

INFODEV

Electronic Designers International



KEEP TRACK OF WHAT MATTERS

AUTOMATIC PASSENGER COUNTING SOLUTIONS

For Buses, Trains, Trams, Subways, Platform Doors and
Stations



INFODEV offers a complete Automatic Passenger Counting solution for public transport agencies, integrators, operators, and builders.



Ridership



Ins & Outs



Historic Data



Real-Time Data



Bus Location



Train Location



Energy Analyzer

INFODEV, THE LEADING PROVEN TECHNOLOGY

In operation since 1993, Infodev EDI is the world's leader in direct counting data accuracy in the Automatic People and Passenger Counting Systems industry. Infodev EDI is a turnkey supplier working with public transport agencies, integrators, operators, and vehicle builders. Our headquarters and production facility are located in Quebec City, Canada, with a regional office in Europe.

Infodev EDI is renowned for its cutting-edge technology and dedicated team of professionals. **Infodev EDI's Automatic Passenger Counting systems have achieved many times a verified counting accuracy between 97.5% and 99.5% in trains and buses without applying any correction factors.** Infodev EDI sensors are integrated into an ultra-compact aluminum bar. Infodev EDI offers TCP/IP/PoE and high-performance wireless technologies, thus keeping all antennas inside the vehicles and eliminating a significant amount of costly cabling in vehicles. **The result is a high-accuracy, independent or fully integrated, lightweight, rapidly installed, and easily maintained Automatic Passenger Counting system.**

New and exciting technologies are currently emerging in Infodev EDI's Innovation Labs. Contact our sales team today to learn more.

TRUSTED BY:

porterbrook 



SIEMENS

INNOVATION
 HUB

ETS
Edmonton Transit System


NEW FLYER



icomera

And many more...

INFODEV POSSESSES CUTTING-EDGE EXPERTISE IN ALL THESE SPECIALTIES:

SERVICES



PROJECT
MANAGEMENT



INSTALLATION



TECHNICAL
SUPPORT



TRAINING

PRODUCT DESIGN, DEVELOPMENT, AND PRODUCTION



ELECTRONICS



OPTICS



MECHANICS



FIRMWARE



APPLICATION
SOFTWARE



PLANNING YOUR FUTURE AUTOMATIC PASSENGER COUNTING (APC) SYSTEM

The acquisition, installation, and commissioning of a new Automatic Passenger Counting system require adequate preparation and supervision. Infodev EDI's dedicated and knowledgeable staff will gladly assist you with the design and implementation of your project and provide you with successful outcomes. In the early stage of a new project, they can help you to:

Step 1

Survey and study the physical particularities of your vehicles and infrastructure;

Step 3

Develop a budget and a schedule;

Step 2

Plan your APC-related IT systems, interfaces, and reports;

Step 4

Review applicable standards.





APC DATA MEETS TRANSIT BUSINESS INTELLIGENCE

Our APC systems provide two data types, depending on your selected system architecture. With our classical APC system, you get Historical Data, perfect for analysis and reporting. With our enhanced APC system, you get Real-Time Data that empowers you to improve your passengers' experience.



HISTORICAL DATA



Accurately track ridership over time.



Create accurate annual ridership reporting.



Provide actionable information to decision-makers.



REAL-TIME DATA



Communicate vehicle occupancy and location to passengers.



Track service on-time performance and share vehicle status with users.



Monitor vehicle positions to identify bus bunching.

From Granular to Macro Data



Temporal

Year
Season
Month
Week
Day of the week
Time period



Geographical

Division
Route
Direction
Trip
Every stop



Logistic

Mode
Service type

CONNECT WITH EXISTING TOOLS

Use Infodev API to access your APC data into existing software and apps.

Infodev EDI's API simplifies the software integration while providing highly accurate results adjusted to transit schedules and overall operations.

Using our API means easy access to all the necessary data to create beautiful and user-friendly apps for users from operations employees to transit passengers.





On-time
Performance



Bus
Bunching



Time
Deviation



Schedule Adherence & Operations

Analyze your schedule adherence, productivity, and maintenance needs.



Passenger per
Revenue Hour



Sensors
Status



Passenger
Mile



Ridership & Occupancy

Calculate your ridership and occupancy levels.



