

Delivering India's Smart Cities

Translating the Vision into Delivery

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Sustainable Cities

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Continuous balance between three fundamental elements, will enable cities to address the challenges they face, to become sustainable.

Cities which reach this equilibrium will be fit to address the challenges they face and can look forward to a more sustainable future.

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Berlin embarked on its "SMART" journey with Siemens more than 100 years back!

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-- First electrical train at the trade exhibition 1879 **Today – Integrated Mobility Solutions**



1924 - First Traffic Signal at Potsdamer Platz Today - Traffic Control Center - 2000+ junctions, Parking



Berlin Cube



- Integrated Energy & Building Management

1890- First electric taxi **1882- First electric Trolley bus**



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Our COC is geared up to support cities globally to leverage technology meet their unique challenges

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London is on its vision 2050 path

The Crystal – COC Cities



LEED Platinum, BREEM outstanding

- Interurban mobility: 1,200 vehicles for regional trains
- Automated video surveillance: Comprehensive CCTV services to improve community safety
- **Hybrid Buses:** Consume ~40% less fuel and emissions
- **Toll System:** City congestion charging system and enforcement of low-emission zone
- E-mobility project: Supply of software solutions, related services and charging stations
- **Smart Grid:** Collaboration with UK Power Networks to develop a power distribution concept for 2020



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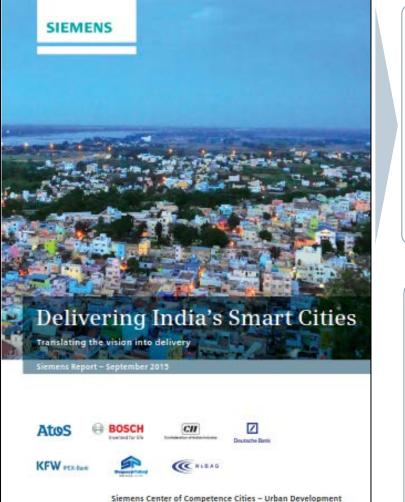
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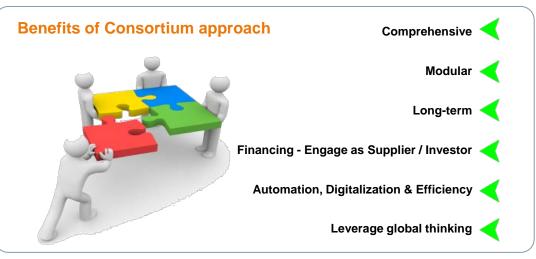
Siemens has signed a MoU with CII to be the Lead Industry Partner in a consortium, for the conceptualization and development of Smart Cities

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The Siemens led consortium is engaging through CII NSMC to support city to realise its vision of SMART







What is our approach? Modular, flexible and focussed on benefits to the city and citizens

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Smart Cities must be about the benefits to cities and citizens not just technology

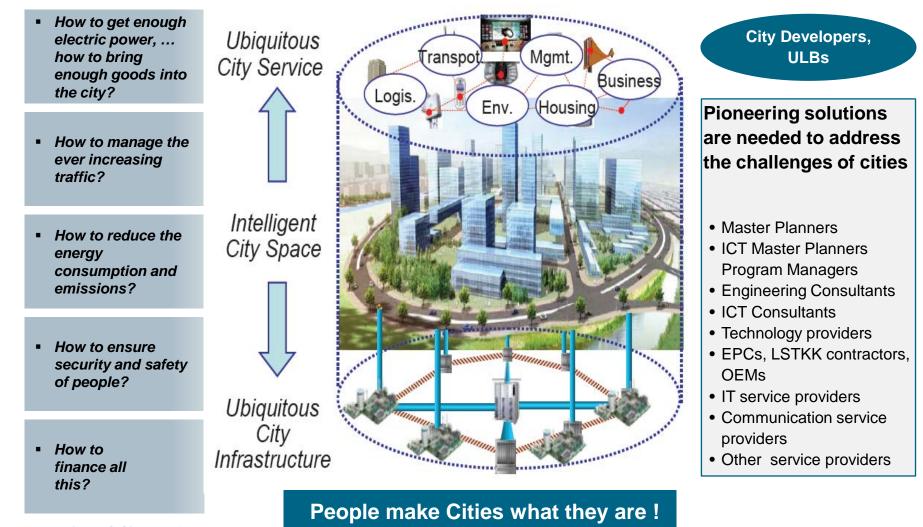
Smart City Concepts	Standard	What is possible?		
E-Governance and Citizen services	 Long waiting and processing times for receipt and processing of documents / payments 	 30% improvement in turn around time for service delivery 		
Smart Safety and Security	 Disjointed approach to security 	 15% decrease in the crime rate 		
Smart Solid Waste Management	Waste to landfill	 Value captured from up to 95% of municipal waste through energy recovery and materials reclamation 		
Smart Water & Wastewater Management	 High degree of water leakage across network and an energy intensive pumping infrastructure 	 30% reduction in water loss through leakage detection 		
Smart Grid & Energy Management	 Transmission losses along linear networks with undetected hotspots 	 Up to 99% power availability 		
Smart Buildings	 Fossil fuel based electricity mix and inefficient buildings 	 Minimum reduction of 20% energy, water and embodied energy in materials 		
Smart Urban Mobility	 Road based congestion and a lack of information on available parking and transit 	 20% improvement in traffic speeds 		
Metro and Light Rail Transit Systems	Inefficient metro and light rail services	 Fast, reliable, safe and comfortable service with 30% energy savings through automation 		
Renewable energy	Centralized fossil fuel power production	 10% energy requirements through solar energy 		

