

AC250 RMD

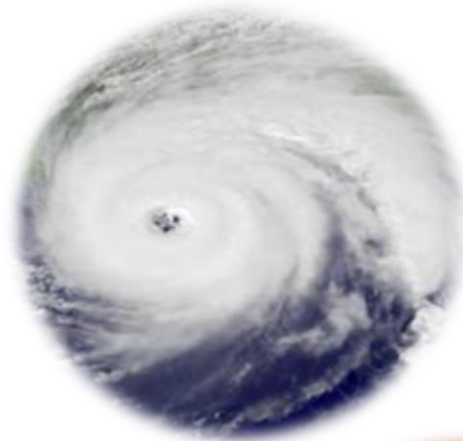
Remote Meter Disconnect

April 1, 2013



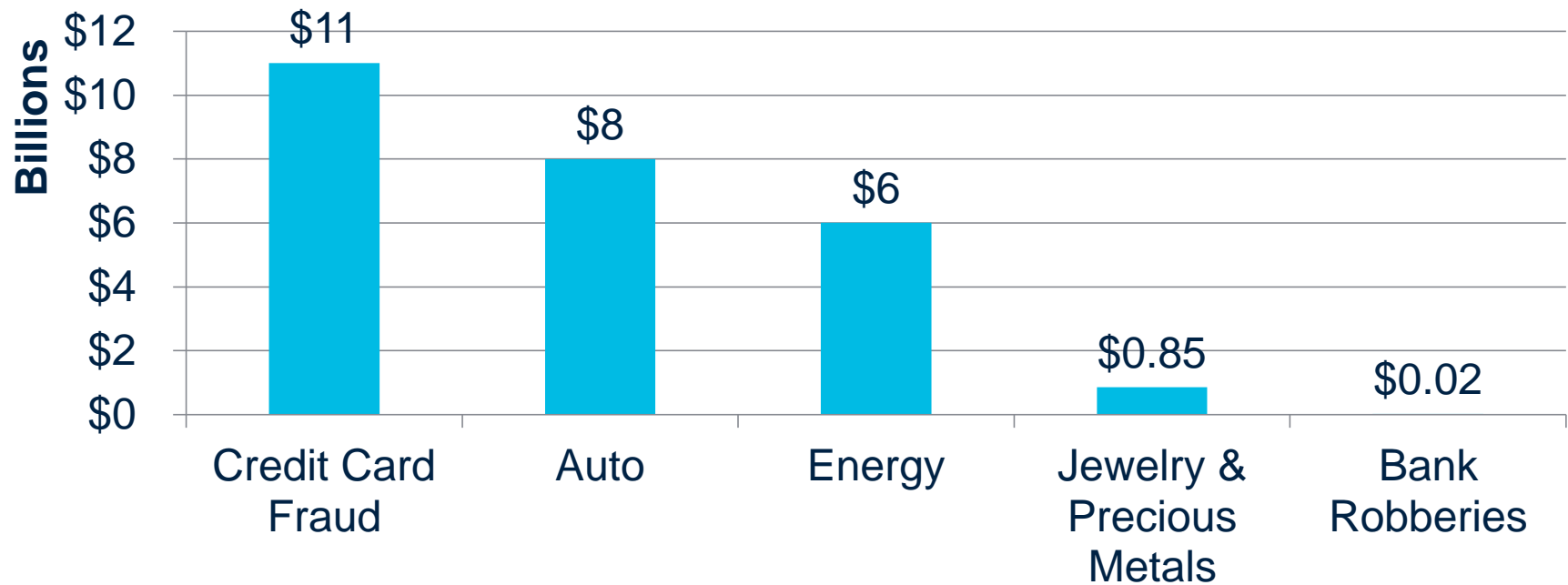
Market Drivers

- Safety – reduction of injuries, loss of life and property damage
 - Natural and accidental disasters
 - Enhance customer and employee safety



Market Realities

FBI Annual US Theft Statistics



Example: Gas Theft Calculation

- Mid-sized utility averaging 4,000 theft incidents annually
- 1 day to investigate and document
- ~10% of investigations result in prosecution
 - Investigate: $4,000 \text{ cases/yr} \times 8 \text{ hours} \times \$30/\text{hour} = \$960,000$
 - Prosecute: $400 \text{ cases/yr} \times 40 \text{ hours} \times \$50/\text{hour} = \$800,000$
 - Total: \$1,760,000

