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**FEMA TECHNOLOGY CASE
COMPETITION**
-BY TEAM 2 ELLIPSIS

In 1845, Deloitte started
with one individual

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to the
Ones**

AGENDA

Overview

- Background
- Challenges
- Requirements

Solutions

- Cloud Computing
- Policy Implementations
- Outsourcing

Close

Recommendations

Overview



FEMA

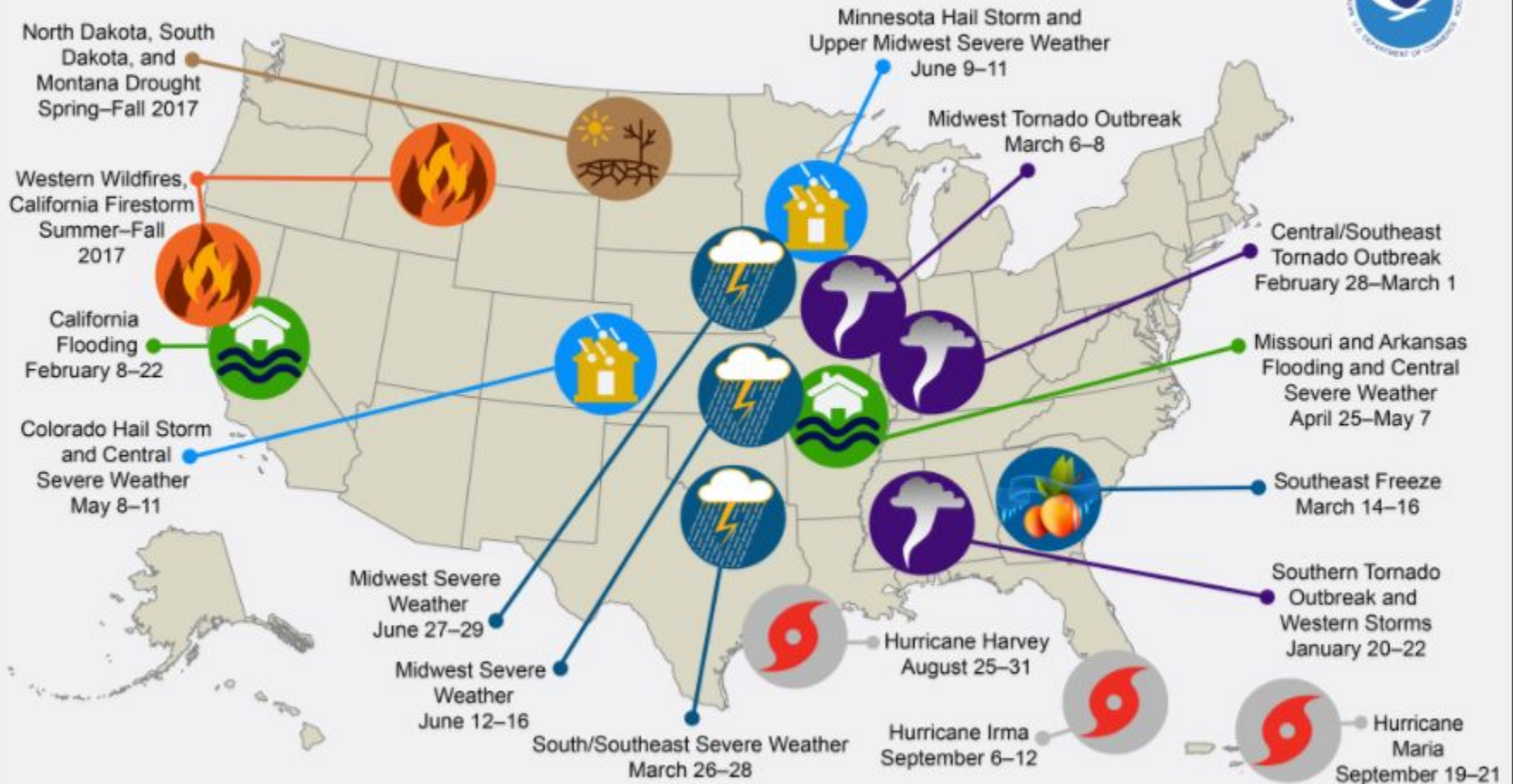
The Federal Emergency Management Agency or FEMA was established in 1979 to prevent, respond and recover from disasters.

FEMA's role includes disaster response, supply distribution, emergency medical care & provision of funding for restoration

Due to the number of unprecedented natural disasters in recent years the agency has been struggling to meet its mission.

