

Technology and innovation

2017-05-01

These are the Top 10 Urban Innovations

CT.org: SmartCityHub <http://smartcityhub.com/> has been providing interesting information about Smart Cities since 2021. They focus on solar panels but have a wider range of ideas with many articles on smart development, smart cities and the innovations being employed to achieve smart results. The list below is from SmartCityHub in 2017, the article has expired, but the list still makes sense. Their many other current offerings are useful.

1. **(Digitally) Re-Programmable Space**

Example: A multi-story car park in Miami Beach also plays host to parties, yoga classes and weddings. The concrete building with floor slabs supported on wedge-shaped columns was completed in 2010 to offer naturally lit parking levels that can also be used for other activities above a row of shops and restaurants.

2. **Waternet: An Internet of Pipes**

Example: A team of MIT researchers, led by professors Carlo Ratti, Director of the Senseable City Lab in the Department of Urban Studies and Planning, and Eric Alm, Director of a laboratory in the Department of Biological Engineering, have developed a system to collect and analyse biochemical information from sewage water, what could be thought of as a “smart sewage platform”. The project, called Underworlds, is being tested in Cambridge, MA.

3. **Adopt a Tree through Your Social Network**

Example: Melbourne has developed a new website, Urban Forest Visual, which details the location, genus and lifespan of the city’s urban forest by precinct. The interactive tree map allows users to explore Melbourne’s tree data, learn more about the life expectancy and diversity of trees in the city, and submit questions.

4. **Augmented Humans: The Next Generation of Mobility**

Example: The Copenhagen Wheel transforms your bicycle into a smart electric hybrid. The Wheel contains a motor, batteries, multiple sensors, wireless connectivity and an embedded control system. The Wheel learns how you pedal and integrates seamlessly with your motion, multiplying your pedal power.

5. **Co-Co-Co: Co-generating, Co-heating, Co-cooling**

Example: Sydney’s Trigeneration Masterplan. The project will contribute to Sustainable Sydney 2030 by reducing the city’s annual carbon emissions by 3% and reducing energy bills for Town Hall and Town Hall House by an average of 320,000 USD per year over the life of the project.

6. The Sharing City: Unleashing Spare Capacity

Example: The internet makes it much cheaper for individuals to offer traditional goods and services to a larger market. As websites such as Airbnb show, making it possible to connect with customers anywhere in the world cuts transaction costs and shrinks the advantage of scale that larger chains hold.

7. Mobility-on-Demand

A recent initiative by the MIT SENSEable City Lab in partnership with Audi and GE, HubCab analyses taxi trips to explore the benefits and impacts of vehicle sharing in New York City. The data was derived from the records of over 150 million trips made by 13,586 registered taxis in Manhattan during 2011 (HubCab, 2014). The GPS-enabled taxis reported on the geographic coordinates (longitude and latitude) and time of each trip's origin and destination, creating a map of pick-up and drop-off points.

8. Medellin Revisited: Infrastructure for Social Integration

Example: Medellín's Metrocable was designed to improve transport and quality of life in informal settlements located on the mountainside, home to some of the city's most disadvantaged communities.

9. Smart Array: Intelligent Street Poles as a Platform for Urban Sensing

Example: The Array of Things (AoT) is an urban sensing project, a network of interactive, modular sensor boxes that will be installed around Chicago to collect real-time data on the city's environment, infrastructure, and activity for research and public use. AoT will essentially serve as a "fitness tracker" for the city, measuring factors that impact livability in Chicago such as climate, air quality and noise.

10. Urban Farming: Vertical Vegetables Contributors

Example: Freight farming allows practically anyone to grow fresh produce inside of a standard 40'x8'x9.5' shipping container. Brad McNamara and Jon Friedman proposed the idea after realizing that the world needed a more efficient way to grow and receive food. The idea was originally to create farms on rooftop greenhouses; however, after running into several logistic issues, the two decided to change the scene of farming to shipping containers.

LINK: <http://smartcityhub.com/technology-innovation/these-are-the-top-10-urban-innovations/>