



# Why choose Axis network audio?

Clear reasons network audio is the right choice  
for your business or organization







Foreword

Less  
equipment

Clear sound

Count on it

Scalable  
and flexible

Easy to  
install

Easy to  
integrate

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overview

Conclusion

# Sounds good!

Axis network audio solutions consist of true IT devices that connect right to standard network infrastructure. That makes them easy to install, configure, and manage and there's no need for dedicated audio cabling. They're built on open standards for easy integration with other systems. Plus, they're scalable and future-proof, so you can adjust the size of your system and add or update features anytime. The speakers come with all the hardware and software they need built-in and they're pre-configured to sound good right out of the box.

Those are just a few of the many distinct advantages Axis network audio offers over traditional audio for your business, school, or organization. You can explore the how, the why, and the details of six clear benefits of network audio in this book.

Less equipment

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# Less is more

Amplifiers, mixers, signal processors, microphones, special cabling. For a traditional audio system, the equipment list can be long. You need racks for storing equipment and sometimes even a climate-controlled tech room. And you may need to spend a lot of time installing it and maintaining it all. Not so with a network audio solution – because Axis speakers aren't just speakers. They're complete audio systems in a single unit with all the hardware and software components you need to warn off intruders, provide instructions in an emergency, make announcements, play background music, create and manage zones, and control content, schedule it, and more. Two-way audio, thanks to built-in microphones, means you can even carry on a conversation via the speakers. They're true IT devices with intelligence on the edge, built-in sensors for remote testing, audio analytics, and pre-configured audio quality.



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# Much more with much less

When you want a cost-effective system that evolves with your needs, go for network audio. You need less equipment, no central rack, and no technical room. Often you don't even need a separate device for your audio-management software. Network audio devices with built-in audio management software add up to fewer components. And less time installing and managing your devices.

**Less space. Less maintenance. Less risk.**

One or more central equipment racks. Signal processing devices and equipment for power distribution, for amplification, for tone control, for storing recordings, scheduling, and integration with other systems – much of it for each and every zone. And anytime you want to add to your analog system – even an extra microphone – you might need to pay for more equipment on your rack, and more cabling. Network audio, on the other hand, is much easier. Because everything you need is built right into each individual network device.





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### No special cabling

Network audio is easy. Power over Ethernet (PoE) powers your devices over the same cable that connects them to your IT networks because they're true IT devices. You don't have to add dedicated audio cabling. For an established site, you'll already have what you need. For a new site, you'd be adding it anyway.

### It's all there

Axis network speakers are complete high-quality audio systems in a single unit with a built-in power amplifier and digital signal processor (DSP). All the hardware and audio management software you need is built into the speakers.

### No buttons. No disruptions

With Axis all-in-one network audio devices, there are no cables to unplug by mistake. There are no physical buttons on the devices and nothing to turn on or off manually. So, there's no way for anyone to make unfortunate changes – like accidentally turning off the power amplifier so everything goes quiet. That adds up to a safer, more reliable system and less time spent correcting mistakes. Everything always sounds and works the way you want it to.

#### Network audio

##### All-in-one system



#### Traditional audio

##### Additional hardware needed





A man in a dark suit, white shirt, and dark tie, wearing glasses, is looking out of a large window. The view outside shows a city skyline with many skyscrapers under a clear sky. The man is in the foreground, slightly to the left, looking towards the right. The background is a bright, slightly hazy cityscape.**Foreword****Less  
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# Clear sound – every time

Ever struggled to understand an important announcement over the loudspeakers at the airport? Or heard a lot of “snap, crackle and pop,” instead of that message about the cereal special of the day at your local supermarket? Or what if what you can’t hear is more critical? Like instructions on how to exit a building in an emergency? With a network audio system from Axis, that’s all behind you. Sharp, distinct voice communication – without a lot of time spent on configuration and maintenance – is yours every time.

## How to make your audio system sound right

To get clear sound from a traditional audio system, you often need to add an expensive digital sound processor (DSP) to your setup. And then you need programmers and sound engineers to configure it, adjust it, and test it.

