

Standard Unified Modeling, Mapping and Integration Toolkit (SUMMIT)

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SUMMIT PM

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Infrastructure Protection and Disaster Management Division

Project Background & Capability Gap

SUMMIT

PROJECT BACKGROUND & CAPABILITY GAP

Guiding Doctrine



The White House
President George W. Bush

For Immediate Release
Office of the Press Secretary
December 17, 2003

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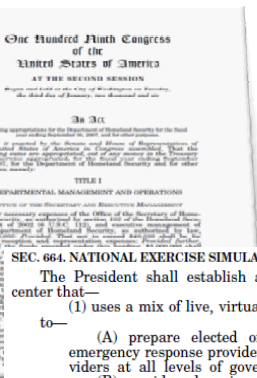
December 17, 2003 Homeland Security Presidential Directive/Hspd-8

Subject: National Preparedness

emergencies.

(b) The term "Federal departments and agencies" means those executive departments enumerated in 5 U.S.C. 101, and the Department of Homeland Security, independent establishments as defined by 5 U.S.C. 104(1), Government corporations as defined by 5 U.S.C. 103(1), and the United States Postal Service.

(c) The term "Federal preparedness assistance" means Federal department and agency grants, cooperative agreements, loans, loan guarantees, training, and/or technical assistance provided to State and local governments and the private sector to prevent, prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies. Unless noted



SEC. 664. NATIONAL EXERCISE SIMULATION CENTER.

The President shall establish a national exercise simulation center that—

(1) uses a mix of live, virtual, and constructive simulations to—

- (A) prepare elected officials, emergency managers, emergency response providers, and emergency support providers at all levels of government to operate cohesively;
- (B) provide a learning environment for the homeland security personnel of all Federal agencies;
- (C) assist in the development of operational procedures and exercises, particularly those based on catastrophic incidents; and
- (D) allow incident commanders to exercise decision-making based on realistic and dynamic scenarios.

(2) use modeling and simulation for training, exercises, and command and control simulations at the operational level.



NESC Business Model

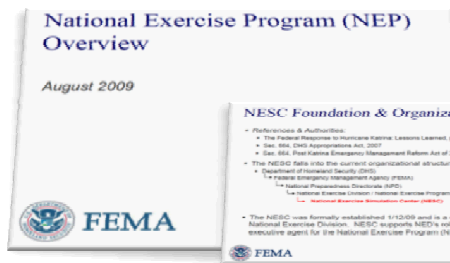


Incident Management

DHS Leads: Federal Emergency Management Agency and Office of Emergency Communications

Representative Technology Needs

- Integrated modeling, mapping, and simulation capability—In particular, an integrated and simulation-based incident planning and response capability to analyze all-hazard disaster response and recovery operations, tactics, techniques, plans, and procedures for use in a real-time environment for simulation-based training (Infrastructure & Geophysical Division)



Program Inception



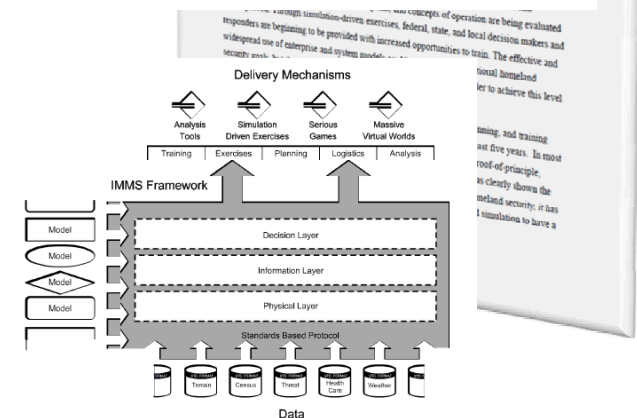
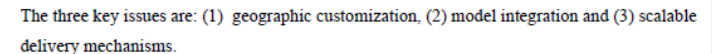
Science and Technology Directorate Infrastructure and Geophysical Division



