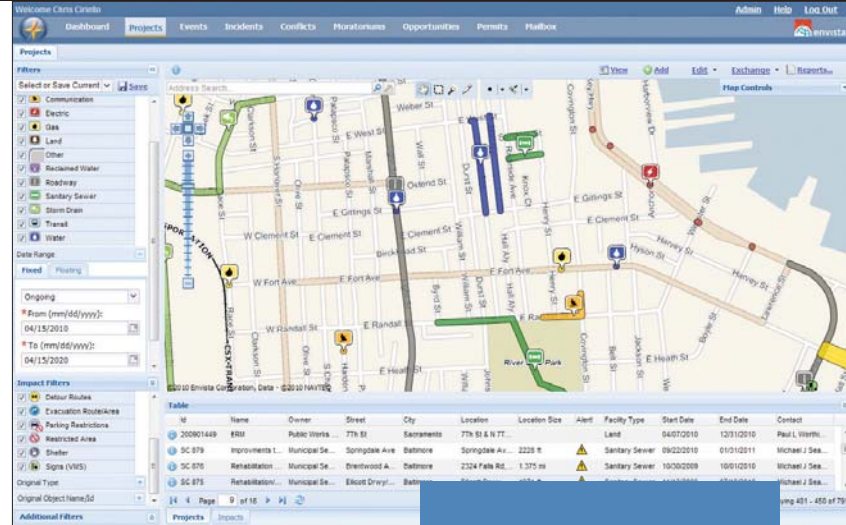


Envista displays projects graphically on an easy-to-read map. All users need is Internet access to see project locations, types and dates, and project conflicts. (Screenshots courtesy of Envista)



CONFLICT AVOIDANCE

Envista application helps multiple infrastructure owners coordinate activities and complete projects cost-effectively, free of interference

By Gil Longwell

To operate efficiently, owners of subsurface utilities and surface infrastructure need to avoid conflicts during construction and repairs. Coordination between water, sewer and street departments, and electric, gas and telecommunications companies, can be challenging.

Envista, an online software tool from Envista Corporation, enables these entities to coordinate project

interact with the software and with each other via the Internet. Typical subscribers include municipalities with multiple public works or streets departments, and water, sewer, electric and other utility providers.

Chris Ciriello, P.E., a water and wastewater applications engineer with Envista, and Martha Bednarz, director of marketing, demonstrated the application online. Internet access and a Web browser are the

system through an intuitive interface that combines a GPS-like map, a spreadsheet and an assortment of data-display filters. These are the anchor components on every Envista screen. Regardless of location, each client's data is housed in Envista's redundant, secure servers.

The map, prominently centered on the computer screen, is a geographic interface. The subscriber's entire service area is in the system, but only a small portion is displayed at any time. The map is navigable with zoom in/out controls and a click-and-drag feature.

Several reconfigured screens focus users' attention on any of several conditions or relationships that the software automatically identifies. These screens are labeled Projects, Incidents, Conflicts, Moratoriums, Opportunities, Permits and Events. There is also a mailbox screen by which subscribers can communicate with each other.

Much of the map-depicted information also appears in a text format in the spreadsheet or in a pop-up window. As with the map,

TECHNOLOGY TEST DRIVE

EQUIPMENT:
Envista software

SUPPLIER:
Envista Corporation

LOCATION OF DEMO:
Via Internet

DEMONSTRATED BY:
Chris Ciriello, P.E., water and wastewater applications engineer, and Martha Bednarz, director of marketing

LIST PRICE:
One-year subscription:
\$7,500 for a municipality with 25,000 to 50,000 population;
\$15,000 for a utility with 10,000 to 50,000 customers

WEB SITE:
www.envista.com

only a portion of the database is displayed at any time.

Because each line segment and explicit work site on the map is connected to a discrete spreadsheet line, clicking on a map feature immediately positions the corresponding spreadsheet entry or record at the top of the list. This dual presentation helps users locate or visualize the project on a map and, without cursor or mouse moves, read key project data. Additional data is a mouse-click away.

Screens organize and depict project data in a variety of ways to enable different users to consider project interactions from different

Envista, an online software tool from Envista Corporation, enables these entities to coordinate project schedules and work zone locations effectively. It presents multiple projects simultaneously in an attention-focusing, visually pleasing manner.

schedules and work zone locations effectively. It presents multiple projects simultaneously in an attention-focusing, visually pleasing manner. By preventing conflicts, users save money and time.

The product is available only by subscription in a software-as-a-service (SAS) format — subscribers

only requirements for accessing the Envista Web site and using the software. Envista launched the service in May 2008 and has clients in about 30 geographic areas across the United States and Canada.

Walk-around

Envista users interact with the

perspectives. Each screen is a kind of electronic “heads up” for all subscribers. Each is a focused tool designed to help avoid or resolve an issue that may affect two or more subscribers’ activities.

A Conflict, for example, occurs when two subscribers’ activities are scheduled in the same or nearby spots at the same time. The Conflict can be avoided by changing project schedules. Envista finds the conflicts and points them out to all conflicted subscribers. Presenting future events so that conflicts can be avoided is the primary purpose of the application.