Last year's disasters put a strain on FEMA's resources and the agency has hired Deloitte to aid in strengthening the agency's response capabilities and learn from its past actions.

U.S. 2017 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 16 billion-dollar weather and climate disasters that impacted the United States during 2017.

Challenges

Financial Allocations

- **Fraudulent Insurance Claims**
 - 5,000 fraudulent claims related to Hurricane Irma
- **Budget constraints**
 - Resources and money demands exceed budget estimates
 - Congress relief budget is not enough to support unprecedented amount of disasters
- **Allocating Grant Funding**
 - Cases of mismanagement of FEMA Grants

Logistics

- **Inspection processes and procedures**
 - Insurance inspections wait time is too long
- **Resource Distribution**
 - Lack of integration with vendors systems prevents FEMA from tracking shipment routes

Data Management

- **Social Media Usage**
 - How can data from Social Media be utilized in emergency situations?
- **Data collection**
 - Collecting data across various platform and services

Internal Management

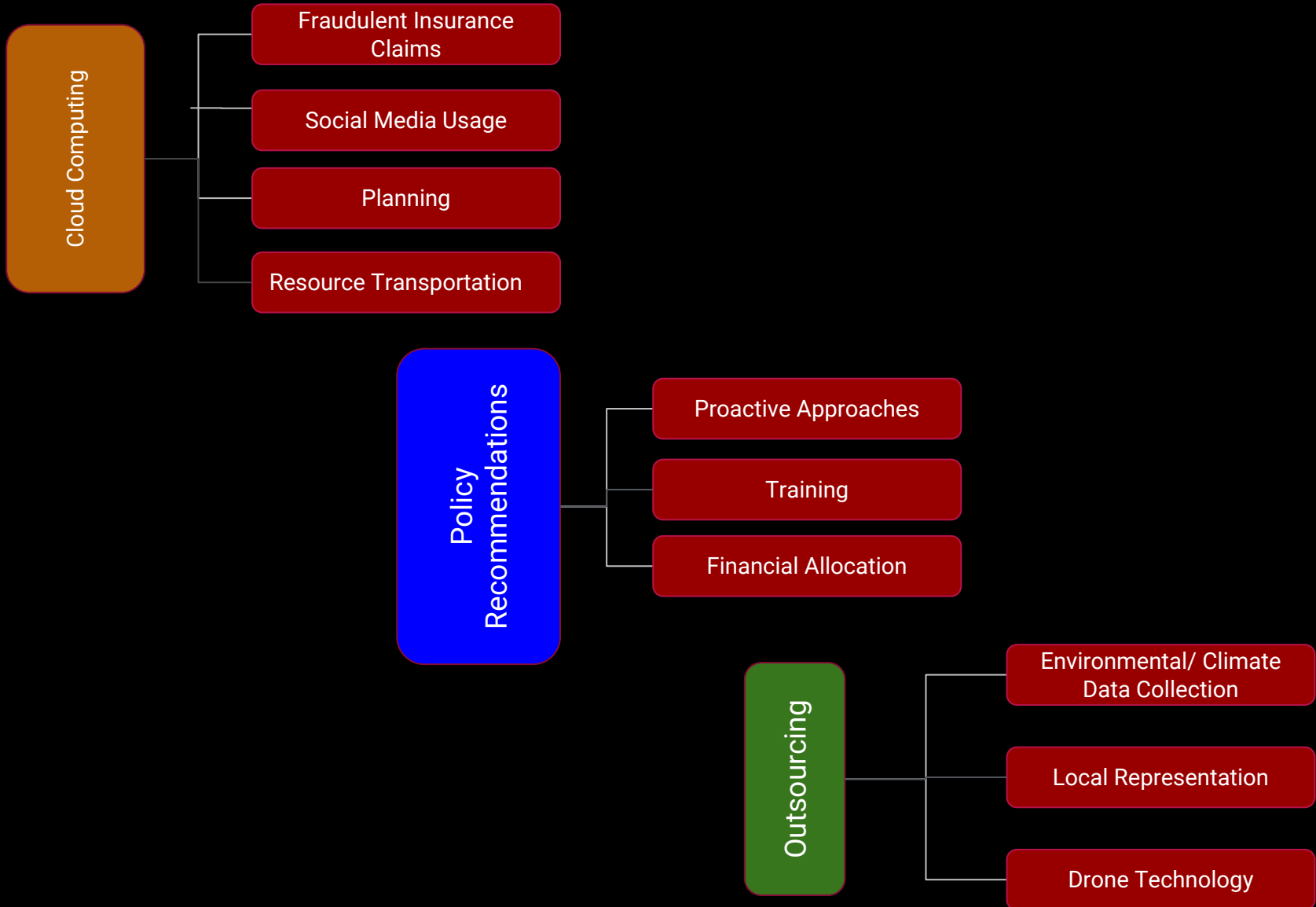
- **Inconsistent Training**
 - Volunteers and Staffs are not well educated on FEMA procedures
- **Inconsistent Practices**
 - Staffs overwhelmed with demand seeking information and unfamiliar with technology use

