Tax Management Associates, Inc.

GIS Solutions Challenge

Data Science, Energy, Environment & Resources, Infrastructure

Develop an open source solution to solve common GIS problems. Read Overview...

Phase 2

GeoTrue on Github

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Phase 1

GeoTrue SQL Queries

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GeoTrue, Open Source Map Routing

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Robin Rowe's team

STAGE
Phase 2 Submission Deadline

$45,000

Overview Guidelines Timeline Updates 11 Forum 7 Community 182 FAQ

Geographic Information Systems (GIS) power our world. GIS helps us find the quickest way to a destination, map out property boundaries across a county, and even allows emergency responders to better prepare for natural disasters. GIS is the underbelly of so many functions we rely on, and yet, it still has a long way before

community can use to discover specific, scalable, useful, and reliable business insights.

Why issue a Challenge?

Extremely large organizations using GIS have developed internal systems to increase the accuracy, efficiency, and reliability of their GIS processes when handling large amounts of data. While many large organizations utilise expensive GIS systems, many resource-constrained organizations and individual innovators turn to open source and affordable platforms. Although small organizations have access to open source GIS tools, these technologies do not allow for the analysis of large datasets. Be it a lack of computational power, speed, or accuracy, current open source tools for smaller organizations are lacking. Bringing the open-source and GIS communities together to solve this issue can not only help us at Tax Management Associates derive new business insights in for local governments, but it can help to improve the very systems of direction, safety, and business we all rely on.

The Challenge Breakthrough

The GIS Solutions Challenge asks innovators to develop scalable, efficient, and effective open source tools that generate useful business insights from geospatial data, which can solve three specific GIS problems for large datasets (please see the challenge guidelines for a complete description):

1. What is the geodesic distance between two features?
    a. E.g., A particular street corner in Detroit is known to be a crime hotspot. How far is this hotspot from the area the police actively patrols? This distance would be measured as a straight line from point to the edge of a polygon.

2. What is the network distance between two features?
    a. E.g., What is the actual distance police must travel from the edge of their patrol to reach a crime hotspot? This distance would take into account the specific route the police must travel to reach the hotspot.

3. Is a point inside or outside a polygon?
    a. E.g., Is the crime hotspot within a police patrol area?

Innovators will be provided three sample data sets to solve the above challenge and will be asked in Phase 1 to create and share a proof-of-concept, which can then be used in Phase 2, where innovators will need to develop a fully functional GIS solution that will be tested against a number of technical requirements, such as efficiency, effectiveness, usefulness, innovativeness, and accuracy, among other factors. Competitors can enter Phase 2 even if they did not enter Phase 1. Beyond a cash prize, the winners will have contributed to creating an open-source GIS solution that that can benefit people and organizations globally.

What You Can Do Right Now

- Click Accept Challenge above to register for the challenge and subscribe to updates
- Read the full details in the competition guidelines
- Introduce yourself in the forum
- Share this challenge with your friends, family, and colleagues!

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