# Track 3: Data for Impact: Visualization & Civic Tech

## Case Study

In Delhi, a vast amount of environmental data is collected every day. Government agencies operate hundreds of air quality sensors, publish water quality reports, and generate terabytes of data on waste collection and energy consumption. Yet, for the average citizen, this data is either invisible or incomprehensible—a collection of complex charts and spreadsheets hidden away on obscure websites. This "data gap" leads to disengagement. When a resident can't see how the pollution from a nearby industrial area directly affects their neighborhood's air quality, the problem feels abstract. When they report a local issue like a broken water pipe or an illegal garbage dump, their complaint often vanishes into a bureaucratic void with no feedback or visible action, leading to frustration and apathy.

## Call for Innovation

We believe that data has the power to create change, but only if it tells a story that people can understand and act upon. This track is a call to arms for the UI/UX designers, the data storytellers, and the civic-minded developers. Your challenge is to transform raw environmental data into compelling, accessible, and actionable experiences. We need you to build the tools that will make environmental issues **personal, local, and tangible**. Create intuitive dashboards, engaging mobile apps, and transparent reporting systems that empower citizens to understand their environment, change their behavior, and hold authorities accountable. Bridge the gap between data and action.

## Problem Statements

### 1. The Hyperlocal Environmental Health Dashboard

Build a web platform where a user can input their address and receive a personalized, easy-to-understand "Environmental Report Card" for their immediate neighborhood. Your dashboard should pull in and visualize real-time data from various public APIs, showing the nearest air quality index (AQI), local noise pollution levels, and recent civic complaints filed in the area. The focus is on creating a beautiful, intuitive interface that translates complex data into a simple, actionable health score for a user's specific locality.

### 2. Augmented Reality: Visualizing Invisible Pollution

Air and noise pollution are invisible threats that are hard for citizens to grasp. Your challenge is to create an **Augmented Reality (AR) mobile application** that makes this invisible data visible. When a user points their phone's camera at a street scene, your app should overlay a real-time, 3D visualization of the air quality (e.g., a shimmering haze of PM2.5 particles) or the decibel levels of passing traffic. By pulling data from the nearest sensors, your app will transform

abstract numbers into a visceral, immediate experience, helping users understand the environmental quality of their exact location.

### 3. The "Policy Impact" Simulator for Citizens

Major urban projects often have environmental trade-offs that are poorly communicated to the public. Your task is to build an interactive, map-based web tool that allows citizens to **simulate the potential environmental impact of proposed policies** on their neighborhood. For example, a user could compare the projected impact of building a new flyover versus a new metro line. Using open data sets for traffic, population density, and green cover, your model should forecast and visualize the changes in key metrics like local air pollution, noise levels, and commute times, empowering citizens to engage in policy debates with data-driven arguments.