Engineer Site Identification for the Tactical Environment

Dr. George Calfas, Juliana Wilhoit*, Matthew Hiett, Ryan Keeling, Elle Williams
Maps to Decisions

US Army Engineer Research and Development Center uses leading mapping solutions to help the US Army decide where and how to build.
Imagine you have 72 hours

The US Army must be ready to sustain humanitarian and military operations anywhere on the globe, requiring rapid data analysis to build a clear picture from complex geospatial data.

Considerations for site selection:
- Natural Environment, e.g.
  - Slope and land cover
- Built Environment, e.g.
  - Existing facilities and roads
- Sociocultural Environment, e.g.
  - Cultural heritage sites and PMESII-PT
- Mission Considerations, e.g.
  - Force protection and routing

https://en.wikipedia.org/wiki/Forward_Operating_Base_Salerno
ESRI Enables Rapid Prototyping

• First, there was the idea.

• Why ESRI?
  - ArcGIS Runtime for .NET provided quick standup of standalone geospatial platform.
  - ESRI ModelBuilder allowed subject matter experts to provide leading research without excessive programming overhead.
  - Provides a common platform for users throughout the Army.
Engineer Site Identification for the Tactical Environment (ENSITE)

- ENSITE strives to be the front end and dashboard for connecting survey and geospatial data for engineer site selection and operations.
  - Map-based user interface
  - Support for pre-built geospatial tools and workflows
  - Integrates data sources into accessible global coverages
  - Workflows and techniques for validating data
Video Demonstration
Engineer Site Identification for the Tactical Environment
Lessons Learned

• Important to have toolkit for building prototypes
• Data analysis starts with reliable data and metadata
• Stability and ease of use important to getting user feedback
• Rapid prototyping is required to compete in a changing market
Thank you for your time! Questions?

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