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## Highlights

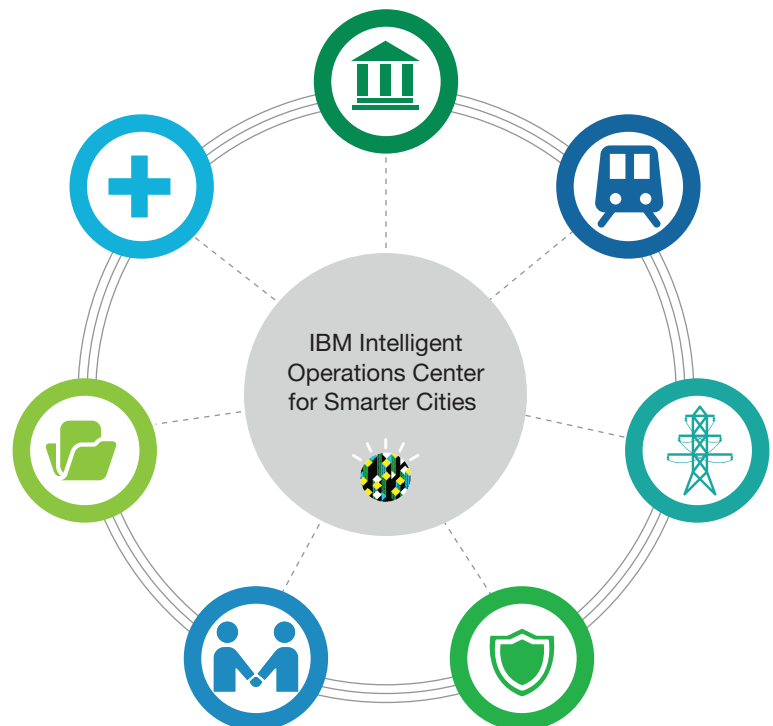
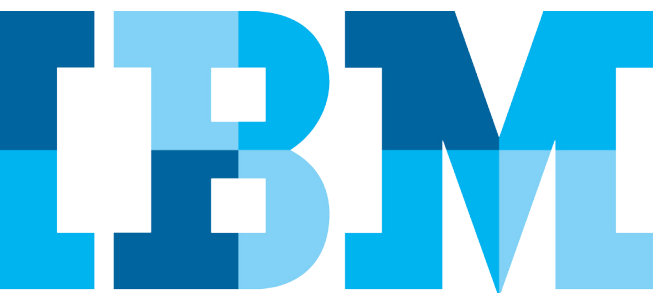
- Leverage information across all city agencies and departments to make smarter decisions
  - Anticipate problems to minimize the impact of disruptions to city services and operations
  - Coordinate cross-agency resources to respond to issues rapidly and effectively
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# IBM Intelligent Operations Center for Smarter Cities

*Coordinate city agencies and resources to deliver exceptional service to citizens*

What if cities could improve services for their citizens without increasing costs? Every day, cities around the globe face an increasing number of operational issues that affect the quality of services delivered to their citizens. To ensure public safety and provide water, electric, transportation and other services, cities need to access an ever-increasing amount of information, facilitate real-time communication and collaboration across city agencies, and address potential problems before they occur.

Unfortunately, many cities cannot achieve this level of effective and efficient operations. For these cities, critical information is often stored in multiple disparate systems, across multiple, disconnected departments, hindering situation awareness and making it difficult for city officials to coordinate agency efforts. Without a single, integrated view of events, incidents or impending crises, and without the ability to rapidly share information, a city might be unable to deliver services in a sustainable fashion, protect citizens or drive economic growth for the future.



