



PUBLIC TRANSPORT SOLUTIONS

Focus on Public Information Display (PID)

SWARCO PUBLIC TRANSPORT SOLUTIONS

Portfolio

SOLUTIONS FOR

Transport
Companies

SOLUTIONS FOR

Passengers

SOLUTIONS FOR

Authorities

REAL-TIME
PASSENGER
INFORMATION

MAINTENANCE

MONITORING AND
SUPPORT FOR
SERVICE
EXECUTION

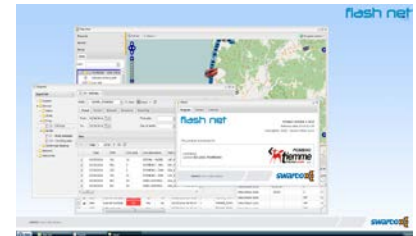
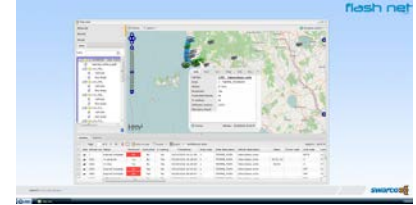
SERVICE
CERTIFICATION

SERVICE
SCHEDULING
AND PLANNING

SERVICE
REPORTING AND
ANALYSIS

SAFETY AND
SURVEILLANCE

CONCESSIONARY
CONTRACT
MANAGEMENT



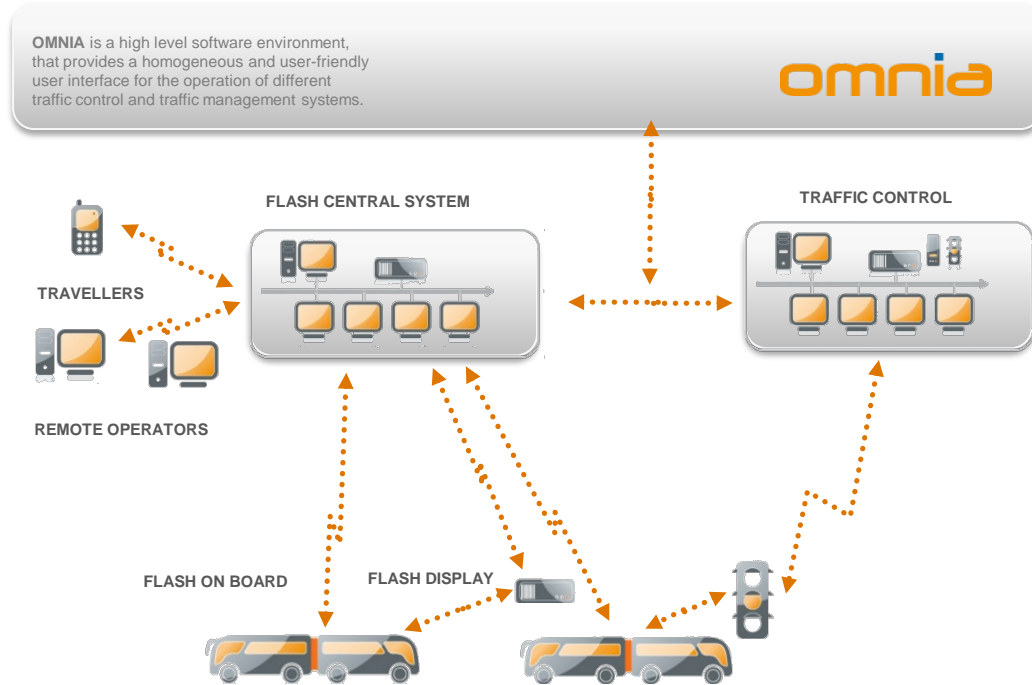
SWARCO PUBLIC TRANSPORT SOLUTIONS

Distributed architecture

CENTRAL

ON-BOARD

FIELD



