

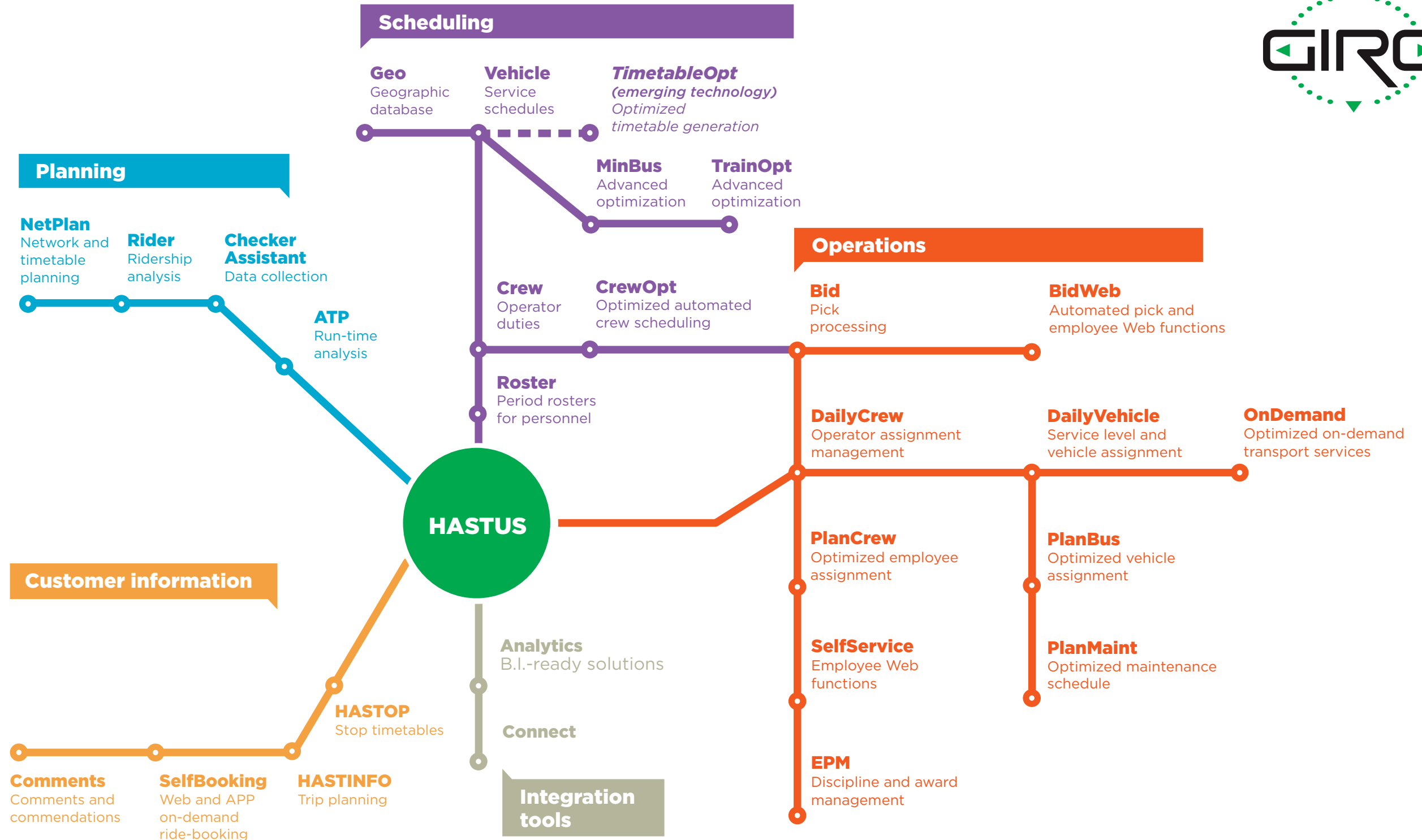


# COMPLETE SOFTWARE FOR PUBLIC TRANSPORT PLANNING, SCHEDULING AND OPERATIONS

An integrated solution for optimizing fixed-route  
and on-demand services



# IMPROVING EFFICIENCY AT EVERY TURN



## Planning

**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.

**CheckerAssistant:** This Android™ tablet-based application allows you to collect data for ride or point checks. It replaces the Checker module.

