

# WORLD'S

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# Newsweek

# SMARTEST

THE PLACES, PEOPLE AND COMPANIES TRANSFORMING HOW WE WORK AND LIVE

# CITIES



# The Top 100 Companies

» These businesses and nonprofits, from San Francisco to London and Addis Ababa, are at the vanguard of the smart-city revolution

## ► ABB

This Swiss-Swedish multinational has provided key infrastructure projects for Quito, Ecuador, such as power systems for hospitals and financial institutions.

## ► Adaptricity

Based in Switzerland, Adaptricity is a clean-tech, award-winning software company that specializes in innovative software systems for power grids.

## ► AEP Ohio

This company is modernizing the transportation network in Columbus, Ohio. One of its specialties is reducing carbon emissions in the world of transportation and power.

## ► Ampaire

Los Angeles-based Ampaire retrofits aircraft with electric power systems. Its claim to fame is developing the first electric aircraft to begin commercial production.

## ► Amsterdam Smart City

This nonprofit coordinates efforts among companies, public authorities, citizens and academic institutions to advance innovative tech projects.

## ► Anyline

The Austrian company provides mobile text-recognition technology that allows users to scan data—including serial numbers, license plates, IDs and documents—on smart devices.

## ► Argo AI

A Pittsburgh-based technology company, Argo provides, among other things, self-driving software platforms for some of the world's leading auto manufacturers.

## ► Arity

A unit of Allstate in Illinois, Arity is a mobility data and analytics company. It gathers billions of miles of auto operator data, for example, to help predict driver outcomes.

## ► Array of Things

This is a collaborative urban measurement project that involves Chicago-area scientists and government officials. It collects data on infrastructure and the environment.

## ► Arup

An international engineering and design company, Arup has partnered with the Ethiopian Railway Corp. to optimize transportation in Addis Ababa.

## ► AT&T

The Dallas-based company has partnered with cities in the United States to help solve sticky problems in transit, lighting, parking, security and infrastructure.

## ► Autotoll

A unit of the Wilson Group, Autotoll provides electronic toll collection services and surveillance tech to Hong Kong.

## ► Aveva

This Spanish company is in the engineering and industrial software business. For example, it helps Barcelona, where it's based, efficiently manage the city's water and energy resources.

## ► Better Reykjavik

This online platform lets the citizens of Reykjavik present ideas to government officials to help improve various services and operations. So far, 700 projects have been implemented.

## ► Biometrika

Based in Ecuador, Biometrika offers technology that enables recognition of fingerprints, vascular patterns and faces. It does business in Latin American markets.

## ► Bosch Global

Based in Geringen, Germany, Bosch has smart cities, smart homes and manufacturing tech in its portfolio. Its customer base is worldwide.

## ► BYD

This Shenzhen, China, company makes battery-powered bicycles, buses, forklifts and trucks. Recently, it has been involved in a monorail project in Yinchuan.

## ► Cambridge Industries, Reppie Waste-to-Energy Project

The ambitious project, led by Cambridge Industries of Addis Ababa, is a power plant that harvests waste to produce enough electricity for 30 percent of the city's households.

## ► Car Club

Singapore-based Car Club is the largest car-sharing operator in the city-state, with 120 stations across the island. Its secret is the growing field of transportation telematics.

## ► Cisco

You may know San Jose, California's Cisco for its servers. But the company also develops technologies for the digital city of the future, such as intelligent outdoor lighting and sensor-based traffic lights.

## ► Citymapper

London-based Citymapper is the leading mobile public transit app and mapping service, with 20 million users in 39 major cities.

## ► CMU-Africa

The goal of CMU-Africa of Rwanda, which is affiliated with Carnegie Mellon University, is to develop and support African entrepreneurs. Its long game is to create 50,000 jobs.

## ► CMU's Metro 21

Carnegie Mellon's university-wide initiative is to develop and deploy smart-city solutions by using Pittsburgh as a "living laboratory." These solutions include improving air quality and traffic jams.