### Sound you can count on

On the other hand, every Axis network speaker has a built-in DSP that’s pre-calibrated to sound right regardless of source. Everything is completely digital, the signal won’t degrade, and there’s no interference. And you know listeners will understand your announcements.



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# Everything sounds good – right out of the box

**Axis network audio solutions deliver sound with great clarity, so voice messages are clear and easy to understand, and background music sounds good too.**

**No noise, no distortion, no interruptions**

Because our audio systems are 100% digital – from source to speaker – clarity isn't lost along the way. Network audio systems aren't sensitive to electrical noise and other kinds of interference that can cause distortion and unwanted noise. So, you can count on clear, easy-to-understand messages every time.

**Strong, clear sound precisely where you want it**

Axis audio solutions deliver sound that's always loud and clear regardless of cable length. With a network audio system, the sound signal will never get weaker as it travels from source to speaker. Not even a little bit. That means messages that start clear stay that way. No matter where – or how far – they have to travel.





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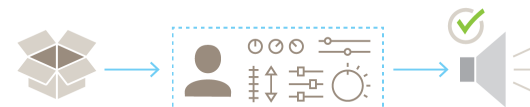
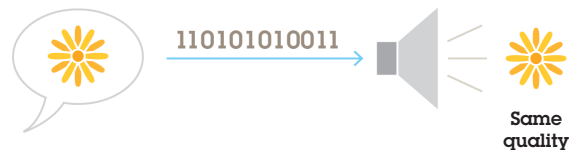
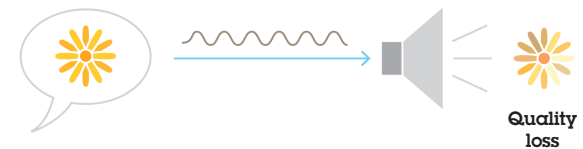
## Conclusion

**Same brilliant sound quality regardless of speaker model**

All Axis speaker models are pre-calibrated to sound right together regardless of model. So you can mix and match speakers to suit your needs. In our network audio systems, each speaker has a built-in DSP that tunes the signal using advanced equalization, filtering, and compression. This clarifies voice and optimizes music to ensure great sound. You can monitor and maintain the audio system over the network from a central audio-management system with no need for expertise in audio, on-site or otherwise.

**Crisp, clear sound**

Axis network audio systems ensure announcements that are always audible and understandable thanks to advanced signal processing optimized for great sound quality. The pre-configured, built-in DSP in each speaker makes for crisp, clear speech and background music.

**Network audio****Preconfigured good quality out of the box****Traditional audio****Audio specialist needs to tune the sound****Network audio****Digital all the way****Traditional audio****Analog disruptions**



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# Always working

You don't have to be an engineer or an expert in audio to enjoy a sound system that works great the moment it's installed and keeps working – without much help from your staff. Because Axis network audio solutions connect to standard IT networks and are completely digital and controlled centrally, they can be tested, maintained, and troubleshot remotely over the network. And that will save you time and money.

## Troubleshooting is no trouble at all

Let's look at an example: Once upon a time, a plumber was fixing an issue with the plumbing at a university. While hard at work, he caused a short circuit in one of the wires linking the school's 100 traditional speakers.

### The sound of silence

The next day, when they tried to use the system nothing happened. No more announcements from the dean's office. No more signals telling students to head for their next class. No more sound. Four technicians spent three days testing

speakers one by one before they finally found the severed connection that had shut down all 100 speakers.

### A shorter story?

With a network audio solution from Axis, it would have been a different – much shorter – story. A single cut wire would have meant just a single speaker silenced with all the others continuing to function. And with the help of remote testing, finding and fixing the problem would have been a matter of minutes not days.



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# It just works

**You can be confident that your Axis network audio solution is always working well with no need for on-site intervention by staff.**

## Remote testing makes it easy

Remote testing lets you proactively check that your system is working. Axis network audio solutions are connected to your standard IT network. So you can test audio devices, including each speaker, centrally and remotely. On the other hand, with traditional audio, you may have to either wait and respond after a failure is reported, or spend money sending technicians out to inspect the system.





