THE SUCCESS STORY OF AVM IN NAPLES

Aldo Paribelli – Service Operation Director – ANM, Naples (Italy)
Giorgio Ambrosino – MemEx, Livorno (Italy)

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Service operated under 2 different PT services contracts:
- with the Municipality for PT operation in urban area
- With the Metropolitan Council for PT operation in metropolitan area (18 different municipalities)

Some service figures:
- Network: 500 Km
- 110 bus lines, 2 metro lines, 4 cable railways, 4 escalators, 4 lifts
- 24,5 M Km/year (18,5 M Km for bus services, 6 M Km for metro)
- 125 M passengers/year, 3 M trips/year;
- Fleet: 650 vehicles (less on street), 52 trams, 85 Trolley
- 3.500 bus stops (600 shelters)

ANM is managing also the Parking system:
- 23.000 on-road lots, 20 parking infrastructures (5000 lots)
CRITICAL FACTORS FOR PT IN NAPLES

- Large Network with narrow streets,
  - 60% of roads over 3% slope;
  - Limited extension of dedicated lanes;
- Fleet with an average of more than 15 years (failures, etc.);
- High congestion, reduced commercial speed, violations in circulation,
- Budget constraints and reduction of personnel (-30% in 5 years!)

AVM OBJECTIVES:

- Fleet regulation
- Service reliability
- Driver and User Security
- Real-time info
- Decrease of operational costs
- Reporting performances vs contract
AVM SYSTEM

- Central system including 1 Control Room with 10 workstations, 6 operators in 2 shifts
- 600 on board systems
- 3 Radio Network Stations (up to 2011) now upgraded to GPRS/GSM
- 500 On-board Videocameras
- Infoservices (130 on road panels, by APP, Call Center)
- 1500 ticketing machines contact less+magnetic ticket

- AVM system contracted in 1998 and updated during the 2009-2013
- New buses fully equipped with ITS (AVM terminals, cameras, info display, ticketing machines, etc.)
- 5 different bus provider awarded;
- 4 different models of on-board systems. All integrated with the same control room
- Different Driver Operation Procedures for each board terminal type
REPORTING: Reporting and Dashboard

- Tool developed internally and customized to company’s requirements
- Web base application for the monitoring of services and fleet performance
- Data mining on info produced by 4 different systems: planning, assignment, AVM, vehicles maintenance

OPERATIONAL PROBLEMS
- Average 90% of vehicles correctly assigned and monitored
- Corrupted or wrong localization data
- System failures (2-4%)

IMPROVED DATABASE KNOWLEDGE covered at max 90% of data because ...
2 different Videocameras systems, with panic button to transmit live images to the operations center

Two different models integrated with the Control Centre

Precode signalization Driver-©Control Room

Allarm button directly connected with the Police
INFO SERVICES

“Gira Napoli” APP

ANM InfoBus

- Real time information on the trip (APP Gira Napoli and APP MOOVIT)
- Temporary line or trip cancellation
- Temporary line deviation
- Heavy problems on the network
- By subscription on the phone and for internal complaint management
ACHIEVED RESULTS AND CRITICS

- **Cost reduction**: The Centralized control allows to reduce the on-street resources by 150 vs the control room operators.
- **Optimization of operation**: Average 250 regulation actions carried out by Control Room.
- **Improved reliability**: 5% in 3 years.
- **Improved operational procedures** and staff interactions.
- **Development of internal capability** for system intervention. 8 high profile technicians.
- **High level of information to users**.
- **High security** perceived by the users.
- Possibility to increase automated collection of data for service certification.

- Organization requirements are still fundamental (at depot, qualification the bus, management of services variations, etc.).
- Technology obsolescence and difficulties in maintenance of the devices.
- Low standardization at technological and functional levels with cost and operation impacts (in ANM 4 different on-board terminal).
- Low capability of provider to follow the evolving needs of the Company. Lack dedicated resources for the maintenance phase.
- Relevant internal resources for managing and maintenance the AVM system.
For info or further questions on this workshop and the activities of the JASPERS Networking Platform, please contact:

JASPERS Networking and Competence Centre

jaspersnetwork@eib.org

www.jaspersnetwork.org