

Presentation To:

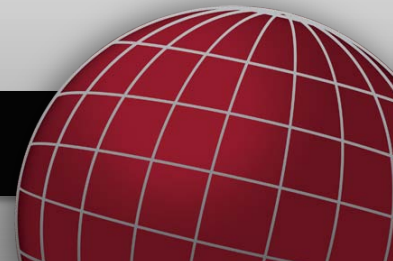
TEAMFL

January 20, 2011



Bruce Roesner, PhD

CTO

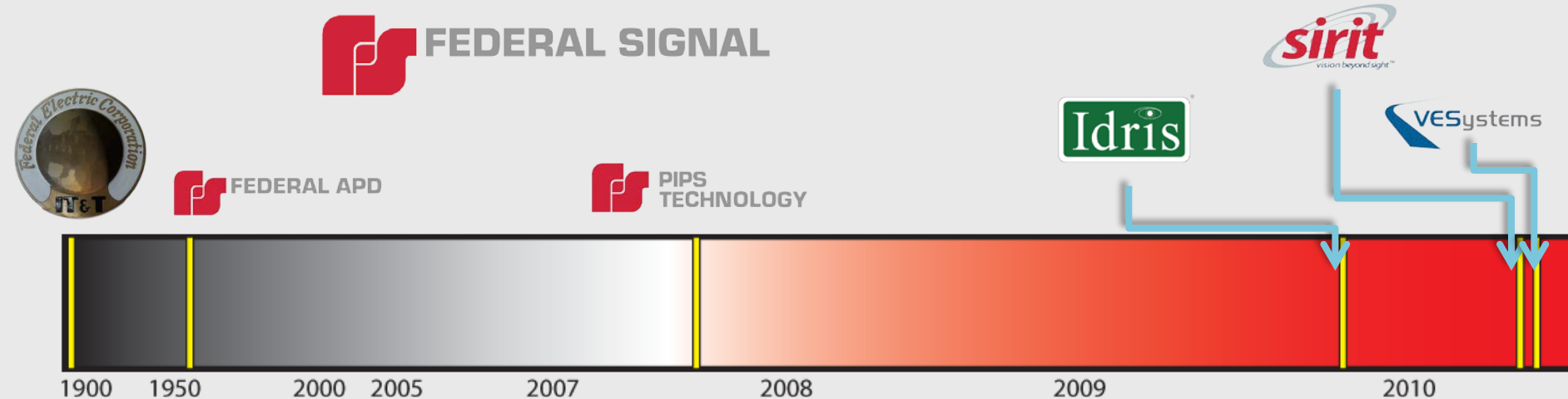


About Federal Signal Technologies

- New division of Federal Signal Corporation, formed to provide Intelligent Transportation Solutions
- Made up of companies experienced in Electronic Tolling, Parking and ITS technology and services
- Agile, experienced with a customer-first attitude
- Parent company is a 100+ year Illinois company
- Based in Irvine, CA

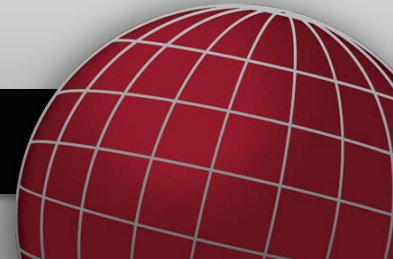


Federal Signal Technologies



Dates of Acquisition

- **FAPD (parking - founded as subsidiary)** 1953
- **PIPS Technology (cameras)** August, 2007
- **Diamond Consulting (Idris lane controller)** December, 2009
- **Sirit (RFID system)** February, 2010
- **VESystems (back end systems)** March, 2010

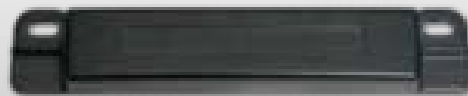


Sirit

- Market leader in RFID technology
- Products deployed in:
 - Electronic Tolling
 - Electronic Vehicle Registration
 - Parking & Access Control
 - Logistics
- More than 16 years of RF expertise addressing multiple frequencies, multiple protocols & compliance with global standards



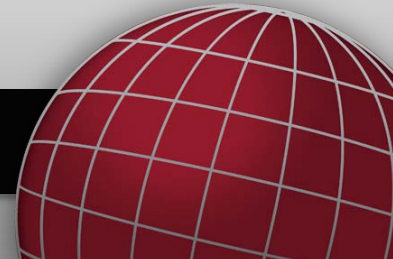
Windshield Tag



License Plate Tag



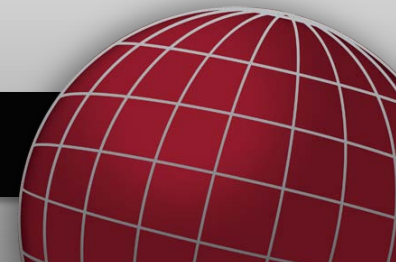
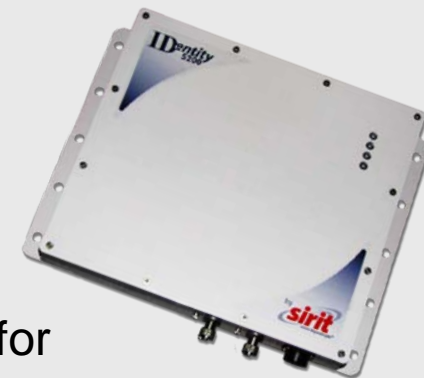
Windshield Tag
w/Replaceable Battery