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### Finding a problem is no problem

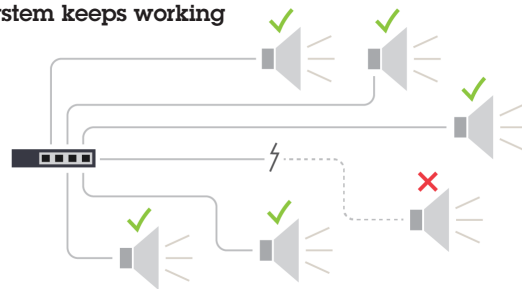
Not only does remote testing let you know your network audio solution is working – and working well – it also tells you exactly where in exactly which zone to find any problems that do arise. So you can fix them fast.

### It sounds like it should

You can also use remote testing to make sure your system sounds the way it should. In other words, not only will you always know your system is working, you'll know it sounds like it should.

#### Network audio

##### System keeps working



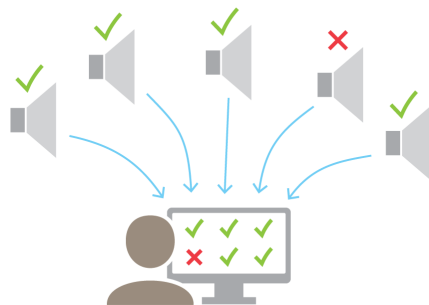
#### Traditional audio

##### Entire system goes silent



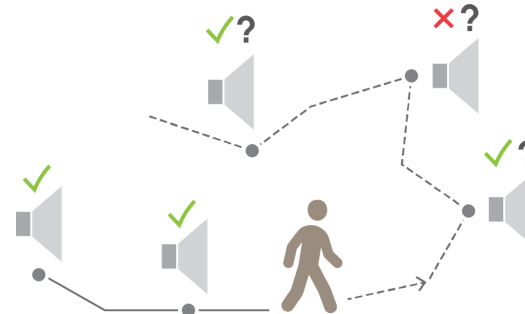
#### Network audio

##### Remote system health monitoring



#### Traditional audio

##### Need to go on-site to check status





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# Change? It's all good.

Change can be great, and growth usually is. But a changing, growing business often presents challenges around adapting and expanding existing infrastructure. Not so with Axis network audio solutions. Simple installation, because it connects right to your standard network, and simple audio management make it easy to grow and adapt your solution to meet your changing needs. You can add new devices like speakers, call-out microphones, and audio bridges. And you can add and adjust zones as needed. No matter what you need, it's all easy to configure and adjust in the central audio management software.

## So your business is growing ...

Let's say you have a traditional audio system. Now you want to add more speakers – and maybe even one or more new zones as your business or institution changes or grows.

### How much more equipment do you need?

For a traditional system, it depends. Is there room to connect the new speakers to the central rack? If there is, you just have to add the new speakers and then install meter upon meter of specialized audio cabling for the new speakers to

function as part of your audio system. If there isn't, you may need to redesign the rack, add equipment to it, and install just as much cabling. Plus you could need many technicians working many hours to install and configure it all.

### All you have to add is the new speakers

With an Axis network audio system, everything is built-in. So there's only one thing to add: the new speakers. Just connect it to your existing standard network and configure it. And easily set up whatever new zones and more you want in the audio management software.



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# Keeping up is easy

Yes, you can grow. Or simply change the layout of your store, institution, or offices. Go wherever you want and expect your network audio system to go with you with a minimum of effort and investment.

## More speakers and mics or less – you decide

Maybe you're expanding or remodeling? Add one or multiple speakers, or call-out mics when your requirements change – it's easy. No need for extensive new wiring, additional equipment or professional installers. Power your new devices and connect them to the network with a single cable. Then add them in the audio management software to add them to your setup in an instant. Removing or moving devices is just as easy.

## How many zones now?

Adding to or rearranging zones as your business grows or your site changes is fast and stress-free. New hardware and cabling aren't necessarily needed here either – just adjust things with the audio management software.



