



HASTUS™

Transit scheduling and operations

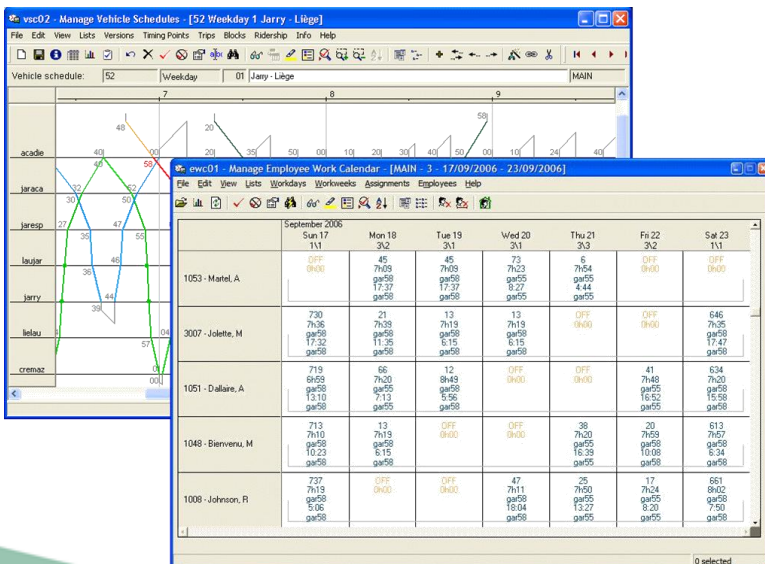
HASTUS is an integrated and modular software solution for transit scheduling, operations, and customer information. The effectiveness and flexibility of HASTUS is demonstrated by installations in North and South America, Europe, Australia, and Asia. Incorporating 30 years of GIRO expertise and suggestions from our customers, HASTUS is one of the best investments transit authorities and private operators can make.

HASTUS today helps more than 250 transit companies in 22 countries achieve more cost effective operations. Managers and users benefit from a wealth of timely information.

HASTUS is highly configurable and performs well in many different operating contexts: HASTUS is successfully used to schedule and manage bus, tram, subway, trolley, ferry, and commuter rail systems in cities with varied requirements such as Barcelona, Brussels, Chicago, New York, Oslo, Seattle, Singapore, Sydney, Geneva, Torino, and Vienna. Multimodal systems can use HASTUS for both bus and rail, facilitating service synchronization and simplifying system administration through a common installation and transit database.

Private operators, including Keolis, Transdev, Connexion, and Veolia also rely on HASTUS to improve their competitiveness and quality service offerings to public authorities.

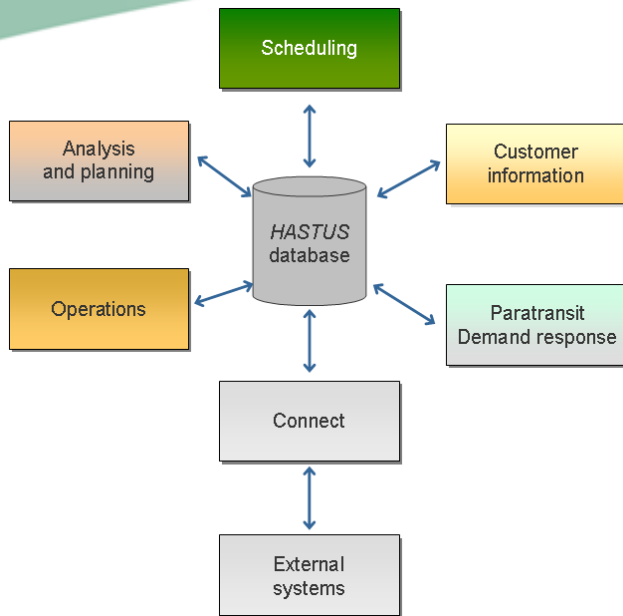
Pricing is based on the size of the operation, so transit providers of all sizes can benefit from the complete HASTUS family of products.



Integrated modular solution

HASTUS offers a complete, modular and integrated software solution for transit operations. Core modules cover scheduling and daily operations, with complementary modules available for planning and analysis, as well as customer information.