Ins-Outs
(Ons-Offs)



Average
Ridership



Overcrowding
Detection



Total
Ridership



Occupancy
Levels

Governmental Ridership Reporting

Transit agencies and operators worldwide are increasingly relying on our APC data for Governmental Ridership Reporting.

Automatically collected and processed ridership data makes your reporting effortless.



NTD

For our USA clients, our data is qualified for NTD reporting.

AIMING TOWARDS SUSTAINABILITY

DATA PROVIDED BY OUR SYSTEMS



Occupancy Rate (%)

Maximize the occupancy rate of the roads to optimize/lower GH emissions per passenger ratio.



Run Time

Calculate the time spent on the road by vehicles to minimize their GHG emission rate.



Ridership

Optimize routes based on accurate ridership.



Energy Consumption

Combine ridership data with vehicle energy consumption.



Bus Bunching

Maximize the time spent on the road and the occupancy rate of each vehicle.

HOW APC DATA CAN SUPPORT YOUR SUSTAINABILITY INITIATIVES



Reduce GHG emission per passenger mile/km traveled

- Correlate emission reduction to ridership, schedule adherence, day period, reserved lanes, and more.
- Address underperforming routes to reduce overall emissions.
- Evaluate the impacts and effectiveness of pilot projects (express routes)

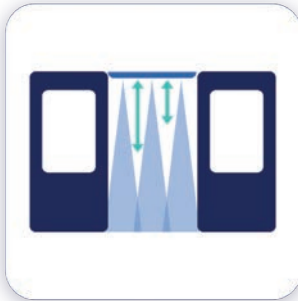


Hydrogen & Electric Buses Implementation

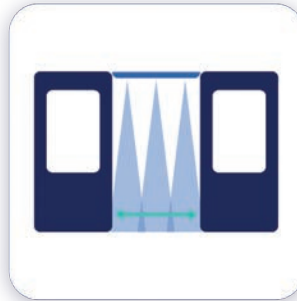
- Evaluate which routes are optimal for electric vehicles, low-emission, and your current fleet.



KEY ADVANTAGES OF OUR APC



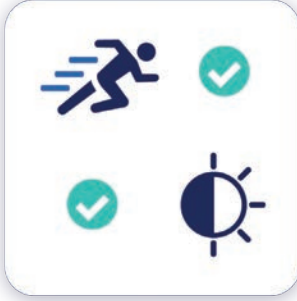
No minimum height is required for installation.



Sensors cover the entire door's width and are installed directly above the gap.



No lateral or frontal obstruction of the field of view, even in high-density periods.



Sensors are unaffected by light sources or speed of passage.

ACCURACY RESULTS

We did not apply any correction, uncertain counts, profiling, tempering, or statistical manipulation to the data. * Real data from various customers between 2008 and 2017.

TYPE	MANUAL COUNT	INFODEV ACCURACY
Bus	15 554	99.13%
Train	2 236	98.03%
Bus	1 349	98.37%
Bus	4 942	97.98%
Train	2 652	98.11%
Bus	12 019	98.23%
Bus	3 947	98.91%
Train	1 830	98.31%
Train	9 958	99.24%
Train	3 148	97.68%
Train	4 579	98.61%
Train	11 588	98.02%
Train	7 272	99.29%
TOTAL:	81 074	98.46 %

OUR PASSENGER COUNTING SOLUTIONS

ACCURATE AND RELIABLE

- Accuracy between 97.5% and 99.5% has been proven many times, provided by unique electro-optical technology that requires no correction factors (ex.: seasonal, per sensor, etc.)
- High-definition sensors that do not count small objects
- Counting data independent of passenger and luggage weight for each station or stop and for any given period or specific time
- Simple and easy online access to application software, data, and customized counting reports
- Certification of counting accuracy using integrated video camera recording
- From single components to all-inclusive fixed-price projects



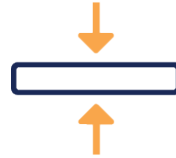
INFODEV'S PASSENGER COUNTING SYSTEMS

Designed to benefit our clients in every way



Factory Calibrated Sensor Assemblies

Do not require costly and time-consuming recurring manual recalibration or data profiling.



Discreet & Aesthetic

Low thickness allows for a customized finish that can be easily integrated with the train's interior fittings.



Modular, Flexible & Simple Architecture

Installation on any vehicle door configuration with minimal cabling.



