Lift Truck Management For All:

Newest Generation of Wireless, Cloud-hosted Technology is Easier to Buy, Install, Scale, Support, And Sustain

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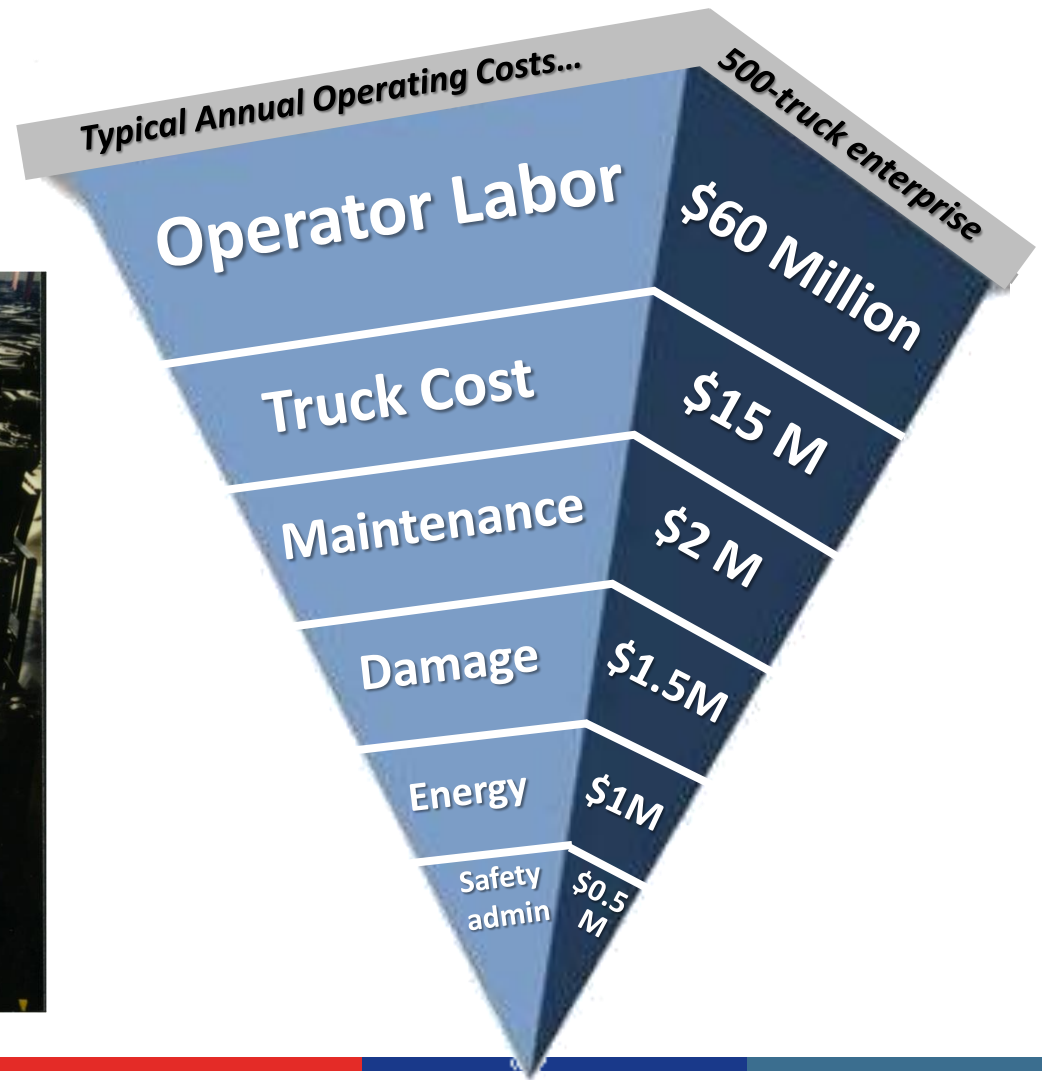
Review: What is VMS?

- Wireless **V**ehicle **M**anagement **S**ystem for industrial truck fleets

    o Operator access control

    o Electronic safety checklists

    o Impact sensing/management

    o Utilization reporting

    o Text messaging

    o Location tracking

    o Travel loaded vs. deadhead

    o Other vehicle/operator metrics & productivity tools

Wireless Vehicle Management System: Basic Concept of Operations

Vehicle-Mounted Device

Communication Node

Wireless Transmissions

Network

Network

Facility Computers

Server

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Review: Why VMS?

Typical Annual Operating Costs...