Requirements & Constraints

We arrived at our solutions with the following criteria in mind:

- Solution increase awareness and communication during emergencies
- Helps FEMA save money in the long run
- Strengthens organizational structure
- Solutions involved technology but were still human-centric
- FEMA will have the ability to grow and learn with the technology

Solutions



Cloud Computing

Cloud computing is the delivery of on-demand computing resources over the internet

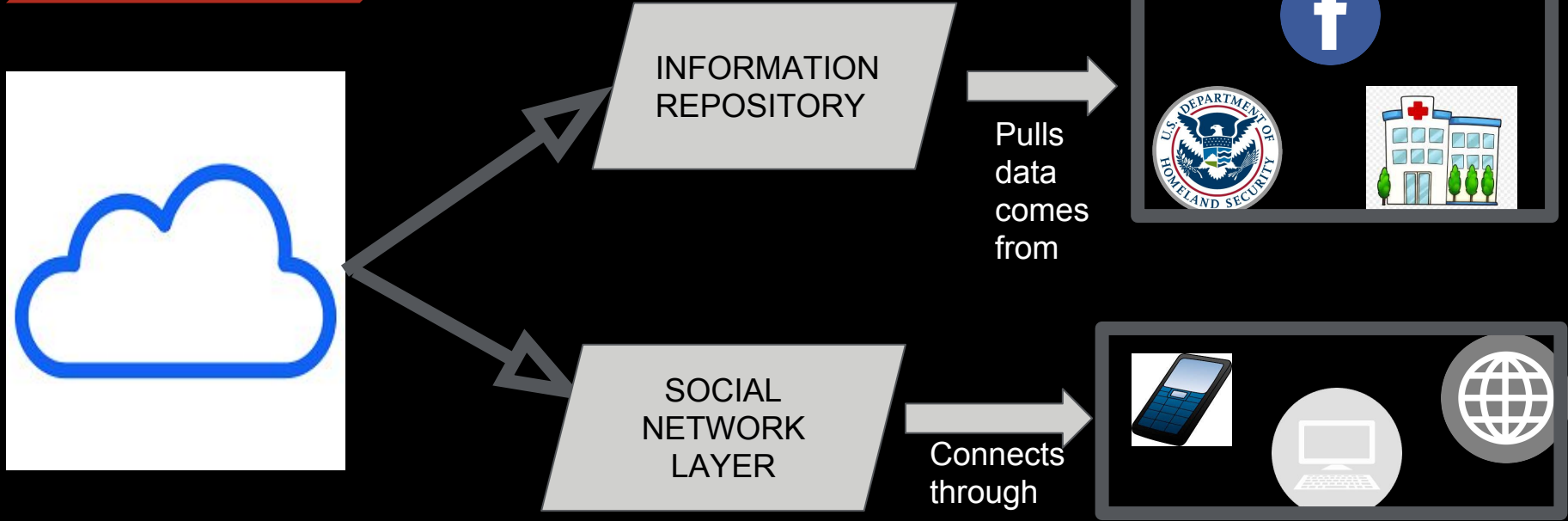
Users are able to access software and applications from anywhere when it is needed.

Reduces the need to worry about cost of updating and maintaining hardware.

Benefits

- Cloud computing is scalable to the emergency
- Makes collection of data from multiple streams such as local and federal government database, police, hospitals
- Ability to integrate FEMA system with different systems
- Aid in the assessment of fraud
- Disaster Planning and Preparation
- Transportation of resources and supplies

Cloud Computing



HOW IT WORKS

The architecture of the cloud would be broken down into two layers

The Information Repository Layer will continuously collect data from multiple streams such as social media, local and federal government records, hospital and police databases.

