

# Enabling Matter interoperability at scale

Bosch and DigiCert Device Trust Manager



CASE STUDY

# Bosch securely upgrades in-field smart home devices to enable Matter interoperability using Device Trust Manager

## Executive Summary

**Company name:** Robert Bosch Smart Home GmbH

**Industry:** Smart Home/IoT

**Headquarters:** Stuttgart, Germany

### Key business requirements:

- Achieve Matter certification to access unified smart home ecosystem
- Upgrade devices already deployed in customer homes without recalls or replacements
- Use existing per-device identities to securely issue Matter certificates

### Solution:

- DigiCert Device Trust Manager

### Key outcomes:

- Hundreds of thousands of existing devices already deployed in customers' homes gained Matter support without recalls or replacements
- The company could now issue Matter certificates securely using existing device identities, without shared credentials
- The organization managed certificate issuance and lifecycle operations without having to build or operate internal PKI infrastructure
- Existing devices gained new capabilities and could work with smart home products from other manufacturers



## Requirement

### Securely upgrade in-field smart home devices to meet Matter interoperability

Robert Bosch Smart Home GmbH, a leader in smart home IoT peripherals, faced a strategic inflection point. The company had successfully navigated certifications for Amazon Alexa, Google Home, and Apple Home, but the increasing complexity inherent in trying to maintain compatibility with these platforms, let alone emerging ecosystems, would require too much in the way of resources. In any event, doing so made little sense when these and other smart home providers were adopting CSA Matter, the unifying industry standard for smart device interoperability. Matter, backed by Apple, Amazon, Google, and Samsung, eliminates the need for manufacturers to build separate integrations for each ecosystem. Compatibility with Matter allows smart devices from different manufacturers to communicate securely.

Crucially, Bosch refused to leave their loyal customer base behind. The company wanted devices already in their customers' homes to be Matter-compatible, just as new devices would be. Moreover, they wanted to transparently upgrade these already installed devices automatically, so their customers wouldn't have to do anything on their end.

Bosch's security team identified the challenges that made this over-the-air (OTA) upgrade anything but easy. They couldn't rely on a shared credential to authenticate all in-field devices when requesting Matter certificates. The Bosch security team recognized that compromising a single device would allow an attacker to impersonate other devices across their substantial install base, which numbered in the hundreds of thousands.

"We knew we needed the ability to manage device identities individually and to issue new Matter certificates securely to all of them," said the Product Security Officer at Bosch. "After much internal discussion, we agreed that it didn't make sense for us to do this ourselves, given our large customer base." Bosch needed a solution that could apply the same identity validation and issuance rules repeatedly and reliably—not just for this upgrade, but for every Matter-enabled device they would ship going forward—without introducing manual steps or fragile, custom processes.

## Solution

# DigiCert Device Trust Manager enabled secure Matter certificate issuance for in-field and new devices

Device Trust Manager, part of the DigiCert ONE platform, had already been used to help other companies issue Matter certificates at scale. It supported both in-field devices and devices being manufactured. As a CSA-approved Product Attestation Authority (PAA), DigiCert provided the secure infrastructure to issue the necessary Product Attestation Intermediates (PAI), as well as the Device Attestation Certificates (DACs) that formed the complete chain of trust required for Matter.

In addition to providing support for the latest version of Matter, Device Trust Manager could ensure that any device identity it managed stayed in compliance with current and upcoming regulations. Device Trust Manager could also manage the complex Certificate Revocation List (CRL) infrastructure necessary to revoke Matter-issued DACs, enabling Bosch to cryptographically isolate any compromised devices, a critical requirement for maintaining trust in a large-scale IoT fleet.

"Working with a partner that not only understands PKI but also the real-world use cases and requirements for IoT consumer electronics was of great help to get the solution set up and implemented in no time," said the Product Security Officer.

## Deploying Matter interoperability at scale across the installed base

Using Device Trust Manager, Bosch successfully deployed Matter compatibility across devices already deployed in customers' homes through a seamless, in-place update that took only a week once internal development was complete. Customers were now able to connect their Bosch devices to other Matter-compatible devices without replacing hardware or taking any action themselves.

DigiCert Device Trust Manager enabled this rollout by automatically validating each device's existing identity and authorizing the issuance of Matter DACs over the air, without manual intervention. Each Bosch device's factory-provisioned identity served as the trust anchor, allowing Device Trust Manager to cryptographically verify authenticity before issuing Matter credentials.

Once validated, Device Trust Manager used automation to apply a single, repeatable process that allowed devices to request and receive Matter credentials, eliminating per-device handling. The security team was especially impressed with how reliable this approach was. "All the complexity we worried about went poof," said the Product Security Officer. "Device Trust Manager automated both device validation and certificate issuance—and it worked on all our customers' devices."

## Reducing operational and security burden without custom development

Bosch needed only a couple of days to configure Device Trust Manager to work the way they needed it to. Device Trust Manager comes with many preconfigured profiles and workflows that security engineers could leverage. Once configured, those profiles were applied consistently by the system across deployed devices and manufacturing environments, removing the need for engineering and security teams to handle certificates on a device-by-device basis.

Device Trust Manager also ensured that this approach held up to security and compliance scrutiny. By eliminating shared credentials—which, if compromised, could allow attackers to impersonate any device in the fleet—and removing manual certificate handling that introduces human error, Bosch significantly reduced their attack surface.

The same system extended cleanly into new device production. Batch certificate issuance supported air-gapped production environments that didn't require ad hoc processes or put the company at risk of an internet outage leading to a production one. As a result, Bosch could now use one consistent process for both deployed devices and manufacturing workflows, without introducing exceptions or parallel systems that would be difficult to govern over time.

"Part of the reason why we chose Device Trust Manager was because we could apply workflows consistently across both field and factory," said the Product Security Officer. "It's also important that Device Trust Manager makes sure we stay compliant with evolving standards and regulations. The trust aspect is vital for us."

## Establishing a unified Matter trust model across Bosch's device portfolio

By using DigiCert Device Trust Manager, Bosch established a unified Matter trust model across their device portfolio. Device Trust Manager handled device identity and Matter certificate issuance in a consistent, policy-driven way that applied equally to devices already deployed in customers' homes and to new devices entering production. This allowed Bosch to rely on a single trust model across the device lifecycle, rather than creating separate processes for fielded devices and manufacturing workflows.

This approach also held up in real-world, multi-vendor environments. Devices from multiple manufacturers could be orchestrated through a Bosch controller using the same Matter-compliant credentials and validation rules, demonstrating that trust was enforced consistently across the ecosystem. And Bosch could be confident that any new Matter-enabled devices they introduced would follow the same identity validation and certificate issuance process via the automation and policy enforcement by Device Trust Manager.

"Once we had a consistent way to handle device identity and certificates, we knew what onboarding a new Matter-enabled device would look like. It followed the same process each time, which made things more predictable for us," said the Product Security Officer. "For us, Device Trust Manager brought clear improvements in both security and efficiency."

## About DigiCert

DigiCert is a global leader in intelligent trust. We protect the digital world by ensuring the security, privacy, and authenticity of every interaction. Our AI-powered DigiCert ONE platform unifies PKI, DNS, and certificate lifecycle management, to secure infrastructure, software, devices, messages, AI content and agents. Learn why more than 100,000 organizations, including 90% of the Fortune 500, choose DigiCert to stop today's threats and prepare for a quantum-safe future at [www.digicert.com](http://www.digicert.com).

Ready to secure your Matter devices?  
[Discover how DigiCert Device Trust Manager can accelerate your journey to compliance.](#)



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