Intelligent Urban Infrastructure

High Performance Platform for Urban Development

High performance. Delivered.
Cities and metropolitan areas have the potential to become the future powerhouses of the globe. Even today, the five largest cities in the US alone, if considered as a single economic entity, would be fourth largest economy in the world, and Asian cities are developing at breathtaking speed. Attractive focal points for the world’s population or frightening problem zones – what will make the difference?

Challenges for the cities are and will be manifold, including the supply of energy, water, housing, transport, education, finance, flexible and equitable regulations and service offerings for citizens and businesses. Around the world and particularly in the Asia Pacific region with its strong pace of urbanization, cities need to find ecological and sustainable solutions for all these challenges, without an increase in taxes and charges, i.e. within tight budgets. Solutions of this type are increasingly seen as key differentiator in the competition between cities to attract talent and economic activities that stimulate their development, so they keep drawing investments, and continue to be perceived as attractive places to live and work in and to visit.

In order to offer comprehensive and well-conceived services at the lowest possible cost, cities must make the most out of their existing assets and bundle them intelligently with complementary offerings of local service providers. Bundling intelligently means integration, and integration needs Information technology (IT).

IT cannot in itself provide solutions for the societal and structural challenges faced by cities, but an intelligent IT-infrastructure is the essential for high performance: It is the basis for the creation of comprehensive and competitive services. It accelerates their implementation, provides the agility needed to constantly adapt them. The IT platform must itself be agile and capable of evolving in synch with rapid technological progress, while providing stability to solutions built on top of it.
Apart from offering easy and rapid integration facilities it must provide a global view to all service providers: Interdependent services can only be optimized if operators and planners in city administrations, transport services, public and private companies, have a holistic view of their operations and the environment in which they are embedded.

IT already is at the basis of many services today. E-services to citizens are but one of its new usages. Networks of smart devices measure and transmit data, helping, for example, in better energy consumption (smart meters and smart grids) and in organizing multi-modal transport (cars, trains, buses, subways, trams and even taxis), to name but two important areas. The data collected at many points via those smart devices like meters and ticket readers not only help optimize services but also constitute a mine of information to be used in city planning, regulation of traffic or energy consumption. (Fig 1)

Creating an IT system as the integration platform for heterogeneous services is a tough challenge, in particular if the system needs to be agile enough to accommodate new services that have yet to be invented. Facing the large scale investment needed, governments and city administrations are looking for a robust and future proof platform to support an evolving set of services at high speed and optimal cost. The creation of such a platform requires experience and expertise that most cities do not have, since they cannot gather it outside their own territory.

Accenture does have such expertise and experience. We have a long and successful track record in designing, building and running innovative and integrated processes, and the IT systems needed to support them.

The Accenture Intelligent Infrastructure Platform can provide the foundation for high performance to new and emerging cities, as well as the growing ambitions of existing cities.
Our extensive research has shown the need for an intelligent infrastructure platform that is able to collect and process data from many sources (e.g. intelligent devices and transactional systems), to provide predictive decision making capabilities, and to offer the means for agile policy implementation, as, for example, in dynamic pricing of transport services or energy supply (Figure 2). Such a platform must provide easy integration facilities for intelligent devices and IT systems of all kinds.

Based on its expertise, experience and research, Accenture can offer such an Intelligent Infrastructure Platform that enhances cities’ operational efficiency, offers them agility by facilitating innovation and collaboration, while reducing capital expenditure to the necessary minimum.

The Accenture Intelligent Infrastructure Platform is operated in Infrastructure as a Service (IaaS) mode. It is based on open standards, offering easy integration. Its scalability allows cities to start small and grow at the speed of their projects. Accenture takes care of evolving the Intelligent Infrastructure Platform as needed – with regards to the number of users and transactions, computing power, response times, and to technological innovation. Cities only pay according to their usage.

Users—i.e. citizens, enterprises, visitors—can access information or buy services via the portal. It offers them an easy-to-use, single access point to services that become more and more interconnected and intelligent.

Cities and their services partners, on the other hand, can get information about the usage of the infrastructure and their services and about the evolution of usage over time.

A powerful and flexible pricing engine allows modulating prices based on statistical data, such that cities can implement regulatory policies, for example in transport and traffic, and in energy consumption.
Accenture was part of the consortium that helped Trans Link Systems in the Netherlands launch the world's first nationwide, multi-modal electronic fare management system.

This system offers unique e-ticketing for nationwide passenger transport spanning trains, subways, buses and trams. The ticket reading devices initiate millions of travel transactions per month, improving fluid passenger transport and providing precious data for traffic infrastructure planning.

The groundbreaking nature of the project has caught the attention of a number of innovation leaders, including the Computerworld Honors Program, which in 2007 recognized Trans Link Systems as a recipient of the 21st Century Achievement Award for its exceptional use of technology to better society.
Figure 3 presents an overview of the intelligent infrastructure platform and different usage domains.

Integration of services into a single hub reduces the risks and the costs of multiple two-way integrations. The ease and low cost of integration with the platform, as well as the low-risk market access makes the platform attractive to service providers. And the richness of services available will make it a valuable portal to users.

The Accenture Intelligent Infrastructure Platform offers benefits to all parties: cities, their inhabitants and visitors, and local service providers. It acts as a catalyst to the creation of services that are at the heart of a city’s competitiveness in the 21st century. And it changes the service delivery model in correspondence to modern expectations: Easy and rapid access, anywhere, anytime.

The Intelligent Infrastructure Platform helps cities and service providers to achieve high performance by giving them the means to move ahead fast and remain agile in the ever changing competitive landscape.
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About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with more than 249,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world’s most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US$25.5 billion for the fiscal year ended Aug. 31, 2011.