



Microsoft CityNext

EMPOWERING

Cities & Citizens

As the increase in urbanization results in new challenges, from modernizing aging infrastructure to meeting the demands for natural resources, there is an opportunity for cities to become more efficient, safer, healthier, more educated, and more sustainable places to live and work.

It is forecasted that by 2050 more than 6 billion people, about 70 percent of the population, will live in urban areas, adding 2.7 billion urban dwellers to the more than 3.5 billion people already living in cities today. Meeting the needs of over 6 billion people requires us to broaden today’s conversations around smart cities: we will need to deliver both citizen-centric services and economic and social opportunities to citizens at scale. Because, at their core, cities are about people.

Microsoft CityNext is empowering cities to become more efficient, safer, healthier, more educated, and more sustainable places to live and work. By

leveraging technology and working with leading software companies around the world, Microsoft and our partners can help governments, businesses, and citizens shape the future of their regions, cities, and municipalities.

By offering a broad portfolio of secure devices, solutions, and services, a diverse network of global partners with expertise, and an extensive history of successful programs that serve as great examples of how technology is already transforming cities, Microsoft and our partners can help you imagine—and realize—what’s next for your city and citizens.



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WE ARE IN THE AGE OF CITIES

Today we are experiencing a profound shift in human population. The world is undergoing an urban renaissance as people are moving to cities in ever greater numbers to build better lives. 80 percent of the world's GDP and 50 percent of our population are now centered around our cities.³ And, despite representing only 2 percent of the world's surface area, cities are responsible for upwards of 80 percent of the world's energy consumption and 75 percent of carbon emissions.⁴ They are gathering places for higher education and advanced innovation in healthcare, science, and energy—the engines of new

ideas and businesses that drive breakthroughs and economic growth.

This march toward greater urbanization unleashes a new wave of challenges, but even urban areas with slower population growth face similar issues. Aging infrastructure, new hazards to public health and safety, aging populations, unemployment, and the inherent uncertainty of natural disasters, climate change, and global and national economic forces are stark realities. City leaders must meet increasing citizen expectations with shrinking revenues, tight budgets, limited natural

resources, and rigorous regulatory requirements, while working across complex, siloed agencies and departments.

Many high-profile city innovation projects focus primarily on making infrastructure “smart” by embedding sensors and upgrading networking capabilities. Although this is a critical step, it limits the conversation to infrastructure and misses an enormous opportunity to unlock a city’s human potential. Next-generation cities also need to become more sustainable across economic, environmental, and social spheres by using innovation to empower people in government, business, and the community. A people-first approach will harness these capabilities to deliver citizen-centric services that help students achieve more through one-on-one learning experiences, give isolated populations access to needed government services, provide the elderly with high-quality healthcare in their homes, support entrepreneurs in seeing their ideas come to fruition more quickly, get commuters home sooner, and give city employees a real-time, one-city view so they can do their jobs better.

Microsoft and our diverse partner ecosystem are uniquely positioned to help you address your city’s most pressing issues. Our capabilities in government operations, public safety, health, and education can help cities become more modern, safer, healthier, more educated, and more sustainable places to live.

Tech trends that are enabling “what’s next” for cities

While cities are already well on their way toward modernizing their technology infrastructures, they will continue to face growing challenges as migration trends and citizen demands for services increase. Microsoft CityNext is the bridge to help your city meet these challenges—to start from where your city is today and advance toward achieving what’s next for your city.

Working together, Microsoft CityNext and our partners can provide your city with solutions that will focus the most important technology trends—cloud, big data, mobile, and social technologies—on your city’s most pressing issues. For example:



Cloud

Through the cloud, cities can connect public and private data sources with the privacy, security, interoperability, and control needed to have effective cross-departmental collaboration and resource sharing. The scalability and cost-effectiveness of cloud services drive cities' fiscal responsibility by reducing costs without cutting essential services.

Big Data

Through data and analytics, city leaders can gain vital real-time insights from multiple secure data streams—such as traffic cameras, social media, and devices and sensors that make up the Internet of Things (IoT)—to make more accurate decisions, achieve greater efficiencies, and respond faster in emergency situations.

Mobility

Through secure mobile devices such as sensors, smartphones, and tablets, cities can reach citizens anywhere, anytime, and on any device. Citizen-centric applications enable people to directly engage and interact with their city governments for services that can make their lives safer and more convenient.