## ► Copenhagen Solutions Lab

CSL is Copenhagen's test lab for its smart-city initiatives. Along the way, it gets help from city officials, local and international companies and institutions.

## ► Cubic

San Diego's Cubic Corp. provides intelligent travel systems and services. Drivers beware: Its claim to fame is London's Oyster card-ticketing system.

## ► Culligan

Based in Rosemont, Illinois, this water company specializes in making water filters. It recently opened a regional headquarters in Kigali, Rwanda, to build a smart water grid for the city.

## ► Dassault Systemes

A French software company, Dassault Systemes develops 3D designs and creates virtual universes for its clients.

## ► Dayang Parking (Megenagna Smart Parking)

Dayang Auto-parking Equipment Co., a Chinese-based manufacturer, built the Megenagna Smart Parking facility, the first parking project of its kind in Addis Ababa.

## ► DigiTel Platform

If you like the "digital resident card" in Tel Aviv, Israel, which allows you to access things like municipal announcements and product discounts, give credit to DigiTel.

## ► DG Cities

London-based DG Cities does the work of connected and autonomous vehicles—in other words "urban innovation"—in municipalities everywhere.

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► **DOVU**

The Bristol, England, company has come up with a platform that allows users to earn cryptocurrency for sharing travel data. Crypto-rewards are to be had.

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► **Drivz**

This company, based in Hod Hasharon, Israel, has created an electric vehicle-charging operating system. It's in use by 300,000 drivers, the company says.

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► **Eco Wave Power**

This company, which launched in Tel Aviv, has the tech to produce electricity from the movement of ocean and sea waves.

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► **Embotech AG**

The Swiss startup develops decision-making software for the likes of autonomous vehicles, reusable rockets and even industrial machinery.

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► **Engie**

A French energy company, Engie specializes in electricity, natural gas and energy services. Its focus is providing sustainability and low-carbon and renewable-energy services.

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► **Ericsson**

The Stockholm megacompany, which spans the globe, provides telecommunications technology and services to telecom network operators.

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► **FGN**

Fukuoka Growth Next is a startup hub in Fukuoka, Japan. What do you do there? Exchange ideas, grow your business and, of course, collaborate.

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► **FinEst Smart Mobility**

This company creates software solutions to alleviate cross-border mobility challenges in waterways. Its aim is to help mitigate congestion with a ferry connection between Helsinki and Tallinn, Estonia.

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► **Futura VR Studio**

Based in Barcelona, Futura creates virtual reality storytelling by utilizing video game engines. The company also has an app to store all that.

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► **Deutsche Gesellschaft für Internationale Zusammenarbeit**

Bonn, Germany's GIZ deploys workers to countries to provide sustainable development, employment, health care systems and other services to improve living conditions.

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► **Global Traffic Technologies**

To help improve safety, the St. Paul, Minnesota, company develops and implements intelligent transportation system solutions and technologies for traffic, transit and emergency medical services operations.

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► **Gogoro**

This company says it offers Taiwan's top-selling smart-scooter, powered by an electric motor and a swappable battery system.

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► **Green City Watch**

The Amsterdam company says it has created the first tool to monitor the health of urban parks and green space—all from outer space.

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► **Griin Scooters**

The Mexico City-based company is the first electric scooter startup to operate throughout Latin America.

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► **Haodaifu Online**

Located in Yinchuan, China, this is a smart e-hospital. It links doctors to patients and allows physicians to prescribe medicine through an internet portal. One plus is that there are fewer hospital patients.

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► **Has to Be E-Mobility**

This company, based in Radstadt, Austria, creates e-charging infrastructure software and things like e-mobility charging cards. It is a business-to-business specialist.

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► **HEGIAS**

This Zurich company makes a content management system for the construction and real-estate industries. Virtual reality included.

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► **Honeywell**

Honeywell Aerospace of Phoenix is a maker of aircraft engines and other aviation products. Its latest is new technology to create autonomous flight and hybrid-electric aircraft.

