# Building Safer Motorways with Intelligent Networks

Customer Case Study

ASFiNAG keeps travelers informed and safe with Cisco end-to-end networking solutions.

## EXECUTIVE SUMMARY

**Customer Name:** ASFiNAG GmbH

**Industry:** Transportation

**Location:** Vienna, Austria

**Number of Employees:** 2700

### Business Challenge

- Deliver timely, accurate information about traffic conditions to motorists
- Enhance reliability of network infrastructure in harsh environmental conditions
- Improve network scalability to support new communications applications when needed

### Network Solution

- End-to-end network infrastructure provides voice, video, and data communication throughout Austrian motorway system
- Industrial Ethernet switches provide reliable communication in harsh climate conditions
- IP-based dispatch and incidence response solution enhances public safety

### Business Results

- Rugged industrial switches deliver dependable operation in challenging mountain winters
- Single vendor solution streamlines deployment and operation, reducing total cost of ownership
- Flexible, scalable design supports continued growth while minimizing additional capital expenses

## Business Challenge

For 30 years, ASFiNAG has played a vital role in managing efficient automobile transportation throughout Austria. An innovative, user-funded organization, ASFiNAG is responsible for planning, financing, maintaining, and tolling the entire Austrian motorway and expressway network. These critical elements of Austria's transportation infrastructure span 2175 kilometers, including 340 kilometers per direction in tunnels and 340 kilometers per direction over bridges.

Communication is essential to keeping these roadways running smoothly, efficiently, and safely, and ASFiNAG is committed to creating and deploying the most advanced road information services for travelers.

"Motorists depend on us to keep them informed about everything from traffic incidents and construction zones to weather alerts," says Johannes Kreuzer, head of the network department at ASFiNAG. "ASFiNAG also supports emergency communication, which is tremendously important to maintaining safety and security."

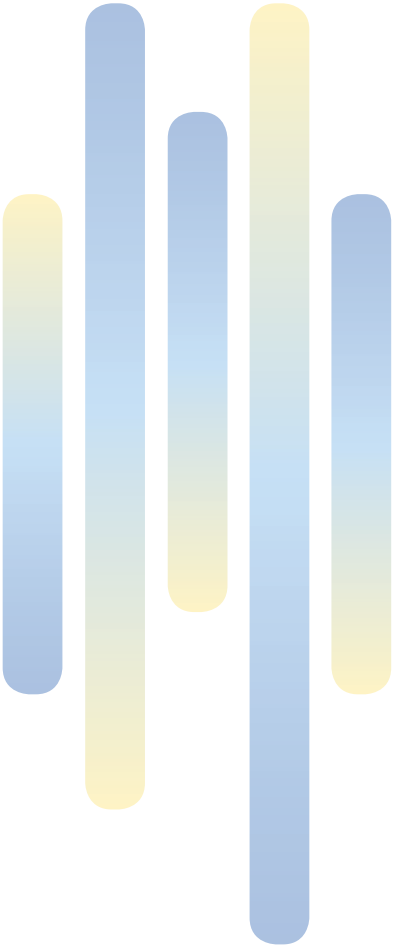
To deliver the timely information and reliable communication that travelers require, ASFiNAG needed a robust network infrastructure that could support data, voice, and video. The solution would have to be highly intelligent, to prioritize latency-sensitive traffic and maintain optimal sound and picture quality. And, because many of Austria's motorways pass through the Alps, the solution would have to be extremely rugged to provide dependable operation even in cold, snowy conditions.

## Network Solution

After considering a variety of options, ASFiNAG deployed a comprehensive IP network solution featuring Cisco® Industrial Ethernet 3000 (IE3000) Series Switches. Designed specifically for harsh environments, these intelligent Ethernet switches deliver the performance and features that ASFiNAG requires, together with scalability to meet the organization's changing needs. With Cisco IE3000 Series Switches, the organization can support even bandwidth-intensive video surveillance traffic with maximum quality and reliability.

"We rely on our live video surveillance to keep us up-to-date about traffic conditions and incidents, so that we can pass on information and alerts to travelers. Getting traffic information out fast is one of our top priorities, and our Cisco solution lets us meet this need through a single flexible infrastructure."