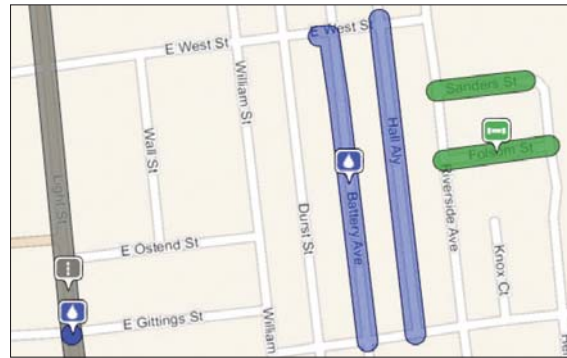
Opportunities are planned activities that are electronically flagged and called to the attention of all users. Street paving is an opportunity if other subscribers complete their same-location work before the paving begins and so avoid tearing up a newly paved street by making underground repairs first.

An Incident may be a utility line strike during a directional boring project or the appearance of a sinkhole. Incident notification enables all affected subscribers to see the problem and coordinate responses in real time.

Moratoriums are set in place for freshly paved streets and may last for five to ten years. These are flexible prohibitions, and when excavation is essential, it can be permitted.

The Event screen is a planning tool usually used for non-utility activities. Marathons, demonstrations, parades and festivals all represent events for which public safety staff and supporting resources may need to be deployed or redeployed.

Recognition of issues and opportunities is only the first stage in interagency coordination. Without communication to coordinate strategies and resolve issues, the act of resolution itself can generate new issues. Each project entered in the system has project sponsor contact information embedded. A mouse-click on a conflict site on the map opens an overlay window displaying details of the conflict.



Projects are color-coded by facility type: for example, blue for water, dark green for sanitary sewer, gray for roadway projects.

Notification:

To: mwilliams@metwater.com
 CC: wbass@munisewer.com
 Subject: Coordinating Work Schedule
 Body: Marty, Go ahead and fix your leak. Let me know when done so I can start.

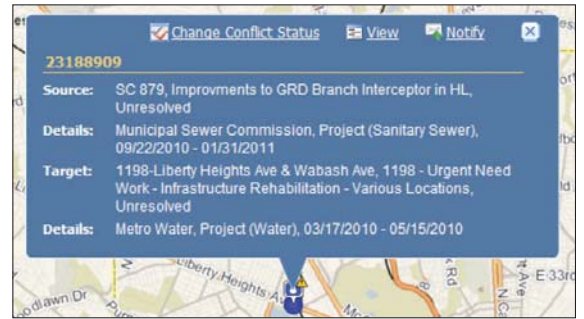
Conflict ID1	23188909	
Owner	Metro Water	Municipal Sewer Commission
Name	1198 - Urgent Need Work - Infrastructure Rehabilitation - Various Locations	Improvements to GRD Branch Interceptor in HL
ID	1198-Liberty Heights Ave & Wabash Ave	SC 879
Facility Type	Water	Sanitary Sewer
Location	Liberty Heights Ave & Wabash Ave, Baltimore, Maryland, 21215	Springdale Ave & N Hilton St, Baltimore, Maryland, 21216 : 39.324146, -76.671466 (Closest Intersection) : 39.322683, -76.666561 (Closest Intersection)
Location Point Type	Point	Point
Schedule	03/17/2010 - 05/15/2010	03/17/2010 - 05/15/2010

To contact another infrastructure owner about a conflicting project in Envista, users click Notify, and an e-mail with project details is automatically generated. The sender can add his or her own message. The software tracks all e-mails generated.

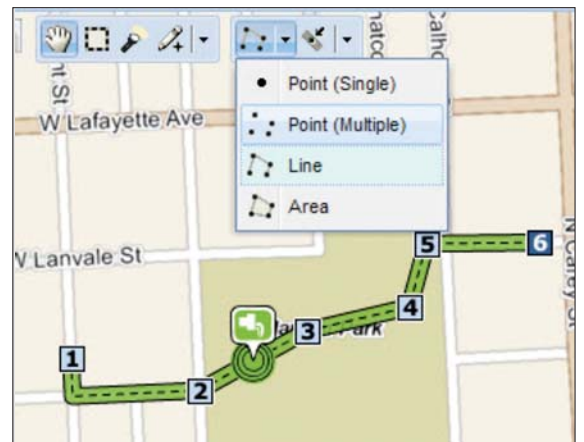
From this window, an e-mail writing window can be opened. E-mail traveling within the Envista platform is archived and retrievable.

Operation

Ciriello began the demonstration with an overview of the Project screen. Clicking the cursor on a street segment presented in bold blue, symbolizing a water pipeline project, he opened an overlay window that identified the project’s owner, anticipated start and end dates, and more. Simultaneously, the text for that project automatically appeared in the spreadsheet’s top line position.



Envista software automatically identifies conflicting projects to facilitate resolution. To review a project, the user clicks on it to view more detailed information.