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► **Hong Kong Science and Technology Parks Corp.**

HKSTPC is a center, or industrial park, for research, testing and fundraising. The bottom line: growing the tech industry in these parts.

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► **IBI Group**

Toronto's IBI has created a smart-city platform that, among other things, helps municipal administrators make better decisions with the help of analytics and input from residents.

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► **Indra**

The Alcobendas, Spain, company made Medellín, Colombia's traffic management system a whole lot smarter. "Sustainable mobility management," they call it.

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► **Inmarsat**

The U.K. satellite operator, which calls London home, provides services to Kigali, Rwanda, to support its smart-city initiatives.

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► **Iomob**

Barcelona-based Iomob provides the transport and mobility sectors with open-source blockchain technology to make traveling smarter.

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► **Irembo Platform**

A so-called e-Government platform, Irembo provides residents of Rwanda with access to services that allow them to make payments and to obtain IDs and other certifications.

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► **Korea Telecom Kigali**

This company is the provider of Rwanda's only 4G LTE infrastructure. The result is 10,000 people in Kigali have access to a wireless broadband network.

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► **Lime**

San Francisco's Lime is an electric scooter- and bike-sharing company that operates in over 100 countries.

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► **LUCA Transit**

Madrid's practitioner of Big Data can track the movement—and number—of people through Metro stops and systems.

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► **May Mobility**

Michigan-based May is a manufacturer of smart mobility vehicles. It has a partnership with Columbus, Ohio, to deploy the first round of autonomous shuttles.

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► **Medellín Digital (Medellín Ciudad Inteligente)**

This governmental initiative in Medellín aims to provide free public access to Wi-Fi and computers. Fifty other programs are in the works.

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► **Metabolic**

This Amsterdam company is a consultancy providing governments and businesses with tools that will help utilize data science.

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► **Metro de Medellín**

Medellín's mass transportation system has integrated two Metro rail lines, four Metro cable-car lines, two bus lines and a tramcar.

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► **Miovision**

The Ontario developer of smart-city tech is using artificial intelligence to create smart intersections. It works by detecting the movement of vehicles, pedestrians and cyclists.

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► **Moovel**

This Stuttgart, Germany, software company develops urban mobility technology—most notably, ticketing apps. Its U.S. office is in Portland, Oregon.

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► **Neurala**

The Boston software company makes cameras, drones, robots and self-driving cars via artificial intelligence technology.

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► **Nokia**

The Finnish company is spanning the globe, providing 5G network technology everywhere. It is working with the government of Rwanda to deploy smart-city technology.

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► **Nordsense**

Based in Copenhagen, Denmark, Nordsense uses artificial intelligence to help cities and waste operators employ more environmentally friendly processes.

#### ► ON Power

Reykjavik's leading utility and the largest geothermal district heating company in the world, ON Power uses all-renewable geothermal resources, all the time.

#### ► Otovo

The Oslo, Norway, energy company sells and installs solar panels across that country and Sweden. Other uses: satellite data and mapping information to create 3D models of homes.

#### ► Perceptin

The company, based in Santa Clara, California, provides software for robotic computing platforms. It is known for launching DragonFly Pods—small, electric, low-speed autonomous vehicles.

#### ► Petuum

Pittsburgh's Petuum supplies software platforms so users can design and build their own artificial intelligence solutions. Machine learning for everyone!

#### ► Pleo

The Copenhagen company provides businesses with smart payment cards. It wants companies to say goodbye to expense reports and bookkeeping.

#### ► Populus

The San Francisco company's data platform is designed to help city officials understand, manage and monitor shared-mobility services.

#### ► Rodeo Architects

The award-winning architecture and urban design company, based in Oslo, uses the social sciences to design its urban spaces.

#### ► Ruta N

This is a tech hub, based in Medellín, that works with entrepreneurs to create businesses that will grow, thrive and survive over the long haul.

#### ► Ruter

Welcome to mass transportation in Oslo. Ruter has developed an efficient IT-based system to help officials manage the sprawling bus system.

