Video Detection Experts

Over 100,000 traffic video detection cameras installed worldwide

Internationally known ITS consulting and manufacturing organization
  – Founded in 1987
  – Over 250 employees in 20 offices worldwide

ISO 9001 Certified

Excellent customer support
  – A.E. Traffic, Toronto (Eastern Canada)
  – Interprovincial, Vancouver (Western Canada)
Recent years have seen rapid product expansion

- Many Iteris “Firsts”
- Significant product improvements, new accessories, tools
Recent Product Developments

- Iteris continues to develop new products around our core competency – video detection
  - Vector radar/video hybrid, Bike Discrimination, Span Wire
What is Video Detection?

- Camera looking at a field of view
- Video image is fed into image processor
  - At cabinet or TMC
- Processor makes decision
- Decisions are output to GUI or controller
Benefits of Using Video Detection

- Non-intrusive technology
- Cost effective
- View live traffic remotely
- Excellent performance
- Video is truly a “GREEN” product
  - No pavement destruction
  - Improved traffic flow to reduce travel time = fuel savings, pollution reduction
- Some weaknesses
  - “Can’t see it, can’t detect it.”
  - Occlusion, heavy fog, heavy snow
Applications of Video Detection

- Presence Detection
  - Stop Bar
  - Advance Detection
  - Adaptive Control
- Bicycle Detection/Discrimination
- Automated Incident Detection
- Data Collection
  - Turning Movement Counts
  - Count, Speed, Occupancy (CSO)
  - Classification
  - Bicycle Count
## Iteris’ Roadway Sensors Portfolio

<table>
<thead>
<tr>
<th>Application</th>
<th>Iteris Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>Wide Dynamic Range Camera, Edge Processors, EdgeConnect, Vantage Vector</td>
</tr>
<tr>
<td>Small Intersections</td>
<td>VersiCam</td>
</tr>
<tr>
<td>International</td>
<td>VersiCam, Edge Processors, Pico</td>
</tr>
<tr>
<td>Management Software</td>
<td>Vantage View</td>
</tr>
<tr>
<td>Incident Detection</td>
<td>Abacus</td>
</tr>
<tr>
<td>Data Collection</td>
<td></td>
</tr>
</tbody>
</table>
Iteris Advanced Algorithms

- Algorithms are the “brains” of the video detection - embedded in processors
  - Iteris Core Competency
  - SmartCycle - bicycle discrimination
  - SmartSpan – moving detection zones due to span wire installation
  - Data Collection
- Abacus - Incident Detection and Data Collection
SmartCycle – Bicycle Discrimination

Innovation for better mobility
SmartSpan – Span Wire Installation
- All the Power of Proven Iteris Video Detection Plus...
  - Dynamic dilemma zone detection
  - Richer count, speed and occupancy data
  - Precise vehicle location and speed data for new safety applications
How Vector Works

Over 180 m (600 ft.)
Radar

120 m (400 ft.)
Video

Innovation for better mobility
Abacus – AID & Data Collection

- Real-time Automated Incident Detection and Data Collection solution
- Software resides at TMC, processes any camera feed
- Uses existing traffic cameras
- Reports incident alarms
  - Snapshot and video
- Data collection
  - Volume, Speed, Occupancy, Classification
How does Abacus work?

- Advanced Video Algorithm
  - Optical Flow Technology
    - Frame to frame to frame
  - Background Differencing
    - What’s different
Incident Detection Functions

- Stopped vehicles
- Wrong-way vehicles
- Slow vehicles
- Roadway debris or lost cargo
- Pedestrians
Incident Video Capture

Innovation for better mobility
Abacus Data Collection Functions

- Volume
  - Lane-by-lane
- Average Speed
- Occupancy
- Vehicle size classification
  - 5 different types
Input / Output Interfaces

- Vantage Cameras
  - Configurable time bins
  - Speed
  - Occupancy
  - Classification

- Additional features
  - Classification

Innovation for better mobility
Operational Benefits of Video Detection

- **Intersection Detection**
  - Many zones, many lanes
  - Large detection region

- **Automated Incident Detection**
Maintenance Considerations

- Vantage Cameras
  - Low maintenance
  - Standard preventative maintenance
    - Lens cleaning
    - Firmware updates
  - Easy zone movement during roadway config changes
Maintenance Considerations

- Abacus
  - Low maintenance
  - Initial set-up and configuration time period for “fine-tuning”
  - Monthly review of camera position and set-up is recommended
  - PTZ cameras can be problematic if continually moved
Deployment Costs

- **Vantage Cameras**
  - Assume power and
  - Rack systems
  - Live Video at TMC
  - Configure zones from TMC

- **Abacus**
  - Assume traffic cameras already
  - Offered and
  - Additional
  - Infratec
  - Leases (if desired)

Innovation for better mobility
Success Stories

- **Video Detection**
  - Cost reduction for loop replacement
  - Bicycle Detection without hardware
- **Span-Wire**
  - Florida - Reduce false calls by 80+% 
- **Vector – radar/video hybrid**
  - Texas - high-speed approaches for collision avoidance
Abacus Tunnel Operations - Chile

- Install dates 2011 to present
- 2 tunnels, 2 bores in each tunnel
- Distance
  - Lo Prado Tunnel – 1.7 mi
  - Zapata Tunnel – 0.6 mi
- 68 Camera Feeds
  - 44 in Lo Prado Tunnel
  - 24 in Zapata Tunnel
- Customer’s Perception of Value
  - Complying with government mandate for AID
  - Reducing incident response times
  - Operator support – not needing to watch screen all day frees up operators for other tasks
Iteris Product Line

- Video Detection for Intersection Control
  - Vantage Vector – Combines radar and video
  - Vantage WDR
  - Wireless Versicam
  - Edge2 Processor
- VantageView Management Software
- IterisPeMS
  - Performance Measurement System
- Vantage Velocity Travel Time System
Thank You

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