



**URBANTECH BYTES**

Volume 3, June 2021

**URBAN  
LIVEABILITY  
FORUM**

# 10 INDIAN URBANTECH STARTUPS

## URBAN ENVIRONMENT SOLUTIONS

Technology Startups Leading The  
Urban Digital Transformation Journey

Knowledge Partner



**UIL**  
INNOVATE URBAN

Urban Digital Technology Initiative



# 10 Indian UrbanTech Startups

## Urban Environment Solutions

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Over the last few decades, we've seen an exponential rise in environmental challenges. Poor waste management, uncontrolled greenhouse gas emissions, scarcity of water, polluted air, loss of biodiversity, deforestation, etc are the major problems around the world. Our country has been suffering too. The air around us has degraded. The use of plastic has increased. Green cover in our cities has shrunk. Availability of safe and clean drinking water has declined. Our natural resources are under stress. All these factors have led to environmental degradation. The adverse effects can be experienced in the form of global warming, pollution, droughts, and an increased number of disasters.

Fortunately, the right use of technology can help promote environmental sustainability. In this volume, we are exploring technology solutions that are making a positive impact on the urban environment. These solutions help in tracking and monitoring the use of resources using mobile and web-based applications. This will decrease the stress on environmentally sensitive resources. Technology can guide the concerned stakeholders to make informed decisions.

We take a close look at how the use of technology can help us preserve our environment. How can we track and check our activities that have an adverse impact on the environment? How can we predict the weather conditions and plan accordingly? How can we help our cities manage waste efficiently?

We present examples of 10 Indian technology startups that solve environmental problems. These startups address environmental concerns in their unique way. They help us in making judicious use of our resources.



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Do you know by 2050, at least 30 Indian cities will face a grave water risk? (Source: WWF). A NITI Aayog report states that 40% of the Indian population will have no access to drinking water by the year 2030. Are you worried about this grave situation?

WEGoT aqua offers a solution. They provide smart water meters which help in managing water consumption and quality. These meters can be controlled through an app. These meters can be installed in both residential and commercial buildings. The usage of water can be tracked real-time. The water delivery system from source to usage can be kept in check. Timely action can be taken by the users. The app allows effective monitoring of the points where water is used. It also provides insights about water usage in the building. The user can receive alerts, turn off leaks and track water consumption.

Cities can effectively control water consumption through this system. Cities can use the available water wisely. A lot of water that is wasted through leakage or faults can be reduced. The users can save on the water bills. This in turn will reduce stress on the limited resource, water.



Did you know our country produces approximately 62 million tonnes of annual waste? Most of the waste is burnt or dumped. Merely less than 30% of waste is recycled. The waste to be recycled is segregated manually. The disposed waste contains hazardous materials. Do you know rag pickers are at high risk while segregating this waste?

Ishitva Robotic Systems brings technology-driven solutions. They have developed a machine named 'Sanjivani', artificial intelligence, machine learning (ML), an IoT-enabled device that automatically sorts or segregates waste that can be recycled. The device uses computer vision to sort the waste efficiently. IRS claims that if 7-8 people can segregate one tonne of dry waste in 8-10 hours, Sanjivani can do five tonnes in an hour, without posing any health risks. Automating sorting reduces the manual sorting process which prevents sorters from dealing with dangerous material and decreases accidents improves well-being and health. Waste Management AI Platform provides Monitoring of Collection, Material Handling and provides Analytics.

The solutions offered by the IRS are highly beneficial for waste management. This system minimizes the health risks and exposure of rag pickers. It creates a system of the circular economy. It promotes the recycling of waste. The burning of waste can be avoided. Thereby, saving our environment.



Are you a company that generates plastic? Do you know the Indian government's rule on plastic waste management? They introduced extended producer responsibility, or EPR, enacted in 2016. Do you live in an area where there is no proper waste disposal system? Are you worried about the garbage heaps on the roadside in your area?

Recykal is an Uber of waste collection systems. They have an app, Uzed, through which residential users can schedule a pickup. They work with rag pickers who collect waste from residential houses. Further, deposit it to treatment plants. But, households do not generate a large amount of waste. Thus, Recykal also works on a B2B model. They work with industries, shopping complexes, etc. They have a different app for these companies. The companies can schedule pickup and share details about the garbage to be collected. Recykal sends their team of rag pickers to fetch the garbage. The team collects the waste and transports it to recycling centers. Currently, they collect only plastic, electronic waste, and paper.

