

Sustainable Cities

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Key results from the München and London study

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Megatrends pose urgent challenges to cities

Climate change

- Cities account for roughly 80% of worldwide greenhouse gas emissions; 25 megacities alone 9% - 10%.

Increasing scarcity of natural resources

- Cities are responsible for around 75% of the world's energy consumption
- Cities directly or indirectly account for 60% of the world's water use

Urbanization

- Since 2007, 50% of the world's population lives in cities

Demographic change

- Up to 2030, 90% of the world's population growth will occur in cities

Growing demand for health- and elder care

- Urban air pollution causes an estimated 130,000 premature deaths each year in developing countries

Increasing mobility

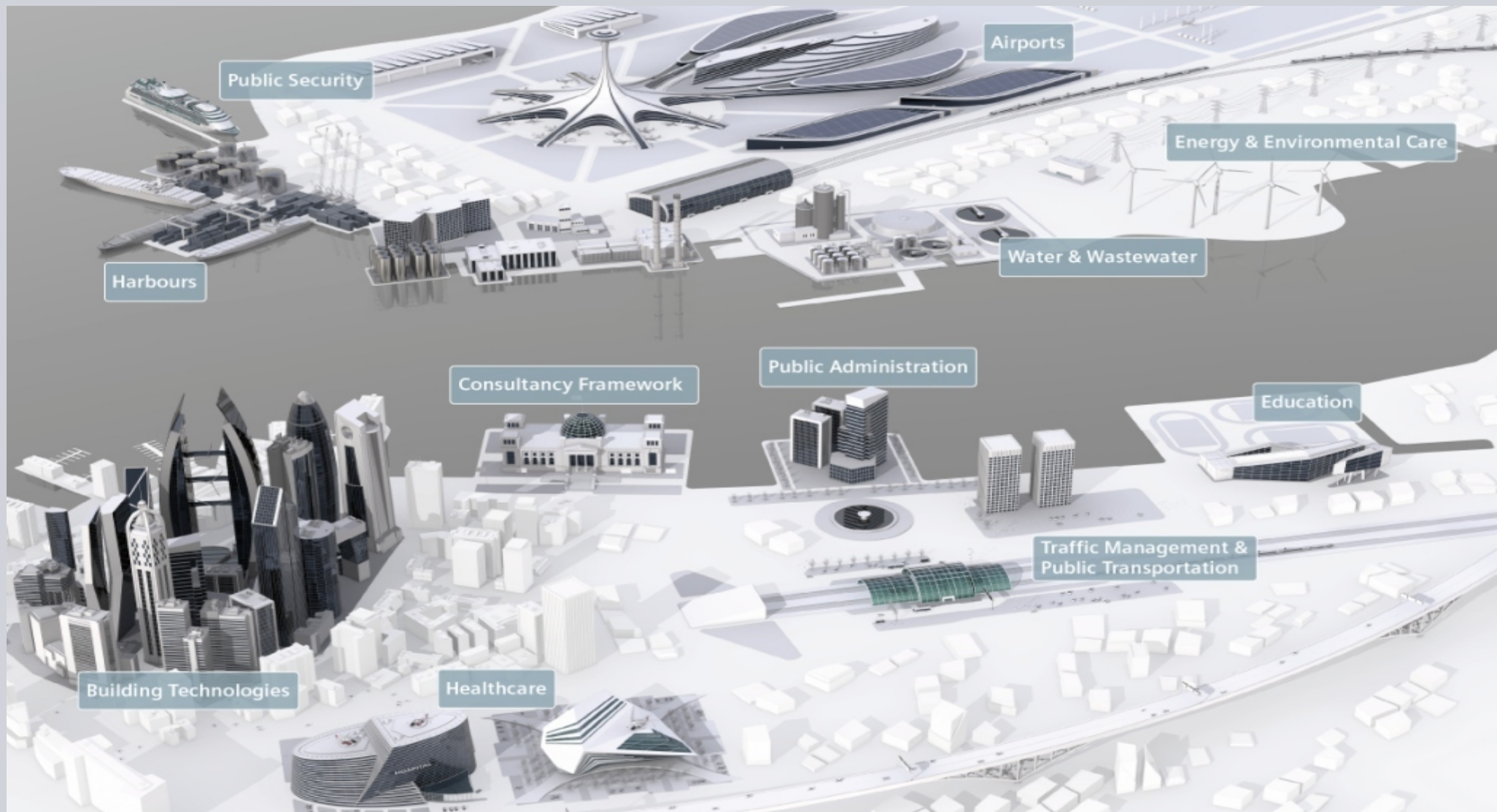
- Traffic congestion on city streets in Western Europe will more than double between 2006 and 2010