YOUR
ALL-IN-ONE
SOLUTION

SWARCO PUBLIC TRANSPORT SOLUTIONS

FLASH-UTOPIA robust priority scheme

CENTRE TO
CENTRE

PRIORITY REQUEST
PROPAGATION

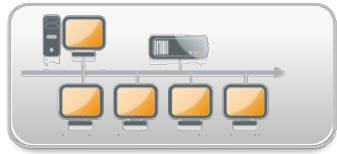
VEHICLE TO
INTERSECTION

PRIORITY REQUEST
PROPAGATION

INTERSECTION TO
INTERSECTION

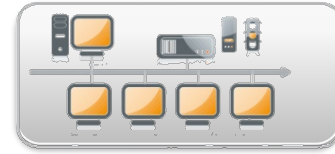
PRIORITY REQUEST
PROPAGATION

FLASH CENTRAL SYSTEM

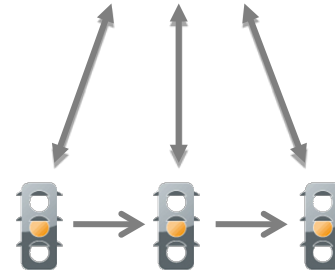


PRIORITY
REQUEST

UTOPIA TRAFFIC CONTROL



PRIORITY
REQUEST



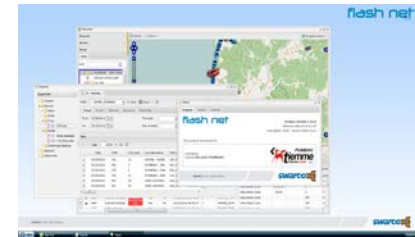
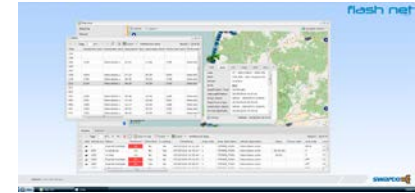
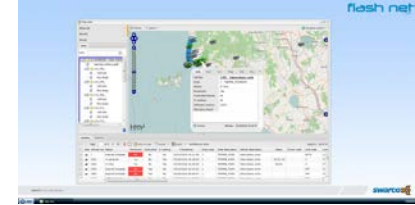
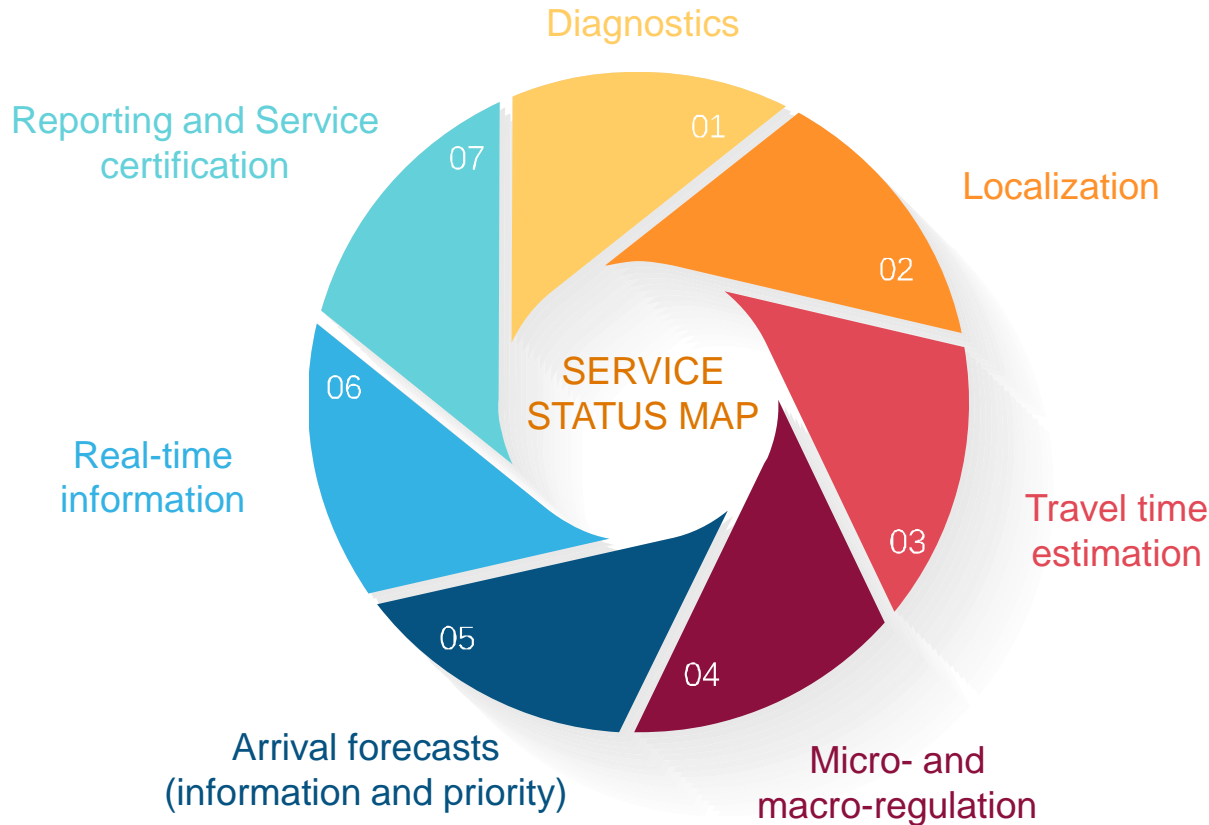
YOUR
ALL-IN-ONE
SOLUTION