2/23/2010

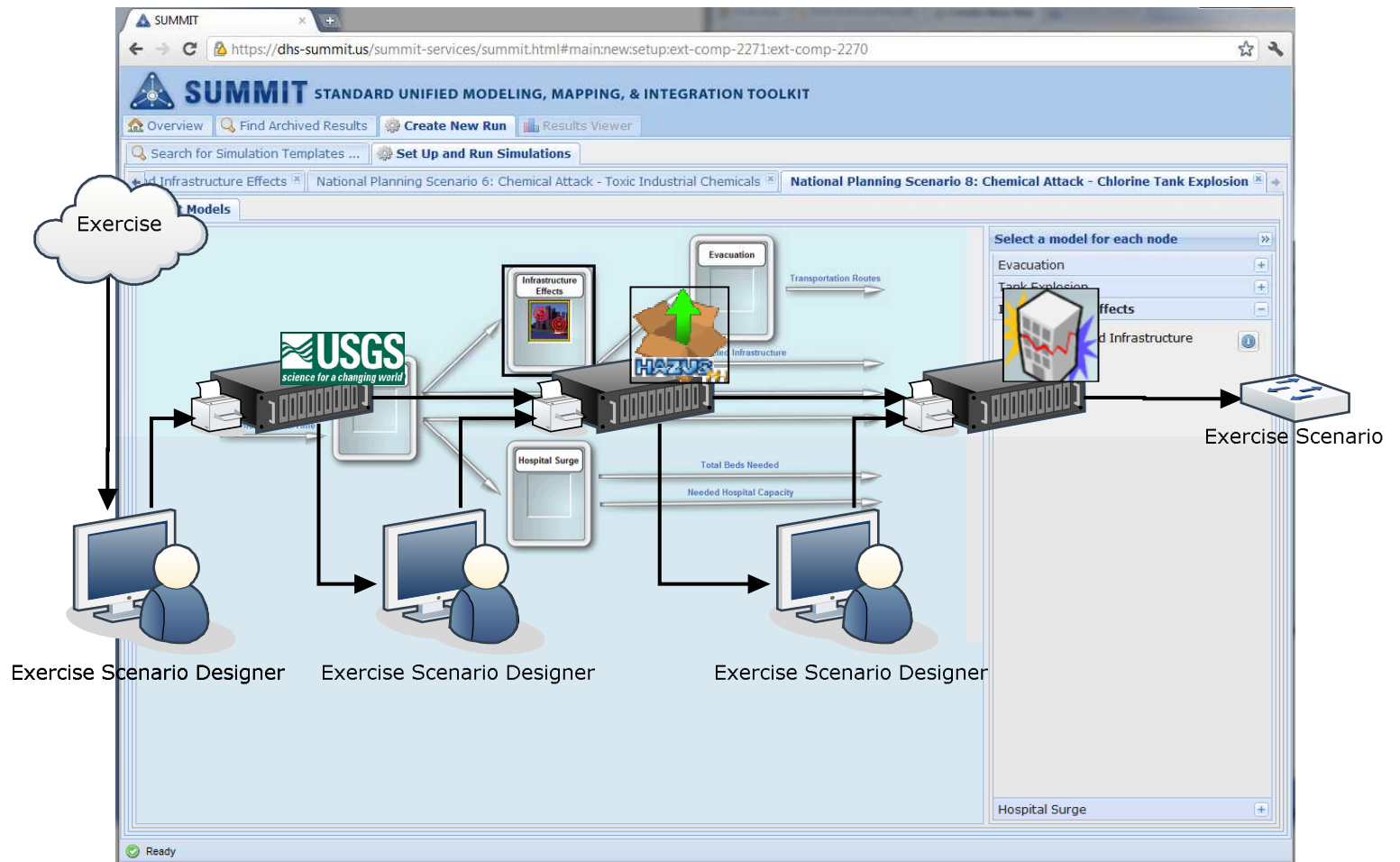


TELL addresses the overarching need of successful implementation of the NIMS and the ability to conduct quick, repeatable, economical, and effective means of training incident commanders so they can be better prepared to handle complex incidents. This project is part of the Preparedness and Response Thrust Area and the Incident Management Enterprise Program of the [Infrastructure and Geophysical Division](#).