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### Key capabilities

- Provides a unified view across all city agencies
  - Allows supervisors to monitor and manage a range of services
  - Enables agencies to respond rapidly to events
  - Delivers situation awareness and reporting
  - Facilitates real-time collaboration
  - Streamlines management of resources and critical assets
  - Includes an easy-to-use interface for multiple types of users, from daily operators to senior managers
  - Integrates with open-standard connection points to existing and future systems
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IBM® Intelligent Operations Center for Smarter Cities is designed to address these challenges. Integrating multiple best-of-breed solutions from the IBM software portfolio, the Intelligent Operations Center solution offers integrated data visualization, real-time collaboration and deep analytics that can help city agencies prepare for problems, coordinate and manage response efforts and enhance the ongoing efficiency of city operations. Executive dashboard capabilities give decision makers a real-time, unified view of operations so they can see who and what resources are needed and available. Cities can rapidly share information across agency lines to accelerate problem response and improve project coordination. By providing visibility into key performance indicators (KPIs) and trends, the solution also can help fine-tune current resource usage and support forward-looking planning activities.

The Intelligent Operations Center is part of the IBM Government Industry Framework, which provides a software platform and roadmap to implement IBM Smarter Cities™ solutions. The Framework gives IBM clients access to pre-integrated software, hardware and industry-specific extensions. Solutions are delivered by world-class implementation services using best practices developed by IBM and its partners through more than 2,000 Smarter Cities engagements. With this approach, cities can achieve a fast return on their investment, reduce risk and gain the flexibility to extend their solutions to address future needs.

### Facilitating real-time collaboration

Cities are complex organizations, with numerous departments in charge of a wide range of essential functions, from water management to public safety. Collaboration across those groups is critical for addressing crises, successfully completing projects and enhancing the efficiency of daily operations.

IBM Intelligent Operations Center for Smarter Cities offers a centralized, real-time collaborative environment for planning, organizing, monitoring and sharing information across city departments and agencies. It processes data feeds and event information from individual departments and then presents that information in a citywide view. In the event of a large-scale emergency, an official at a disaster site can assess the situation and send a report to the operations room via a web-based portal while simultaneously learning that more rescue personnel are on the way. Meanwhile, agency representatives can view report details together, begin communicating instantly and start developing a recovery plan. Collaboration capabilities help accelerate resolution of problems, reduce the impact of crises and minimize the resources needed for getting work done.

On an ongoing basis, the Intelligent Operations Center can help enhance the efficiency of process management, allowing managers to link event planning to predefined business processes. Managers can choose to have processes set in motion automatically or manually when a planned or unplanned event occurs. Integration with the collaboration environment helps ensure that team members can work together efficiently on projects and events.

### Measuring performances

IBM Intelligent Operations Center for Smarter Cities offers near-real-time KPIs to help managers monitor and optimize the performance of city services, personnel, programs and others resources. The solution helps transform raw data—collected from sensors located across the city, historical databases, existing applications and other sources—into actionable insights. Managers can adjust resource allocation or modify programs as results start to trend up or down.

Managers can measure metrics against the city’s own historical benchmarks or those of other cities to gain insight into comparative performance. The city government also can choose to publish metrics, demonstrating to city residents the progress toward certain goals.

### Managing assets and tracking service requests

To maintain the city infrastructure, facilitate resource planning and ensure resources are ready for emergencies, city managers need ways to monitor a wide range of city assets, from sidewalks and sewers to police cars and traffic lights. IBM Intelligent Operations Center for Smarter Cities integrates resource and asset management capabilities to help managers make sure that assets are available, well maintained and ready for use. Intelligent Operations Center portals enable managers to quickly assess the status of assets and their impact on particular city services. A mapping function provides a means of locating key assets rapidly. With effective asset management, cities can reduce the overall cost of maintenance and repairs by avoiding unexpected issues, and help make sure services and resources are available in critical situations.

When service requests are submitted, agency managers must have ways to prioritize projects, ensure that the right resources are allocated and then follow projects to their completion. With the Intelligent Operations Center, managers can use a high-level heat map to easily identify the most pressing issues—information is presented in a geospatial context for situational awareness. Managers can then use drill-down capabilities to access details on the service requests, team members and assets assigned to the requests, and the status of projects.

