I3 Systems Use Case

Integrated Air Quality Monitoring

Current Operations: Many people have respiratory issues with many more being sensitive to air quality issues. For these people, experts suggest that during periods of time when air quality falls below normal expectations, these people should limit physical activity. Many schools have policies that call for the cancellation of gym classes and sports activities during times of poor air quality; some schools have even had to cancel school completely due to air quality issues.

Issues: Air quality is a hyper-local issue and nearby neighborhoods and cities can have different levels of particulate matter in the air. Particulate matter is often not visible and is highly subject to winds and local geography which shape local wind direction. Many efforts to monitor air quality have been undertaken by various government entities, non-profit organizations, and private companies. Most recently, individual citizens have begun to deploy residential monitoring stations as well. However, little attention has been directed toward trying to integrate the information from these systems to build a more cohesive air quality monitoring system.

Solution: An i3 information network, which is built on top of traditional data networks, has the ability to integrate data from a wide variety of sources, both public and private, to create a more comprehensive view of localized air quality measures. i3's permission-based information governance and management system allows device owners to self-determine their own information-sharing policies. Information sharing agreements can be limited to use by non-profits, government agencies, local applications, or opened up for wide-scale sharing – by putting the information sharing decision in the hands of the information owners, owners are incentivized to participate in the larger conversation free from fear of losing control of their information.

Benefit: Using disparate information to create a more complete picture of air quality allows the construction of a much more comprehensive information system that increases awareness of air quality issues and enables the creation of an air quality early warning system that can be used to inform local government officials, companies, and private citizens of local health impacting conditions allowing them to tailor their activities in response to detected conditions. It provides much more information which increases the overall quality of any analytics based on the information network and serves to enable a hyper-localized information alerting systems. People should take air quality measures into account as they plan their physical activities. By the same token, companies and other organizations, should take air quality into account as a factor that impacts employee activities and customer behavior. Planning air quality awareness is important to improving the health and well being of everyone

Status: i3 Systems has created a proof-of-concept demonstration system to show the potential of an integrated air-quality management system and is currently seeking potential partners that would be interested in deploying such a system to improve the health and well-being of their local residents. I3 Systems is working to create an enhanced use interface system that allows quick and easy to use access to air quality information which will allow companies and private citizens to use air quality information as a key factor in determining how they can make better decisions as they go about their day-to-day activities.