Johannes Kreuzer
Head of Network Department
ASFiNAG GmbH



"We are in the process of upgrading our video systems from standard definition to high definition, which requires additional network bandwidth," says Kreuzer. "Since Cisco IE3000 Series Switches are a modular platform, they can easily scale to deliver the capacity we need for rich video communication."

Working closely with Cisco Certified Partner A1, ASFiNAG initially deployed 400 Cisco IE3000 Series Switches, to support video streaming and emergency voice communication throughout its system of roads. The organization is rapidly expanding its deployment, and will have 1500 switches in place by the end of 2013.

Advanced Ethernet switching is just one element of the organization's end-to-end Cisco Multiprotocol Label Switching (MPLS) fiber infrastructure. Designed for efficiency, scalability, and security, Cisco MPLS technology lets ASFiNAG deliver a wide variety of advanced, value-added communication services over a single infrastructure. Its support for advanced quality of service (QoS) helps enable the organization to prioritize voice and video communication for maximum performance and reliability. The network also supports digital signage throughout the motorway system, which is essential for keeping motorists informed.

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For emergency communication, ASFiNAG utilizes the Cisco IP Interoperability and Collaboration System (IPICS) solution. This complete IP-based dispatch and incidence response solution integrates with first responders' with analog or digital radio system for dynamic any-to-any push-to-talk (PTT) communications.

## Business Results

ASFiNAG chose its Cisco solution because it provided a single end-to-end architecture that provided high network stability and superior value for price. The solution's reliability and rich capabilities have enabled the organization to unlock a variety of benefits.

"In the Austrian Alps, temperatures routinely fall below freezing in the wintertime," says Kreuzer. "Cisco IE3000 Series Switches not only meet all of our technical needs, but they are based on a rugged design to keep our network up and running even under extreme conditions. This is important, because the motorists we serve depend on having services and information available on a 24x7 basis."

Cisco IE3000 Series Switches are designed for the most demanding environments, and can tolerate temperatures ranging from -40° to 75° C (-40° to 167° F). Based on open standards, they support not only video, but also deliver reliable connectivity for emergency calling systems throughout the Austria's motorways, enhancing motorists' safety and security.

ASFiNAG was also pleased that Cisco and A1 were able to offer a single vendor solution, which helps streamline design, installation, and support.

## PRODUCT LIST

### Routing and Switching

Cisco 7609 Router

Cisco 7201 and 7201 Series Routers

Cisco 3845 Series Routers

Cisco 3925 Integrated Services Router

Cisco ME 3400 Series Ethernet Access Switches

Cisco ME 3750 Series Ethernet Access Switches

Cisco Catalyst® 2955 Series Switches

Cisco Catalyst 3750 Series Switches

Cisco Catalyst 2960 Series Switches

Cisco IE 3000 Series Switches

### Security and VPN

Cisco ASA 5500 Series Adaptive Security Appliances

### Voice and IP Communications

Cisco IP Interoperability and Collaboration System (IPICS)

Cisco Unified Communications Manager

"Having a single point of contact was helpful, because engaging each additional partner dramatically increases the workload in terms of testing, development and proof of concept," says Kreuzer. "Our Cisco solution helps reduce our total cost of ownership by providing a complete end-to-end architecture from the IP MPLS network core out to the switching edge."

The Cisco IPICS solution has proven effective as well, by enabling ASFiNAG to extend radio systems for public safety agencies into tunnels and other areas that previously had been difficult to reach.

Perhaps best of all, with a stable, consistently reliable network in place, the ASFiNAG IT department is free to focus on its core business strategies, rather than on network maintenance and troubleshooting.

## Next Steps

After completing the initial deployment of its Cisco solution, ASFiNAG is actively considering expanding its network to deliver groundbreaking new services to motorists.

"We are exploring proposals to add wireless data capabilities throughout our motorway system," says Kreuzer. "In the future, as transportations and vehicles become more intelligent, travelers could access data services directly from their automobiles."

ASFiNAG is also considering using its network to deliver traffic information and other content to visitors at rest stops along the motorways, via digital signage. With its scalable network foundation in place, ASFiNAG has positioned itself to easily add new services and applications when they are needed.

## For More Information

For more information on IE3000: www.cisco.com/go/ie3000

For more information on Cisco Industrial Intelligence: www.cisco.com/go/industrial

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