Social

Through social media such as Twitter, Facebook, and Skype, cities can open two-way dialogues with citizens and businesses to better inform them and understand their needs. Cities also can better warn citizens of impending natural disasters or other public safety issues through mobile alerts and social channels.





Microsoft CityNext can help you get the most out of these technology trends. Together with our partners, we can help you transform a city's operations and infrastructure, engage citizens, and accelerate innovation to create sustainable cities—places where citizens, businesses, and governments can work with one another for a better tomorrow. With Microsoft CityNext, your city can:

Transform operations and infrastructure by connecting systems, data, and people across departments to make information more accessible and services more affordable. With solutions enabled by cloud and data technologies, you can gain actionable insights from connected infrastructure, maintain assets more predictably and proactively, and run cities more efficiently and sustainably.

Engage citizens, businesses, and government workers by enabling real-time communication services through devices and apps. This includes connections between governments and citizens, governments and business, and other governments. With solutions enabled by mobile and social technologies, you can provide new value-added citizen services, reach a broader segment of the city's population, and engage

citizens and businesses more deeply with intelligent experiences.

Accelerate innovation and opportunity through programs and partnerships that prepare youth to become the next generation of highly skilled workers, nurture entrepreneurs' bold ideas, and create jobs that help cities compete in the global marketplace. Cities can attract talent and new businesses, use data from the Internet of Things to develop new services and businesses, and deliver education excellence. The result? Cities can help the next generation of innovators and small businesses turn ideas into enterprises and create local jobs, while solving the most demanding challenges facing citizens, businesses, and government.

Empowering what's next for your city.



CITY CHALLENGES

The challenges facing civic leaders today can negate some of the very elements that make cities attractive in the first place. While these challenges are not new, their scale and intensity are increasing. Even more difficult can be trying to address these issues in the face of financial constraints, administrative complexity, and expectations of rapid return on investments. Within individual city domains, the stark challenges and rising citizen expectations include:



Digital Cities Challenges

Government Administration

Citizens and businesses want virtually all city services to be accessible electronically. At the same time, they want their city government to improve transparency and accessibility, while protecting privacy and security. In addition, city governments want to deliver innovative services that reduce cost and increase impact.

Tourism, Recreation, and Culture

Entertainment, culture, and recreation not only help attract and retain a vibrant city population, but they draw tourists, who can drive economic activity and enhance a city's reputation. Offering specific, tailored resources and services can extend the overall value.



Safer Cities Challenges

Public Safety and Justice

Cities must deal with greater public safety risks—from crime and fire to terrorism and natural disasters—that can arise from denser urban environments as populations grow and available resources shrink.



Healthier Cities Challenges

Health and Social Services

Access to timely, affordable, high-quality health services is a key public concern, especially given aging populations, sharp increases in chronic ailments, and potential disease outbreaks.



Educated Cities Challenges

Education

Citizens and businesses alike expect cities to cultivate educated citizens who can hold jobs, participate in the community, and contribute to the common good. But many cities find it hard to offer the affordable, high-quality education that a skilled workforce needs.



Sustainable Cities Challenges

Buildings, Infrastructure, and Planning

Buildings consume more than 40 percent of all energy and generate 33 percent of carbon emissions worldwide.⁵ In most cities, a top economic and environmental priority is reducing energy consumption and costs, and carbon emissions.

Energy and Water

As populations and commercial activities expand, resource-related issues also increase. Both human and economic health can suffer from a lack of safe, adequate energy and water as well as from pollution.

Transportation

Cities with growing human and vehicle populations experience strains on roads and public transportation networks as well as long commutes, pollution, and wasted energy.

MICROSOFT CITYNEXT SOLUTION AREAS

Today, Microsoft CityNext and our partners are delivering solutions that are helping cities meet their challenges. After decades of working with city leaders worldwide, we have identified over 40 solution scenarios that address the majority of a city's technology concerns. With these solutions, cities can address nearly all the issues they face today.



Digital Cities Solution Areas

Microsoft CityNext and our partners can help cities to achieve digital government transformation, so they can innovate people-first services and solutions that span city administration and citizen services, enabling increased insight, service efficiency, and improved citizen outcomes. We are helping cities work within their means by building on existing investments and incorporating new innovations at their own pace to

create a modernization approach that works today and is sustainable into the future.

