360° Smart Ticketing

Toofan Otaredian

Changing environment

- Growing competition among the transit operators
- Growing demand on the introduction of new and improvement of existing services
- Growing demand on the shortening of the time-to-market
- Growing demand on lowering the capital and operational expenditure

Conventional solutions no longer address these requirements

TRANSPORT
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Telexis
Solutions

How to cope?

- Providing hardware independent solutions

- Providing open architecture and interoperable solutions

- Providing solutions that can incrementally grow and co-exist within the customer's existing eco-system

- Providing solutions that make maximum reuse of the existing eco-system instead of replacing all

- Addressing the current requirements and being ready for the "unknown" future requirements

- Providing 360° transit solutions

- Maximum compliancy to ITxPT standards

Telexis Solutions

- A pioneer in the field of Electronic Ticketing
- A major player in the realization of the national Electronic Ticketing infrastructure of the Dutch transit vertical
- The provider of proven hardware independent transit solutions
- Taking the business requirements of the operators as the basis instead of imposing own solutions upon them
- Implementation through an agile, incremental and controllable approach and involving the customer in each step
- Not only a vendor but also a partner to the transit operators
- Access to the extensive complementary proven solutions within the Enghouse group of companies

Challenges of the transit operators

- Multiple suppliers for Intelligent Transportation Systems within the vehicles
- Managing the suppliers during the implementation and maintenance phase (with the associated risk that they point the finger to each other in the crises)
- A large variety of hardware configurations (wiring, connectors, etc.) of each solution
- Proprietary interfaces with the associated integration issues
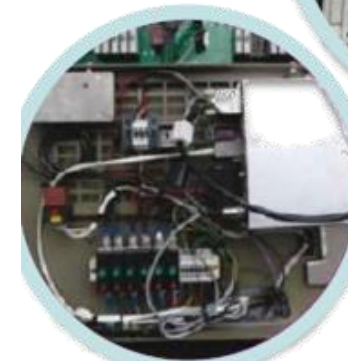- Redundancies (antennas, screens, …) with the associated significant unnecessary additional costs

