Wifi for construction yards

Create a scalable and extensible Wifi network for construction yards

Born and raised in B2B connectivity, we combine innovation, expertise, and great talent into (mobile) connectivity solutions that will make both businesses and society grow. 0G to 5G. Citymesh is the European leader and expert in the construction of private 4G & 5G networks and WiFi as a Service, with +50 MPN's deployed

Creating a scalable WiFi network for construction yards is a formidable task, primarily due to the unique challenges inherent in these environments. Construction yards are ever-changing landscapes, where layouts frequently shift as materials are transported, structures are erected, and equipment is relocated. This fluidity demands a network infrastructure that can swiftly adapt to evolving conditions. Moreover, construction sites are exposed to harsh weather elements, dust and dirt, placing considerable strain on networking equipment.

The large coverage areas of construction yards further compound the complexity of network design. Providing consistent and seamless coverage across vast expanses requires meticulous planning and strategically positioned access points. High user densities, often involving numerous devices concurrently accessing the network, necessitate a robust capacity to handle the load without sacrificing performance. Additionally, the prevalence of interference from heavy machinery and metal structures challenges network engineers to effectively manage and mitigate such disruptions.

In summary, developing a scalable WiFi network for construction yards demands a sophisticated approach that addresses layout volatility, environmental resilience, expansive coverage, and the need to accommodate a multitude of users while ensuring reliable and secure connectivity.

The goal

1. **Network Design and Optimization:** Collaborate with our team to design and optimize scalable WiFi networks tailored to the unique requirements of construction yards. This includes assessing coverage areas, capacity planning, testing and identifying potential interference sources.
2. **Hardware and Software Evaluation:** Assist in evaluating and testing networking hardware and software components, such as routers, access points and network management tools, to ensure they meet the performance and scalability needs of construction yards.
3. **Performance Monitoring:** Set up monitoring and analytics tools to continuously monitor network performance, identify bottlenecks, and propose improvements to enhance network reliability and speed.
4. **Security Implementation:** Contribute to the development of security practices for construction yard WiFi networks to safeguard data and prevent unauthorized access.
5. **Documentation:** Create and maintain detailed documentation, including network diagrams, configuration settings, and troubleshooting guides, to facilitate knowledge sharing and future reference.
6. **Research and Innovation:** Stay up-to-date with industry trends and emerging technologies related to WiFi networking, and provide insights and recommendations for implementing innovative solutions.

Expected Results:

- Functional and scalable Wifi access point architecture system.
- User-friendly web interface for network administrators.
- Comprehensive documentation and training materials.
- Validation reports and performance analysis.
- Integration with existing network security tools (if applicable).

Our approach

We strive to provide comprehensive coaching and furnish students with supplementary resources and training as required. Our interns benefit from the constant support of a dedicated mentor who is readily available to offer assistance. Joining us means being part of a vibrant and youthful team, working in a cutting-edge technological environment.

Student profile

Background and Education:

- Undergraduate or graduate student pursuing a degree in Computer Science, Information Security, Network Engineering, or a related field.
- Strong academic record with coursework in networking, cybersecurity, and programming.

Technical Skills:

- Proficiency in programming languages such as Python, Java, or C/C++.
- Familiarity with networking concepts, including TCP/IP, routing, and wireless protocols.
- Basic understanding of cybersecurity principles and threats.
- Knowledge of machine learning and data analysis (preferred but not mandatory).

Skills and Qualities:

- Strong problem-solving and analytical skills.
- Attention to detail and a methodical approach to tasks.
- Ability to work independently and as part of a team.
- Good communication skills to convey technical concepts effectively.
- Eagerness to learn and adapt to new technologies and challenges.
- Commitment to ethical behavior, as this role involves monitoring network activity and data.

Interested?

Contact Jens Buysse (jens.buysse@citymesh.com) with your CV. We have other internships available as well! Don't hesitate to contact us.