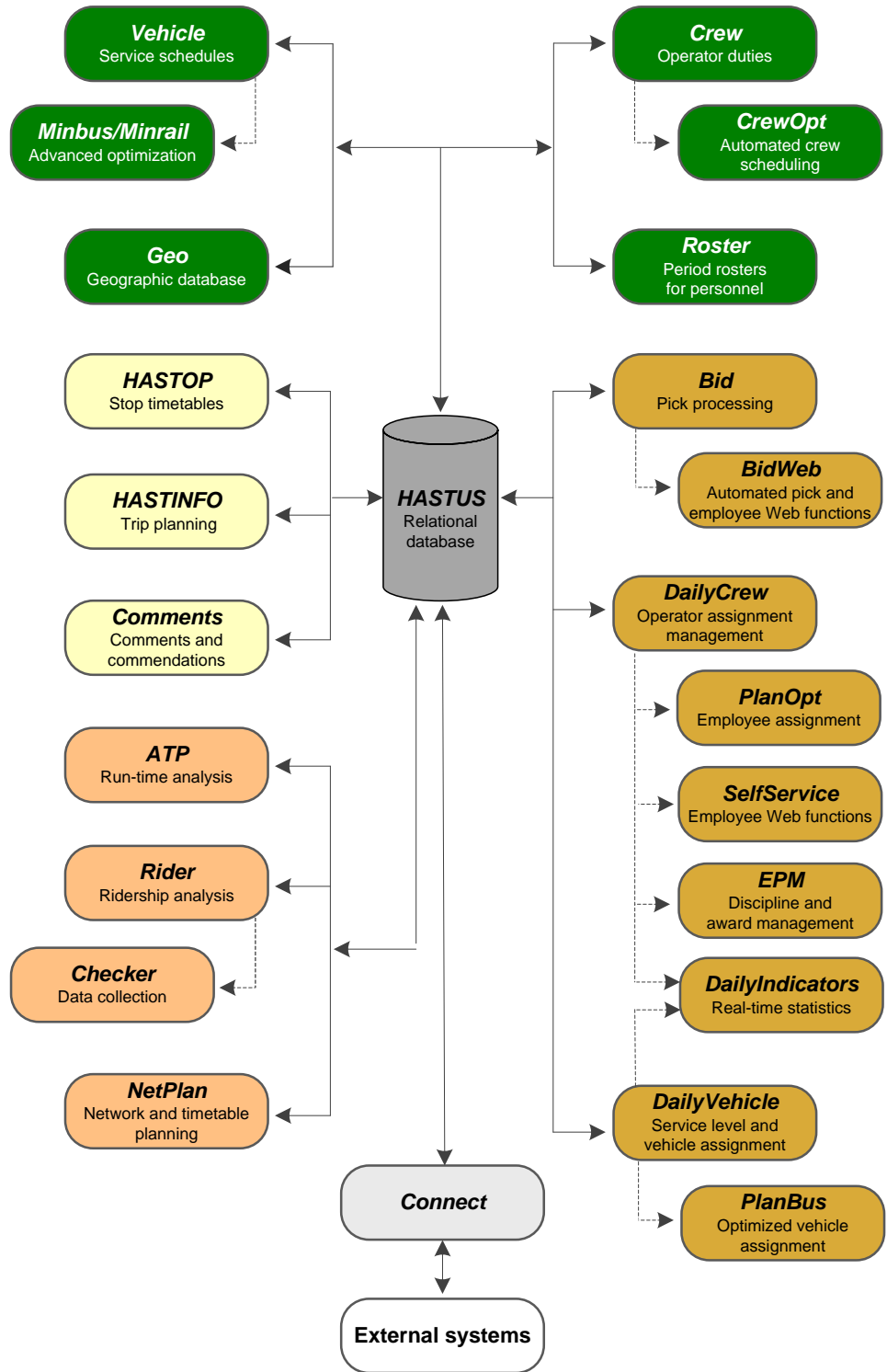


# HASTUS™

An integrated solution for transit scheduling and operations



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● Scheduling  
 ● Passenger information & relations  
 ● Analysis  
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## Scheduling

**Vehicle:** A graphical scheduler designed to help you build efficient timetables and vehicle schedules for bus (city, suburban, regional, and inter-city), commuter rail, light rail, subway, tram, and other fixed-route services. Multiple scenarios can be stored for different periods of the year or days of the week.

**MinBus/MinRail:** *MinBus* is an optional *HASTUS* module that complements *Vehicle* with advanced optimization tools for vehicle scheduling. *MinRail* provides optimization features that are specific to rail scheduling.

**Geo:** The *Geo* option provides a geographic database, tools, and map display options that are seamlessly integrated with other *HASTUS* modules. More and more, transit authorities worldwide are using geographic databases to support planning, operations, and public information. Typical capabilities include route planning, distance calculations, customer information, itinerary calculations, and interfacing with external systems and applications.