Factor in actual theft dollar amount and the total loss rises exponentially

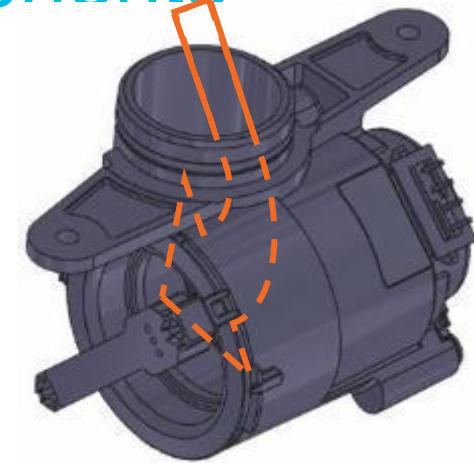
AC250 RMD (Remote Meter Disconnect)

- Internal shut-off valve
 - Shut-off gas without accessing the customer premise
- EnergyAxis technology
 - 900 MHz radio
- Actuated by a hand held computer
- Intrinsically safe, UL approved



AC250 RMD System Components

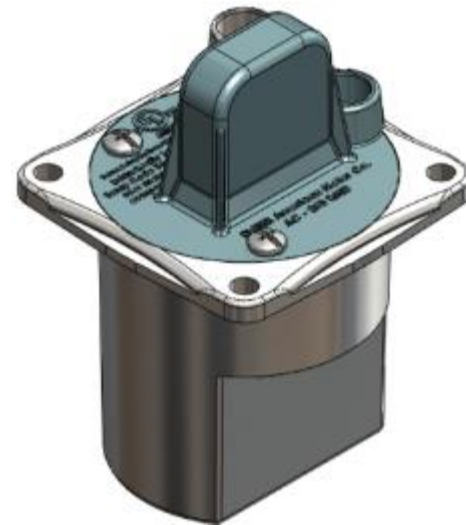
- Gas control valve
 - Panasonic proven-technology



- No lubrication required
 - Eliminates lubricant binding in colder climate deployments
- No periodic maintenance movements required
 - Conserves battery life

AC250 RMD System Components

- Gas control valve
 - Panasonic proven-technology
- Valve Control Module (VCM)



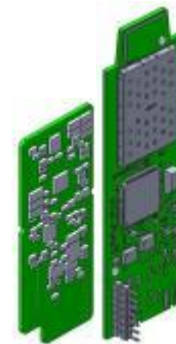
AC250 RMD System Components

- Gas control valve
 - Panasonic proven-technology
- Valve Control Module (VCM)
 - Valve control card



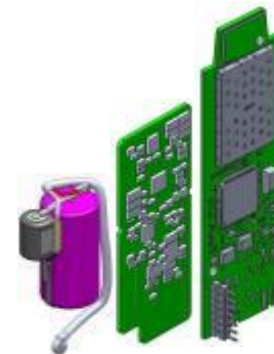
AC250 RMD System Components

- Gas control valve
 - Panasonic proven-technology
- Valve Control Module (VCM)
 - Valve control card
 - RF transceiver



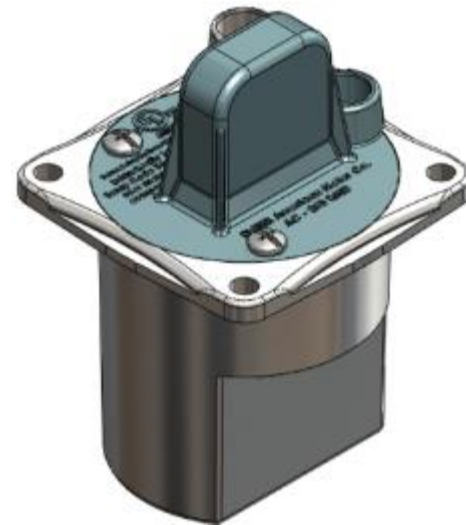
AC250 RMD System Components

- Gas control valve
 - Panasonic proven-technology
- Valve Control Module (VCM)
 - Valve control card
 - RF transceiver
 - Battery