The Social Network Layer is an information access interface. It allows for communication and collaboration tools to users. Users will be able to access information through mobile devices, text messages and standard web accessing devices

Cloud Computing

Preventing Fraudulent Insurance Claims

Integrate Social Security Authentication tools into insurance claim filing processes

Data from yearly property evaluations reports from different areas should be collected

This ensures that FEMA is not paying out more in insurance than property is worth

Social Media

Data collected from social media can be used to identify trends

Can be used to disseminate accurate and consistent updates

Updates to general public, employees and volunteers helps manage expectations

Pictures and videos from social media can be used to create crisis maps which helps responders better understand situation on ground

Planning

Training materials such as videos can be created and accessed by volunteers & partner organizations

Choosing point of distribution locations

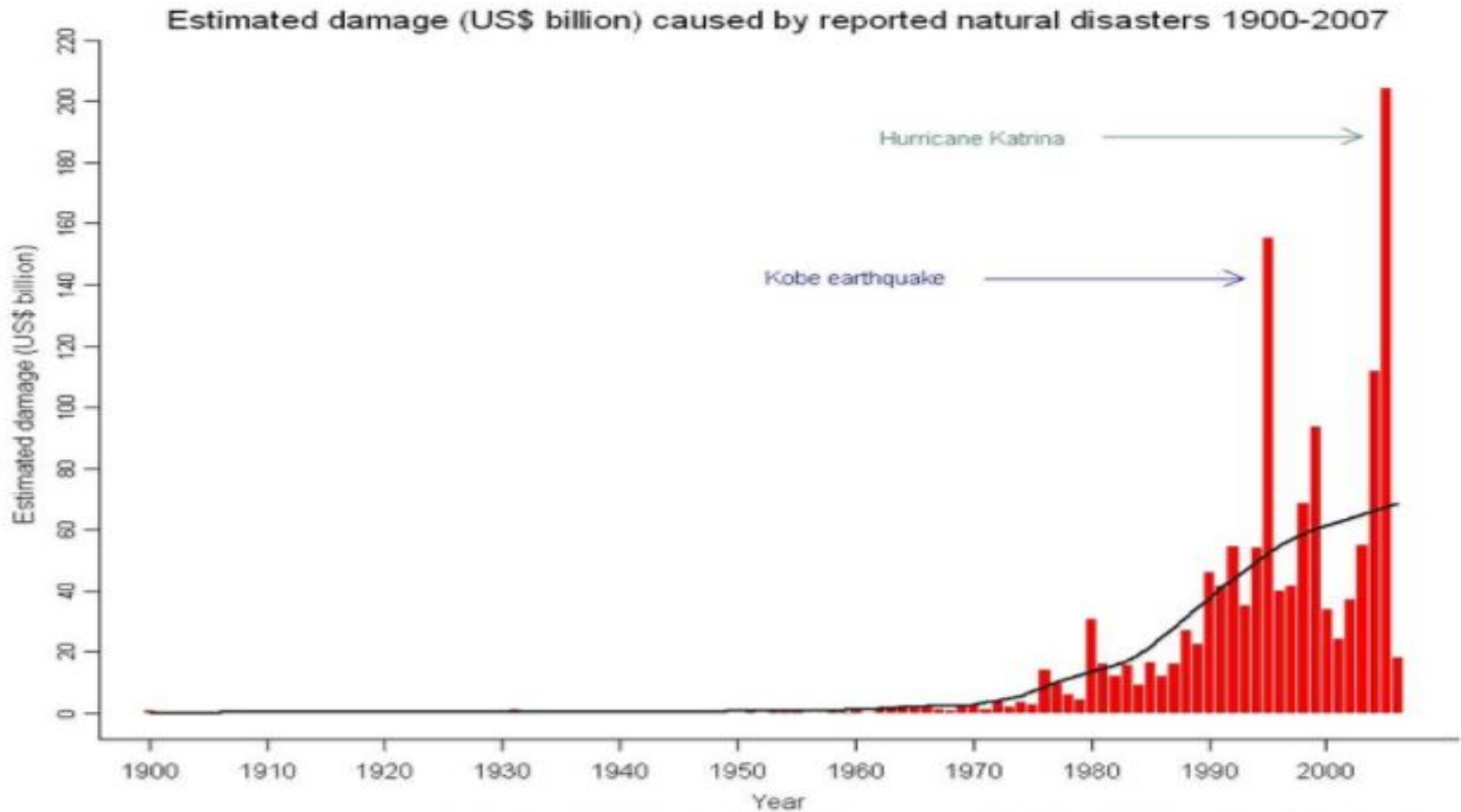
Transportation of Resources

Information can be pulled and shared between FEMA and from their vendor/partner organizations

Transportation vehicle information can be pulled in real-time.