Innovations

Multi Protocol RFID Reader

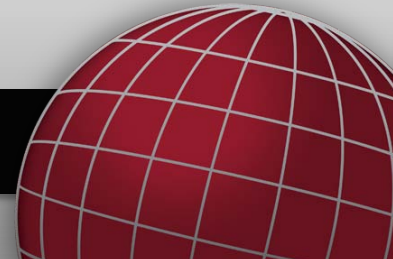
- Ability to read legacy tags dictates multiple protocol reader
 - ISO 10374 (ATA) – Mixed throughout the world, Texas, & railways
 - Title 21 for Western US
 - ISO 18000-6B and its derivatives for Southeast US (Sirit logistic readers incorporated 6B protocol prior to 2004)
 - IAG for Northeast US (presently being added)
- Reader can embed any number of protocols (6 presently)
- Enhanced ISO 18000-6B, IAG, and ISO 18000-6C required for East corridor (I-95 from New York to Florida)



ISO 18000-6C Implementations

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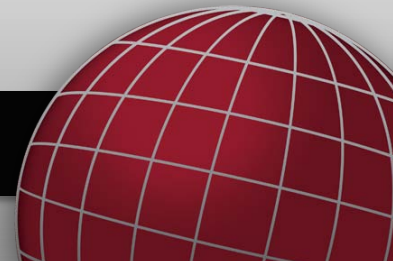
- More than 800 lanes installed in 10 countries, more than 10% are ORT
- Successfully handling 5 different protocols today
- Proven multilane multiprotocol operation at **155 MPH**
- Installation of ISO 18000-6C ETC systems since January 2009
- Successfully worked with over 20 System Integrators illustrating the flexibility of the FST product line/install team
- We continue to install new and convert legacy installations (presently scheduled for 1,000 lanes in 2011)



ISO 18000-6C Advantages

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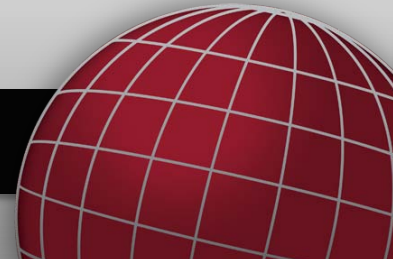
- Not proprietary
- Protocol enhancements to address deficiencies in various legacy protocols
 - Increased user memory
 - Improved anti-collision
 - Secure access via password
 - Cover-coded access commands
- Higher sensitivity than legacy passive tags leads to improved range and/or lower operating RF power
- Higher speed communications between the reader and tags allows transfer of more data, larger number of tag access operations, or reduced transaction time



ISO 18000-6C Advantages (cont')

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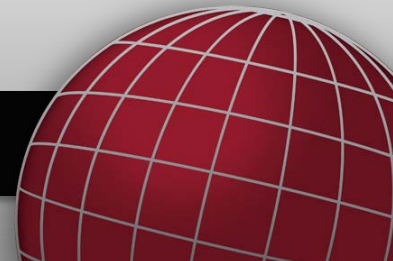
- Physical layer designed for dense reader environments leads to easier deployments
- Widespread usage worldwide leads to lower costs than legacy solutions and long term availability
- Many sources for both tags and readers (competition)
- Class selection available (screen unwanted tags)
- Features such as higher security (Hummingbird, AES 128, etc.) continuously being added
- Full capability to satisfy the needs of EVR, VMT, parking, and Congestion Pricing – new revenue options for agencies/states
- Interoperability path



Passive UHF Advantages

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- Lower cost components equates to lower cost readers
- Lower cost tags
- Longer life due to no battery – reduce operation costs
- Allows for above the lane or lane side reader installation
- Large selection of commercially available antennas for narrow or wide beam width
- Variety of tag construction and mounting options
- Phase shift detection
 - Speed determination
 - Position determination



Summing Up

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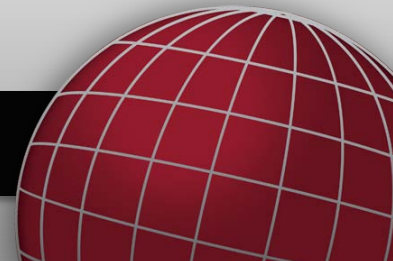
Federal Signal Technologies provides a new RFID system capability to the ETC market – unique price/performance position.

- Customer-Focused
- Best of Breed Technology
- Open Architecture
- Interoperability



www.fstech.com

<http://www.youtube.com/watch?v=o9Tos8jKaAw>



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