



Highway Asset Management Solutions

Gazetteer, Networks and Asset Register

At the core of the system is a nationally compliant Street Gazetteer, with import/export options. Multiple section referencing systems may be overlaid, with automatic translation from one referencing system to another. This allows the most appropriate referencing methodology to be used for each requirement, whilst still retaining full integration. Dynamic user customisation is provided in the inventory system, allowing it to accommodate all requirements as they change and evolve.

Inspections

A key benefit of the integrated Highways solution is to automate the allocation of inspections, depending on type and location. These are then prompted and monitored in line with the precise inspection policy required. Optimisation facilities may be used to evaluate both cyclic and ad-hoc requirements, and minimise the overall workload.

Results can be recorded using sophisticated mobile device software, with guaranteed central system compatibility. Satellite-based positioning, mapping display and plot functions, and digital photography may be employed. Web access is used to communicate with base whilst out in the field, at work or at home.

Work Definition and Estimating

All types of work are accommodated, from routine defects to major schemes. Simple defect codes or textual descriptions are available for routine works, whilst full bill of quantity facilities may be used for estimating complex requirements.

Routine safety works may be recorded and ordered immediately, with high priority. Elements of major maintenance activities may be recorded in advance, and then released and committed in accordance with an overall strategic programme.

Works Order Management

Unlike many other systems, Insight handles the unique features of civil engineering contracts with ease. Both term contracts, and "specials" for schemes, may be set up, with associated terms and conditions. Single or multiple contractor operation is accommodated, with electronic interfacing if required. Day-rate, schedule of rates, ad-hoc and lump sum charging may all be used, in any combination. Increments to rates, such as cost index updating, are allowed at break points within a contract period.

Minor routine works, such as patching, can be combined into multi-job works orders, by street or by area, providing increased efficiency in both administration and operation. In contrast, major schemes may be the subject of close control, including interim measures and claims, multiple expenditure codes, and progression between budget years. Formats for printed orders are user-definable, using embedded "layout design" tools.



Street Works Register

Insight for Street Works is the UK's most successful Street Works Management system, covering all functional requirements including electronic noticing, co-ordination, and highway authority inspections. It is continuously maintained in line with changes in Code of Practice procedures. No other system matches the degree of automation, which streamlines the complex administrative processes, or the responsiveness of the built-in life-cycle monitoring facilities.

Performance Management

A key feature of Insight is the ease with which data can be extracted and analysed, without technical assistance. A range of flexible, inbuilt enquiries and reports, ideal for the professional manager, provide instant access to information, and enable effective dynamic performance monitoring. The carefully crafted design of the database provides instantaneous output.

Reporting may be based on geographic areas. For example, an Area Supervisor can demand information such as "list all the routine works in my patch, which should have been done by last Friday, but are not yet recorded as complete". Producing this is as simple as entering the supervisor's identity and the date of "last Friday" into a standard enquiry facility, which would also enable further filtering by such details as Contract, Contractor, Job Priority, and Expenditure code.

Financial Management

Insight provides instantaneous expenditure position statements. A three-level commitment system handles progression from initial allocation of funds through to works completion and approval, including automatic handling of retentions where required. Any changes resulting from work confirmation, variations or extras, are immediately calculated and reflected in the financial tables, and full audit trails are maintained throughout.

Automated year-end close down facilities including parallel phase-over of years, budget profiling and monitoring, and expenditure journals, are amongst the advanced features provided as standard. Expenditure code grouping facilities may be used to restrict access to expenditure codes, ensuring appropriate security. The production of electronic files for interfacing with Corporate Financial systems is also a standard facility.

Integrated GIS

.NET technology is used to provide sophisticated embedded mapping functionality, including the ability to plot inventory, works or any other items. Transfer between the database and the map, in context, is instantaneous, effected by a simple button-push, and all without the costs and overhead of providing a full GIS system on each user's computer.

The GIS may also be utilised for output of graphical models. For example, current pavement condition, and projected effects into the future of different expenditure models, can be brought to life by display in map-based form, superimposed on the highway network. Immediate drill-down into the database records is achieved by simply selecting a street, section or inventory item.

Insight for Highways is a computer system designed specifically to provide an integrated solution for the management of highways and associated assets.

The flexible and comprehensive facilities make it the ideal product for asset life-cycle management. Corresponding offerings from the Insight range are equally effective for other infrastructure assets, including Street Lighting, Structures, Land, Property and Grounds.



Insight into Advanced Technologies

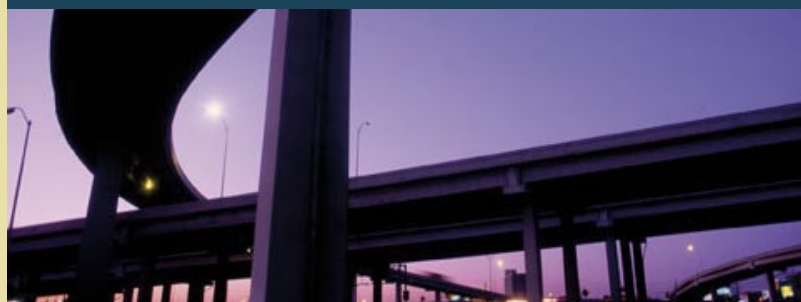
Symology's specialist software engineers and solution architects continually push forward boundaries to build a product range that maximises on the continued advances in technology.