AC250 RMD System Components

- Gas control valve
 - Panasonic proven-technology
- Valve Control Module (VCM)
 - Valve control card
 - RF transceiver
 - Battery
 - Potted VCM



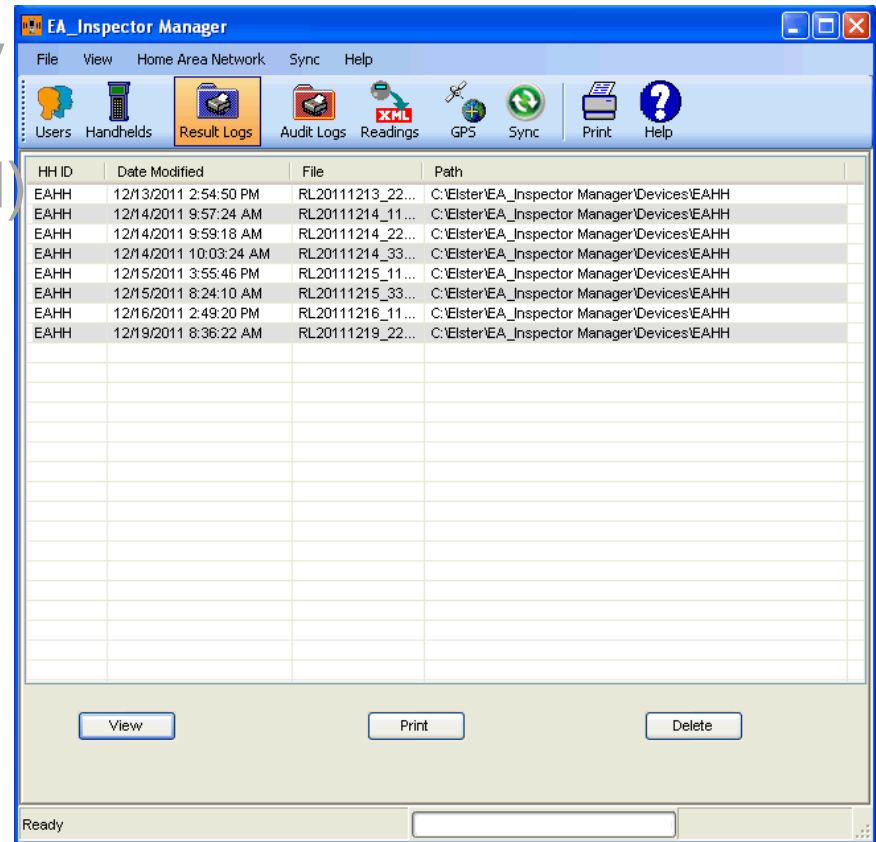
AC250 RMD System Components

- Gas control valve
 - Panasonic proven-technology
- Valve Control Module (VCM)
 - Valve control card
 - RF transceiver
 - Battery
 - VCM
- Inspector
 - Radix FW950
 - Elster RF card
 - Elster software



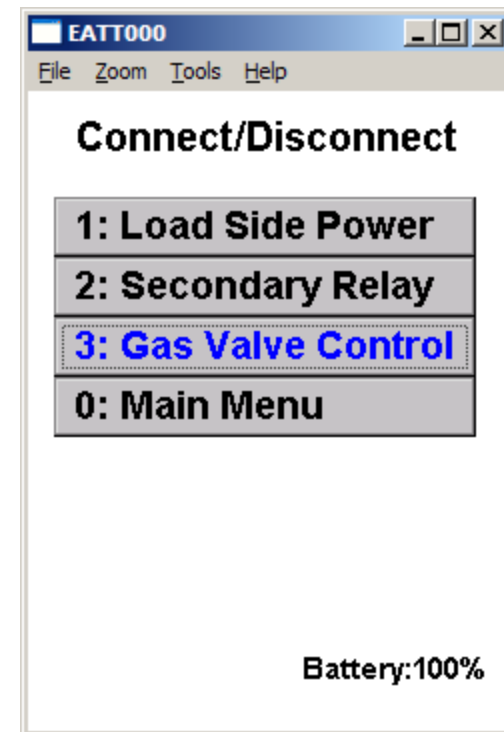
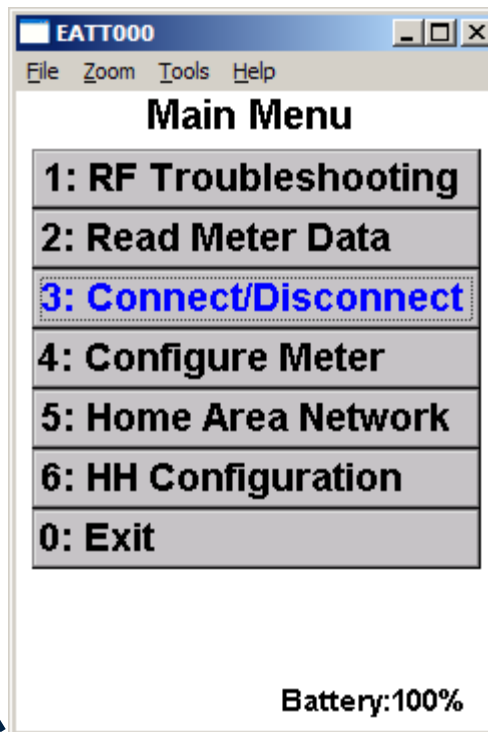
AC250 RMD System Components

