



CASE STUDY

Light-Rail Transportation Property Intrusion Detection System

OVERVIEW

A multi-national rail transit systems provided needed an expert partner to expand their existing team to design and deliver four intrusion detection systems for three separate stations as part of a light-rail project in California.

THE CHALLENGE

The project delivery schedule required a team of at least five experienced degreed engineers to define safe, manufacturable electro-mechanical solutions aligned with contract plans and specifications.

The project delivery schedule required a team of at least 10 drafting personnel to create three separate books of plans composed of over 500+ sheets of individual drawings.

At least two sophisticated contract manufacturing partners were required to build equipment to print.

Complex joint-venture structure required tight coordination between equipment design and field installation/integration teams at site.

HOW WE SOLVED IT

01 We Evaluated the System

Using over 20 years of experience, BDRCK conducted a deep analysis of the contract specifications and plans to extract and manage system-specific requirements.

02 We Designed the Solution

BDRCK utilized state-of-the-art product lifecycle management tools like Autodesk Vault, Inventor, and AutoCAD to create equipment models, detail drawings, and publish books of plan that delivered four unique intrusion detection system designs.

03 We Executed and Delivered

BDRCK partnered with a trusted third-party drafting team to engage the resources required to build 500+ sheet books of plans. In addition, BDRCK leveraged our deep contract manufacturer network to source, negotiate quotes, and build the equipment required to deliver the project.

PROJECT SNAPSHOT

CLIENT

Railworks Technical Services

INDUSTRY

Rail Transportation

SERVICES

Systems Design, Manufacturing Consulting

TIMELINE

December 2024 through March 2026

CONTRACT TYPE

Consulting Service Agreement

KEY RESULTS

From 7 to 20+

Flexible personnel expansion to meet schedule

100% Drawing Approval

100% On-time Delivery

"BDRCK distilled complex contract requirements to successfully deliver four manufacturable solutions."

