Infrastructure & Cities Sector | Rail Systems Division | Sandra Gott-Karlbauer

Urban Transport

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We are in the "urban millennium"

Population

- 2009: 50% of the world's population lives in cities
- 2030: Urban population will increase from 3.5 billion to 4.7 billion

Economy

- 51% of global GDP is produced in 600 cities
- By 2025, 40% of global GDP growth will be generated by middleweight cities in emerging markets

Environment

- Cities
- Consume two-thirds of the world's energy
- Consume 60% of its drinking water
- Are responsible for 70% of the global CO₂ emissions



Siemens and urban transport

Our roots in London's underground

1891



City and South London Railway Co.

Today



~ 120 years of metro

- 1891: Siemens supplied electrical motors to the world's first electrically powered underground railway in London
- 2011: Metro Inspiro platform with metro Warsaw as 1st project

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Siemens and urban transport Long history with proven references

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~160 years of passenger coaches

- 1852: 1st passenger coach build in SGP in Vienna
- 2012: CD railjet with 230 km/h for Czech Republic



~130 years of trams

- 1881: World's 1st electric tramcar by Siemens & Halske for Berlin
- 2012: 100 % low floor tram Avenio for Munich





~30 years of automated people mover

- 1983: Europe's 1st driverless system (GoA 4) for Lille metro
- 2011: Cityval for Rennes Line B

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Our product portfolio covers a wide range of applications



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Urban Transport answers the mobility demands of cities Today and tomorrow

Demand

Brownfield

- Modernization and replacement of installed base
- Enlargement of fleet and network

Greenfield

 ~200 cities worldwide with almost 1 Mio. inhabitants w/o rail-bound public transport system





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Our portfolio aims to meet the increasing challenges of urban mass transit transportation



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With our product portfolio we are able to face the challenges ...

to urban transport	and we give answers:
Increasing traffic volume	Flexible and available transport systems
Fast, punctual service	Reliable systems, high quality, proven technology
High safety & security requirements	Application of advanced safety standards and related components
Cost-effective service	Profitability through reduced lifecycle costs
High attractiveness to passengers	Comfortable trains, attractive design, reflecting a modern city's identity
Strong environmental awareness	Sustainable materials, environmental friendly manufactured & energy efficient operation

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Market worldwide sets challenging goals



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Selected References



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London is a successful proof point of our approach



Example for successful cooperation in London

Siemens and London –

- a close partnership
- We started working intensively with London in 2007
- City Account Manager installed to drive early engagement and representing our entire portfolio
- We offer the specific domain know-how

- 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



Implementation of multimodal solutions for London



Needs for integrated urban transport

- Commuter and regional transport
- Airport links
- Fleet management
- City tolling
- Metro and light rail systems
- Integrated traffic management
- Parking management

Implemented by Siemens

- Desiro regional rail cars: Optimized connections between suburbs and city
- Heathrow Express: Fast connections into the city
- ✓ Hybrid Buses: ~40% less fuel and low emissions
- Satellite-tracking system for buses: Determines positions in real time
- Toll monitoring system: Reduces daily car traffic within the city

Megacities increasingly demand overall competence for intermodal solutions

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Inspiro – Innovative and evolutionary concept to meet demands of tomorrow's urban public transport



- Innovative design and increased passenger comfort for higher attractiveness
- Optimized passenger capacity and passenger flow
- Light weight car body with weight-optimized bogies
- Energy efficiency and environmental benefits

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Inspiro design concept for London

Based on more than 120 years of Metro manufacturing experience

The flexible Inspiro platform was developed as a modular vehicle concept in accordance with the latest standards. The platform concept includes energy efficient and weight-optimized components as well as an attractive design.

Key features

- Modern and attractive design
- Lightweight construction due to aluminum car bodies and weightoptimized components
- Option to install modern passenger information systems

Environmental value

- Recyclability rate of about 95%
- Use of sustainable materials
- Energy savings due to light weight design, efficient traction system, recuperative braking, load regulated air conditioning system and efficient interior lighting



- Increased passenger comfort and higher attractiveness
- Improved passenger flow and optimized passenger capacity
- Reliable operation and reduced energy costs

Our design concept for London



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