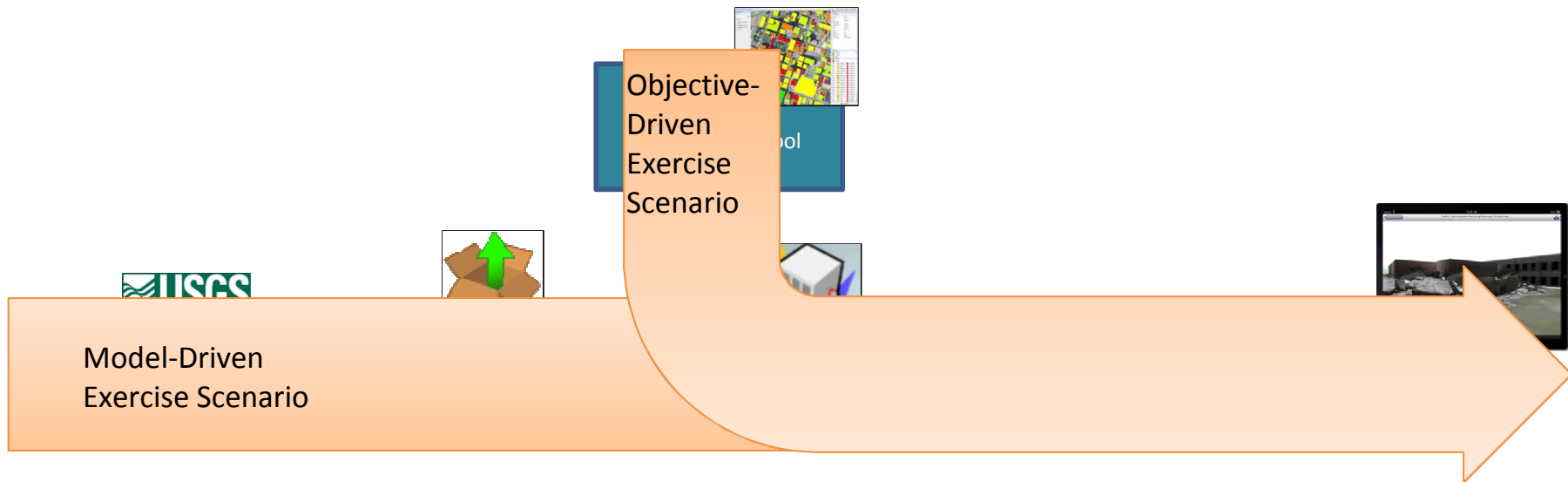
PROJECT BACKGROUND & CAPABILITY GAP

Capability Gap



PROJECT BACKGROUND & CAPABILITY GAP

Culture Change



PROJECT BACKGROUND & CAPABILITY GAP

Mission Need

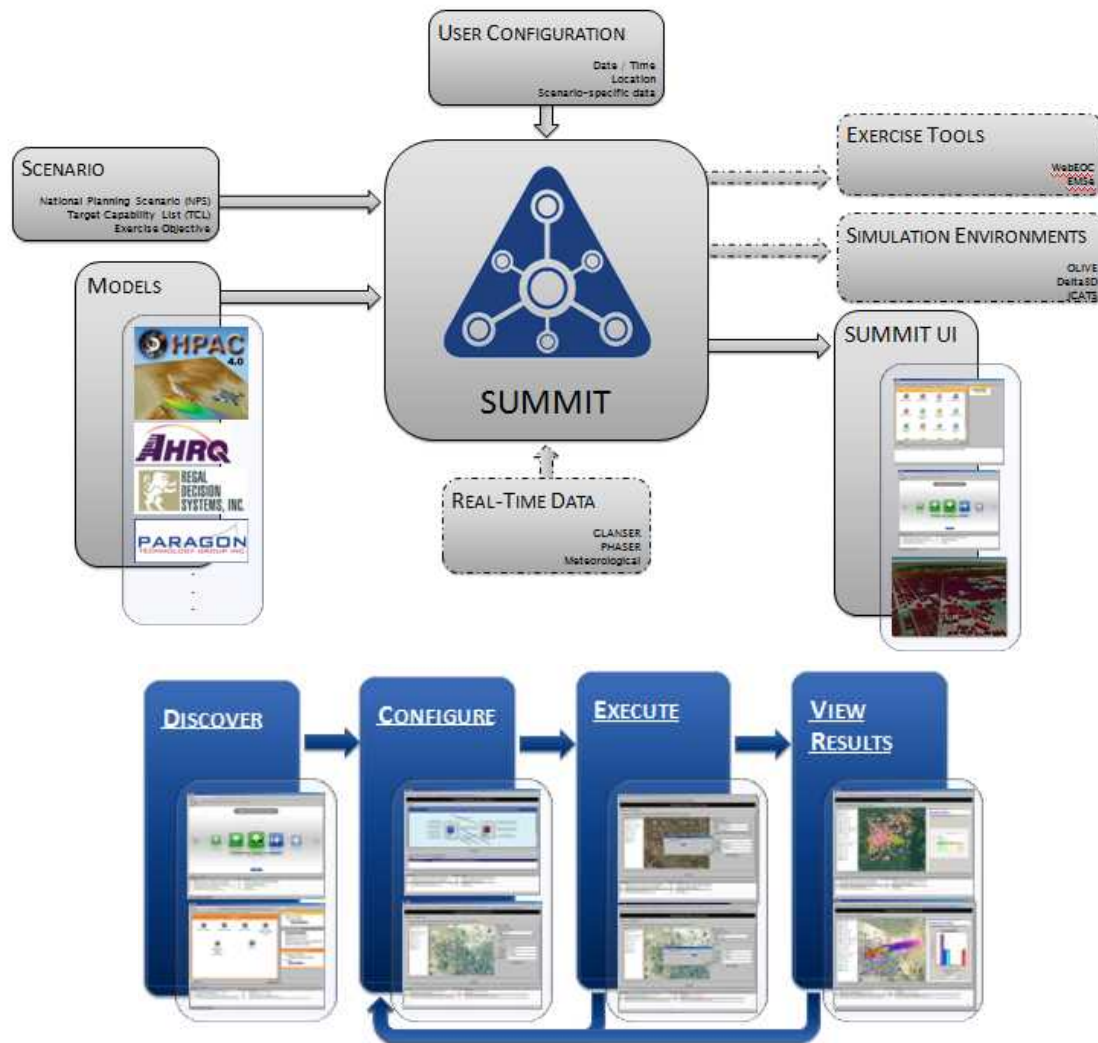
The emergency preparedness community needs reliable access to, and ability to generate science-based information and data that supports evolving emergency planning, exercises and response operations, and that is consistent, readily interpretable, secure, and easy to share.