Growing pressure on infrastructures

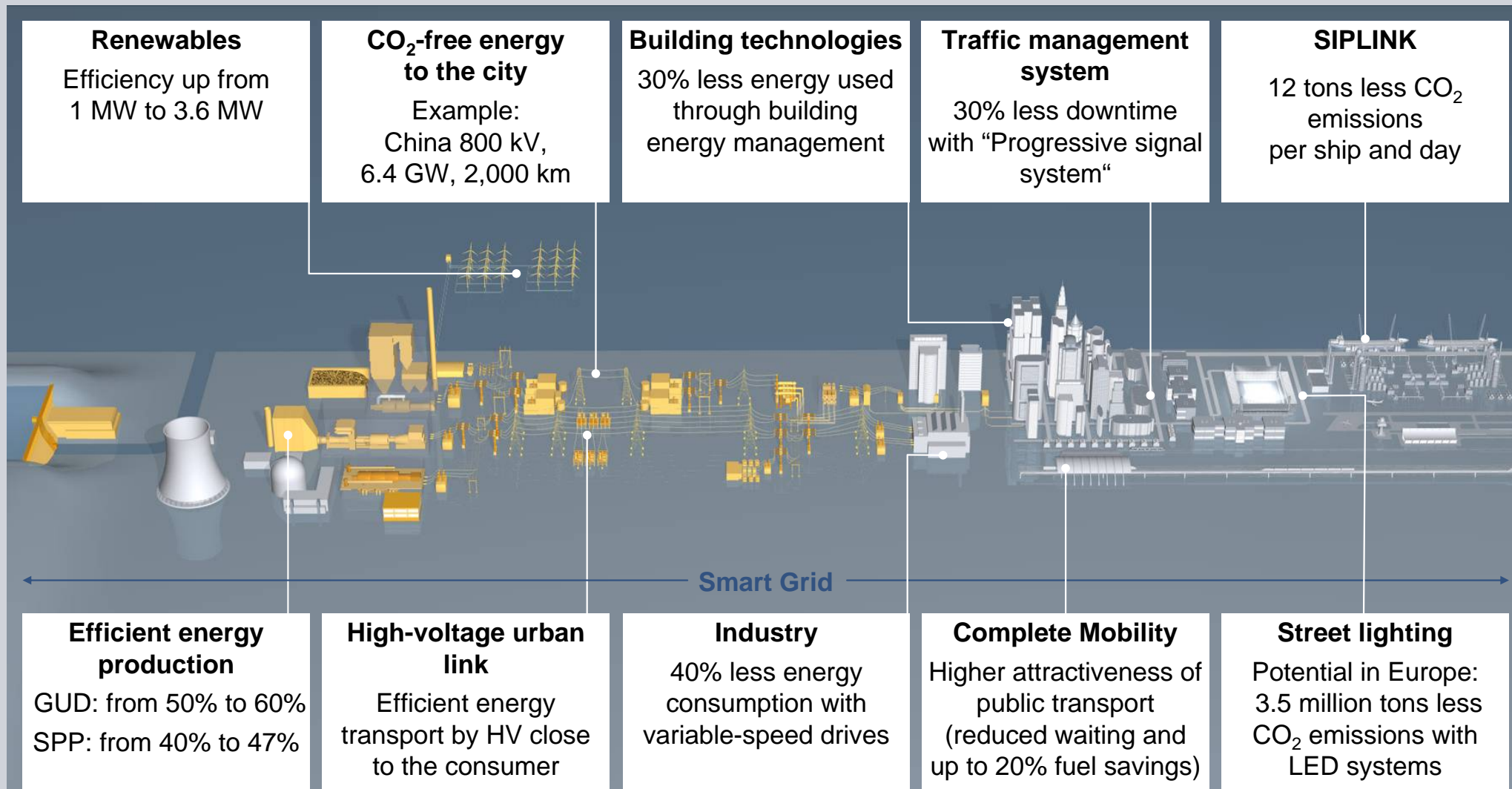
- An overloaded power grid caused a 3-day electrical blackout in New York City in 2003 which led to economic costs of about 1 billion US dollars

Sustainable urban infrastructure requires specific solutions in an comprehensive approach

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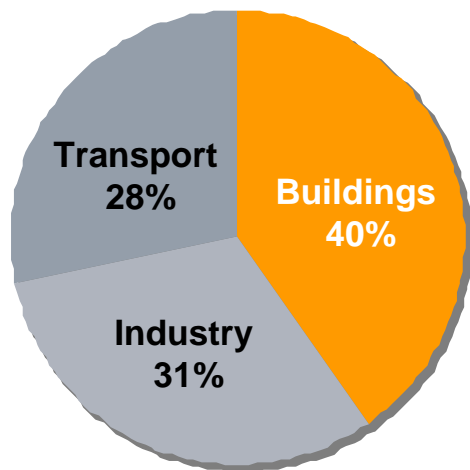
Technology drives solutions for low-carbon cities