Such solutions in the waste management segment are a boon for our cities. The segregation of waste and its disposal at the right place keeps our cities clean and healthy. It also creates a better place for citizens. Air-borne diseases are minimized. The burning of waste is curbed. Thereby, making a positive impact on the environment.



Did you know, the 2019 edition of the State of India's Environment (SoE) Report revealed that air pollution was responsible for 12.5 percent of all deaths in the country? Are you someone who worries about the air quality? Do you know someone who is allergic to pollen? Do you believe that the risks associated with sudden fire can be controlled?

Ambee is a one-stop solution for all. It is an environmental intelligence start-up that gives accurate hyperlocal air quality data. They have developed an app that provides real-time information about various factors that affect our environment. The app gives information about water vapor, fire, air quality, weather, soil condition, and fire. The users and concerned companies can access this information and make informed decisions. Ambee works in the direction of creating an 'environmentally informed society'. They achieve this by providing access to data and tools that enable a better living experience.

Ambee makes a difference in the life of citizens by providing them real-time hyper-local data on their phones. It enables people to make adequate calls keeping their health and well-being in mind. The technology and knowledge provided by Ambee can also help governments, healthcare, and private companies to make informed decisions as air pollution is a matter of great concern in India.



We are aware of solar energy being the need of the hour. Did you know that the government of India has an ambitious renewable energy goal of 175 GW by 2022 and 450 GW by 2030? How are Indian start-ups bringing innovation in this space?

ZunRoof, a Gurugram-based start-up is solving energy issues by leveraging unutilized rooftops of houses, offices to set up panels to tap solar energy. It started with an aim of curbing down the huge monthly outflow on electricity expenses and solving electricity issues of urban India through Clean and Smart Energy. It is a home-tech company, powered by a mix of image processing, virtual reality, IoT, and data analytics. Handles the energy harnessing, storage, maintenance, and consumption of electricity.

The start-up is taking essential steps towards making solar a household utility for everyone. It would make personal energy consumption better, cleaner, and more affordable - for everyone. This would also grow the share of residential solar all across the country making important contributions towards the renewable energy goal.



We are aware that we need to plant trees for our survival. Yet, most of the afforestation campaigns are unplanned. A specific area in a city might have more trees than the other. Do you know of a way to quantify the number of plants in your area? Do you know how to calculate the gap and act accordingly?

Talking Earth is an initiative started by a group of people. They gather the data about trees, map them and upload them on their platform. This platform is accessible to all. They use data-driven methods to protect the environment. Tree-mapping is the process of recording and gathering data on trees. They reveal a variety of information from the number of trees to their impact on soil conditions, rain, etc. The right data can help the concerned stakeholders plan their afforestation drives. They use simple analytic tools which can be quantified and analyzed easily. They are also engaged in developing seed banks and holding workshops for communities interested in ecology and conservation.

Cities can benefit from these data and technology-based tools. This analysis will help the concerned authorities to plant more trees at the locations where the plantation is needed. Preparation of the action plan is executed accordingly. Citizens will experience more fair green spaces. The future generation will have access to more trees and cleaner air.