— RTS Project Director

PROJECT IN FOCUS

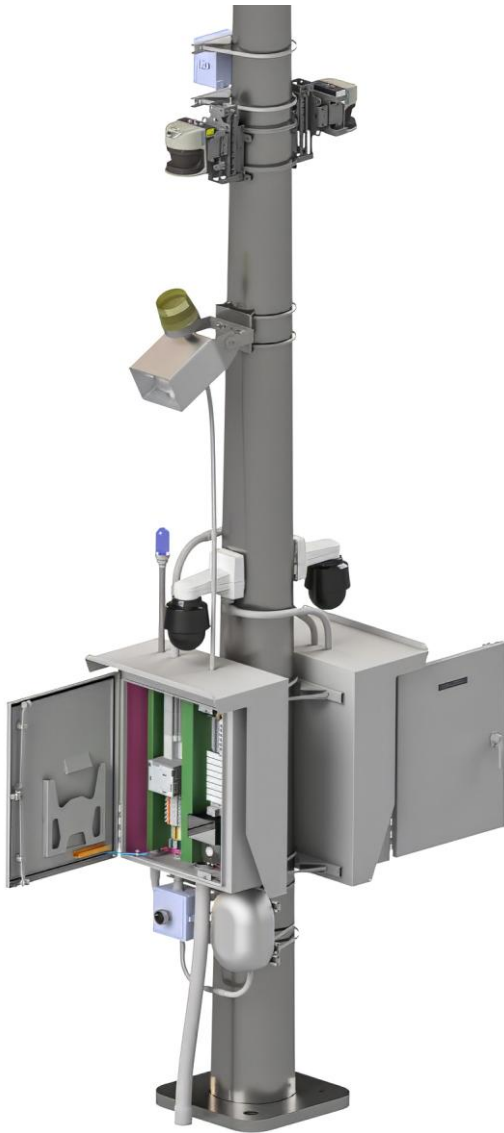


Figure 1 - Intrusion Detection System CAE Model

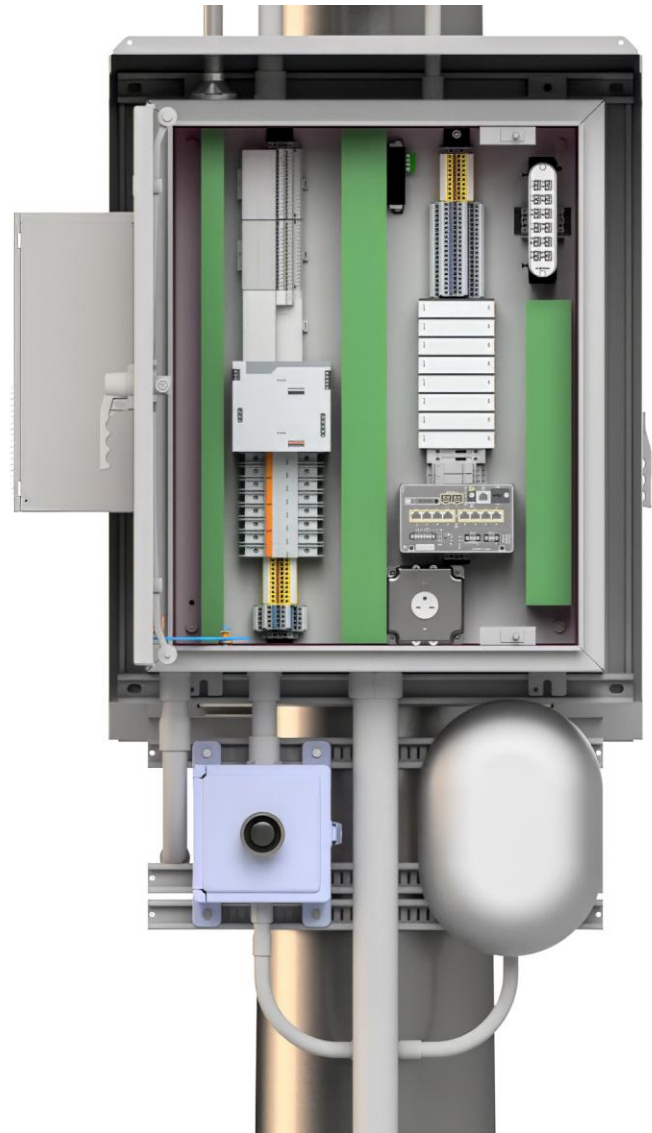


Figure 2 - Focus on System Sub-Panel Layout

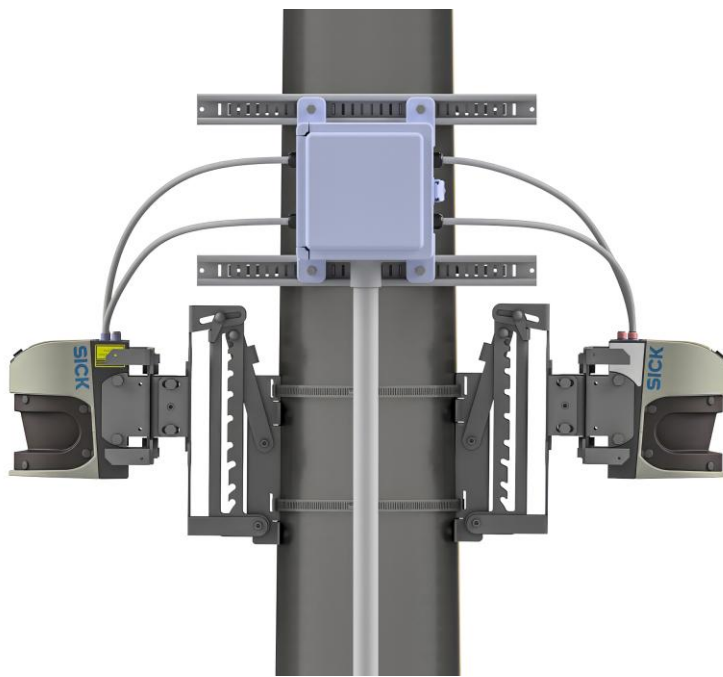


Figure 3 - Focus on LIDAR Camera Installation



Figure 4 - Focus on Speaker/Strobe and Pan, Tilt, Zoom CCTV Installation

Senior Expertise Without Headcount Cost

20+ years of electro-mechanical and systems engineering depth — engaged as needed, without the overhead.

Autodesk CAE & PLM Toolset

Enterprise-grade design and data management tools applied to every project.

Concept to Deployment

We own the full lifecycle — from initial design through manufacturing and field delivery.