#### ► Schneider Electric

Based in Rueil-Malmaison, France, Schneider specializes in sustainable energy management. Its business is operating technologies for the internet of things.

#### ► Siemens

##### Autonomous Railways

The Munich company provides for energy-efficient buildings and infrastructure. Its big deal is partnering with Vienna to build 34 fully automated trains called "X cars."

#### ► Smart Columbus

This smart-city initiative is led by local officials. Its long-term goal is to reinvent mobility by becoming one of the leading electronic vehicle markets in the U.S.

#### ► SoftWheel

The Tel Aviv company has developed a suspension system that absorbs shock and vibrations in wheelchairs. The result is a smoother ride and less pain.

#### ► SparkLabs

The Korean venture capital concern provides money and support for startups and their founders. It says it has invested in more than 200 new companies.

#### ► Stantec

Smarter than everything: A consultancy based in Edmonton, Alberta, Stantec helps build state-of-the-art utilities, public spaces and buildings.

#### ► Straetó

Straetó is Reykjavik's public transportation company and operates the city's buses. Its claim to fame is a free app that was launched in November 2014.

#### ► Streetlight Data

In an effort to reduce crowding, the San Francisco company has an interactive platform that utilizes transportation analytics to measure how pedestrians, bikes and vehicles interact.

#### ► The Ray

The Atlanta nonprofit is an 18-mile stretch of highway that acts as a living laboratory for green technology. One big innovation is a solar-powered electric vehicle charging station.

#### ► Transdev

A public transportation operator based in Paris, Transdev is developing electric buses and zero-emission vehicles.

#### ► TriMet

Portland, Oregon's bus, light and commuter rail service is investing in green infrastructure and buses powered by wind energy. It is phasing out paper tickets.

#### ► UberAir

Uber's electric helicopter ride-sharing venture isn't just talk; it is leading the race for vertical takeoff and landing air transport in cities.

#### ► UIC Energy Initiative

This initiative, based at the University of Chicago, is an academic program researching sustainability and the energy of tomorrow.

#### ► Ultra Global PRT

The Bristol, England, rapid-transit specialist is known for London's Heathrow Pods, 21 electric and autonomous vehicles that make it easier to get around the massive airport.

#### ► Upstream Mobility

The Vienna organization provides, among many other things, digital infrastructure for public and private partnership urban projects.

#### ► Urban Sharing

Based in Oslo, Urban Sharing creates what it calls easy-to-use technology, specifically for mobility solutions like Oslo City Bike, a bike-sharing system.

#### ► Velocia

The Toronto company produces a loyalty app, which rewards users for taking public transit and utilizing sharing services for cars, bikes and scooters.

#### ► Vertix

The Singapore transport and planning company has consulted on more than 500 projects across the Asia-Pacific region—for example, traffic surveys using video analytics.

#### ► Via

Via's "on-demand transit" platform connects public, private, individual and ride-sharing transit options to streamline your trip, saving over 32 million pounds of carbon dioxide to date.

#### ► Volocopter

An electric air taxi pioneer, Volocopter, which is headquartered in Bruchsal, Germany, creates helicopter drones for passengers, logistics, agriculture and more.

#### ► Voom

For those looking for an app that lets them book a helicopter in the San Francisco area, Voom may be the answer. You can travel between San Francisco, Palo Alto, Oakland, San Jose and Napa.

#### ► VTT

This highly innovative Finnish nonprofit research lab is responsible for making Helsinki a global leader in electric bus systems and autonomous vehicle technology.

#### ► Whim

Travelers in these parts can use Whim, Helsinki's transportation app, to plan trips and pay for them. Modes of transport include bikes, cars and taxis.

#### ► Zipline

The Half Moon Bay, California, company delivers medical supplies through autonomous drones. A particular focus is providing medicine and aid to countries in Africa.

#### ► ZTE

This Chinese mobile phone giant invested \$500 million for smart-city initiatives in Yinchuan, providing digital infrastructure for the city. 