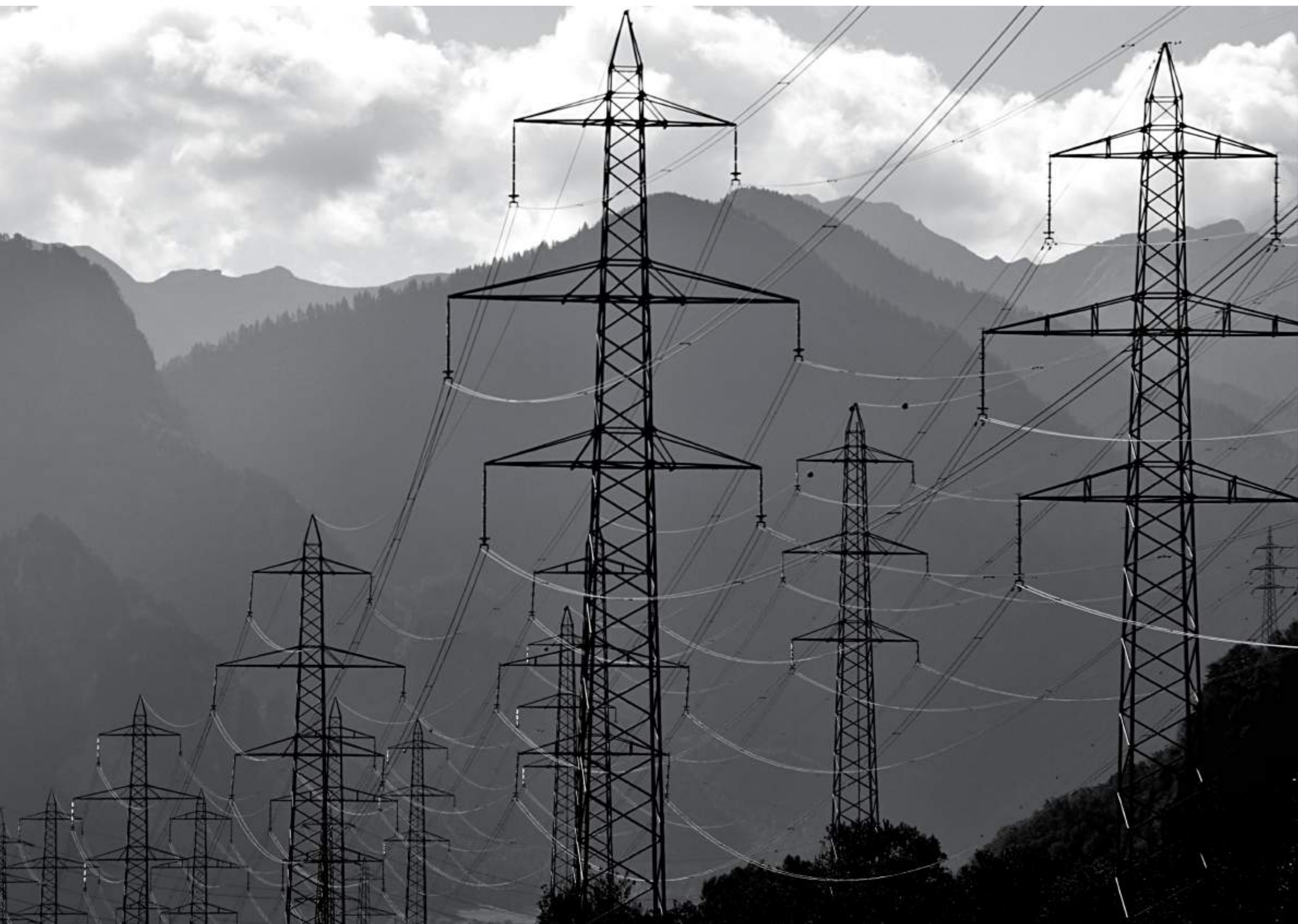




Do you have insights into your energy consumption pattern? Are you worried about your electricity bills? Are you looking at saving on electricity? Are you aware of the wealth of information that the electricity supply carries?

SustLabs decodes real-time electricity consumption of the house all the way up to heavy appliances level by analyzing smart meter data. It delves into the wealth of information that electricity supply carries and unlocks valuable insights for utilities, appliance manufacturers, market research companies, etc. which creates data-driven revenue opportunities. It integrates homes in a smart and sustainable world.

Sustlabs is beneficial for cities as it supports the conservation of energy. It benefits people by enabling them to make informed energy consumption choices. Making it easier to save on electricity and make judicious use of it. It also provides data to manufacturers and companies so as to enhance their revenue opportunities.



We are all aware of the environmental crisis but do you know what 'Net Zero' is? Are you aware of your carbon footprint? Are you looking into ways in reducing your environmental footprint?

LogicLadder is a startup looking into making Net Zero a reality for enterprises. It helps companies to have a data-led approach to going green. They make use of a software platform called "The Sustainability Cloud" making energy and environment data simple to understand and act upon. It takes out data from systems that run the heating, lighting, and manages the water and waste. It also acquires data in real-time from environment sensors, web services, and enterprise systems, creating a central data repository of all sustainability data. This helps the enterprise in sustainability, accounting, and auditing to account for GHG (greenhouse gas) emissions, solid waste, and water use.

