Latest Technologies in Mobile Data Collection for Winter Road Maintenance

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Intelligent Devices, Inc.

- Leader in NTCIP technology
- Legacy protocol translators
- Provider of NTCIP central software
- Mobile Data Collectors
Overview

- Winter road maintenance is one of the biggest challenges for agencies responsible with providing safe environments for the public
- A major growth area for ITS systems in the past few years
- Budget issues are forcing agencies to “do more with less”
- Smarter utilization of mobile data collection has played a significant role
MDC and MDSS

- Light weight
- Durable
- Remotely updateable
- Windows based
- Expandable
- Easy to install in vehicle
Advanced AVL Tracking – Bread Crumbing

- Advanced AVL allows vehicles to be geo-located in real time on a map display and illustrate a “bread crumb” trail of the route progress.
- Allows historical playback of completed truck route to review chosen road treatments.
Advanced AVL Tracking – Canada

- Regulated performance specifications mandate specific material applications for given conditions
- Requirements to show real time and historical conformance with the regulations
- Advanced AVL combined with state-of-the-art central software shows real time confirmation of snow plow activity as routes progress
- Historical playback feature confirms the regulated treatment was applied
MDC and Patrol Vehicles

- 24/7 patrol vehicle reports geo-referenced time stamped deficiencies, current road and environmental conditions
- MDC collects pavement and air temperature automatically
- Touch screen allows driver to input observed deficiencies including pot holes, broken signs, wild life mortality, etc. and refined weather observations
- Historical playback feature confirms time stamped route completed
- Interface to maintenance management system to automatically generate service requests and work orders
Cameras

- Off the shelf
- Easily available
- Snap shot rate configurable
- Uses USB port
- Management quickly understands current conditions
# Engine Codes

<table>
<thead>
<tr>
<th>ENGINE CODES</th>
<th>SETTINGS</th>
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</thead>
<tbody>
<tr>
<td><strong>VIN:</strong> 137ZA8438TE173069</td>
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</tr>
<tr>
<td><strong>Idle Time:</strong> 0 Hrs 6 Min 32 Sec</td>
<td><strong>Cumulative:</strong> 0 Hrs 42 Min 34 Sec</td>
</tr>
<tr>
<td><strong>Run Time:</strong> 6 Hrs 12 Min 18 Sec</td>
<td><strong>Cumulative:</strong> 12 Hrs 16 Min 24 Sec</td>
</tr>
<tr>
<td><strong>Odometer:</strong> 32,508</td>
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<tr>
<td><strong>Miles this session:</strong> 189</td>
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</tbody>
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**Enter Truck's Odometer:**

[Set]
Route Optimization – Map View

- Displays turn by turn instructions for full route
- Color coded actions
  - Blue – Spreading
  - Green – Deadheading
  - Red – Plowing
- 7 Zoom levels
- Text to speech
Mobile Machine Maintenance

- Tracks use of equipment
- Geo-location
- Utilization rate
- Service alerts by text message and email
Incident Management Unit

- Tracks emergency response vehicles
- Geo-location on map display
- Dispatch vehicle to new location
MDC as an Integrated ITS Technology

- Open Standard
- Integration with TMC
- Combined fleet and traffic management
- Works with any NTCIP compliant central software
Questions?

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