Government Administration

- City Financial Management
- Citizen Service: Portals, Call Centers & Apps
- City Dashboard
- Document and Records Management
- Grants Management
- Open Data
- Social Analytics
- Tax and Revenue
- Virtual Town Hall

City Dashboard in Buenos Aires, Argentina:

Buenos Aires wanted to explore ways in which technology could make their city more efficient, livable, and sustainable. Working with Microsoft CityNext and our partners, Hexacta and Kwan, the city developed new solutions to streamline government operations and increase citizen access to information. The city dashboard consolidates data from multiple IT systems into a single interface providing city decision makers with insights into project progress and citizen needs.





Tourism, Recreation, and Culture

- Destination Management Systems
- Mobile Tourism Applications
- Tourism Portals

Tourism Portals in Ireland: Tourism Ireland is a publicly funded organization responsible for marketing Ireland overseas. Working with social media channels and Microsoft customer relationship management solutions helps give the organization a deeper look at its customers and allows Tourism Ireland to bring a personalized marketing experience to prospective Emerald Isle tourists.

Safer Cities Solution Areas

Microsoft CityNext and our partners can help make cities safer with solutions that span neighborhood, emergency, judicial, and prison management and offer better analytics and insights, improved safety, and better emergency management—all while working with increasingly restricted budgets.

Public Safety and Justice

- Court and Judicial Management
- Emergency Management

- Intelligence and Analysis
- Neighborhood Management
- Prison & Offender Management
- Video Management

Video Management in Surat, India: The city of Surat has experienced rapid population growth, leading to a relative shortage of manpower in its police force. To provide a safer community for its citizens, the Surat City Police Department started the 'Safe City Project,' an initiative striving to reduce the city's crime rate using today's technology. The department worked with Microsoft and its partner, Dev ITPL, to deploy a solution that monitors street activities by tapping into state and national surveillance grids. Since implementation, the city has seen a 27 percent crime reduction in its surveillance zones.

Healthier Cities Solution Areas

Healthier cities are more competitive cities. Microsoft CityNext and our partners can help you improve the health offerings for people in the community with solutions that span population health, primary care, remote care, case management, and social benefits administration, so citizens can lead more productive, fulfilling lives and contribute more to the well-being of their community.

Health and Social Services

- Pandemic Management
- Personal Health and Wellness
- Primary Care
- Population Health Management
- Remote Care and Case Management
- Social Benefits and Administration

Primary Care in Lille, France: Lille Regional Teaching University Hospital—a leading provider of healthcare in northern France—wanted to provide a better experience for patients and improve staff workflow. By using Microsoft technology to connect Care and Comfort bedside terminals with back-end infrastructure and medical systems, France’s Lille Regional Teaching University Hospital has improved patient care and workflow, gained better usability, and simplified management.



Educated Cities Solution Areas

Prosperous cities need educated citizens to fuel their economic engine. Microsoft CityNext and our partners can help you improve education with solutions that span education analytics, research, learning systems, and school and campus administration that can drive more innovative schools, with more effective teaching practices and better learning outcomes.

Education

- Devices, Mobility, and Apps for Learning
- Education Analytics and Research
- Learning Systems
- School and Campus Administration

Education Analytics and Research in Tacoma, Washington: Is it possible to predict whether students are at risk of dropping out of school? The Tacoma Public School District thinks so. Using predictive analytics tools based on Microsoft cloud technologies, the district is providing comprehensive data snapshots of student success indicators and has already helped to improve graduation rates from 55 percent to 78 percent.



Sustainable Cities Solution Areas

Microsoft CityNext and our partners can help cities improve environmental sustainability with solutions that span energy and water, building energy management, transportation, resource efficiency, and ecosystem services.

Buildings, Infrastructure, and Planning

- Parcel, Zoning, and Land Use
- Smart Buildings
- Street Lighting
- Waste Management

Smart Buildings at Carnegie Mellon University:

Carnegie Mellon University wanted to improve building management and energy efficiency. With the OSIsoft PI System and Microsoft data and cloud technologies, the university is gaining better insight into data from diverse sources, sharing information more easily, empowering people to manage buildings more strategically, and it has reduced building energy consumption by 20 percent.