BENEFITS FROM PUBLIC TRANSPORT PRIORITY

- › improvement of **service regularity**
- › increase of the **commercial speed by 28%**

SWARCO PUBLIC TRANSPORT SOLUTIONS

Full management chain





REAL-TIME INFORMATION
real-time events | forecast | trip planning



INFORMATION DISPLAYS

SWARCO PUBLIC TRANSPORT SOLUTIONS

On-Board Displays



SERVICE INFORMATION

1. EXTERNAL DISPLAY

2. NEXT STOP MESSAGE

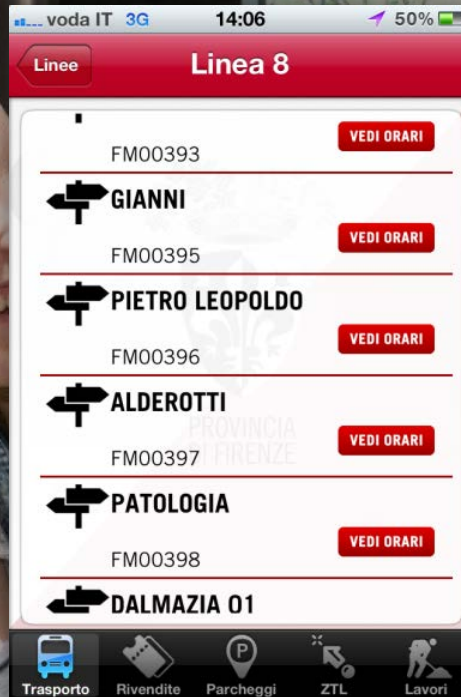
3. SHIFT



ADVANCED SERVICES FOR PASSENGERS

- › Personal devices
- › Web
- › Information kiosks





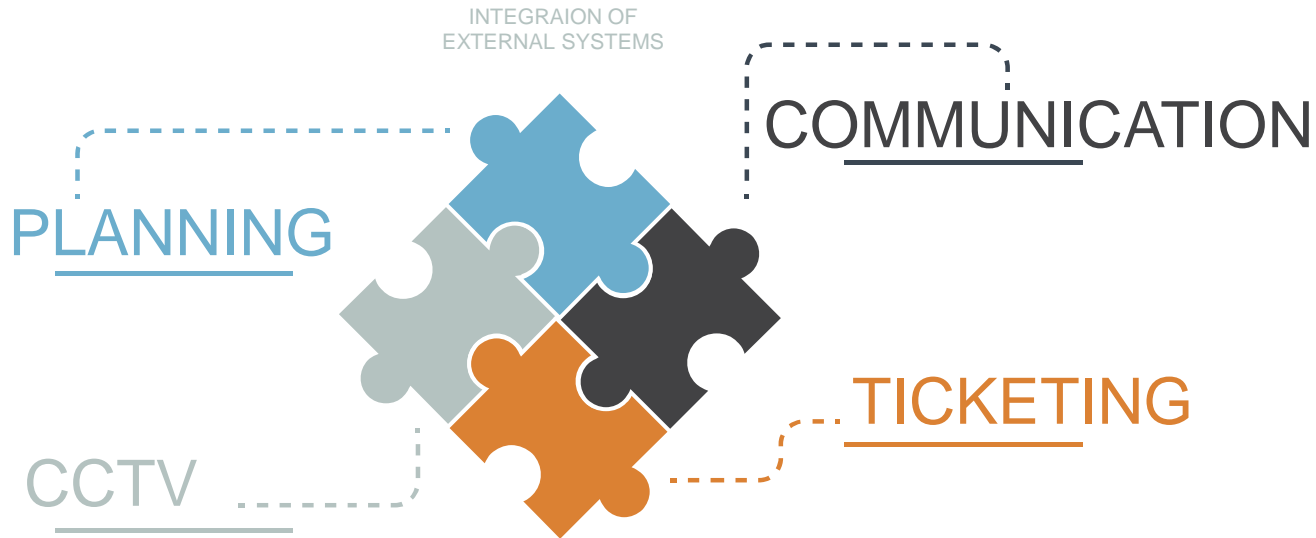
PT-INFO VIA WEB

SWARCO PUBLIC TRANSPORT SOLUTIONS

Integration of external systems

OMNIA is a high level software environment, that provides a homogeneous and user-friendly user interface for the operation of different traffic control and traffic management systems.

omnia



YOUR
ALL-IN-ONE
SOLUTION



1	MESTNI LOG	10 min
5	ŠTEPANJSKO NA	10 min
8	BRNČIČEVA	13 min 26 min
22	FUŽINE	11 min
25	ZADOBROVA	6 min

Public information display - PID

Real Time Public Information Systems

RTPIS



- Provides public transport services information in real-time
- Enables handling of information
- Enables dynamic display of information on electronic media
- Benefits the passengers

Public Information Display

General



➤ Well accepted solution

➤ Good visibility in all weather conditions

➤ Terminal, platform and individual stop display

Public Information Display

General



➤ Provides real-time information to the passengers

➤ Autonomous mode