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To Realize Sustainable Cities, the Authorities and Stakeholders have to mesh their competencies together

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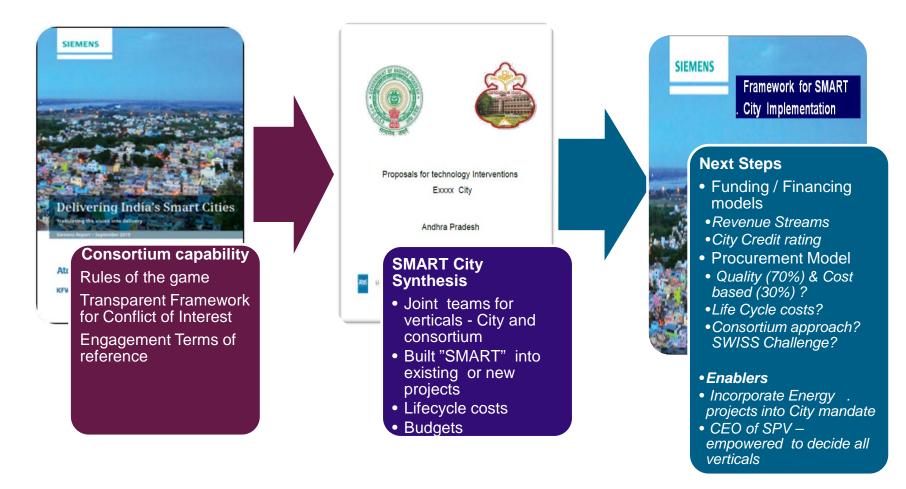
"100 Smart Cities in India" Indo-German Collaboration on Sustainable Urban Development May 31, 2016, Berlin

We have a very pragmatic, positive engagement with the city fully supported by the State Chief Minister

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City engagement case study

The Siemens led consortium has engaged with a mid sized city to support its vision of SMART



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Our solutions support the development of New Delhi

Key Siemens solutions

- <u>Airport</u> : Baggage Handing System at T3 & Power Supply System for runway lighting at Delhi airport
- <u>Metro</u>: Signaling on 58 km Delhi Metro Line 3
- <u>Airport Express Link</u> : Signaling, Electrification, Baggage Handling System on 22km Metro Express line connecting airport to city center
- <u>Traffic Management</u> : Intelligent Traffic Signaling on 19km route from Delhi gate to Ambedkar Nagar
- <u>Postal automation</u>: Automated mail processing center for Department of Post

- <u>Logistics solution</u>: Automated Cargo Handling at Delhi International airport
- <u>Building Solutions</u>: Building Management System & Solutions at Hotel Leela, CBI HQ, Delhi Metro HQ & IOCL corporate office.
- <u>Power Distribution</u>: 33KV GIS system replacing existing AIS system to feed important buildings in South Delhi (incl. high security zones)
- <u>Urban mobility</u> : Signaling, electrification & rolling stock for 6.1 km Gurgaon metro line



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Realizing Cities is about meshing competencies in a structured approach



Decision makers have to respond to a complex 21st century sustainable environment.

The consortium has the portfolio, the know-how, and the expertise to help cities become more livable, more competitive and more sustainable.

For more information on approach or the work packages, please contact the lead partner Siemens Ltd.