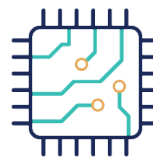
Low Maintenance

Effortless and simple so that you can invest your money elsewhere.



Quick & Easy Installation

Ingenious "bolt-on design" that allows for surface or recessed mounting of the counting system.



Compact Passenger Counting Computers

Hidden behind the vehicle's inside panels or easily surface-mounted inside the vehicle.



Optical Door Detection

No interface with door-opening systems is required.



Standalone or Fully Integrated Systems

Infodev EDI's equipment installed in the vehicle can operate independently of other onboard equipment or easily interfaced with it.



From Basic to Complete Software Portfolio

Software and web apps developed in-house by our team of experts.

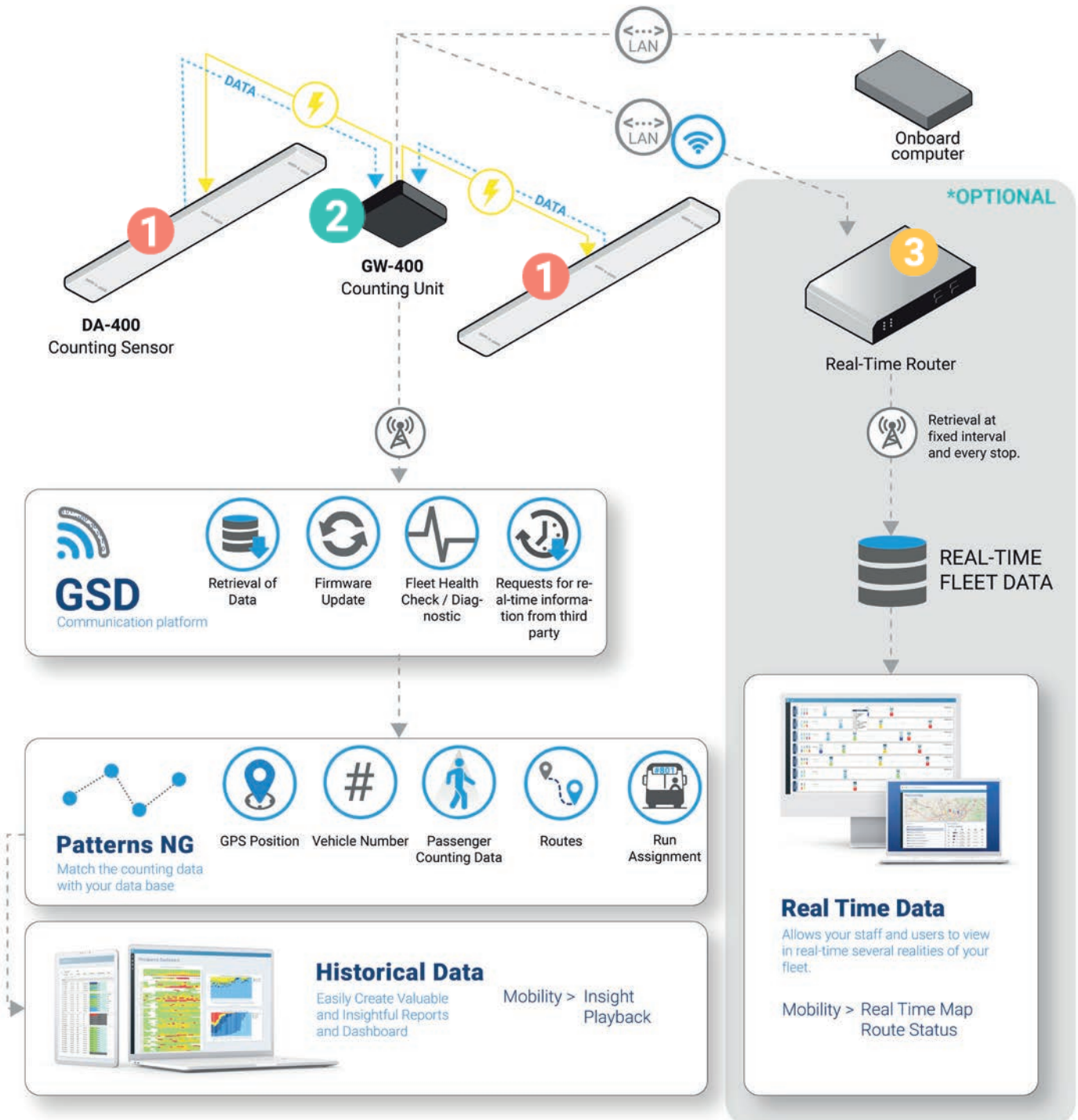
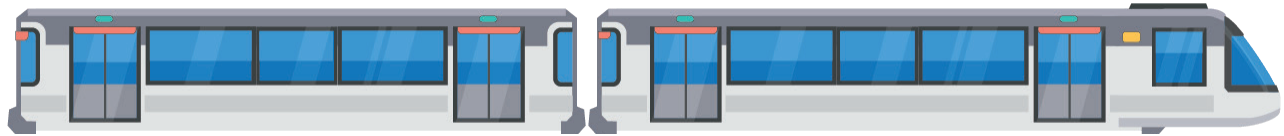