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**Shake things up**

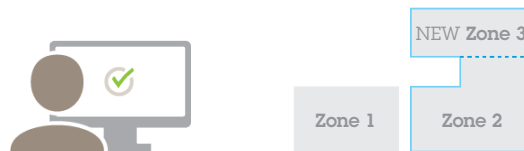
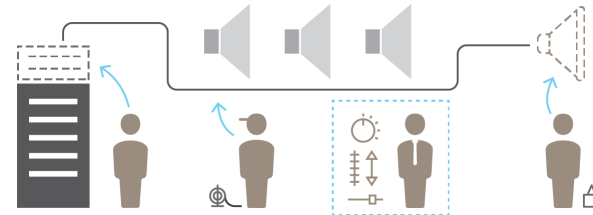
And of course, adapting your audio content sources and schedules to fit your expanded or altered solution is just as simple as it was to set it up the first time around. Whether you want to add new sources, or just change the timing and the mix of content in specific zones, it's equally easy to do in the central audio management software.

**New purposes**

Thanks to easy integration with other systems, you can also choose to expand your network audio system beyond what might be considered traditional audio purposes. For example, if you have a need to beef up security at any point, you can choose to integrate it with your surveillance system and start issuing verbal warnings to potential criminals. Or add paging capabilities with VoIP.

**Combine systems**

Acquiring new buildings with an analog system already in place? No worries. An Axis audio bridge connects and combines analog and network audio systems. Compact and simple to install, it's a quick fix that lets you bring network-audio benefits like scheduling, integration with a VoIP system, and the freedom to use any audio source to a legacy system. You can also mix and match analog and digital systems using Axis network amplifiers. Network amplifiers add the same functionality as Axis network audio speakers to any passive speaker.

**Network audio****Changing zone setup in software****Traditional audio****Zone setup require many expertises and work hours on site****Network audio****Adding speakers is simple****Traditional audio****Adding speakers requires many expertises and work hours**



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# Installation? No worries ...

One standard network cable. One standard network. No rack. No special technical storage room. No tuning. No programming. No wonder you'll find Axis network audio solutions easy to install and configure. Connect the system to the nearest network switch. Power it over the same cable you use to distribute the audio signal (thanks to Power over Ethernet). Forget about tuning (and hiring experts to do it) with speakers that are pre-configured for excellent sound right out of the box. And design your solution with the audio management software. No problem!

## Installation is a piece of cake!

Getting a traditional audio system up and running isn't always easy. You need to plan your system carefully because it won't be easy to make changes later. And you need earmarked space, new infrastructure and a lot of work hours. Let's have a closer look.

### Where will you put it?

Traditional audio systems involve delicate equipment that usually must be stored in a dedicated technical room. You have to find the space for that room, purchase the equipment, and set up the racks to keep it in. You have to make sure there's a power source and that the room is properly ventilated – or

cooled – so your equipment doesn't overheat. And you have to invest in enough specialized audio cabling to connect all your speakers to the equipment in the tech room and then install that cabling throughout your site. Plus you'll probably need programmers and sound engineers to make the system sound right.

### Easy installation

With Axis network audio solutions, everything you need is built right into the speakers, which are pre-configured to sound great right out of the box. It's powered over the network cabling you use for your IT systems. And that same cabling distributes the audio signal too. So installation is fast and foolproof.



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# Take it easy

From purchase, to design, to installation, installing an analog audio system requires knowledge and a lot of space. With a network audio solution, you don't need any of that.

**Excellence – out of the box**

You really need to know what you're doing with analog audio. With many traditional audio systems you have to manually configure the audio signal processor and tune it carefully to deliver decent sound quality. Axis network audio speakers are pre-configured for optimal sound quality. So they sound great right out of the box. Plus, network audio supports IP-based health monitoring, so you'll always know your system is working the way it's supposed to work.

**One cable = power + sound**

Axis network devices run on Power over Ethernet (PoE). That means there's just a single cable to connect – a single cable that provides power and distributes the audio signal. So there's no need to spend time and money running audio cabling between your speakers and other equipment.