500-truck enterprise

Operator Labor	$60 Million
Truck Cost	$15 M
Maintenance	$2 M
Damage	$1.5M
Energy	$1M
Safety admin	$0.5 M

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Review: Proven VMS Benefits

- Best practice for workplace safety
- Reduce damage costs
- Reduce maintenance costs
- Increase productivity
- Wide Fortune 500 adoption, e.g.
  - World's largest retailer
  - World's largest CPG company
  - World's largest food producer
  - World's largest auto maker
- Typical cash flow positive <1 year

Case Study

Wal-Mart Spearheads Another Best Practice in Supply Chain Ex
Vehicle Management System

Wal-Mart Stores, Inc. is the world's largest retailer, with nearly 6,500 stores and whole-sale clubs across 13 countries, more than 1.9 million associates worldwide, and revenue of more than $312 billion in fiscal 2006. The company has been termed "most admired retailer" by FORTUNE magazine.

Wal-Mart also enjoys a reputation as a leader in supply chain technology and efficiency. It invented the practice of sharing sales data via computer with major suppliers and has been a global innovator in the use of wireless technology—warehouse management systems (WMS) and radio frequency (RF) data communication systems, for example—to track and manage the flow of goods though its distribution centers.

Finally, because industrial vehicles are expensive to acquire and maintain—significantly more expensive than the average passenger car—Wal-Mart wanted to understand how an industrial vehicle management system might reduce the capital and operating costs associated with its fleet.

"Wal-Mart's choice was an application-specific wireless system from I.D. Systems"

System Requirements

Wal-Mart developed a list of required and desired functions for the "ideal" industrial vehicle management system.

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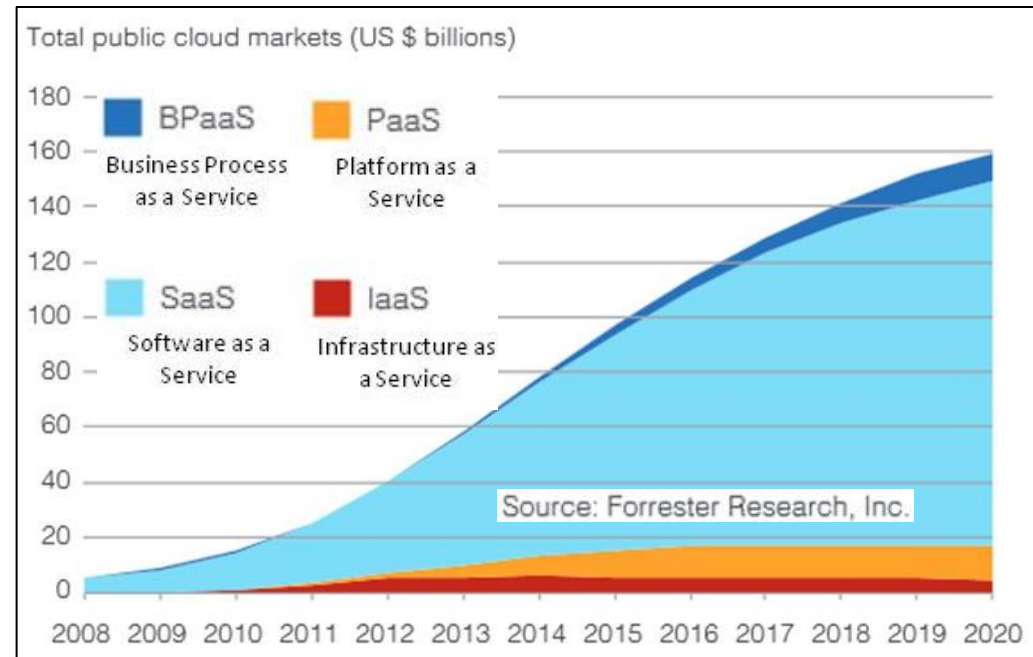promatshow.com
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So Why Hasn't Everyone Rolled Out VMS?

- Budget issues
  - o Initial investment needs high-level approval, cost justification

- Technical issues
  - o IT gatekeepers, Wi-Fi security, bandwidth, RF interference, etc.

- Implementation issues
  - o Internal resource limitations, vendor support limitations

- Installation issues
  - o Wiring to mixed truck brands, complex configuration, data validity

- Support issues
  - o Sustainable quality (e.g. impact false alarms), transferring hardware to new trucks, software/firmware upgrades