Project Description & Current State

SUMMIT

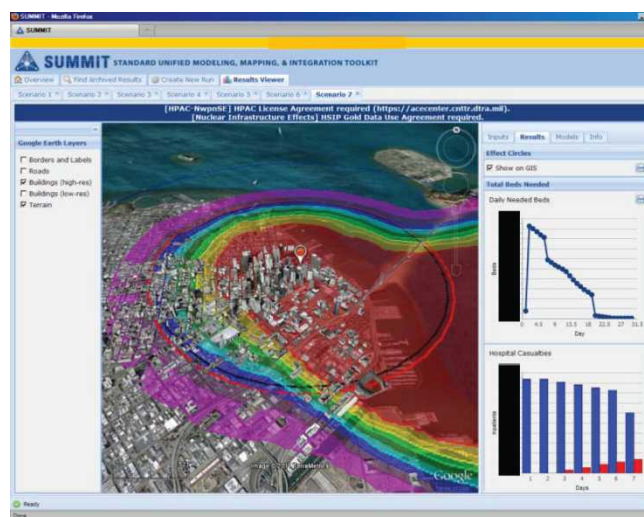
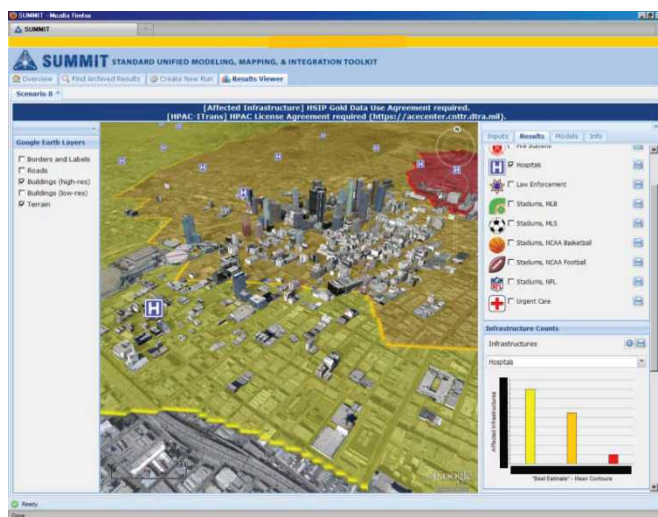
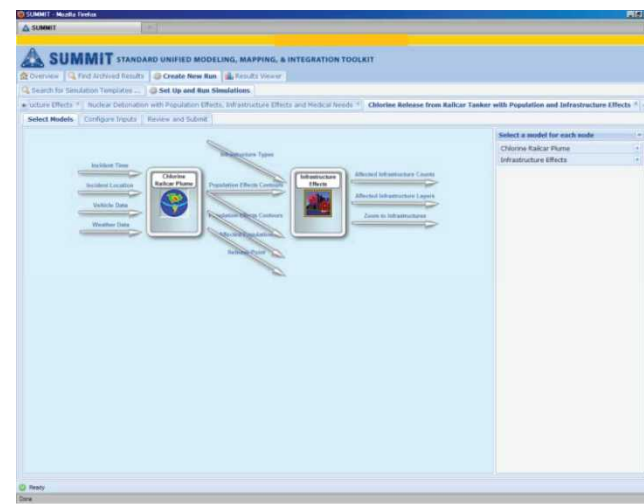
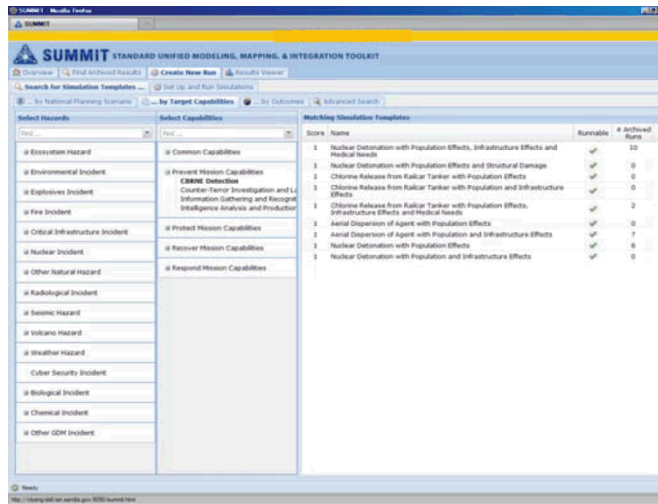
PROJECT DESCRIPTION & CURRENT STATE

Project Description



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SUMMIT Screenshots



FEMA Support

SUMMIT

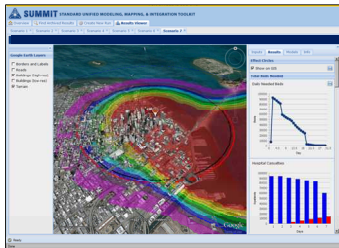
FEMA SUPPORT

NLE11 Efforts



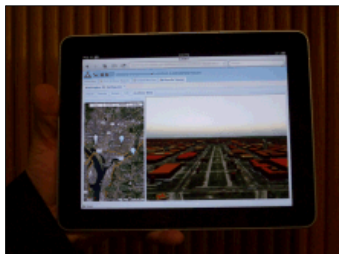
Planners use SUMMIT to generate and refine scenario data

- Linking models to calculate data for scenario
- Bridging model-driven scenario with objective-driven scenario



Controllers use SUMMIT to visualize scenario data

Visualizing model output in 2D (GIS) and with charts/graphs, supporting common operating picture



Players use SUMMIT to view scenario data in a virtual world

Introducing next-generation immersive visualization tools for exercises

FEMA SUPPORT

FEMA Pilot Efforts

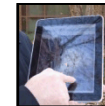
National Exercise & Simulation Center (NESC) Pilot



Scenario
Support



Data
Visualization



Enhanced
Realism



Reusability

Federal Tier 1 Exercises

National Level Exercise 2010 (NLE10) - IND



Scenario
Support

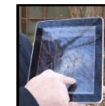
National Level Exercise 2011 (NLE11) - Earthquake



Scenario
Support



Data
Visualization



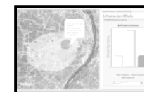
Enhanced
Realism

Regional Exercises (planned)