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### Just plug it in

The same standard network cable that delivers power and sound connects Axis network audio devices to your network infrastructure. Just plug the speakers and call-out microphones into the nearest PoE switch and you are ready to prepare and manage your devices, test them, and group them into zones with the audio management software.

### Built-in peace of mind

How many amplifiers do you need? What about tone control? Where will you store pre-recorded content? What do you need to stream music? And where will you store it all? There can be a lot of decisions to be made when you set up an analog audio system. But you can forget all that decision making when you choose network audio. Everything you need is built right into every speaker, right from the start.

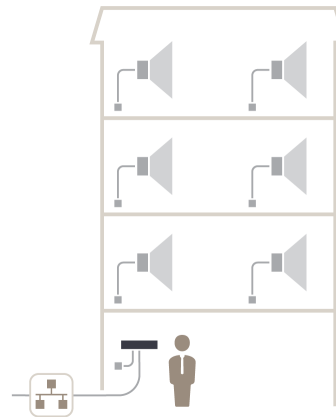
### Configuration? That's easy too!

Easy-to-use audio management software makes it just as easy to configure your audio solution as it was to install it. Use the intuitive interface to create zones, set up schedules for playing music and pre-recorded announcements, and more. There's no programming involved – and you can add and remove speakers and call-out microphones from your zones and change your schedules at will.

### Network audio

#### How to install

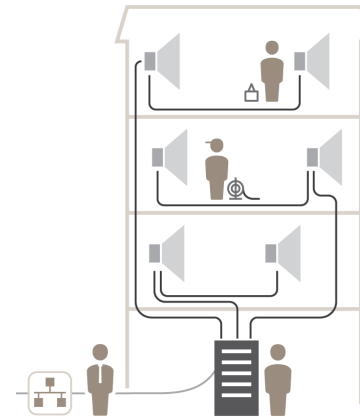
- Standard network
- PoE
- All-in-one
- Fewer man hours



### Traditional audio

#### How to install

- Dedicated audio cabling
- Extra equipment needed
- Many areas of expertise
- Many hours to install the system and tune the sound



A man with a beard, wearing a grey suit and a blue shirt, is shown in profile from the chest up, speaking into a black microphone. The background is a blurred office setting. On the left side of the page, there is a vertical stack of seven yellow rectangular buttons with white text. At the bottom of the page, there is a decorative graphic consisting of a series of vertical yellow bars of varying heights, resembling a bar chart or a stylized city skyline.

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# Open to possibilities

What if your audio system could automatically tell a loiterer to go away, or warn you about a ruckus going on outside your door? What if you could trigger a prerecorded message when someone has been lurking near the cashmere cardigans for just a little too long? Or use a cell phone to inform a customer at a register that an associate is on the way? What if you could play background music and other audio from any source? Axis network audio solutions, in combination with video cameras and analytics, turn all these possibilities and more into realities thanks to an open application programming interface (API).

## So, what else can you do?

There is a world of possibilities when it comes to all the ways you can beef up safety and security on your premises, or improve your operations, by integrating your network audio system with Axis cameras and analytics, for example. Let's have a look at a few examples.

### Warn off bad actors

Sometimes, a well-timed warning can stop a crime before it happens.

Integrating your network audio system with your video surveillance system makes it easy: One alternative is to set the system up to trigger a pre-recorded

message that tells a loiterer detected on your property to, "Leave the premises," for instance. Another is to train a pan-tilt-zoom camera on people detected, so security staff can assess a situation and issue a live admonishment to move on.

### Please don't block the exits

Integrating your network audio system with cameras with object detection analytics is one way to make sure you keep exits clear. If something blocks the way out, an audio warning is triggered so you'll know to remove the obstacle. You stay in compliance and staff and the public stay safe!



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# One system for many purposes

Axis network audio solutions feature an open API that unlocks a long list of possibilities for easy integration with all kinds of other systems and applications.

## Telephone or "microphone"?

Because your network audio solution is connected to your network and supports SIP, you can also use your Voice over Internet Protocol (VoIP) phone system to make live announcements via your speakers from any phone in your setup. And you decide, of course, which messages get heard where.