1st lever: Building technologies

Solution: Energy performance contracting

Buildings consume 40% of worldwide energy



Intelligent technologies and solutions can save 20% - 30% of energy costs

- Building shell
- Heating system
- Air conditioning system
- Ventilation
- Lighting
- Water
- Power supply
- User behavior
- Operator qualification
- Building management system

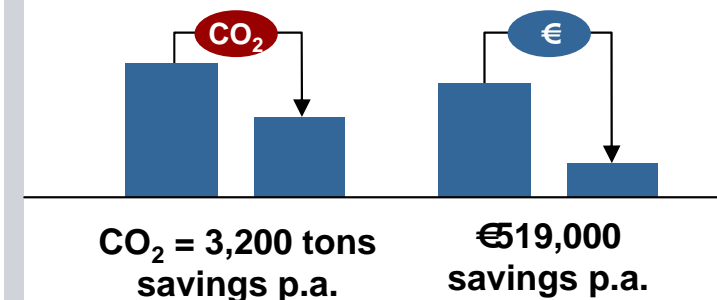
Solutions: Siemens' energy performance contracting

Example: Bremerhaven Clinic



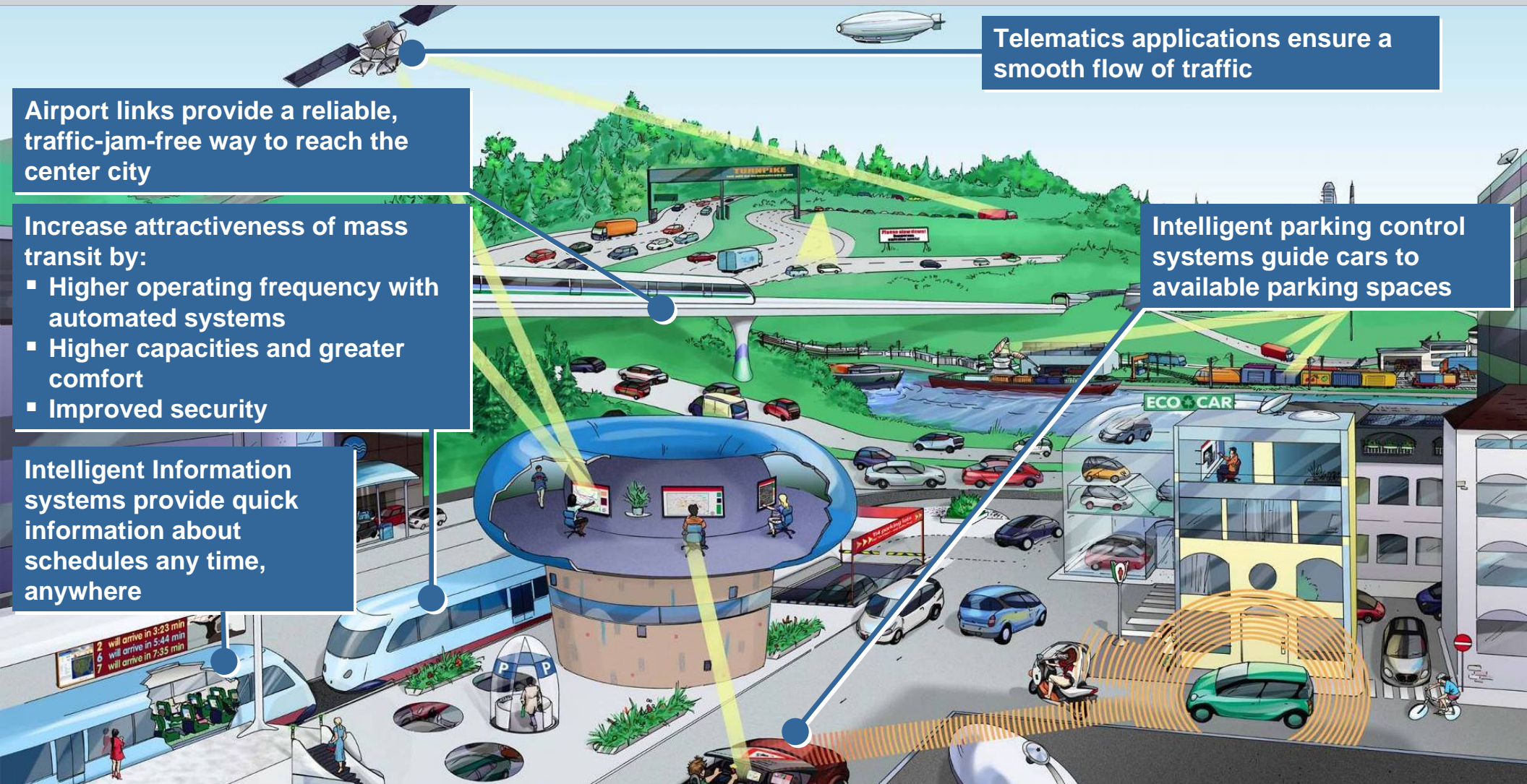
- Annual energy cost: €2 million
- 680 beds