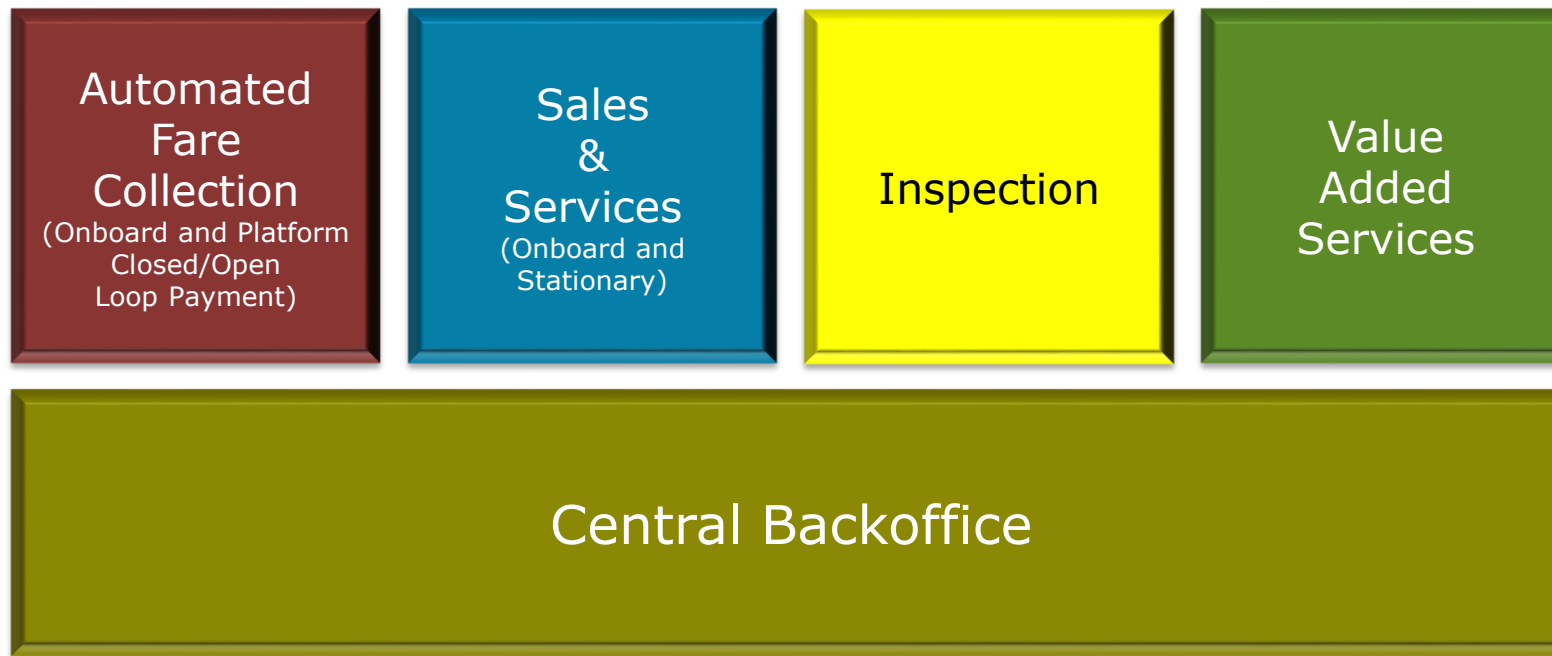Lots of antennas

Various volumes

Difficult access

Multiple wires

Many connectors

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Telexis Solutions Enghouse Systems

Our vision and capabilities

- 360° Portfolio
  - Providing AFC Solutions (on-board/platform/gate)
  - Providing Sales and Services Solutions (on-board/stationary)
  - Providing Inspection Solutions
  - Providing Value Added Services Solutions (parking/loyalty/etc.)
  - Providing Fleet Management Solutions
  - Providing the corresponding scheme related Backoffice and enterprise solutions (ex. Planning and Scheduling)
- 360° Approach
  - One lead supplier
  - Enabling maximum synergy among the solutions
  - Providing cost effective, reusable and scalable solutions
- Constraints
  - Compliant with the national as well as open-loop schemes
  - Maximum ITxPT compliancy

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Telexis Solutions

Telexis Solutions

Automated Fare Collection
(Onboard and Platform Closed/Open Loop Payment)

Sales & Services
(Onboard and Stationary)

Inspection

Value Added Services

Central Backoffice

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Telexis Solutions · Enghouse Systems

Telexis Solutions

Extension to 360°

Automated Fare Collection (Onboard and Platform Closed/Open Loop Payment)	Sales & Services (Onboard and Stationary)	Inspection	Value Added Services

- Fleet Management (CAD/AVL)
- Fixed Route & Demand Response Scheduling & Dispatch
- Driver Management
- IVR/SMS/E-mail for Fixed Route
- Demand Response
- Operator and Farecard Information
- Coach and Tour Operations Mgt
- …

Central Backoffice

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Telexis Solutions

Automated Fare Collection

- Innovative AFC technology providing secure, automated transit fare collection and ticketing
- Convenient and user friendly ticketing solutions
- Support of different schemes and fare tariff structures
- Hardware independent
- Utilizing smartcards, EMV contactless and (mobile) barcode
- Advanced monitoring and remote assistance capabilities (Heartbeat 360)

Backoffice Solutions

- National central Backoffice for security management, Configuration, transaction processing and monitoring of the touchpoint systems

Sales and services

- Cashless ticketing sales provided by driver console or ticket vending machine
- Facilitating service requests handled by transport operators employees