**NetPlan:** Helps you establish new or revised service levels on major routes or route segments, taking into account ridership data. NetPlan also helps you create base timetables that maximize the quality of the timetable from a customer perspective while minimizing vehicle requirements.

**Rider:** 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.

## Scheduling

**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:** Complements the Crew and Vehicle modules with advanced optimization capabilities for enhanced integrated vehicle and crew scheduling.

**Geo:** Provides a geographic database, tools, and map display options that are seamlessly integrated with other *HASTUS* modules. More and more, public transport 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.

**MinBus:** Complements the Vehicle module with advanced optimization tools for vehicle scheduling.

**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.

**TimetableOpt:** Complements the Vehicle module with an algorithm that generates optimized timetables based on available resources, service guidelines and expected ridership when available.

**TrainOpt:** Complements the Vehicle module with advanced optimization tools for rolling stock scheduling. It replaces the MinRail module.

**Vehicle:** A graphical scheduler designed to help you build efficient timetables and vehicle schedules for bus, rail and other fixed-route services. Multiple scenarios can be stored for different periods of the year or days of the week.

## Customer information

**Comments:** 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 manage the information (e.g., list all comments regarding a specific employee or from a specific customer). This module can be configured to comply with or attain specific service-support standards, such as ITIL.

**HASTINFO:** Provides schedule and trip-planning information to customers through your corporate Web site and call-handling facility, mobile devices, and other media.

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

**SelfBooking:** A Web-based and mobile application that allows riders to manage multi-leg trips with conventional and paratransit/on-demand services, ensuring compliance with service policies while respecting customer limitations and preferences.

## Operations

**Bid:** Used with Roster and especially beneficial for transit companies that assign duties and vacation based on employee seniority, as is generally the case in North America. With Bid, supervisors and clerks can manage the “pick” or “bid” process while keeping track of the duties still available and the choices made by each employee.

**BidWeb:** A Web-based module that allows employees to make their selections in the case of roster-style picking.

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

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

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

**OnDemand:** An integrated solution for scheduling and managing on-demand transport services, from customer eligibility and registration to trip booking and service delivery. The trip-scheduling optimizer produces itineraries for the most efficient use of vehicles, including eligible subcontracted carriers. The solution also features comprehensive control functions.

**PlanBus:** An algorithm, available with DailyVehicle, to optimize the day-to-day assignment of vehicles to blocks. 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.

**PlanCrew:** A tool for optimizing the assignment of work to drivers/operators. It uses an advanced algorithm that assigns work automatically, taking into account employee preferences, working-time counters, satisfaction counters, work rules, and many other factors. PlanCrew offers a rules engine to define constraints for each assignment. The assignment of work can be done over periods ranging from a single day to several weeks, allowing the proposed solution to be reviewed carefully prior to posting.

**PlanMaint:** Optimizes preventive maintenance of the bus fleet, scheduling the various maintenance operations for each bus to ensure that maintenance resources are utilized equally. Mileage targets are established for each vehicle’s maintenance operations. PlanMaint can be used over a horizon ranging from several years, to help prepare yearly maintenance budgets, down to an operational horizon of a few weeks, to manage the maintenance schedule. When used in conjunction with PlanBus, daily vehicle assignment takes vehicles’ maintenance mileage targets into account to ensure that maintenance is performed on schedule.

**SelfService:** A Web-based application, used in conjunction with other operations modules, that allows employees to access various functionalities through specialized screens. A mobile version for smartphones is also available.

## Integration tools

**Analytics:** Lets you configure and manage your data in schemas that are BI-ready for analysis with your existing dashboard tools. It provides rich, structured data that can be integrated into your current BI environment.

**Connect:** A suite of software integration tools that facilitates static and dynamic data exchange and interoperability between *HASTUS* and other applications and systems.