Antennas Installed Inside the Vehicle

High-sensitivity GPS modules and high-performance RF modems eliminate complications related to outside antennas.



APC SYSTEM DIAGRAM





COUNTING SENSORS

DA-400 series

- Wide beams cover the door's entrance;
- No blind spots;
- Classic colors selection or color matched to the overhead panel; ○ ● ● ?
- The length of the bar and the number of integrated sensor elements depends on the door width; 250 mm, 420 mm, 673 mm, 800 mm
- 15 mm to 17 mm thick;
- Integrated optical door detection;
- Industry Standard Certifications.



Unique electro-optical technology



Uses an intelligent digital signal processing algorithm to count passengers boarding and alighting public transit vehicles accurately.



A diagnostic LED is also integrated within the sensors to report any problems.



Adapted for quick surface mounting or inside panel placement on the overhead door panel. Gives the maintenance team easy access to the sensors for servicing.



Associated with specific doors, time, and location of every stop.



Our detailed combined data makes it possible to generate customized and specific reports that provide a strong base for profitable decisions.



DA-400 - recess model - 250 mm



GATEWAY COUNTING COMPUTERS

GW-400 Series

These compact on-board counting computers are fully autonomous or can be easily connected to other existing on-board computers. They are installed inside the vehicles. The built-in power supply can adapt to a wide range of voltages.

At each stop or station, the Gateways receive the signals from the DA-400 and transform them into counting data. The data is then stored in the Gateway's memory until it receives a download command. The data is usually transferred via a wireless module (or GSM or LAN) directly to the ground data analysis server or on-board computer. This saves on cabling costs and installation time.

The compact Gateways are easily hidden behind the vehicle's inside panels.

Communication Options

- Ethernet-LAN/PoE;
- 802.11 b/g;
- Cellular GPRS/GSM;
- WiFi;
- Wireless long-range, multi-car;
- Serial RS-485/RS-232;
- Underground localisation system;
- Other options available.



GW-400 for Buses



GW-400 for Rail



THE NEW GENERATION OF DETECTION

AI-BASED COUNTING & SEAT MANAGEMENT

Answer Common Questions

Is the compartment full?

Is there any space left for luggage?

Which door should the user be boarding from?

How many people are in each vehicle and each compartment?

Are there many users with bikes using the service?