Enterprises using their services can thus reduce their environmental footprint of emissions, pollutants, water use, and waste. They get closer to achieving 'NetZero' by neutralizing the impact of the business on climate. LogicLadder enables them to have an accurate account of emissions, water use, and waste generated. Accounting that can help them clearly understand every debit and credit. Regulatory frameworks are becoming stringent. This makes it even more important for the enterprises to prove compliance to avoid large fines or even shutdowns.



Do you work in a factory which manufactures plastic? Did you know India generates nearly 26,000 tonnes of plastic waste every day? Are you trying to find alternatives to plastic? Do you know you can contribute to the reduction of waste?

Banyan Nation manufactures better quality plastic. They collect virgin plastic, recycle it to better quality plastic. Companies buy this plastic. Banyan is India's first vertically integrated plastic recycling company. They have developed a data intelligence platform where industries and informal recyclers can connect. They can give away their plastic waste to the Banyan Nation. They use their proprietary plastic cleaning technology. They convert the collected post consumer and post industrial plastic waste into high quality recycled granules – Better Plastic™. This plastic is comparable in quality and performance to virgin plastic. They are also working with municipalities to manage waste management for the cities,

Cities can manage their waste effectively. This process also sets up a circular economy. The citizens benefit as the industry provides employment to the informal sector. Moreover, better plastic reduces stress on the environment. The waste management cycle is more efficient, economical, and effective.



Did you know 3 billion people across the globe are affected by water problems? Most of the households do not get a water supply for 2-10 days. Do utilities know where the water is going and where it isn't? People are not aware of the timing of the water supply as it is uncertain.

NextDrop is a start-up that connects citizens, government bodies, and the private sector. NextDrop provides real-time information to the citizens about the timing of the supply of water. NextDrop broadcasts information through mobile phones to a network of mobile-enabled citizens. They cover the area of Hubli-Dharwad and Bangalore. When Hubli-Dharwad's water utility used NextDrop's monitoring tools across a three-month period, an additional 17,500 families got better access to the water supply. NextDrop engages stakeholders right from valve-men (ground level staff) to report water pressure when they turn the water on. Further, relaying this to utility engineers responsible for decision-making about those areas. NextDrop reports the schedule of water supply in respective areas. Any planned and unplanned delays in the water supply schedule are also announced.

Cities can optimize their water supply distribution systems. Citizens get a fair supply through real-time adjustments. This ensures equity. The timely water supply enhances the productivity of citizens by saving time.



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Urban Innovation Lab. Urban Liveability Forum. 10 Indian UrbanTech Startups: Urban Environment Solutions - Technology Startups Leading The Urban Digital Transformation Journey. Urban Digital Technology Initiative. UrbanTech Bytes, Volume 3, June 2021.

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### About Urban Digital Technology Initiative

Urban Digital Technology Initiative is aimed at developing knowledge products, networking events and community-focused programs in areas on urban digital technology.

**Initiative By** : Urban Liveability Forum

**Urban Liveability Forum (ULF)** is a platform - by and for the experts – to transform urban spaces through Knowledge, Networking and enabling communities. Our aim is to strike the right balance between the physical, social and cultural dimensions to enhance urban liveability. How will we do this ? By offering smart solutions and sustainable practices on urban development in a form of knowledge articles , unmatched networking platform to meet and collaborate and by being a catalyst to enable communities.

We believe that every urban stakeholder - government, municipalities, city planners, corporate, civil society group and citizens - will have to play an active role to transform our cities from viable, liveable to loveable.

**Knowledge Partner** : Urban Innovation Lab

**Urban Innovation Lab (UIL)** is an urban innovation company. We develop ideas, knowledge products, and technology solutions to influence the urban stakeholders for a better future of cities. We partner and collaborate with students, professionals, researchers and organizations to solve urban problems. Our Mission is to 'Innovate Urban'.

CityX is our platform for carrying out experiments in the city ecosystem. We identify urban problems, test hypotheses and carry out experiments to validate the results.

GrowU is our platform to incubate and accelerate UrbanTech startups. We provide an ecosystem for startups on their journey from idea to implementation.

For any enquiries related to partnership, association or any other matter, please feel free to reach out to us at below mentioned contacts. We'll be happy to talk to you.

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