Energy and Water

- Carbon Management
- Energy Management and Analytics
- Smart Grids
- Water and Wastewater Management

Smart Grids in Issy-les-Moulineaux, France:

A consortium of utilities, building owners, software leaders, green-tech startups, and other companies launched IssyGrid. It’s a bold experiment to see what happens when homeowners and building owners have real-time data on their energy usage. The result: they reduce their consumption—and their energy bills—by 10 percent to 20 percent.

Transportation

- Asset and Fleet Management
- Operations Management
- Parking Management
- Toll and Fare Management
- Traffic Management
- Transportation Safety

Asset and Fleet Management in Helsinki, Finland:

The city of Helsinki, Finland, relies on a strong public transportation system to help residents and visitors get to where they need to go. The bus company Helsingin Bussiliikenne Oy (HelB) competes with other bus operators for city routes, so it needs to find ways to stay competitive. Working with Microsoft and CGI, HelB expanded the company's data warehouse solution to collect and analyze data from bus sensors to reduce fuel consumption, improve driver performance, and make bus rides smoother and safer.



TRANSFORM OPERATIONS AND INFRASTRUCTURE

The reality of transformation through IT often falls short of the promise. Microsoft and our partners are committed to helping you fulfill your promise, starting with the understanding that no two cities are exactly the same. We also believe that transformation does not and should not need to start from scratch. It's an evolution, not a revolution. New solutions should build upon and work with the city's existing and potentially diverse investments. Microsoft CityNext and our partners' solutions are designed to open a bridge for cities to start from where you are today, leverage existing IT infrastructure, and advance toward achieving what's next for your city—all at your own pace.

Enable new capabilities—with a cloud platform and flexible services.

By taking advantage of cloud computing, you can reduce costs, increase efficiency and productivity, and engage people in innovative ways. Cities leaders can realize these benefits while preserving the budget and time for other citizen-centric needs and priorities.

The city's employees, citizens, and businesses all expect to connect with city services in new ways using technology. City employees expect to be able to access line-of-business applications and other work content from nearly anywhere, at any time, and on virtually any device. Citizens and businesses expect convenient, instantly responsive ways to access city services online.

Either way, people expect their interactions to be smarter, more automated, and more contextual. Microsoft cloud services make it possible to establish a cloud platform that can deliver the kinds of experiences that people expect today, without the level of investment and management that would be required with a more traditional IT infrastructure.

Choice and flexibility are key to cloud adoption now and in the future. It should be up to city leaders and citizens to decide what platform, services, and assets to deploy in the cloud and when. This ensures the ultimate ability to balance control and flexibility with cost and agility. At Microsoft, we offer a comprehensive range of cloud offerings that span the continuum of public to private, helping cities move to the cloud at their own pace.



To help police search for missing children, the Department of Education of the State of São Paulo (SEDUC) needed to quickly build a solution to manage and store photographs of about 4.5 million students. It developed a cost-effective application to run in Microsoft Azure and gained a fast time-to-market to help authorities solve missing children cases. The cloud-based solution provides the availability, scalability, and storage that SEDUC needed.

Innovate on your terms—with modern solutions.

To accommodate the dynamic scale and reach of modern-style applications, cities need modern IT platforms. Microsoft CityNext solutions are uniquely positioned to help governments reap all the benefits of scale, speed, and agility, all while still leveraging existing investments. City leaders don't have to fear being locked in to proprietary frameworks, and cities gain a consistent and comprehensive range of offerings.

Microsoft recognizes that, in an increasingly interconnected computing landscape, enabling vendor interoperability has become more important than ever. Microsoft is committed to enabling a vendor/system convergence and to establishing and maintaining open connections between our products and non-Microsoft products. We support relevant industry standards in a way that promotes interoperability.

That's why Microsoft CityNext solutions make it easier for cities to connect systems across a multi-vendor environment and to share data—all in accordance with the distinct security and privacy policies and laws of your particular city. Our goal is to enable cities to choose, develop, and support the applications, languages, and tools that are best for running the city

today, without imposing limitations on technology options in the future.



China's Beijing 105 Middle School wanted to enhance education by allowing teachers to seamlessly share content as well as engage students with multimedia learning tools.

Working with IGRS Engineering Lab, the school implemented a solution based on Microsoft technology that connects digital whiteboards, PCs, and TVs with back-end servers, and end user tablets. The streamlined solution improves productivity for teachers, is more reliable and easier to manage, and is reducing maintenance costs ¥250,000, or about US \$40,000, per year.

