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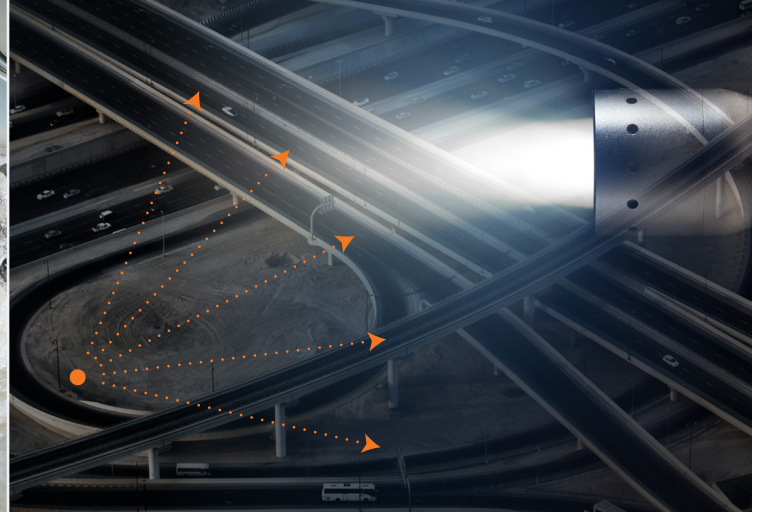**PROJECT REPORT:**
DOT SCADA SERVICES
APRIL 2020

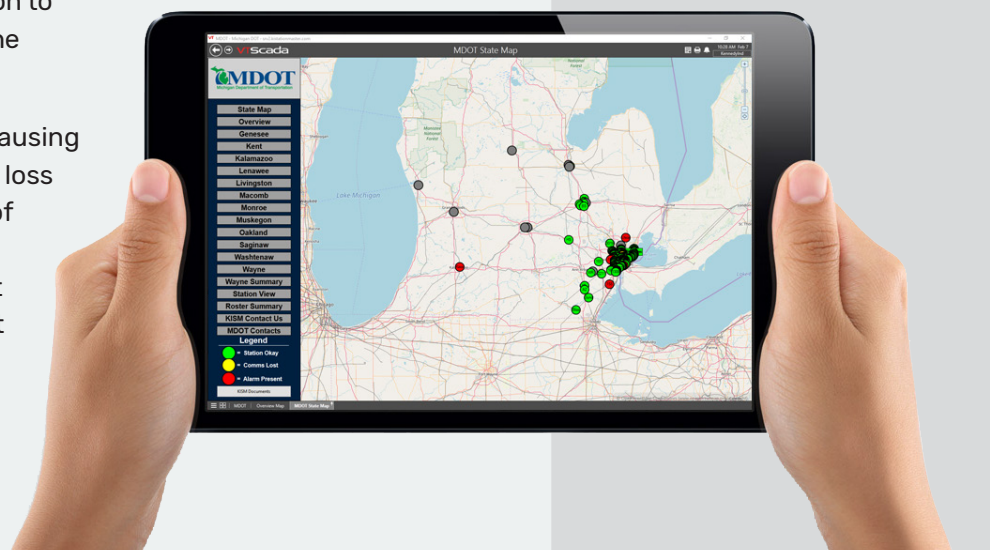# Helping MDOT Mitigate Road Flooding with SCADA Technology

The Michigan Department of Transportation (MDOT) needed to reduce the maintenance hours and costs associated with managing pump stations across the state.

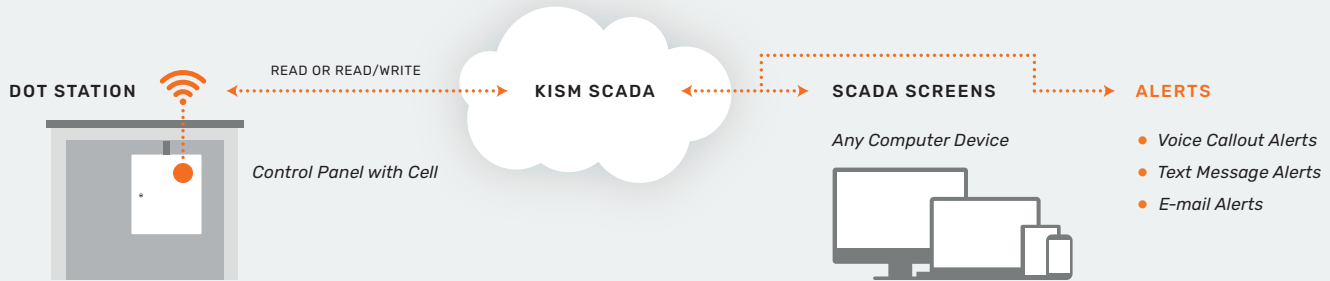**Road flooding and power outages are MDOT's main concerns for their pump stations.**

PROBLEM:

In general, the manpower within MDOT is spread thin. Limited personnel have to maintain more than 150 pump stations across Michigan. To ensure correct operation of each station, MDOT had relied on in-person visits. These on-site checkups were their only opportunity to learn about station problems before they happened. If there was a problem, and they did not find it when they visited the site, they soon found out about it when the roads flooded and the public notified them. MDOT was also looking to utilize technology to improve their process for efficiencies and to improve roadway safety. They needed a solution to identify problems at stations before the roads flooded.

One of the most common problems causing performance failure at stations is the loss of power. MDOT had a small number of portable generators that they would take to stations but were not efficient in their station selection. They did not know which stations were close to flooding the streets and would need immediate backup power.

DOT STATION

READ OR READ/WRITE

Control Panel with Cell

KISM SCADA

SCADA SCREENS

Any Computer Device

ALERTS

- Voice Callout Alerts
- Text Message Alerts
- E-mail Alerts

SOLUTION:

To help MDOT better manage it's pump stations, Kennedy's Control Group first provided them with MultiSmart control panels to operate the pumps, monitor problems, and connect to SCADA software. Kennedy then installed VTScada software, which allows the operators to monitor, control, and receive alarm notifications for each station. Additionally, Kennedy provided MDOT with KISM, a managed datacenter service for a turn-key SCADA solution. Kennedy fully manages the SCADA infrastructure and also offers a 24/7 SCADA support team.

MDOT was able to integrate new SCADA monitoring at a reduced cost by leveraging the KISM-managed datacenters. They were also able to integrate new control panels for primary control of the station and float backup as well.

This new setup allowed MDOT to remotely monitor each of their stations through the KISM web portal. Station alerts sent through KISM will assure proactive troubleshooting of station problems and reduce the potential for flooded roads. MDOT can also view station well levels during power outages to help them strategize delivery of portable generators. The new software even provides historical data that can assist their maintenance team in troubleshooting station problems.

As one MDOT official put it, "We are now able to see our station's activity in real-time, saving days of lost time and preventing potential disaster."

VTSCADA screens now allow remote monitoring of pump station status through the KISM web portal.

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