



Location Intelligence

Wireless Telecommunications Industry

# Spectrum<sup>®</sup> Spatial for SAP HANA<sup>®</sup>

Make the big data-spatial connection.

## Optimize your network.

Demand for wireless services is growing faster than ever. Your competitors want to steal your best customers. Where should you locate new cell towers? How can you monitor network performance? Which bundles will attract more profitable customers? When should you add more wireless hotspots?

With Spectrum Spatial for SAP HANA, you can utilize the full value of both your business and location data. Gain the real-time analysis you need to make more accurate, profitable decisions.

- Use all relevant data for more precise results.
- Make ad-hoc queries without re-aggregation.
- Visualize results with detailed maps.
- Share insights across the enterprise.

## Capitalize on your coverage.

Combine in-memory computing and location intelligence to:

- Analyze current network assets versus subscriber locations.
- Map the terrain for infrastructure placement.
- Minimize customer churn.
- Identify competitor's weak spots.
- Match new retail locations to demographics.
- Pinpoint smartphone owner locations to deliver offers in real time.

## Gain insights that bring your networks to life.

### Enhance customer service.

Easily create and share accurate maps of your service area. Quickly verify service availability for a specific customer address or location. Identify ideal locations for retail stores, based on service consumption and market dynamics. Target the most promising areas to roll out innovative service offerings such as mobile payments or rear-seat infotainment.

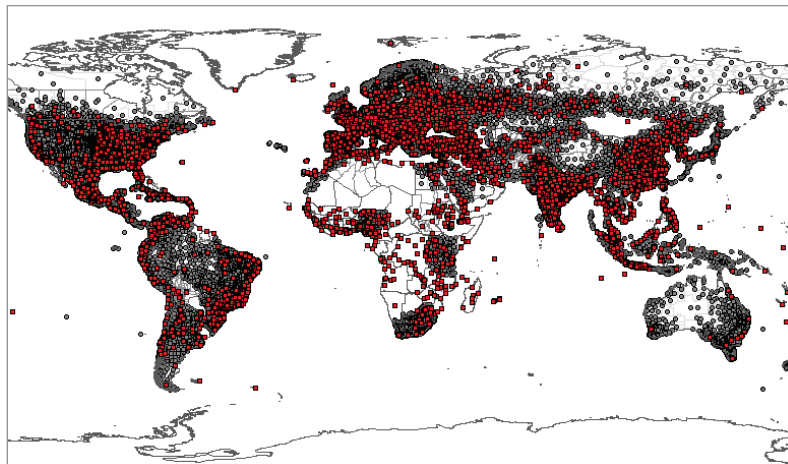
### Increase capacity.

Visualize your wireless network infrastructure for planning, service optimization and revenue growth. Overlay infrastructure maps with demographic and customer data to ensure coverage for high-value subscribers. Pinpoint the best locations for new cell towers, small cells, distributed antenna systems and WiFi.

### Eliminate dead zones.

Gain detailed insight into your network's performance in real time. Expand service coverage and deploy enhanced services to decrease subscriber churn. Base your capacity planning on actual data for dropped calls, outages and bandwidth issues, not just reported incidents. Accurately assess potential risks and maintenance challenges, such as high winds or flood zones, to improve the resiliency and reliability of your network.

## Unsurpassed bandwidth for business and location intelligence

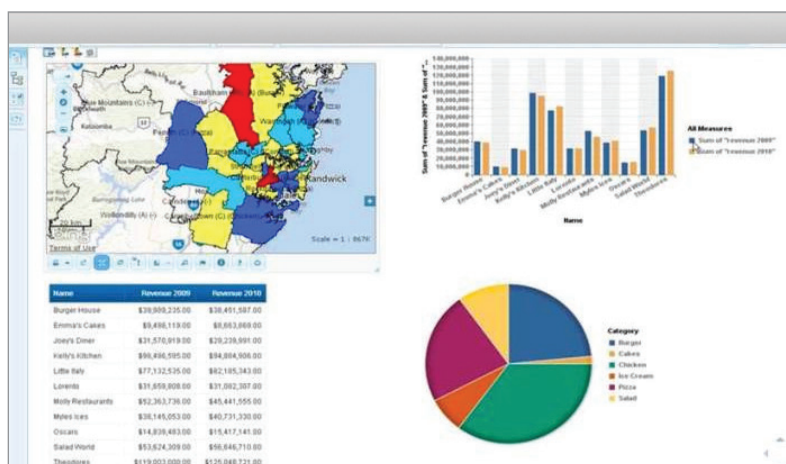


**Global geocoding:** Quickly standardize data and convert addresses to precise geographical coordinates. Our unique approach delivers more matches and fewer false positives. Includes built-in address standardization and validation for 250 countries and territories across 5 continents.

**SAP HANA®: Big data in real time**  
SAP HANA transforms massive volumes of business and location data into actionable insights with astonishing speed. Its revolutionary architecture combines database, processing and analytics into a single, in-memory platform that frees your business from restrictive legacy systems and opens a whole new world of opportunities.