Innovate on your terms—with big data.

Data is a critical resource and can be among a city's most valuable assets. Big data is more prevalent than ever before. The challenge is to use that data—plus the wealth of available private-sector data—in meaningful ways. Cities need solutions that enable data to flow across their entire infrastructures, from sensors, meters, machines, systems, devices, social media channels, and public data markets to back-end systems where it can be gathered, analyzed, and turned into insight that people and machines can act upon.

Microsoft's big data and Internet of Things (IoT) solutions offer the best end-to-end platform to manage data of any size and from any source. Using our industry-leading database and cloud services. Microsoft CityNext solutions can deliver holistic, citywide data views. In turn, these can provide employees with new intelligence that supports better historical trend and pattern analysis, richer predictive modeling, and more effective real-time decisions. All of these capabilities can help a city optimize its resources, break through departmental silos, and provide better services for less.



**Ajuntament
de Barcelona**

Barcelona wanted better insight into government effectiveness—it needed a

solution that could collect and analyze data from its systems and public sources such as social media, software log files, and GPS signals. With Microsoft partner Bismart, the city built a hybrid cloud to store and analyze and provide insight into structured and unstructured data. It provides business intelligence to enhance services and business opportunities, improve safety, and boost collaboration between city, citizens, and businesses.

Empower city employees with enterprise-grade devices and apps.

Giving employees the ability to stay securely connected through mobile devices to their departments, team members, and constituents from virtually anywhere at any time means citizen services do not need to stop the minute they leave their municipal offices.

At Microsoft, we recognize that employees will have strong opinions about which devices they want to use. Let the employees choose. We have tailored offerings that make it possible—and easy—to manage and use a mix of devices, including those that run on Android, Apple, or Windows operating systems. With the Windows platform, city employees can take advantage of powerful analysis tools and synchronize their case files, reports, models, pictures, and settings right across all their devices—PCs, tablets, smartphones, and others—without compromising security, privacy, or compliance.



**CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD**

The City of Cape Town is addressing the transportation issues that citizens and tourists face when trying to

navigate an informal system of minibus taxis. The city of Cape Town is using an app developed by a local startup called WhereIsMyTransport. The company was aided by the Microsoft BizSpark program. The WhereIsMyTransport APTMS platform aggregates schedule data from six transport operators and makes it available for an estimated audience of 300,000 to 500,000 people via a Windows 8 app called FindMyWay that they can use to optimize their travel around the city. WhereIsMyTransport also created an option for people who cannot afford smartphones so they can access the service through a text-based model using simple "feature" phones. By using technology to increase people's access to information, the City of Cape Town hopes to increase public transport ridership, reduce congestion, and improve the environment by reducing vehicular traffic on its roads.

ENGAGE CITIZENS



Whether inspired by a pothole in the street, the need for a permit, frustration over the speed of business development, or the desire to contribute, citizens are demanding greater access to and interaction with government. These rising expectations underscore the importance of providing rich, personalized citizen-centric services that result in better-served, more engaged citizens and businesses. Providing citizens and businesses with a straightforward way to quickly engage pays off in a variety of ways, including increased visibility into citizen needs and positive perceptions of city government.

Deliver worker and citizen-centric services and apps with a people-first approach.

Most citizens would prefer to engage with “one” city, not a series of disconnected agencies and processes. With the identity management capabilities of Microsoft software, devices, and services, Microsoft CityNext solutions can help people avoid having to repeatedly identify themselves to multiple departments to access records, submit permits, enroll in school, pay taxes, and share health data and access care across different hospitals. Instead, citizens can engage in a streamlined, “one-stop” experience with the city through personalized hubs that maintain and protect citizens’ identities.

In addition to facilitating information access, more intuitive technology tools can improve the experiences of citizens and businesses. People already use gestures and speech to interact with their phones, tablets, PCs, and other connected devices. Such natural ways of interacting with technologies make it easier to learn how to use them and, in essence, allow people to further personalize how they engage with their communities via their devices.

Microsoft leads the industry in computer accessibility innovation. This is particularly important for people who experience visual difficulties, dexterity issues, hearing loss, and speech or cognitive challenges. For many citizens who have particular accessibility requirements, the chance to personalize their devices to meet their individual needs not only makes computer use possible, but it also improves their ability to participate in public discourse and take advantage of city services and educational opportunities.



