Press Release

# Connected driving:
# V2X security solutions ensure secure exchange of data and data protection

**Connected driving promises to deliver more safety and more convenience for road users – but only if V2X communication can be reliably protected against misuse, manipulation, and data espionage. That is why ESCRYPT's V2X security solutions pursue a holistic approach.**

Bochum, February 28, 2018 – V2X communication requires multiple layers of protection: in the embedded systems themselves, in vehicle ECUs, and in the electronic control systems of traffic infrastructure. Then, on top of that, there is the challenge of managing the huge numbers of certificates needed to exchange data securely in an efficient and protected manner.

Because of this, automotive security specialist ESCRYPT provides complementary solutions to address both of these concerns. CycurV2X is a software development kit that allows automotive manufacturers, automotive suppliers, and manufacturers of traffic infrastructure to implement V2X security protocols in their embedded systems, closing off the infrastructure interfaces via an API. As a result, system V2X security can be seamlessly expanded at any time – all the way to live operation with the full range of IT security functions.

Here data security and data protection go hand in hand. V2X communications are constantly and reliably authenticated to make sure that only authorized vehicles and traffic infrastructure are in the communications loop. To prevent road users from being

tracked via their transaction data, CycurV2X maintains a continuously updated roster of currently authorized certificates; these are replaced on a rolling basis so that each active certificate is replaced by a new one every couple of minutes.

ESCRYPT also supplies the security-relevant backend components for public key infrastructure. Its CycurV2X-SCMS solution, for instance, allows users to set up a complete platform with which to provide and block certificates for vehicles and traffic infrastructure. Moreover, both CycurV2X solutions are compliant with North-American and European standards. And already, they come designed to manage a constant flow of authenticated communications among countless millions of vehicles and traffic installations.

"The V2X security system won't just be the biggest public key infrastructure in the world – it will have to offer space for a range of different stakeholders," ESCRYPT General Manager Dr. Thomas Wollinger says. "That's why our solutions' security design is based on a distributed architecture with separate roles." This allows automakers and managers of intelligent transport systems (ITS) to use a single trust anchor to work independently of one another within a system. What is more, the anonymity of road users, and the security of their data, remains ensured at all times.

Already, the CycurV2X solutions are demonstrating their usefulness in securing vehicle communications in multiple ITS pilot projects. ESCRYPT is currently working with the US Department of Transportation and the Crash Avoidance Metrics Partnership (CAMP) on a range of reference projects examining vehicle connectivity in North America, and provides the public key infrastructure for secure V2X communication for Europe's cross-border "Cooperative ITS Corridor" initiative.
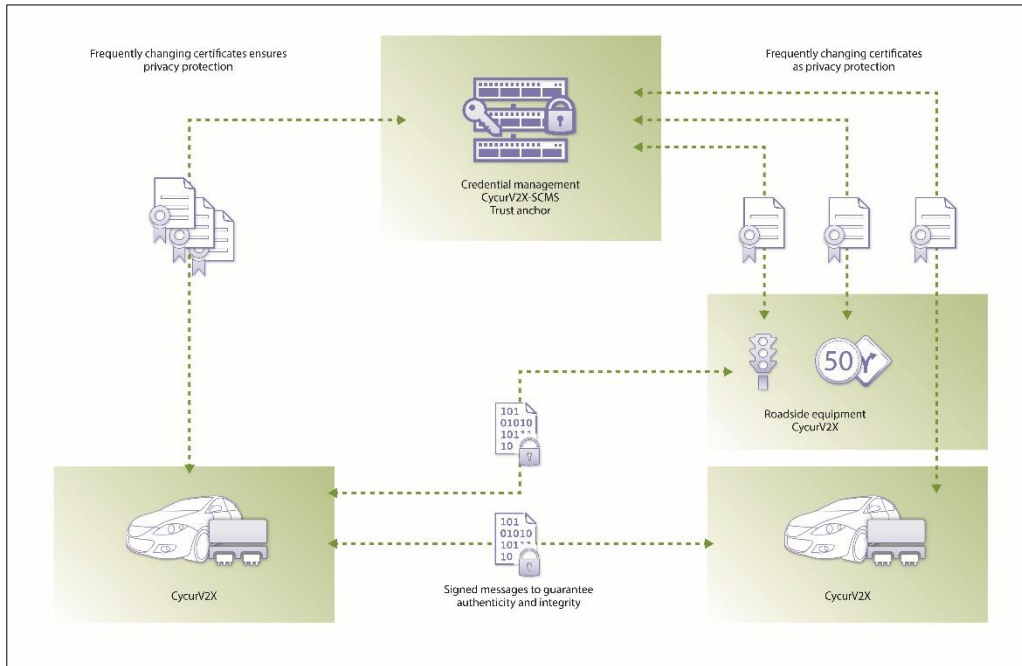
Image 1 – Overview of the V2X security solution



Image 2 – Dr. Thomas Wollinger, ESCRYPT General Manager

ESCRYPT GmbH

Martin Delle

+49 234 43870-290

[martin.delle@escrypt.com](mailto:martin.delle@escrypt.com)


ESCRYPT GmbH

ESCRYPT is the leading system provider of IoT security in the areas of smart mobility, smart city, and smart industry. At five German locations and in branch offices in the United Kingdom, Sweden, the United States, Canada, India, China, Korea, and Japan, our experts focus on current data security issues such as secure M2M communication, IT security in the Internet of Things, securing e-business models, and automotive, enterprise, and operational IT security. ESCRYPT supplies highly secure, worldwide valued solutions for embedded systems and accompanying IT infrastructure – solutions that have already proven themselves millions of times over in automotive series production – as well as consulting and services for enterprise security and IT-secured manufacturing in industry 4.0.

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