➤ Smart units

➤ Improves transit experience

➤ Increases attractiveness of public transport

Public Information Display

Display types



- Multi line display type
- Full matrix display type
- Single sided version
- Double sided version
- RGB
- Fine pixel pitch (3 mm) RGB
PID display
- Electronic paper solution



Public Information Display

Optical characteristics



➤ LED color uniformity

➤ Wide reading angle from any direction ($> 150^\circ$)

➤ High luminance suitable for indoor and outdoor use

Public Information Display

Optical characteristics



- Reading distance is defined with character height
- Character matrix: 5x8 pixels
- Available character heights:
20, 32, 48, 64 and 80 mm
- Reading distances:
12, 18, 28, 38, 48 m
- Number of characters/line:
24, 32, 40, 48

Public Information Display

Mechanical characteristics



- Mechanical protection IP55
- Resistance to impact from outside IK09
- Ambient temperature range: -30°C to +50°C
- Humidity range: 5% to 95%
- Active ventilation unit
- Heating unit optional

Public Information Display Error Detection (ED)



- Externally triggered or automatic individual ED
- Position of broken LED
- Full or active pixel LED ED
- Automatic data line ED

Public Information Display

Communication Interface



Standard:

- Ethernet
- USB
- Serial RS-232, RS-422/485

Optional:

- GSM/GPRS
- Wi-Fi
- XBee

Public Information Display

Supported protocols



- SWARCO LEA "pJ"
- SWARCO LEA ASCII-POLI
- Linaria
- FLASH
- http/xml
- Other protocols on demand...

