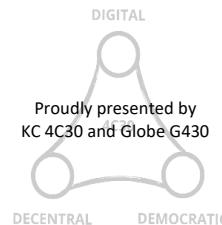


# Internet of Trees/Arbol IoT: Engaging citizens in urban tree mapping and environmental monitoring



## Potential Climate/ Disaster Impacts addressed and Justification for this Approach

Arbol IoT / Internet of Trees is a platform to engage citizens in urban tree mapping and environmental monitoring. Designed and implemented in the city of Guadalajara, it aims to empower citizen advocacy and support municipal urban tree management to improve the greenery in the city. Thus, contributing to ameliorating high temperatures and buffering the impacts of flood events. The platform seeks to crowdsource an easy-to-update urban tree inventory, visualize and quantify the eco-benefits of trees and assist in public decision-making based on data and evidence.

## Process of Implementation

Arbol IoT is a cross-platform composed of a mobile and web app, and a network of low-cost sensors that allows citizens to monitor the pollutants suspended in the environment, weather, and noise on a street scale. The platform encourages engagement with green gamification and enables participation of a wide range of the population, including the elderly. It fosters inclusion through a mobile interactive table that can be placed in public spaces and used by citizens who do not have access to digital technology. Lite versions of the mobile app allow citizens with limited or no mobile data connection on their devices to map and capture information offline and, later, upload it when a WiFi connection is available.

### Project Title

ICT-based Adaptation to Climate Change in Cities (IKI)

### Project Number

2016.9014.8

### Results and Impacts

Throughout an innovative co-creation process, the Municipality of Guadalajara identified the need to improve the state, quality, and quantity of their urban trees as a measure to adapt the city to the impacts of two major climate challenges: (1) increasing temperatures and (2) extreme weather events. Also, the need to allocate more resources to improve urban trees was recognized by the citizens as a priority in the participatory budgeting of 2017. Many trees have been planted in public areas by the municipality, as well as by citizens. To efficiently plan and manage them towards improving their state and quantity, public officers need an overview of all the trees in the city and their current situation. Thus, the municipality needs to develop an easy-to-update urban tree inventory.



#### TYPE OF APPROACH

Cooperation & Knowledge Sharing



#### COUNTRY

Mexico



#### LEVEL OF INTERVENTION

city, neighbourhood



#### TYPE OF RISK MANAGEMENT

prevention, resistance, transformation



#### MAIN HAZARDS ADDRESSED

Heat wave, Flood



#### URBAN FUNCTION PROTECTED

all



#### SPHERE OF INTERVENTION

socio-political sphere/ governance, environment



#### RESOURCES REQUIRED

Overall budget: ca. EUR 500.000, including 1 national staff, local consulting companies



#### COOPERATION PARTNERS

City government, citizens of Guadalajara city and metropolitan area



#### LINKS

<https://www.international-climate-initiative.com/en/project/ict-based-adaptation-to-climate-change-in-cities-17-ii-142-global-g-ikt-basierte-anpassung-in-staedten/>  
<https://www.youtube.com/@ict-aglobalprogram9323>