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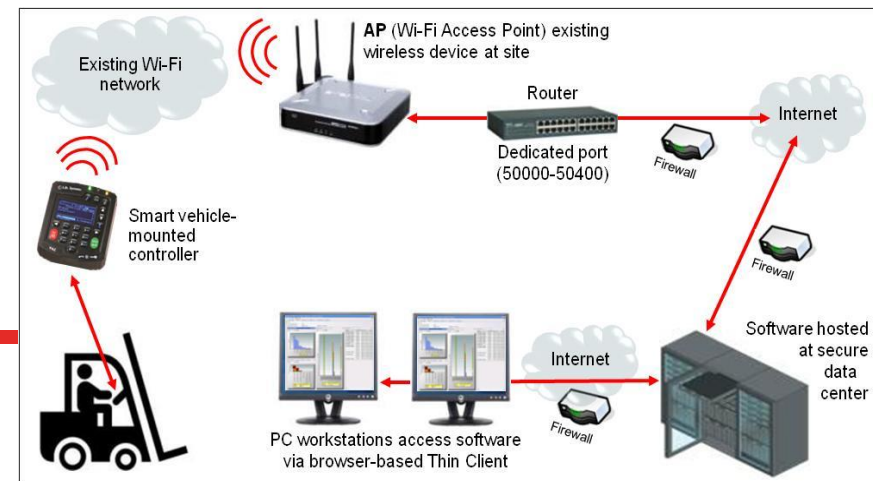March 23-26, 2015
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VMS-as-a-Service Emerges to Address Issues

- Global trend moving information technology to cloud

- Secure data center

- Customer owns data

- Centralized support

- Web-based software

- Easy upgrades

- Access to data Analytics

- Integrated with new generation of hardware

Total public cloud markets (US $ billions)

BPaaS — Business Process as a Service
PaaS — Platform as a Service
SaaS — Software as a Service
IaaS — Infrastructure as a Service

Source: Forrester Research, Inc.

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How VMS-as-a-Service Works

- Service-centric model simplifies budgeting
  - Low Initial investment
  - Flat service fee, fixed over variable term (pay as you go)
  - Lower TCO over term, easier ROI justification

- Architecture flexibility eliminates technical issues
  - Secure Wi-Fi, UHF, or cellular communication options
  - Leverages local network, or stays off it completely
  - Eliminates IT roadblocks
  - Eliminates issues with Wi-Fi security/bandwidth/interference

Existing Wi-Fi network

AP (Wi-Fi Access Point) existing wireless device at site

Router

Dedicated port (50000-50400)

Firewall

Internet

Smart vehicle-mounted controller

Firewall

Internet

Firewall

Software hosted at secure data center

PC workstations access software via browser-based Thin Client

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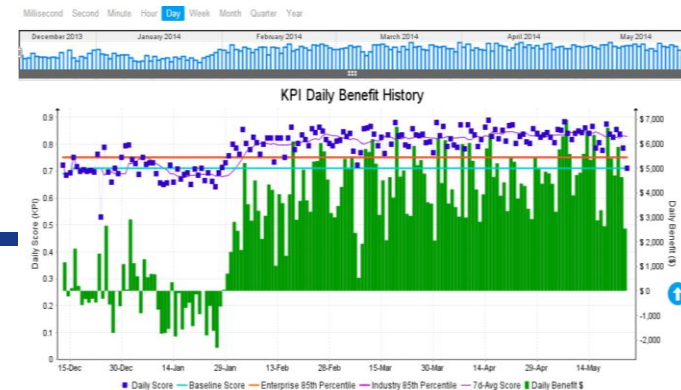# How VMS-as-a-Service Works

- Latest generation of VMS hardware simplifies installation/ implementation, integrates with cloud-based systems

  o Installs in as little as 1 hour per vehicle on any brand truck

  o Dedicated cabling/CAN-bus data integration with many truck brands (Toyota, Raymond, Linde, Still, Jungheinrich, etc.)

  o Install Wizard guides process, ensures accurate data

  o Impact sensor sets itself, recalibrates automatically to reduce false alarms and sustain effectiveness over time

  o Intrinsically safe to meet UL 583/558 standards for EE/ES industrial trucks

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How VMS-as-a-Service Works

- Cloud-hosting optimizes solution quality & sustainability
  - o Centralized database enhances automatic system diagnostics and improves technical support/troubleshooting
  - o Centralized software makes upgrades easy and painless
  - o Remote, wireless, unattended firmware upgrades keep devices current with system advances
  - o Hardware transfer to new trucks automated via software process
  - o Failsafe data backup process executed automatically
  - o Access to Enterprise and Industry Analytics data simplified
  - o Hosting, licenses, support, maintenance all integrated under single fixed-fee, fixed-term service contract

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Key Takeaways

- Wireless VMS technology for industrial truck fleets has joined the global trend of 'platform-as-a-service'

- VMS-as-a-service makes acquisition easier, with lower initial investment, lower TCO, easier ROI justification

- Cloud-based VMS is easier to implement than site-centric VMS

- VMS on-vehicle hardware has become much simpler to install, configure and use, integrated with cloud-based software

- VMS-as-a-service simplifies support, upgrades, and scalability across an enterprise, with consistent, sustainable quality

For More Information:

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Or visit ProMat 2015 Booth 3684