Mashups based on traffic and location data can be created and used to find shortest time path between distribution centers and disaster relief locations

Financial Allocation



EM-DAT: The OFDA/CRED International Disaster Database - www.emdat.be - Université Catholique de Louvain, Brussels - Belgium

Financial Allocation

Mismanagement of Grants

- Coordinate with state governments in auditing of FEMA Hazard Mitigation Grant Program

Insurance Premiums

- Increase the cost of premiums and/or extend reach to better cover hazard areas

- Make projections based on new climate realities

Policy Implementation

Proactive Approach

Coordination

- How local government can coordinate and request help from the Emergency Operations Center
 - Pre-identify Points of Distribution and setting up of Joint Field Offices in the event of disasters
-
- Local representation in the NRCC/RRCC to provide valuable knowledge of local communities
-
- Pre-approval of potential contractors who meet Federal government regulations

Outsourcing

Problem:

Maps developed by FEMA may be outdated considering that there have been three 500 year events in the last two years.

Solution:

FEMA should outsource data collection of environmental and climate trends to third party companies.

Problem:

During recent disasters like Hurricane Sandy, federal emergency responders had little to no knowledge of local geography, government structure or demography.

Solution:

Hiring & giving grants to local representatives and companies during disasters

Problem:

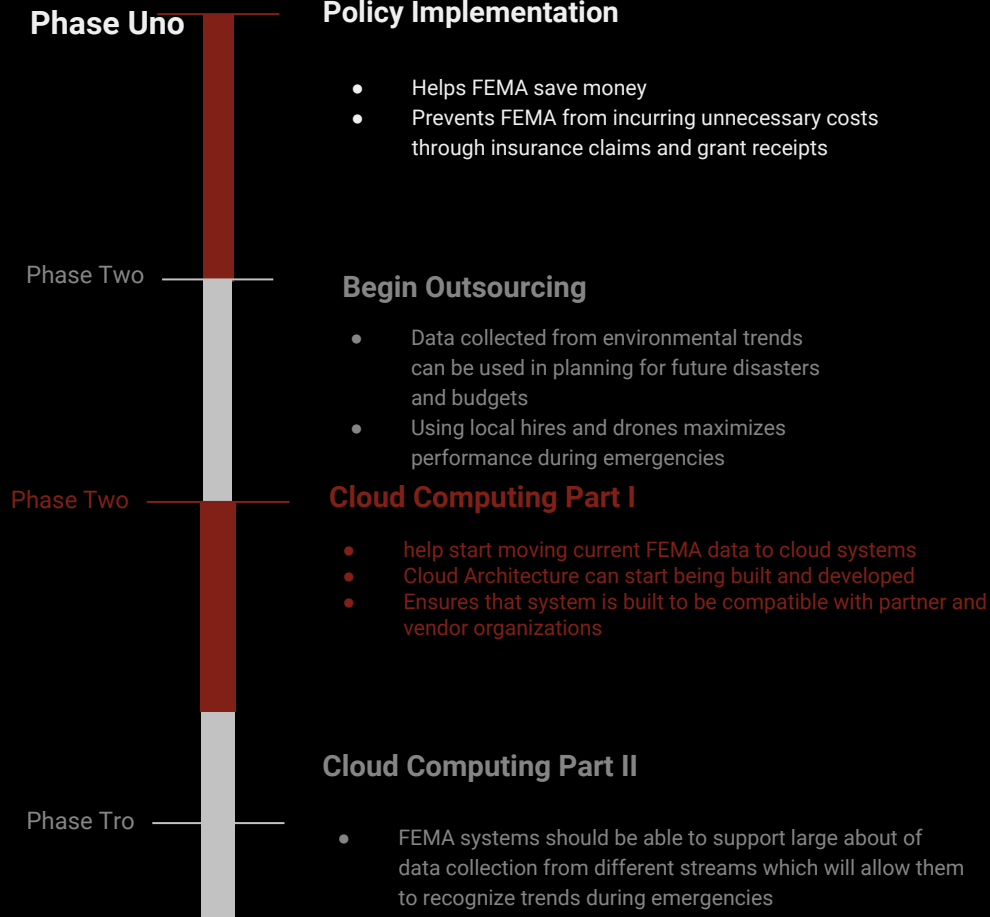
Risky insurance claims will demand physical inspection

Solution:

Use of contracted drones when amount of risky claims is higher than available personnel

Implementation Approach

Phased Approach



Thank You

Contact us

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Sources

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