- Gas control valve
 - Panasonic proven-technology
- Valve Control Module (VCM)
 - Valve control card
 - RF transceiver
 - Battery
 - VCM
- Inspector
 - Radix FW950
 - Elster RF card
 - Elster software
- Inspector Manager



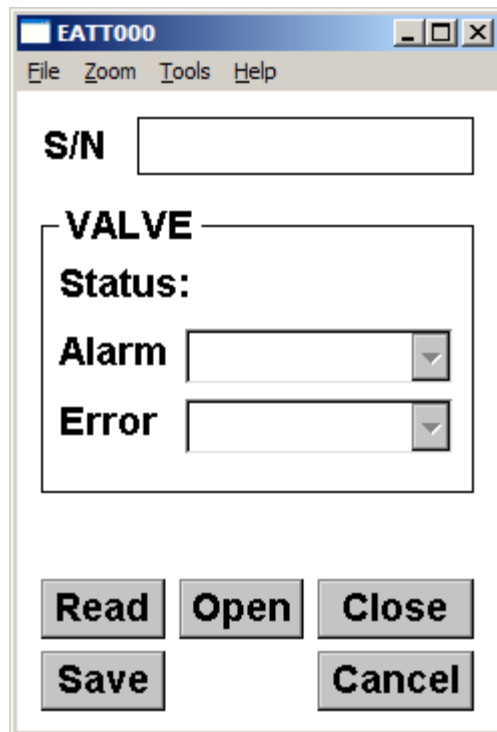
Inspector RMD Control

Secure control of the RMD (Read, Open and Close)