Public Information Display

Audio Announcement



- Enables blind and visually impaired to receive information
- Function triggered via a push-button
- Pre-recorded voice announcement
- Text-to-speech voice announcement

Public Information Display

Main features



- High quality components used
- Long life expectancy
- Excellent readability angles in any weather and light conditions
- Same design for variety of display sizes
- Robust enclosure
- Easy and fast maintenance access

Public Information Display

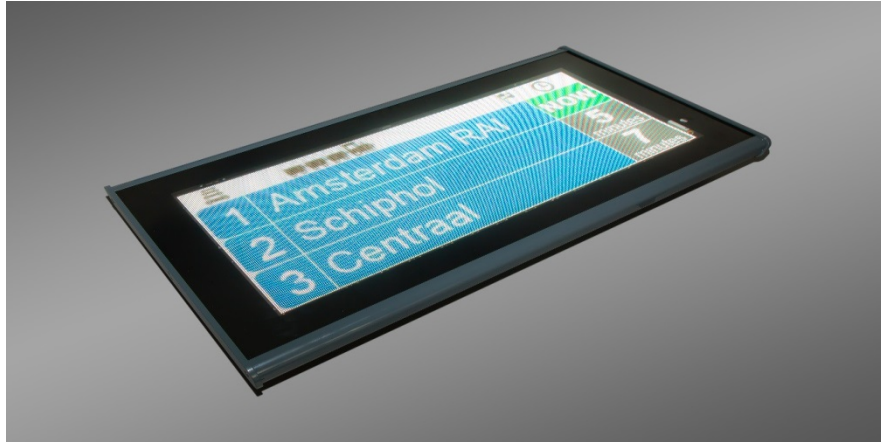
3mm fine pixel pitch RGB display



- 3 mm pixel pitch (64x32 LED module)
- All the advantages of SWL PID
 - Best optical properties in the market with less power consumption
 - Highest grade electrical components
 - Error detection
 - Unique technology (connection boards)
 - In-house development

Public Information Display

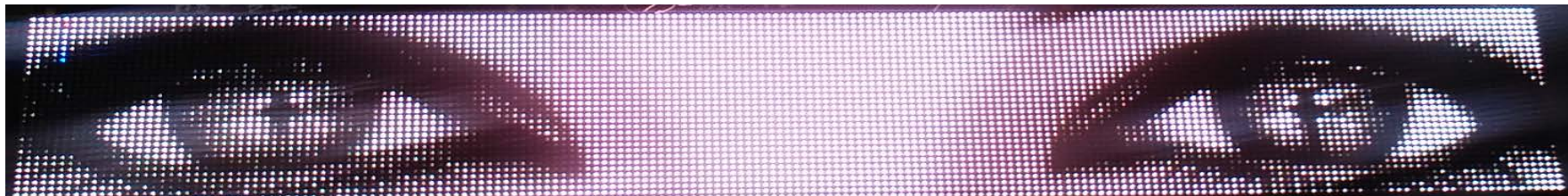
3mm fine pixel pitch RGB display



- Indoor solution for outdoor
- Interchangeable parts
 - LED modules (LEDs)
 - Housing
- Animations
- Video capability (advertising)

Public Information Display

Sample pictures @ 192x32 pixels

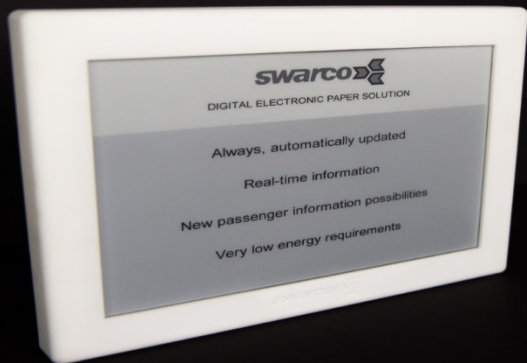


Public Information Display

Electronic paper solution



- ECO (self sustainable)
- Colour and B/W
- Dynamic / static information
- Excellent readability in direct sunlight
- No protocols needed
- Seamless integration into existing systems
- Wi/Fi, 3G and Ethernet



Thank You