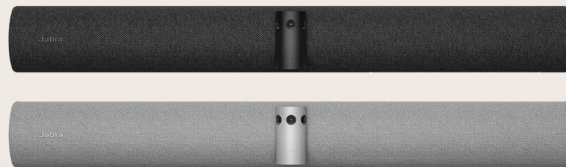
PANACAST 50 ROOM SYSTEM
WINDOWS-BASED

PANACAST 50 VIDEO BAR SYSTEM
ANDROID-BASED

Find out more

If you have any questions about Jabra products, please contact your Jabra representative or visit Jabra.com

WHO WE ARE

Hej. (That's 'hi' in Danish.) We're Jabra and we've been engineering technology that makes life look and sound better for over 150 years. And you? Well, you might be running a million-dollar account from your kitchen (or café, or school run, or just about anywhere really). Or running your first 5k with a pair of expertly engineered earbuds. Or running a project via video, beaming yourself from a Toronto armchair to a Tokyo boardroom. Whatever you've got going on, we've got you. With advanced, intelligent video technology. And an incredible sound quality that makes your voice and your music sound better than ever. All designed to bring life and work wonderfully in tune.

Jabra. Technology for life's new rhythm.