Cyber Security and Privacy

The Gold Standard in Privacy and Security

CIMCON's end-to-end smart city solutions offer clients the gold-standard of integration and insights. As an industry leader, CIMCON sets the tone for data privacy in the smart city space. Every CIMCON solution is designed to secure all elements of the smart lighting and smart city network by applying the following principles at each level:

CIMCON's Pillars of Privacy and Data

- **Device and Platform Integrity –** Data is continuously sent to the NearSky™ cloud AWS VPC using the MQTT protocol, which leverages TLS 1.3-based encryption. No data is stored on the NearSky™ 360 for the mesh solutions. Once in the cloud, telemetry data at rest in the NearSky™ cloud is encrypted using AES-256 Server-Side Encryption with Amazon S3-Managed Keys SSE-S3.
- **Cyber Threat Detection and Mitigation –** CIMCON utilizes VLANs, Virtual Routing and Forwarding (VRFs), and Generic Routing Encapsulation (GRE), to segment and isolate network elements, and prevent unwanted communication between assets (e.g., lighting controllers and distribution automation devices within a utility). All routers are configured with whitelists and firewall features to filter and control access to the network. To detect threats, the CIMCON solution collects event logs from all system elements. This includes firewalls, routers, network management systems (NMS), head-end systems, and lighting controllers, and can pass that information on to a security incident and event manager (SIEM) tool.
- **User Access and Control** – Client access to data stored by CIMCON can be controlled with granular user profile settings, allowing you to administer permissions to an individual or group. Custom login and password rules can be established adhering to required complexities and expiration governance. All network devices are manufactured and configured to have a X.509-based digital certificate. Our system provides identity mechanisms for all network elements – users, devices, and applications – and performs mutual authentication of both elements involved in the communications for it to be considered secure.
- **Privacy Adherence with Edge Processing** – Edge processing aggregates and analyzes data on our NearSky™ 360 device without storage of personally identifiable information (PII) on the cloud. This layered processing approach drastically reduces data transfer costs and mitigates privacy concerns.
- **Encryption** – CIMCON protects data using Advanced Encryption Standard AES-128 and AES-256. Encryption occurs at multiple levels of all CIMCON networks to ensure that information is validated, confidential, and private.

The CIMCON Difference

- **Global Footprint:** With projects in over 200 cities, 25 countries worldwide, and 1.1 million connected IoT devices under contract, CIMCON's experience and expertise ensures every system deploys smoothly.
- **Track Record:** Over 8 years of smart city and smart lighting deployments with *zero* data or network breaches guarantees privacy and security for every project.
- **Team:** A dedicated internal team of data scientists, security specialists, and network engineers ensure all client's data is handled above and beyond international privacy standards.
- **Industry Partnerships:** CIMCON's partnerships with Cisco, Itron, CDW and many more industry-leading organizations ensures security and robust network resilience.
- **Future-Proof Capability:** A scalable and secure deployment of smart city technology enables clients to be safe today and prepared for tomorrow.
- **Multiple Secure Network Options:** CIMCON's smart city technology utilizes a suite of secure communication networks to securely move data from the edge to the cloud, providing our customers with flexibility to choose the network that best fits their needs. Data backhaul options include RF mesh, Wi-Fi, LTE/cellular, Power over Ethernet, USB and RS-485.

Why should you care about data privacy and security?

- **Evolving Risk:** As of December 2019, at least 20 million facial recognition and other biometric records were breached from city and corporate databases.
- **Exponential Growth:** There are now more devices connected to the internet than people on earth. Data security has never been more important.
- **Growing Fears:** 4 out 5 of citizens expressed concern about how their data is collected and the ways it is used. CIMCON's privacy policy allows city managers to be trusted stewards of data.