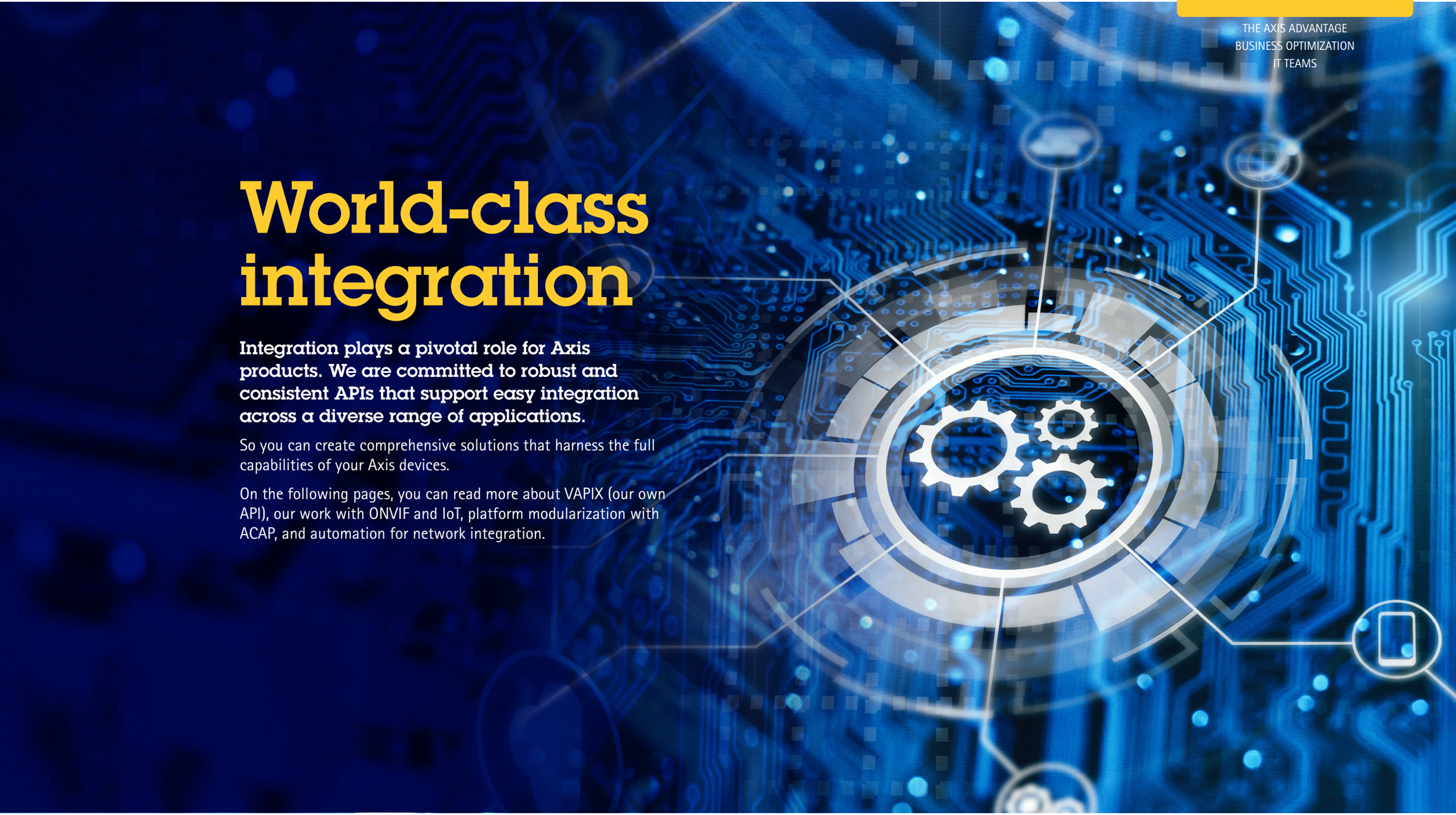
World-class integration

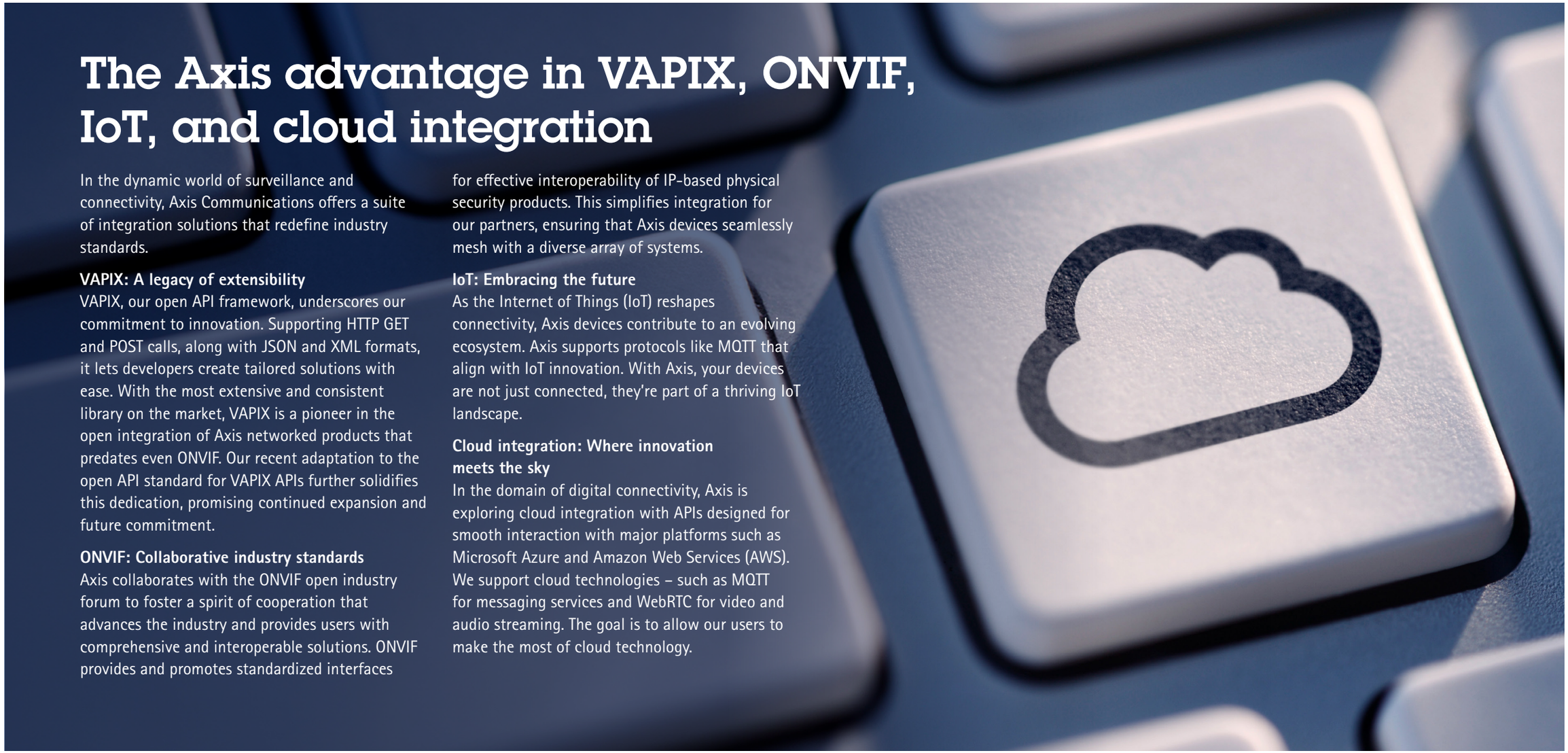
Integration plays a pivotal role for Axis products. We are committed to robust and consistent APIs that support easy integration across a diverse range of applications.

So you can create comprehensive solutions that harness the full capabilities of your Axis devices.

On the following pages, you can read more about VAPIX (our own API), our work with ONVIF and IoT, platform modularization with ACAP, and automation for network integration.



The Axis advantage in VAPIX, ONVIF, IoT, and cloud integration



In the dynamic world of surveillance and connectivity, Axis Communications offers a suite of integration solutions that redefine industry standards.

VAPIX: A legacy of extensibility
VAPIX, our open API framework, underscores our commitment to innovation. Supporting HTTP GET and POST calls, along with JSON and XML formats, it lets developers create tailored solutions with ease. With the most extensive and consistent library on the market, VAPIX is a pioneer in the open integration of Axis networked products that predates even ONVIF. Our recent adaptation to the open API standard for VAPIX APIs further solidifies this dedication, promising continued expansion and future commitment.