Drawing tools enable users to add projects by simply drawing them on the map. Here, a storm sewer project crossing a park is being added. Users can add a single point, multiple points, a line, or an area. The program enables all types of users to map projects.

related information. Because the spatial components of all data entered into the spreadsheet are automatically transferred to and appear on the map, no cartographic skills are required.

Moving the cursor to the left side of the screen, Ciriello explained how displayed map data can be filtered by date, location or project type. “For example, if you want to look at projects scheduled in a particular month, the calendar filter is used to narrow the displayed information,” he said. “Similar searching or filtering capabilities enable searches at or near specific intersections, addresses or utilities.”

Subscriber data can be entered to the system using simple import commands. Data from a wide range of spreadsheet, database and project management applications can

He then reviewed the complete array of data accessible about the project. “Standard One-Call utility colors visually link a project to its sponsor,” he noted.

Next, Ciriello clicked open a suite of drawing tools and entered a new project directly on the map. As he entered data, street names, nearest intersection and other fixed locations, area affected, and other information automatically populated the spreadsheet.

Users are prompted to enter nonspatial data into the application to fully detail each new project. This includes start and stop dates, a project name, and sponsor-

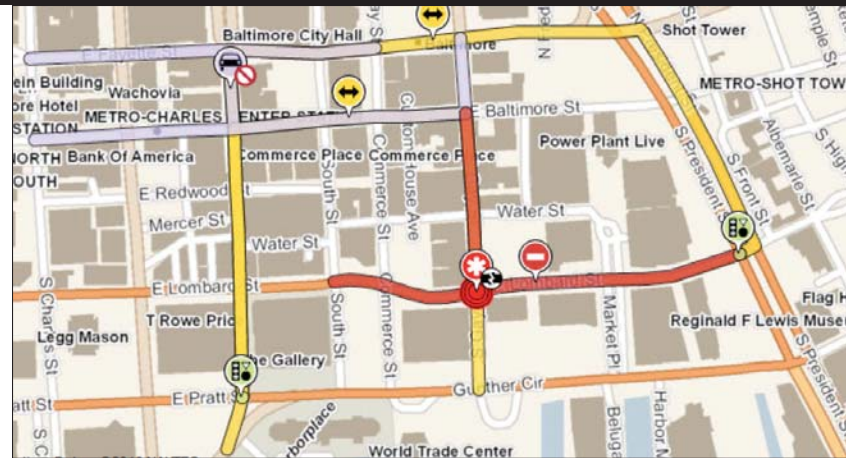


Facility Types in Envista conform to industry-standard colors for One-Call systems. For example, orange is communications, red is electricity, yellow is gas.

be imported quickly. Project modifications can be added through the browser interface or by subsequent imports. “Each subscriber can control the information available to other subscribers,” Ciriello said. “The site is password protected, and it is generally not made accessible to the public.”

The system is intended to find conflicts and enable resolution. Demonstrating how the software facilitates communication between subscribers, Ciriello clicked open the e-mail function by first identifying a conflict on the map, then selecting the Conflict Information window. From there he activated the Notification Window, and a pre-formatted e-mail template appeared.

The template presented the conflict identification number and the nature of the conflict. The conflicting subscribers were also identified, and the e-mail was pre-



In its latest version, the software enables users to map unplanned and emergency incidents, such as water main breaks. As a Web-based solution, multiple city departments — utilities, public works, traffic, police — can quickly share information and actions on a map.

“The application enables simultaneous information exchange, visualization of the data, identification of real conflicts, and conflict resolution that reaches all subscribers, not just those experiencing conflicts.”

Martha Bednarz

addressed to reach the appropriate utilities’ project contact persons.

Observer comments

Envista screens are user-friendly, engaging and deceptively low-key. Without fanfare, they enable collaboration that inspires a quiet “wow” when the full benefits are realized.

As a work zone conflict avoidance tool, the software protects surface infrastructure from excavation after paving. As a project-planning tool, it enables subsurface utility owners to reduce work conflicts and collaborate for cost-saving, sequential operations.

As a real-time incident management tool, it lets emergency responders, police and utility owners respond to anticipated and unanticipated incidents. As an event-planning tool, Envista allows limited human and support assists to be pre-positioned and redeployed efficiently.

Manufacturer comments

Bednarz describes Envista as a centralized collaboration application. “The application enables simultaneous information exchange, visualization of the data, identifica-

tion of real conflicts, and conflict resolution that reaches all subscribers, not just those experiencing conflicts,” she observes.

“Usually, the owner of the largest infrastructure system is the entity that first subscribes to the service. This is because they have the most to lose as the result of conflicts. They also have the most to gain from conflict avoidance.”

Ciriello notes that behind the scenes, Envista is powered by Oracle software that incorporates NAVTEQ digital mapping and ESRI GIS tools. A municipal subscriber’s subscription fee is based on total population, while a utility company’s fee is based on its number of customers. ♦

MORE INFO:

Envista Corporation
978/232-6300
www.envista.com

ESRI
800/447-9778
www.esri.com