- For **Scheduling**, flexible tools assist you in describing your route network and defining desired timetables. Powerful algorithms then create cost-saving vehicle and crew schedules, as well as multi-day rosters. Automatic solutions can be validated and fine-tuned, as required, using list-based and graphical views.
- **Daily Operations** modules start from planned schedules and allow you to manage daily service changes, as well as vehicle and operator assignments. Complete and up-to-date information is available at all times, leading to improved "live" decision-making. You can compare actual versus planned schedules, monitor operator performance statistics, and export accurate timekeeping data for payroll. The Web-based *SelfService* module allows employees to access their personal information and perform various tasks, such as entering overtime availability and preferences. Additional benefits are achieved through a significant reduction in clerical tasks, saving time, and minimizing errors.
- Quality **Customer information**, reflecting either planned or real-time information is another HASTUS benefit. This includes trip planning or stop level information displayed on your Web site or stop posters, as well through other technologies such as IVR systems, and electronic signs. Customer comments can also be recorded and immediately matched to the corresponding service information.
- **Analysis and planning** tools provide network and timetabling modeling functions, including synchronization while minimizing vehicle requirements. Run time and ridership data analysis modules contribute to improved use of your fleet and to service better tailored to customer needs.



Industry-leading optimizers

In repeated tests and implementations all over the world, *HASTUS* scheduling algorithms produce savings ranging from 2 to 5% and more, over both competing systems and manual methods. These powerful algorithms make use of a flexible rules engine that produces excellent results in many diversified operating contexts with the standard software.

HASTUS is the fruit of ongoing research and development at GIRO, in collaboration with the University of Montréal's internationally recognized Center for Research on Transportation. Constant improvements in both optimization methods and system features ensure that *HASTUS* remains the leader in this highly specialized field, bringing additional benefits to our customers with each upgrade.

Implementation and support

We ensure your organization benefits fully from *HASTUS* by providing all the required implementation services: specifications, configuration/adaptations, installation, training, and on-line support. A proven project management methodology ensures a smooth implementation within agreed timeframes. Quality on-going support is subsequently available by E-mail, electronic bulletin board, and telephone. Our Web site also keeps you abreast of on-going *HASTUS* improvements and recent installations.

Product evolution

GIRO allocates significant resources to R&D. New *HASTUS* versions are available to customers each year that incorporate enhancements from recent customer projects, as well as those resulting from GIRO's R&D efforts. They also serve to ensure compatibility with the latest computing technologies.

International and regional user groups meet regularly in North America, Europe, and Australia. These present an excellent opportunity to introduce new functionalities and features, and to learn from customer feedback and suggestions.

Technology

Our software leverages the Windows® server and desktop platform, providing a stable, productive, and familiar desktop environment.

Multiple users and/or remote sites can also be supported using the Terminal Services option to Windows Server. This three-tier configuration allows for "thin" clients and browser-based access.

HASTUS offers an integrated, open, and fully documented database: Oracle® and MS SQL Server® relational databases are supported.

Standard reports, configurable lists, XML outputs, and built-in support for Crystal Reports® provide unlimited reporting capabilities.

Configurable data extraction tools are provided to easily share data with other applications. Standard interfaces allow *HASTUS* to be successfully integrated with complementary products and applications (e.g. AVL, payroll systems) from leading vendors.

SOAP-based Web Services allow integration into services-oriented architectures, such as ERP, customer information, IVR, and Web sites, as well as receiving transactional updates from enterprise applications.

Our Web Services are fully interoperable with any other systems complying with industry-standard protocols such as SOAP, XML, HTTP, WSDL, and SSL.

About GIRO – GIRO is a leading provider of software solutions for public transit services including bus, tram, subway, trolley, and commuter rail transportation. The company's *HASTUS* solution offers comprehensive applications and innovative tools for improved planning and scheduling, daily operations, customer information, and more. *HASTUS* combines advanced operations research optimization techniques with powerful data management tools that deliver tangible benefits for public transit associations and private operators alike. Based in Montreal, GIRO serves customers in Asia, Australia, Europe, and North and South America. For more information on GIRO or *HASTUS* please visit our website at www.giro.ca.

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