### Capturing key insights from a single view

Whether personnel need a fast overview of an emergency situation or a deep dive into performance metrics, they can rapidly access the information they need from the solution’s centralized dashboard (see Figure 1). Historical reports enable personnel to view graphical representations of the number of alerts received according to urgency, severity and certainty (see Figure 2). The easy-to-use interface is designed for a wide range of users, from senior managers to daily operators. Personnel can access key information via mobile devices so they can stay on top of issues whether they are in the office or out in the field.

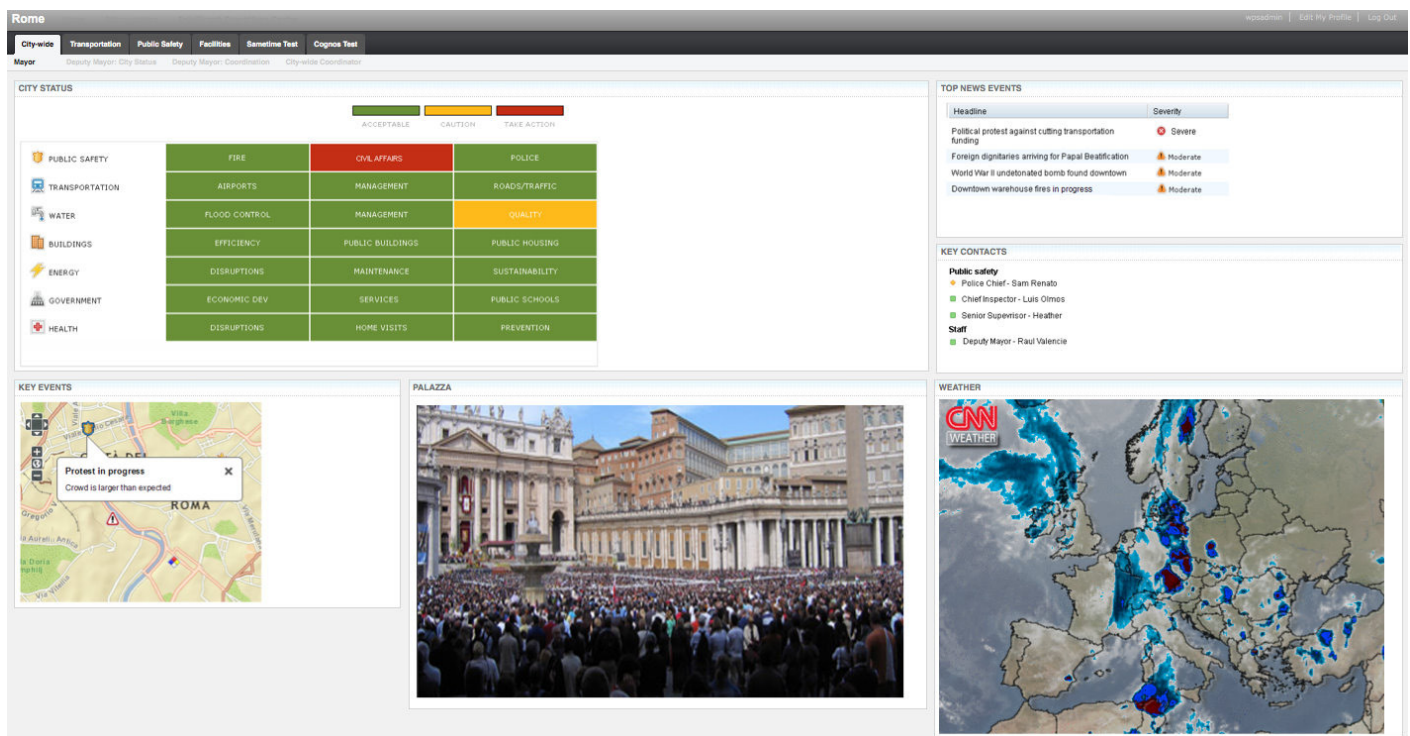


Figure 1: Personnel can gain a quick, multi-department summary of events (upper left) and drill down to manage events and incidents as they occur.