The system supports and utilises many leading edge technologies and standards, including ODBC, ActiveX, COM, CORBA, .NET, and XML. Many of these technologies are embedded within the Insight product to provide phenomenally powerful and seamless facilities for GIS, mobile data collection, quality reporting, and document production. Highly optimised, transaction-efficient, operation is provided with leading RDBMS systems including Oracle and SQL Server. The Vision data system provides an ideal alternative for situations where there is no database administrator.

Comprehensive mapping functionality is provided within the Insight product suite, utilising .NET technologies to interface seamlessly with the latest releases of world-leading GIS products from ESRI and Cadcorp. These facilities provide synchronised bi-directional connectivity, with full enquiry and updating capabilities. Direct database support for corporate spatial databases includes Oracle Spatial, ESRI ArcSDE and many others, without the need to purchase additional middleware.

Interoperability with Corporate Systems such as central finance, customer relationship management and contractor systems can be achieved by utilising Symology supplied interfaces and Web Service API's.

Insight offers a cost-effective and high performance solution for any network architecture, whether the requirement is for operation across a WAN or LAN, using conventional links, Internet access, or wireless connection. Similarly, whatever the chosen server and operating system strategy, Insight provides appropriate "thin client" and "thick client" options, including the ability to launch the application via a web browser. Any combination of Microsoft, UNIX and Linux operating systems is accommodated.



INSIGHT FOR HIGHWAYS

Functional Overview

Street Gazetteer

- BS 7666 Level 3 NSG compliant
- OS Mastermap ITN layer support
- Gazetteer maintenance system
- Additional user-defined data

Areas of Interest

- Polygon plotting on the map
- Geographic view/update security
- Work Allocation areas
- Political boundaries
- Inspector Patches
- Operational rounds
- Divisional Office areas

Inventory of Assets

- Carriageway/Footway
- Street Lighting and Furniture
- Safety Barriers & Guardrails
- Kerbing and Gullies
- Grassed Areas & Verges
- Bridges and Structures
- User-defined entities/attributes
- Comprehensive analysis tools
- Bulk updating facilities

Location of Assets

- Textual location descriptions
- Gazetteer referencing
- Section referencing
- Map co-ordinates
- Chainage-based
- Cross-Sectional Positions

Inspections

- Cyclic prompting and monitoring
- Routine Safety Checks
- Detailed Inspections
- Condition Surveys
- Utility Street Works
- Customer Service requests
- Post-work quality
- Interim and Post measures

Licences and Permits

- Skips, Scaffolding, Hoardings
- Application/Approval Process
- Licence Fees
- Inspections for damage

Ad-hoc and Cyclic Works

- Definition of work requirement
- Contract/Contractor Selection
- Contract Terms/Rates applied
- Works ordering & variations
- Bulk ordering for minor works
- Cyclic order generation
- Electronic orders/claims
- Completion monitoring
- Pre/Post measurement
- Asset-based life history

Financial Monitoring

- Automated expenditure code selection
- Three-level commitment system
- Real-time Budget Statement updating
- Automatic on-line posting
- Period expenditure profiling
- Expenditure journals
- Monitoring of variations
- Automatic contract retentions
- Year-end processes

Street Works Register

- Whole life of works processing
- Map-based co-ordination of works
- Inspection sampling and recording
- Automatic electronic data transfer
- Web publication of Register
- Works Management interface

Customer Service

- Telephone/Letter/Web requests
- Avoids duplicate recording
- Action-tracking and monitoring
- Dynamic escalation process
- Direct Works module interface
- Direct Inspections interface
- Service/Action scheduling

Universal Facilities

- Interactive map links
- Spatial Analysis
- Full Module integration
- Inbuilt customisation options
- Intuitive user dialogue
- Customisable data display
- Office Products interface
- Access security
- Historical audit trails
- Performance Indicators

Mobile Devices

- Latest technologies
- Multi-Function Devices
- Map-based functions
- Satellite positioning
- Digital photography
- Remote Web Services connection
- Automatic server compatibility

Strategic Maintenance Planning

- Sophisticated Asset Valuation facilities
- Condition assessment
- Treatment selection
- Condition projection
- Budget needs assessment
- Cost Benefit evaluation
- Best Value funds allocation

Contract Management

- Tendering processes
- Tender response evaluation
- "Term" and "Special" Contracts
- Defining Contract Terms
- Monitoring Contract finances
- Penalty enforcement
- Liquidated damages

Works Management

- Allocation of work by Trade
- Job Ticket production
- Resource requirement estimating
- Job Completion recording
- Variations processing
- Actual/Estimated variances
- Claim/Invoice submission

Schedules of Rates

- Rates for multiple contractors
- Quantity-based rate banding
- Percentage add-ons
- Priority supplements
- Minimum callout charges
- Phase-over of price changes
- Cost Index updating

G.I.S

- Gazetteer and Inventory maintenance
- "Area of Interest" definition
- Viewing/Plotting facilities
- Inventory and Defects
- Conditions and Treatments
- Seamless "in context" interface

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