



# CASE STUDY: MICHIGAN STATE POLICE

## METROPOLITAN DETROIT FORENSICS LABORATORY

The Michigan State Police Forensics Laboratory is a 51,000 square foot research facility built in the new seven story state-of-the-art public safety headquarters in Detroit. The laboratory area was designed to provide services including firearm examination, drug chemistry, and biology to police departments in Southeast Michigan. Price representative, Michigan Air Products engaged the project engineers in the early stages of the design and educated the team on the Price Critical Controls laboratory solution.

The proposed solution required room pressure control solutions for general office space and over 20 laboratory spaces with fume hoods. In the spaces with fume hoods, the design utilized Price Laboratory Space Controllers to provide a high-speed control network for maintaining offset between the supply, general exhaust, and fume hood exhaust venturi valves. The Price Fume Hood Controller is used to monitor and control the face velocity of the fume hood using a control sequence consisting of both sash position sensors together with side-wall velocity sensors. This closed-loop control strategy provides a less than one second speed of response at the fume hood level while providing real-time feedback of actual face velocity. The general office space design required the use of Price Tracking Controllers to provide the pressure control using volumetric offset between the supply and exhaust venturi valves. The temperature control was designed to provide occupied/unoccupied set-point control using Price thermostats that integrate motion sensors. All controllers are tied directly to the facility's building management system utilizing BACnet/MSTP communication without the use of a gateway. Michigan Air Products provided full onsite start-up and commissioning services using their local certified technicians.

### PROJECT HIGHLIGHTS

- Location: Detroit, MI
- Year Completed: July 2014
- Application: Laboratory
- Project Size: 51,000 ft<sup>2</sup>
- Construction Cost: \$9.4 million

### DESIGN TEAM

- Engineer: SmithGroupJJR
- Price Representative: Michigan Air Products



Michigan State Police Forensics Laboratory



Laboratory start-up