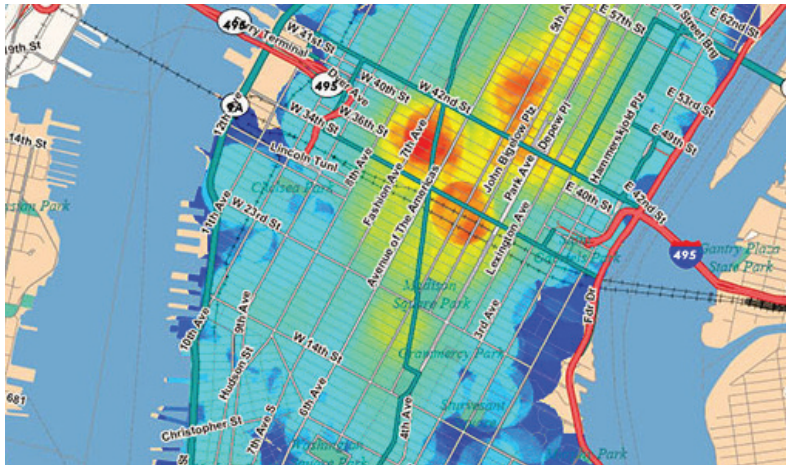
HANA's column-oriented, relational database management system handles high volumes and complex query processing on the same platform. A scalable data warehouse can migrate all business applications to one underlying database. Your company will benefit from:

- Faster performance.
- Quicker time to value.
- Easy configuration and fast deployment.
- On-premise, hosted or Cloud solutions.



**Spatial analytics:** Analyze your spatial data to reveal relationships. Real-time calculations can be configured to solve complex business problems, using Find Closest Site, Find Point in Polygon, Find Nearest and Get Travel Cost. You can even build analytics directly into your business intelligence platform.

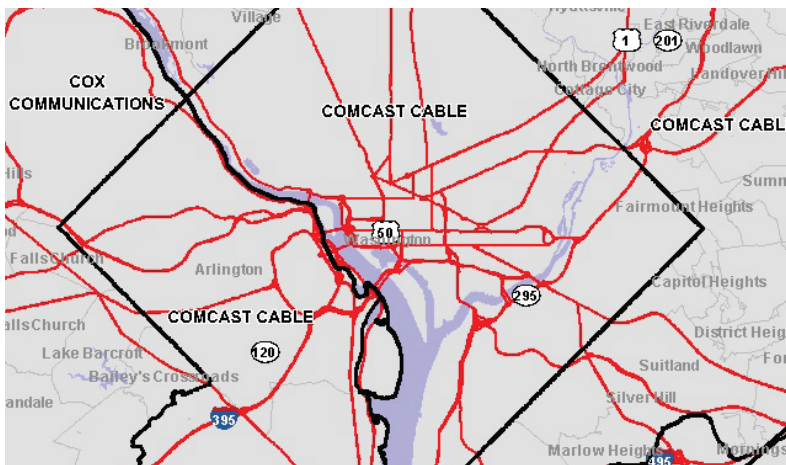
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**Spectrum® Spatial:**  
**Big data meets big world.**

The Spectrum suite of location intelligence solutions from Pitney Bowes integrates seamlessly with HANA to help you discover complex relationships between physical locations and data. An intuitive interface and simple drag-and-drop tools make it easy to build and share interactive maps that bring your data to life.

**Mapping and visualization:** Explore the relationship between data and geography with detailed maps and graphics that help you identify patterns and trends. Create, build and share interactive maps, putting the power of location intelligence directly in the hands of users.



**Global location data:** Enrich your business data with the world's most comprehensive catalog of location, demographic and industry data. Choose from more than 350 datasets covering 240 countries, including:

- Area codes
- Authorities having jurisdiction
- Cable and IPTV coverage
- Calling plans
- Infrastructure data
- Local access transport areas (LATAs)
- Public safety answering points (PSAPs)
- Rate centers
- Telephone service providers
- Wireless licenses

## Make the right call.

As the trusted source for location intelligence, we help wireless providers solve business problems by identifying precise, non-obvious relationships between locations and data.



Spectrum® Spatial for SAP HANA® combines processing power with built-in location intelligence so you can uncover new opportunities, speed innovation and sharpen your competitive edge.

- **Unsurpassed performance:**

Process spatial and business data on the same platform, taking full advantage of the speed and agility of in-memory computing.

- **Speed and simplicity:**

Develop maps and run analytics directly in SAP HANA. No additional steps or outside applications are required.

- **Exceptional accuracy:**

Process huge volumes of disparate data to obtain the most precise results.

- **Real-time insight:**

Instantly transform your data into actionable intelligence.

- **Consulting expertise:**

Tap into decades of experience and proven approaches.

**Learn more about what Spectrum Spatial for SAP HANA can do for your organization. Contact your Pitney Bowes representative or visit us online at [pitneybowes.com](http://pitneybowes.com).**

For more information,  
visit us online:  
[pitneybowes.com](http://pitneybowes.com)

**United States**  
800 327 8627  
[pbsoftware.sales@pb.com](mailto:pbsoftware.sales@pb.com)

**Europe/United Kingdom**  
0800 840 0001  
[pbsoftware.emea@pb.com](mailto:pbsoftware.emea@pb.com)

**Canada**  
800 268 3282  
[pbsoftware.canada.sales@pb.com](mailto:pbsoftware.canada.sales@pb.com)

**Australia/Asia Pacific**  
+61 2 9475 3500  
[pb.apac@pb.com](mailto:pb.apac@pb.com)



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