Synergy opportunities

- Driver console to be the platform for multiple applications
  - Paper ticket sales
  - Smartcard product sale/Top up
  - Automated Fare Collection central modules
  - QR code validation
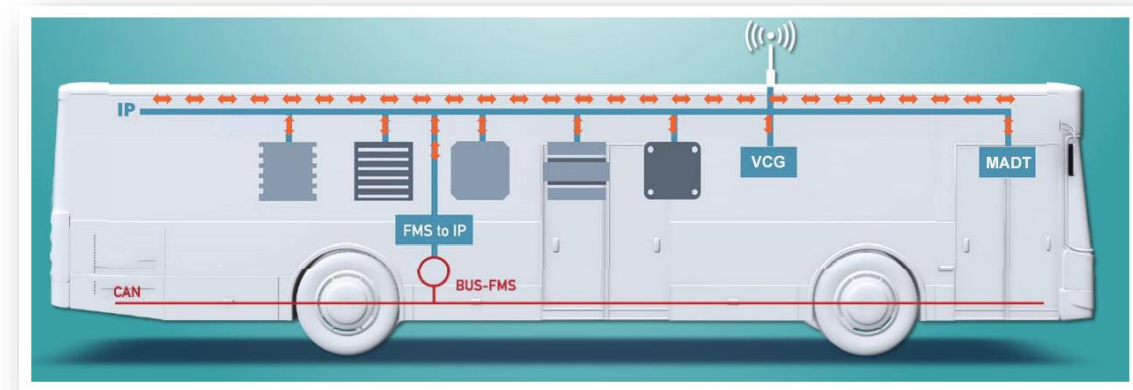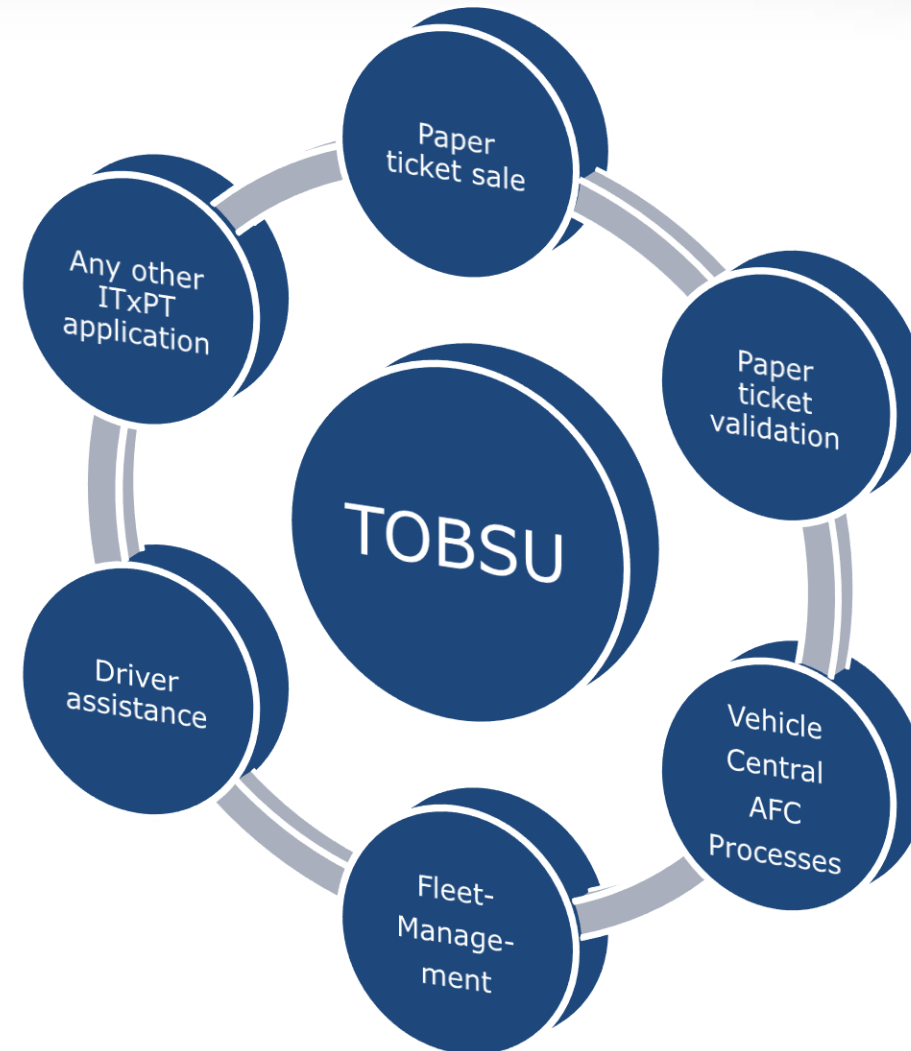 - Fleet management (CAD/AVL)

Advantages

- Single console for the driver
- Logical interfaces (between software modules on the same platform) instead of physical interfaces (wiring between different hardware components)
- Significant reduction of capital and operational expenditure
- Significant reduction of the deployment effort
- Significant reduction of time-to-market
- High level of flexibility