ONVIF: Collaborative industry standards
Axis collaborates with the ONVIF open industry forum to foster a spirit of cooperation that advances the industry and provides users with comprehensive and interoperable solutions. ONVIF provides and promotes standardized interfaces for effective interoperability of IP-based physical security products. This simplifies integration for our partners, ensuring that Axis devices seamlessly mesh with a diverse array of systems.

IoT: Embracing the future
As the Internet of Things (IoT) reshapes connectivity, Axis devices contribute to an evolving ecosystem. Axis supports protocols like MQTT that align with IoT innovation. With Axis, your devices are not just connected, they're part of a thriving IoT landscape.

Cloud integration: Where innovation meets the sky
In the domain of digital connectivity, Axis is exploring cloud integration with APIs designed for smooth interaction with major platforms such as Microsoft Azure and Amazon Web Services (AWS). We support cloud technologies – such as MQTT for messaging services and WebRTC for video and audio streaming. The goal is to allow our users to make the most of cloud technology.

Platform modularization through ACAP

One of the key features of AXIS OS is that it enables platform modularization through the AXIS Camera Application Platform (ACAP). ACAP is a framework that lets developers create and deploy applications and services, such as video analytics, audio analytics, and other custom-tailored extensions to meet business requirements. ACAP applications are independent of the core AXIS OS functionalities and can be installed, updated, and removed without affecting the rest of the system. ACAP applications can also communicate with each other and with external systems using standard protocols and APIs.

Scalability and performance
ACAP uses the microservices architecture of the operating system on Axis devices. Each service can be scaled up or down independently according to the demand and load. This improves the overall performance and availability of the system and allows for efficient resource use and allocation.

Adaptability and customization
With ACAP, Axis devices are more versatile, adaptable, and customizable because they support different types of integrations, analytics, and devices. ACAP also reduces the coupling and increases the cohesion of the platform because each application is loosely coupled with the AXIS OS and highly cohesive within itself.

Maintainability and reliability
Each service can be tested, monitored, and debugged independently and in isolation. This simplifies troubleshooting and diagnostics and enhances the system's resilience and tolerance for faults. And it makes AXIS OS stand out when it comes to software quality.

Secure and easy integration and 24/7 monitoring of Axis devices

Axis has a strong track record of delivering IT-relevant features and remains committed to ongoing innovation, transparency, and industry best practices. AXIS OS enables secure onboarding and integration of Axis devices into your IT infrastructure, so you can manage and monitor them just like your other IT equipment. It's easy to schedule software upgrades and ensure you always maintain software compliance with your IT policies. With robust cybersecurity, Axis devices are preconfigured from factory and there's no vendor lock-in.

Easy implementation of zero-trust

AXIS OS supports IEEE technologies such as IEEE 802.1AR for secure device identification and authenticity, IEEE 802.1X for network authentication, and IEEE 802.1AE MACsec for fundamental network layer-2 encryption, effectively doubling network security when used in combination with HTTPS and other TLS protocols. So, your network policy engine or access control application can securely onboard and operate Axis devices automatically. Plus, Axis devices are preconfigured from factory with no vendor lock-in. For instance, they support solutions such as Extreme Networks Fabric Attach and HPE Aruba. In addition, the publicly available VAPIX API allows you to integrate Axis devices quickly and flexibly into your system, using only what you need for your specific setup. What's more, centralized identity and access management (IAM) with OAuth 2.0 integration allows you to authenticate your Axis devices using multi-factor authentication (MFA) and tailored password complexity enforcement and rotation.

Secure device lifecycle management

You can monitor all Axis devices on your network, 24/7, with a comprehensive audit log that sends end-to-end encrypted data via remote Syslog and SNMP for SIEM monitoring of configuration changes and login activities. Axis devices support vulnerability scanning using third-party tools such as Tenable Nessus, Rapid7, and others. In addition, AXIS OS Security Scanner Guide offers recommendations on how to solve certain remarks from the scanners and outlines common "false positives," enabling transparent software supply chain audits. With our device management software, it's easy to maintain compliance with your IT policies and schedule software upgrades for Axis devices. Furthermore, a built-in Layer 2/3 firewall enables micro-segmentation, improving network security and Identity and Access management (IAM). This all ensures you always have full control over what and who can access Axis devices over your network.