## Bye, bye unwanted activity

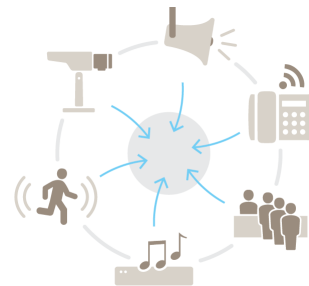
Integrate your Axis network audio solution with analytics and video surveillance – and verbally intervene to stop unwanted activity in its tracks. Set up your system to activate a prerecorded message when it detects aggressive voices or breaking glass, for example. Or trigger alerts that tell operators to visually assess a situation and then speak directly to the individuals involved via your speakers.

## Keep people safe

Audio is also an invaluable tool for delivering up-to-the-minute information and instruction to the public in emergencies. Use signals, pre-recorded, or live messages to safely and reliably deliver clear warnings and crucial safety information to help keep people safe.

### Network audio

#### Integrated system



### Traditional audio

#### Separate systems



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You can also integrate your network audio system with other systems on your premises. For example, why not integrate it with your access-control system – and greet customers with a cheery pre-recorded, “Good morning!” when they walk in the door.

**Play it!**

Broadcast music and voice from all kinds of sources. Play your music from an SD card on one of your speakers, from dedicated content providers, or from any online stream. Make your own playlists with handpicked music and announcements, schedule them throughout the week, and play them where you want.





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# Axis network audio solutions overview

## Axis network speakers

Axis network speakers are complete high-quality audio systems in a single unit. They're perfect for live or scheduled voice messages for proactive security and to keep people safe.



We have a range of speakers suitable for both indoor or outdoor use.

## Axis audio management software

Efficiently manage and control your audio system, no matter its size or complexity, using Axis single- or multisite audio management software.

**For single-site audio management**, AXIS Audio Manager Edge, pre-installed on all Axis audio hardware, is the best choice for smaller, more basic systems. AXIS Audio Manager Pro is suited to larger, more advanced systems.

**If you need to coordinate audio across multiple sites**, AXIS Audio Manager Center – compatible with sites using AXIS Audio Manager Edge – drastically streamlines the process.

Functionalities include local and remote content and volume management, zone configuration, scheduling, user permissions, and system health monitoring.

## Axis audio system devices

Audio system devices enable easy migration to network audio while protecting the value of your legacy investment.

AXIS C8110 Network Audio Bridge is a combined audio encoder and decoder and AXIS C8210 Network Audio Amplifier is an edge device that transforms any passive speaker into a network speaker.



## 2N Sip Mic

2N SIP Mic is an all-in-one network microphone console that gives you a smart and easy way to turn your Axis network speakers into a complete public address system.

2N SIP Mic is ideal for live or prerecorded announcements and paging.



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# Experience – Axis isn't the new kid on the block

We invented the category of network cameras way back in 1996. Today we're doing the same for network audio by adapting open IP technology to audio applications. Now you can combine your audio system with your video surveillance system and use sound to deter crime. You can use the same Axis audio system for public address, for paging and announcements, and for creating ambience with background music. Whatever purpose – or purposes – you address with your Axis audio system, you'll benefit from:

- Over 30 years of experience with network-based solutions
- Open platform for easy integration with other systems
- Scalability: easy installation and integration, and connection to standard network
- Global partner network with support in local languages

Network audio is one more example of how Axis innovates for a smarter, safer world.

[www.axis.com/products/network-audio](http://www.axis.com/products/network-audio)





# About Axis Communications

Axis enables a smarter and safer world by creating solutions for improving security and business performance. As a network technology company and industry leader, Axis offers solutions in video surveillance, access control, intercom, and audio systems. They are enhanced by intelligent analytics applications and supported by high-quality training.

Axis has around 4,000 dedicated employees in over 50 countries and collaborates with technology and system integration partners worldwide to deliver customer solutions. Axis was founded in 1984, and the headquarters are in Lund, Sweden.