**Crew:** Lets you build efficient operator duties to cover vehicle schedules. Automated and interactive procedures make it easy to cut vehicle blocks and combine pieces of work into valid duties while respecting hard and soft rules.

**CrewOpt:** The standard *Crew* module provides a complete set of tools for interactive and automated duty creation and optimization. This core module is often sufficient for small and medium-size transit companies, as well as companies that do not need to make major scheduling changes. Crew scheduling results can be further improved with GIRO's award-winning automated mathematical runcutter, *CrewOpt*.

**Roster:** Helps you prepare efficient weekly or periodic crew assignments. Daily work and days off are combined into roster positions according to the practices of your company. Based on *Crew* duties, *Roster* supports the building of 5-day rosters, 4-day rosters, or part-time rosters. It is also possible to manage rotations over multiple roster positions to allow the creation of more complex work patterns.

## Passenger information & relations

**HASTOP:** This option is designed to produce stop schedules for posting at each bus stop. Passing times are calculated based on vehicle schedules and stop-to-stop distances.

**HASTINFO:** The customer information module provides schedule and trip-planning information to transit users through transit call centers, Web sites, and other media.

**Comments:** This module allows you to register, follow up, and manage situations or events reported by customers and/or employees. Once the data is captured, configurable lists help you to manage the information (e.g., list all comments regarding a specific employee or from a specific customer). The *Comments* module can be easily configured to comply with or attain specific or recognized service support standards (i.e. ITIL).

## Integration tools

**Connect:** Based on principles of Service-Oriented Architecture (SOA), *Connect* is a suite of software integration tools that facilitates data exchange and interoperability between *HASTUS* and other applications and systems.

## Operations

**Bid:** An option available with *Roster* that is especially useful for transit companies that assign duties and vacation based on order of employee seniority, as is generally the case in North America. With *Bid*, you can control the "pick" or "bid" process while keeping track of the duties still available and the choices made by each employee.

**Employee:** An integrated employee module is offered with our rostering (*Roster*), bidding (*Bid*), and dispatching (*DailyCrew* and *DailyVehicle*) modules. The *Employee* module allows you to manage personal information for each employee and work assignment in accordance with collective agreements.

**DailyCrew:** Allows you to manage weekly and daily changes to planned rosters and provides effective tools for the day-to-day management of transit operations. In seconds, dispatchers can enter employee absences and assign replacement workers to cover absent employees. Quickly and accurately, the system provides up-to-date information on hours worked, vacation, sick leave, reserve lists, and other important information that contributes to smooth operations. Typically, detailed timekeeping of actual work performed is exported to a payroll system for final pay calculations.

**PlanBus:** Optional algorithm, available with *DailyVehicle*, used to optimize the assignment of vehicles to blocks on a day-to-day basis. *PlanBus* can also schedule light maintenance activities based on maintenance capacity at each garage. This powerful optimizer efficiently generates the highest-quality solution at the lowest cost, in accordance with company objectives and criteria. It also takes into account vehicle availability and characteristics, as well as maintenance activity requests.

**PlanOpt:** New in 2010 is the *PlanOpt* module, a tool for optimizing the daily assignment of work to replacement drivers/operators using an advanced algorithm that automatically assigns uncovered work to available vehicle operators. The algorithm takes into account employee preferences, working time counters, satisfaction counters, work rules, and many other factors. *PlanOpt* offers a rules engine to define constraints for each assignment. The assignment of work can be done on a day-to-day basis, allowing the proposed solution to be reviewed carefully prior to posting.

**SelfService:** A Web-based application (used in conjunction with other operations modules) that allows employees to access various functionalities through specialized screens.

**EPM:** Allows you to manage disciplinary measures and awards for employees based on rules configured in accordance with collective agreements. This module requires *DailyCrew* to which it is fully integrated.

**DailyVehicle:** Typically used in combination with *DailyCrew* to modify or add trip-level information and manage vehicle assignment.

**DailyIndicators:** A Web-based module that provides managers and other staff with a real-time, dashboard view of operating statistics for the current day. Available statistics include information about: employees (in service, late or absent, available, on vacation); current cancelled or uncovered work (number of pieces and corresponding duration, uncovered duties) current work vs planned work (work hours, overtime, paid time, platform time); and vehicles (available, in service, withdrawn).

## Analysis

**ATP:** Helps you build run times by analyzing observed values and comparing them with current planned values. The observed times can be imported from other systems such as handheld computers, automatic vehicle location systems, and train control systems.

**Rider:** This optional module allows you to store ridership data from load and ride checks and to summarize this information on a route-by-route and time-period basis.

**Checker:** This optional module facilitates data collection and is designed for hand-held computers. *Checker* supports Microsoft Pocket PC® technology and includes two-way interfaces with *Rider*.

**NetPlan:** Added in 2007, the *NetPlan* module helps you establish new or revised service levels on major routes or route segments.