The Colegio San Benito primary-level school in Santiago, Chile, helped one of its students, who is blind, reach the top of her class by adopting accessible software from Microsoft. Instead of the specialized Braille typewriter the student previously used to complete her school assignments, she now uses accessibility programs in the Windows operating system and compatible screen-reading software to participate fully in classroom activities and maintain a near-perfect grade point average.

PEPPERDINE UNIVERSITY

Pepperdine University's Graziadio School of Business and Management enrolls approximately 2,000

students, many of whom work full time. Connecting and engaging busy students can be challenging, so the business school took a page from Fortune 500 companies: it uses Yammer to foster collaboration, enhance learning, and forge tighter relationships among students, faculty, staff, and, increasingly, alumni.



Enable real-time dialogue with citizens via social media.

Citizens want to make their voices heard, and city governments want to hear them more clearly. Cities can encourage deeper civic engagement and participation by making the most of mobility and social media channels. Microsoft CityNext and our partners help integrate familiar social tools into cities' applications. This can make them accessible on many different devices, so city employees can easily share ideas and collaborate with citizens and businesses, regardless of location. Fostering a connected environment gives citizens the opportunity to improve the value of civic relationships; encourage open dialogue; and address people's perceptions, needs, and concerns faster and with a better understanding.

Spur city app development and economic growth with open data initiatives.

Opening up public data—making it accessible to the people—not only increases transparency but can also create opportunities for the development of new services. Offering appropriate, controlled access to previously unavailable data can spur enterprising local developers to create new solutions and applications to boost local economic activity and enhance the quality of life for a city's residents and visitors.



The City of Glasgow is using the latest cloud and analytics technology and open data culture to reinvent itself. Glasgow moved to embrace an open data culture—declaring that all its non-sensitive and non-personal information would be open by default and freely shared. The city opted for the Microsoft Azure cloud to get a powerful storage solution that scales, keeping costs contained. City services are now more efficient, as analysis tools let the city allocate resources more effectively. Glasgow isn't stopping there. It is using the power of the Internet of Things (IoT) to process and analyze data from sensors across the city. It is helping developers make apps based on city data. It is encouraging the formation of new businesses that can use this data to thrive. It is becoming a model for other cities to follow.

ACCELERATE INNOVATION AND OPPORTUNITY

Innovation is an essential catalyst for economic growth and competitiveness. However, fully harnessing the power of innovation for a prosperous, competitive city requires more than technology itself. It requires efficient infrastructure, effective institutions, and the creativity of every city's most important resource—its people. City governments can contribute to the sustained economic and social well-being of their communities by attracting talent, helping more people develop useful skills, and expanding technology access to those who otherwise would not be part of the digital society.

Adopt a broad-based partnership approach.

Microsoft CityNext solutions help cities enable self-sustaining cycles of innovation that involve whole institutions and individual citizens alike. Microsoft has long participated in public-private partnerships with governments, nongovernmental organizations, and other local stakeholders to enable citizens to realize their full potential through learning tools and education. Around the world, these partnerships have

helped millions of city residents shape a brighter future for themselves and their local communities.

Codetoki *The Philippine Government wants to empower today's youth by increasing employability and sees better IT skills as a major enabler. Local software company Codetoki decided to help by devising an online game that tests and scores coding skills. Microsoft supported Codetoki through the BizSpark program, which includes Microsoft Azure cloud hosting services as well as local technical support. Together, Codetoki and Microsoft are helping to inspire rural youth and kick-start professional careers. Since its launch, Codetoki has attracted more than 2,745 players from 155 schools..*

In keeping with our long-standing commitment to education and opportunity for all young people, Microsoft set a goal in 2012 of creating opportunities for 300 million youths over the next three years through partnerships with governments, nonprofit organizations, and businesses. Through Microsoft YouthSpark, we bring together a range of new, existing, and enhanced programs to address the opportunity divide that young people face.

Empower youth with learning systems and new opportunities.

Many city leaders already emphasize access to education for all students as a cornerstone of long-term growth and competitiveness. Because we believe that education is a right, not a privilege, Microsoft CityNext and our partners provide educational institutions with affordable end-to-end learning solutions for faculty and students.