Energy performance contracting



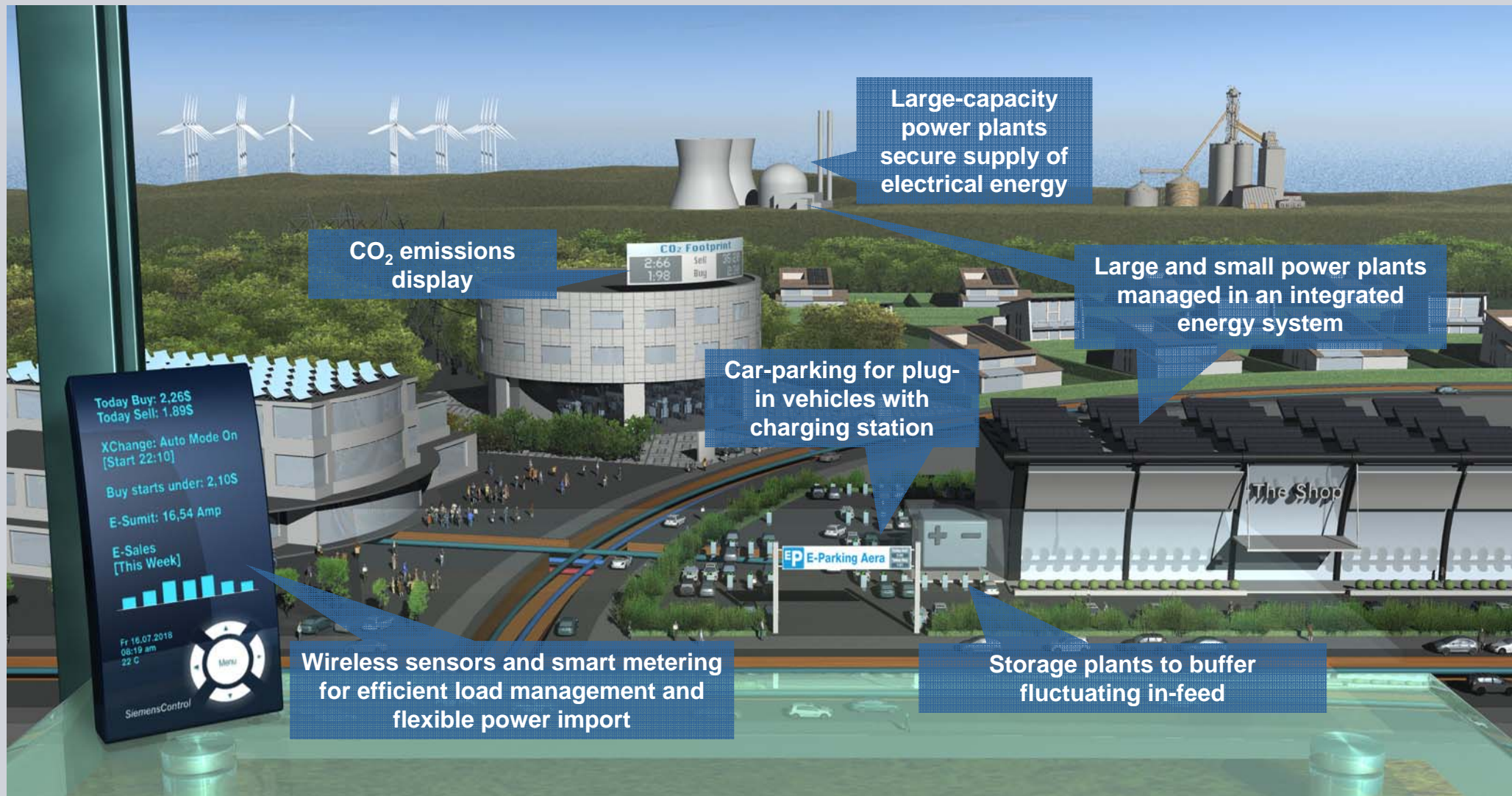
2nd Lever: mobility – Intermodal solutions to increase traffic efficiency

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3rd Lever: Sustainable Energy Supply lead to a Smart City

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What comes next? Future CO₂-free cities

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Masdar City



Dongtan