ARES - Anthrax WARRP- Anthrax, Mustard, RDD Cincinnati - TBD



Scenario
Support



Data
Visualization



Enhanced
Realism

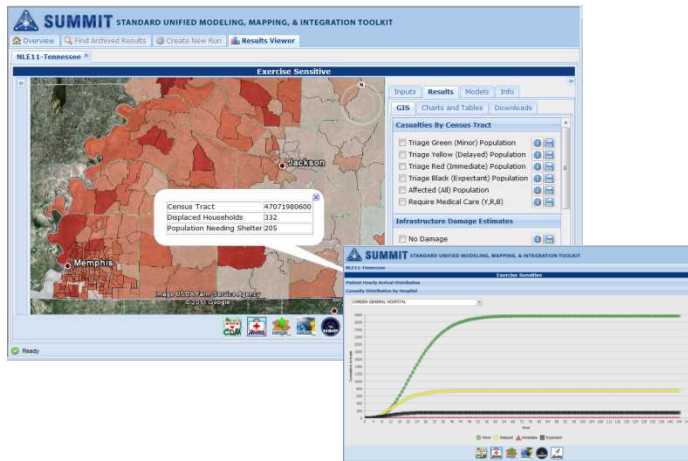


Reusability

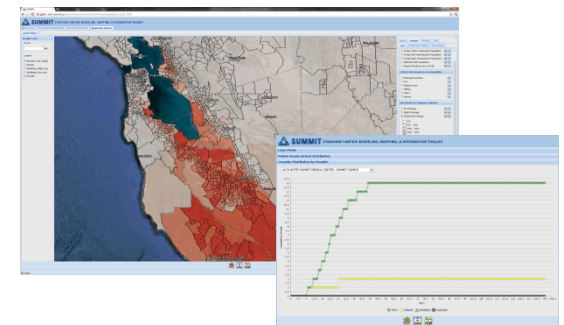
FEMA SUPPORT

FEMA SUMMIT Use

NLE11 Earthquake Scenario



Loma Prieta Scenario



NLE11 Chemical Tanker Scenario



Sweden Chemical Tanker Scenario

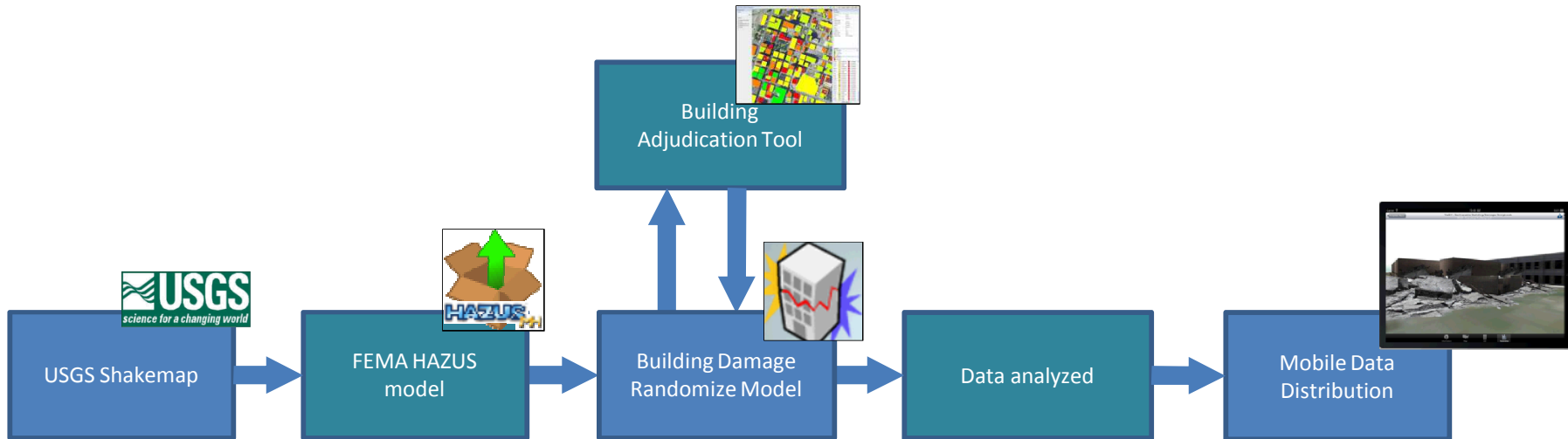


Future Plans: Response

SUMMIT

FUTURE PLANS: RESPONSE

Mobile Client



- Pre-populated with pre-run model data
- Adjudication moves from the desk to the field
- Second-order model-driven results driven by adjudicated data