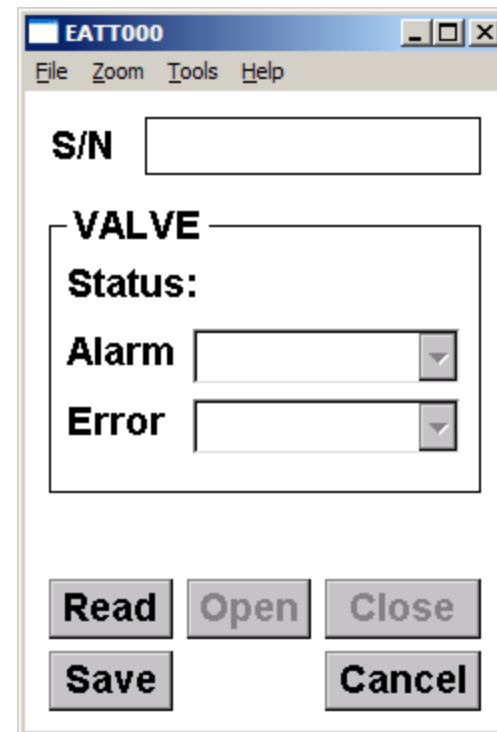
Valve Control Privilege

Full Privileges



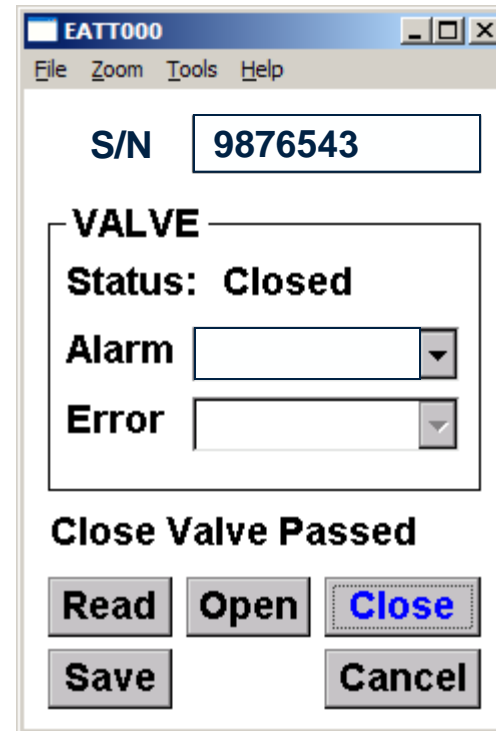
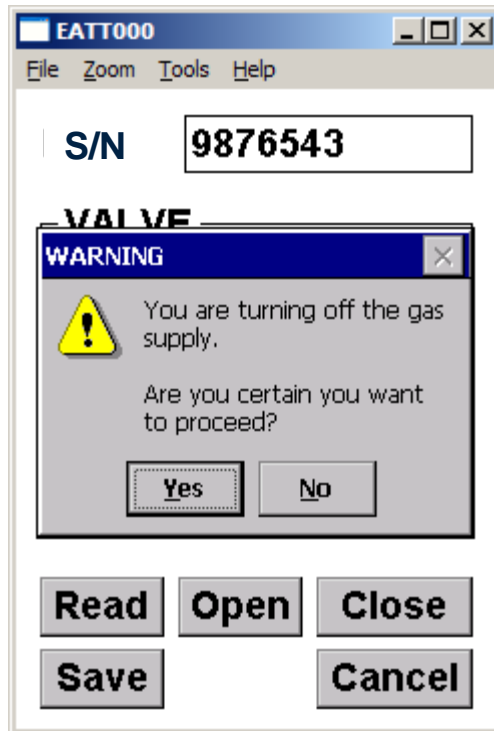
The screenshot shows a software window titled "EATT000" with a menu bar (File, Zoom, Tools, Help). It contains an "S/N" text box, a "VALVE" section with a "Status:" label, and two dropdown menus for "Alarm" and "Error". At the bottom, there are five buttons: "Read", "Open", "Close", "Save", and "Cancel". In this "Full Privileges" view, the "Open" button is highlighted in a darker grey, indicating it is active.