**Transforming city operations with innovative leadership**

A major Latin American city needed better ways to respond to landslides, floods and other natural disasters that might threaten its six million residents. Working with IBM, the city implemented a solution that enables personnel to analyze weather, energy, building, transportation and water data in real time. The solution draws on information collected from multiple sensors, such as traffic cameras and rain meters, and provides near-real-time situational awareness in a single view. Communications capabilities enable personnel to share information across agencies and synchronize rescue efforts. Now the city can marshal its resources within hours, instead of days, to warn the public and provide targeted rescue assistance to help save lives.

**Gaining flexible deployment options**

IBM Intelligent Operations Center for Smarter Cities offers multiple deployment models to provide options for cities of virtually all sizes with varying levels of IT resources. Cities with robust IT capabilities or strong interests in “behind-the-firewall” implementations can deploy this solution in their own data centers.

For cities and cross-municipality organizations without the resources or skills for deploying and maintaining this solution, IBM intends to offer the Intelligent Operations Center as an IBM software-as-a-service (SaaS) option that would reside on the IBM SmartCloud. The IBM SmartCloud is an expansive, agile infrastructure as a service (IaaS). This delivery platform is designed to provide organizations with rapid access to enterprise-class virtual server environments that are well suited for dynamic workloads, applications and solutions. Deploying the Intelligent Operations Center in the IBM SmartCloud can help cities capitalize on the latest technology advances while controlling costs.