Getting technology into the hands of young people is not enough. Cities need to support transformative learning and help them build the skills they need for the future. Government officials, school leaders, and educators can take advantage of Microsoft Partners in Learning to gain new approaches to teaching and using technology to help students develop twenty-first-century skills. Local accredited academic institutions can also draw on our Microsoft IT Academy digital curriculum and certifications to provide students with the technology skills necessary to acquire technical certification for today's rapidly evolving workplace.

Expand digital inclusion with access and skills training.

One of the best ways to ensure that all citizens have basic technology access and literacy is through creative partnerships such as those built through Microsoft's "Shape the Future" program. These partnerships support governments' efforts to achieve their particular digital-access goals, from promoting education reform to developing a twenty-first-century workforce.

City leaders can also give citizens access to technology in familiar languages through the Microsoft Local Language Program, which aims to empower individuals to create economic opportunities, build IT skills, enhance education outcomes, and sustain their local language and culture. In addition, we provide an online, multilingual Microsoft Digital Literacy curriculum, along with free software and support, which city leaders can use to teach and assess basic computer concepts and skills. These help citizens develop new social and economic opportunities for themselves, their families, and their communities.

Nurture new businesses and innovators with resources and support.

Cities can help their local technology innovators and entrepreneurs turn ideas into thriving small and medium-sized enterprises by introducing them to valuable programs and partnerships. For example, visionary entrepreneurs in your area can benefit from the software, support, visibility, and community that Microsoft provides worldwide—at no charge—through Microsoft BizSpark. Advancing the technical knowledge of a city's younger citizens is also critical to

its long-term economic health and competitiveness. That's why Microsoft DreamSpark gives free access to Microsoft designer and developer tools for students and educators in high schools and colleges.

We also want to partner with city leaders to foster creative research, technology, and software solutions and help cities grow a sustainable local software economy. City leaders can connect with government, academic, and industry participants at all levels through our state-of-the-art Microsoft Innovation Centers, which offer access to valuable resources, experts, and tools for collaboration and skills development.

WHERE TO START?

Innovating at the scale of a city requires incremental steps and a commitment to the journey. However, city leaders can minimize planning cycles and expense by building on what Microsoft CityNext and our diverse network of partners have learned in helping government entities worldwide. Here are some steps we suggest:

- Articulate your city's long-term goals. Conduct an assessment of the current position relative to those goals to reveal development gaps.
- Prioritize your city's investments. Priorities are unique to every city, driven by cultural, geographic, political, partnership, staffing, and other factors. Establishing a flexible platform will be the foundation for ongoing services delivery in the future.
- Identify existing technology investments to build upon and plan new solution adoption at a pace that meets the city's unique situation.
- Adopt cybersecurity, privacy, and compliance policies to underlie every solution.
- Maximize value within any industry—whether public safety, transportation, or physical infrastructure—by recognizing and understanding key dependencies and convergence points.
- Take into consideration stakeholders from across the public and private sectors.

- Plan ahead for the accessibility requirements that affect not only your physical environment, but also your information and communication systems. A proactive approach will ensure full participation by all citizens.
- Embed governance into your plan through the use of transparency and measurement tools.
- Investigate the range of available solutions, technologies, and programs that make it possible for you to optimize your city's existing assets and human resources.
- Take a step-by-step approach to transformation. Select one of your top priorities and tackle it with the confidence that the return on your foundational investment will be enhanced by subsequent projects.

GET TRUSTED, STRATEGIC ADVICE

- Visit www.microsoft.com/citynext to learn more about the solutions, case studies, partners, and other resources available there.
- Engage experts within the extended Microsoft CityNext community and beyond for guidance on both technical and nontechnical undertakings.
- Ask for help from Microsoft and/or a Microsoft CityNext partner. Together we can conduct assessments to identify the city's current position relative to the goals, review proofs of concept, and help develop logical next steps.
- Direct CIO, CTO, or departmental IT leaders to explore the technical aspects of Microsoft CityNext solutions in the Microsoft CityNext Reference Model Overview document.

CONCLUSION

By adopting a people-first approach and new strategic alliances, cities can enable self-sustaining cycles of innovation, opportunity, and progress for years to come.

We want to partner with city leaders and citizens. Microsoft is uniquely equipped because we offer the longest, most comprehensive commitment to security and privacy; the broadest portfolio of software, devices, and services; the most diverse network of global partners; and the most successful history of education and social programs—all of which, when combined, help cities address what's next in shaping their future. The result is a city that can compete on the world stage as an outstanding place to live, work, and play.



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