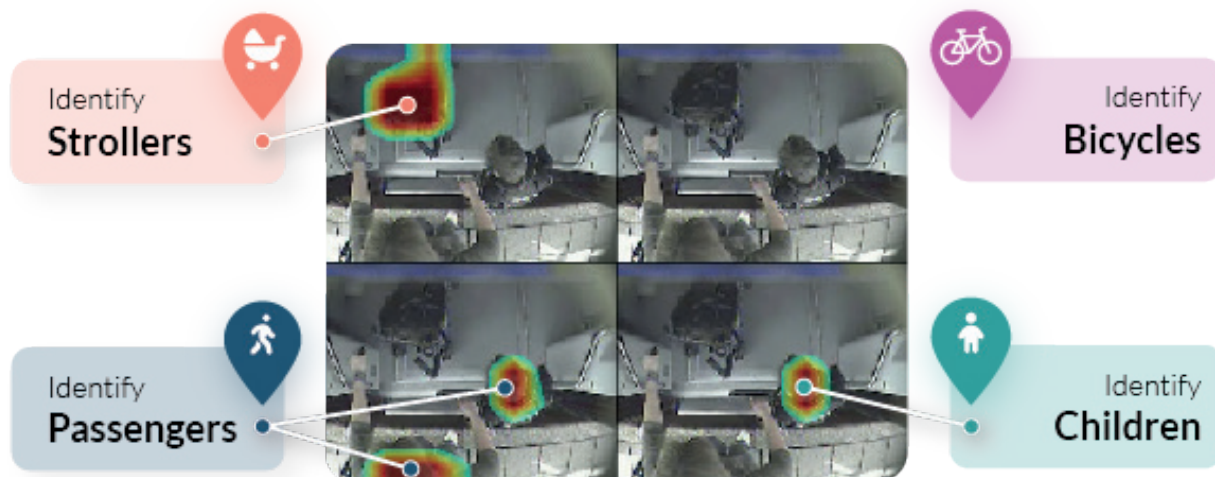
Introduction

Infodev EDI is proud to present its new detection technology, AIIM®. Based on AI technology, **our new system combines our proven APC algorithms with an advanced AI approach, putting Infodev's at the forefront of innovation.**

Infodev technology captures multiple images of each train, bus, or vehicle compartment, and it does so every second. Those images are processed and analyzed in real-time with Infodev A.I.-based detection algorithms to **measure the number of passengers, adults, and children and to detect objects, such as luggage, bicycle, strollers, or wheelchairs.** Those measurements are realized for every compartment or vehicle.

Our real-time counting data is highly valuable for your passengers and crew, while our historic counting data is a must for planning your operations.

With AIIM®, you can access the valuable information you need to make appropriate decisions for your operations.





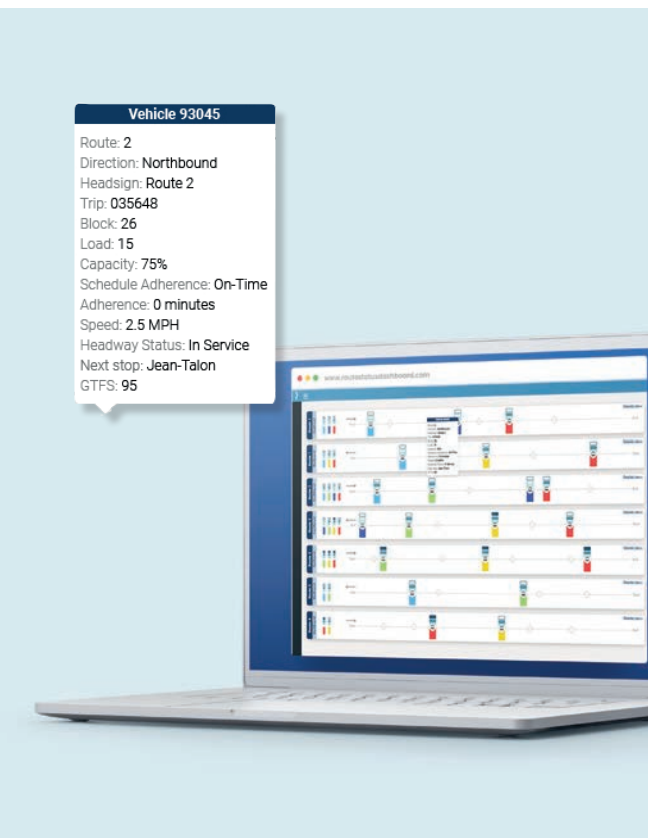
MOBILITY >

Software suite developed exclusively for the Transit Industry.

Insoft's new Mobility Suite will convey all the information you need to make operational and strategic decisions at a glance. By combining detailed reports with a summary dashboard, we deliver a turnkey product that gets you the answers you need to solve your transit challenges. From data analysts to top management, we redefine how people view transit data.

MODULES OVERVIEW

We've designed our Mobility Suite to include a range of modules, each providing unique information. These modules rely on either historical or real-time data. Only our Schedule Validator module is based on transit schedules or bookings.



Mobility Module	Historic Data	Real-Time Data	Other
Insight	✓		
Playback	✓		
Route Status		✓	
RealTime Map		✓	
Passenger Journey	✓		
Schedule Validator			✓
FTP	✓		
API	✓	✓	

To learn more, consult our brochure
INSOFT SOFTWARE & APPS

INFODEV

Electronic Designers International



Contact us

Infodev EDI head office is located in Quebec City, Canada, with a regional office in Europe. Don't hesitate to contact us for more information regarding our technology and most recent achievements.



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