Limited Privileges

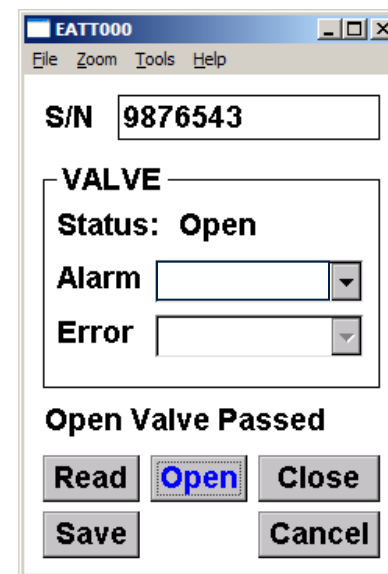
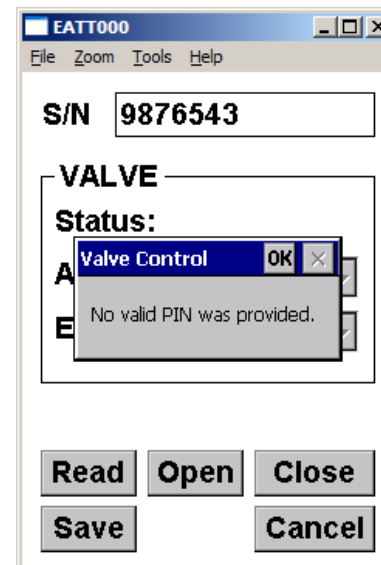
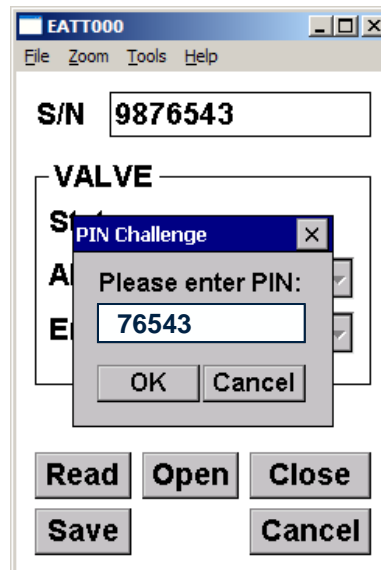
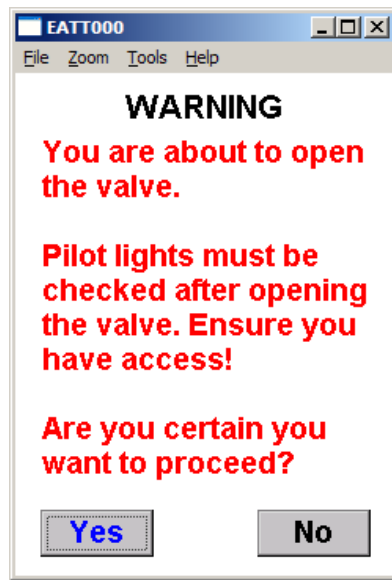
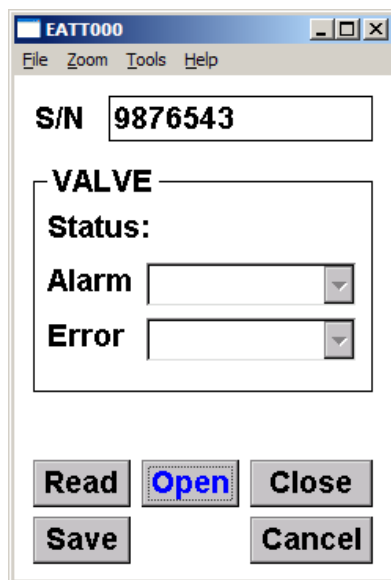


The screenshot shows the same "EATT000" software window. In this "Limited Privileges" view, the "Open" button is disabled and appears lighter grey, while the "Read", "Close", "Save", and "Cancel" buttons remain active.

Valve Close Status



Open Valve Sequence



Features / Benefits

- Full AC-250 Meter MAOP (5 PSI)
- 250 cfh at 7 inches water column and 1/2" differential
- Current Valve MAOP 2 PSI (Open)
- Self energizing (Closes with gas flow)
- Close / Open Verification
- Number of Valve Operation Indication
- Low power consumption: 0.38W. Rated as "simple device"
- Intrinsically Safe: Class 1, Div 1 – UL Approved
- 20 year battery life (one valve open/close per month)

– State	Battery Condition	Additional Information
No Warning/Alarm:	Battery is > 3.0V	
Battery Warning:	2.8V < Battery < 3.0V	
Battery Alarm:	Battery < 2.8V	No valve movements possible.

- 2-way communication, AES-128 encryption. NIST SG security compliant
- PIN challenge for valve opening for added safety
- Operating temperature -22°F - 140°F (-30°C - 60°C)



Business Case Examples

Example: Delinquent Payment

- Assumptions: Average delinquent customers = 10% of total customer base.

Days Sales Outstanding							
DSO Weighted Percentages		50%	35%	10%	5%		
Number of Delinquent Accounts		30 Days	60 Days	90 Days	120 Days	Average Past Due \$	Inaccessible Revenue
20000		10000	7000	2000	1000	\$40.00	\$1,360,000.00

- Total revenue not available to your company at any given month
 - Cost of Money
 - Actual account lost revenue
- Remote disconnect enables Gas Utility to effectively stop loss

Example: Operational Savings

- 20,000 delinquent customer base
 - Average 20 meters per truck roll = 1,000 truck rolls
- 1,000 truck rolls x \$300 cost = \$300,000
- or
- \$60,000 per year over a 5 year deployment schedule



Thank you

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elster
Vital Connections