Our 360° approach

- Using a central component as the **MADT** (Multi Application Driver Terminal)
- Connecting vehicle interfaces to MADT
- Connecting the other proprietary interfaces to MADT (if required through an additional converter)
- Exposing the data services that are hosted on MADT to the other applications within the vehicle
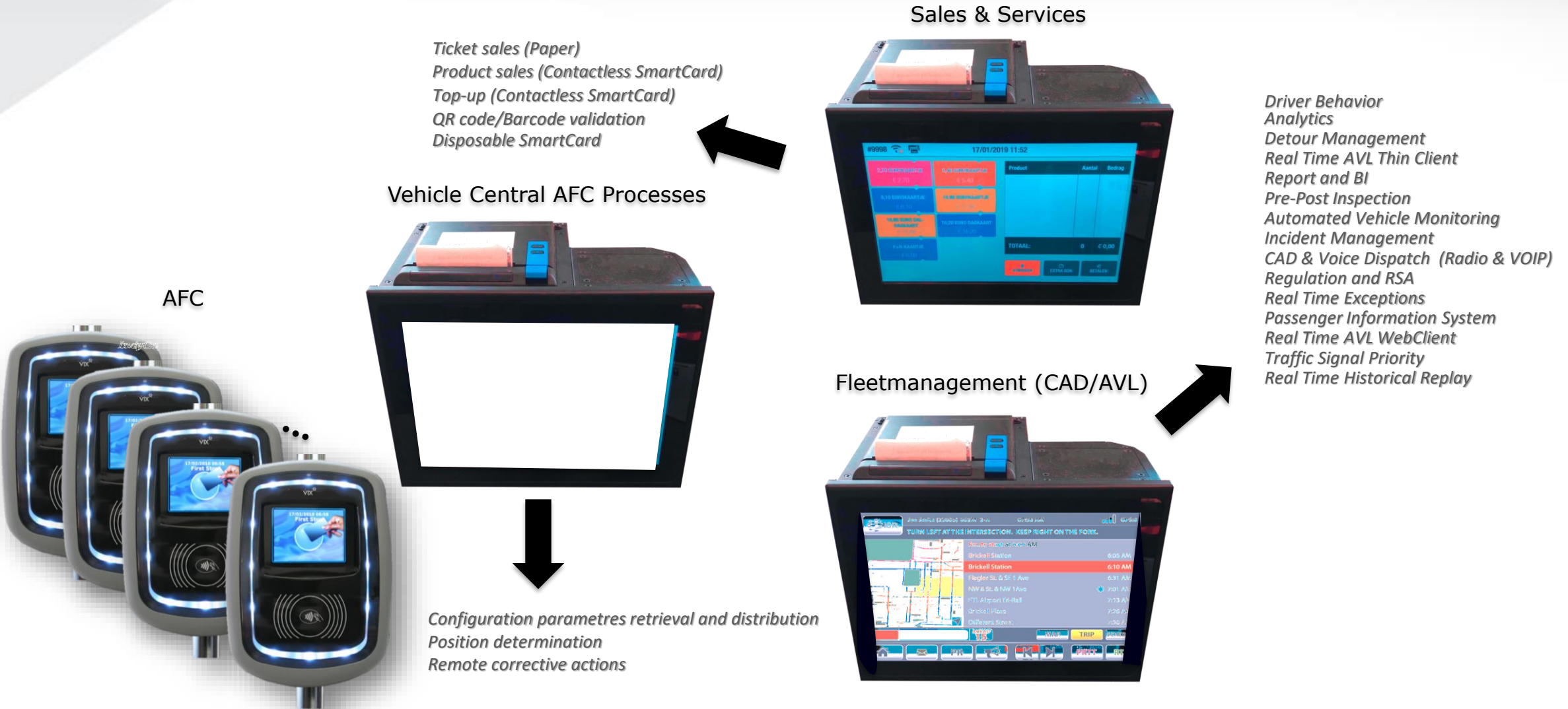- Ready to host future applications

Multi Application Driver Terminal

Integrated AFC-Fleet Management Solution

Sales & Services

Ticket sales (Paper)
Product sales (Contactless SmartCard)
Top-up (Contactless SmartCard)
QR code/Barcode validation
Disposable SmartCard

Vehicle Central AFC Processes

AFC

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Driver Behavior
Analytics
Detour Management
Real Time AVL Thin Client
Report and BI
Pre-Post Inspection
Automated Vehicle Monitoring
Incident Management
CAD & Voice Dispatch (Radio & VOIP)
Regulation and RSA
Real Time Exceptions
Passenger Information System
Real Time AVL WebClient
Traffic Signal Priority
Real Time Historical Replay

Fleetmanagement (CAD/AVL)

Configuration parametres retrieval and distribution
Position determination
Remote corrective actions

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Telexis Solutions — Enghouse Systems

Lego Approach

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