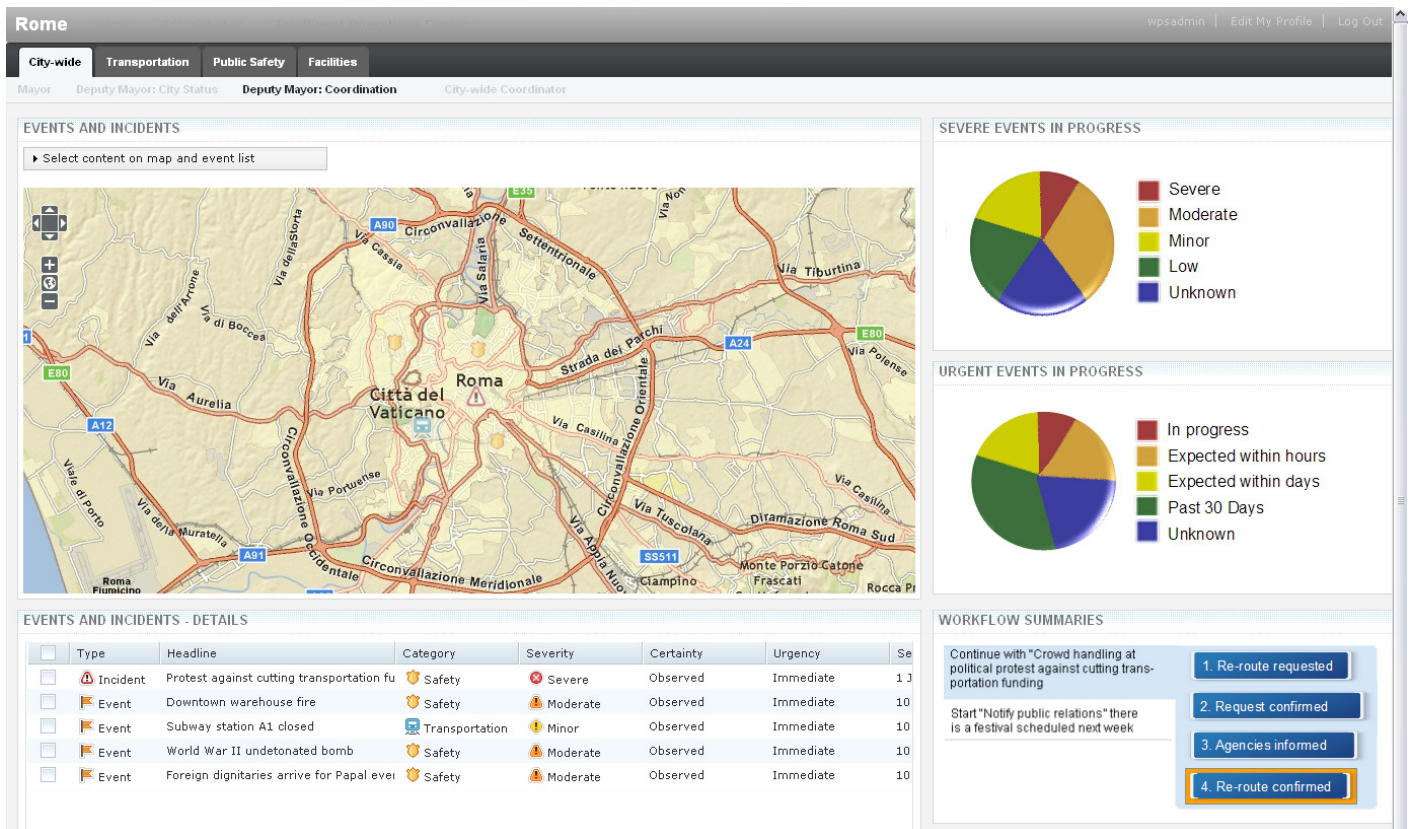


Figure 2: Personnel can check alerts according to severity and urgency, and assess workflows.

The Intelligent Operations Center is designed to run on IBM System x® workload-optimized systems. IBM intends to expand the deployment options to support a wider range of server platforms, including IBM Power Systems™ and IBM zEnterprise™ Systems.

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### Teaming with industry leaders

IBM Intelligent Operations Center for Smarter Cities provides cross-agency capabilities using a variety of data streams and services already found in city environments today. IBM is teaming with the providers of those data streams and services, developing a robust ecosystem of IBM Business Partners committed to jointly delivering IBM Smarter Cities solutions. These IBM Business Partners provide domain experience and deliver best-in-class hardware, software and service. They are helping IBM deploy Smarter Cities solutions in multiple regions around the globe.

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## Helping to build Smarter Cities and a Smarter Planet

Today government organizations need to provide robust services, drive economic growth, anticipate problems and coordinate their responses to crises, all while optimizing existing resources. IBM Intelligent Operations Center for Smarter Cities is just one of several IBM Smarter Cities and government solutions designed to help organizations work smarter—doing more with less.

These solutions can help organizations integrate information from disparate, instrumented systems and create an intelligent, interconnected environment that fosters collaboration, enhances efficiencies and sponsors effective decision making. IBM can help cities optimize individual departments—including buildings, energy, operations, public safety, transportation and water—while facilitating virtually seamless cross-departmental integration.

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## Smarter Operations:

## Delivering a coordinated response to crises



### Instrumented

IBM Intelligent Operations Center for Smarter Cities collects data from systems that manage video cameras and sensors positioned throughout the city.



### Interconnected

The solution is designed to integrate data from multiple systems and enable access to information via a web-based portal. By integrating information, the solution helps agencies work together more closely and collaboratively.



### Intelligent

Officials in the operations room gain a more clear and accurate picture of crises with near-real-time information presented in a single, unified view. The city can coordinate relief efforts more rapidly and efficiently to help save lives.

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## For more information

To learn more about IBM Intelligent Operations Center, please contact your IBM representative or IBM Business Partner, or visit:

[ibm.com/software/industry/intelligent-oper-center](http://ibm.com/software/industry/intelligent-oper-center)

To learn more about all of the IBM Smarter Cities solutions, visit: [ibm.com/smartercities](http://ibm.com/smartercities)



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