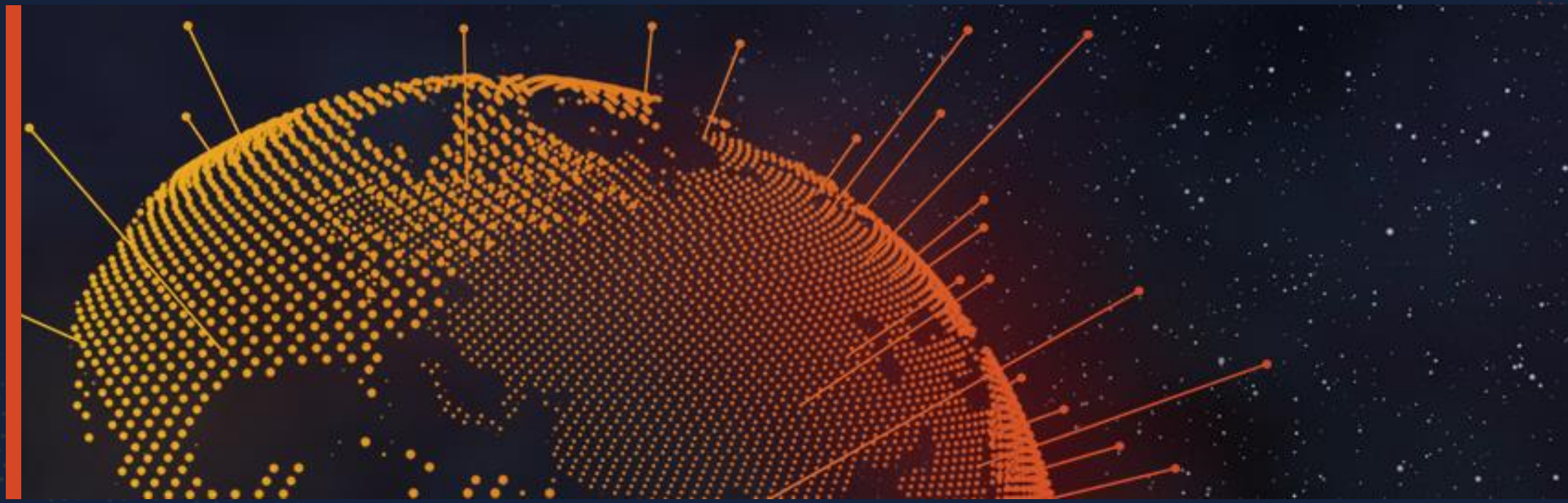
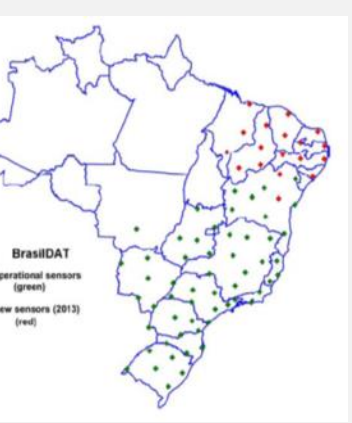
EARTH NETWORKS

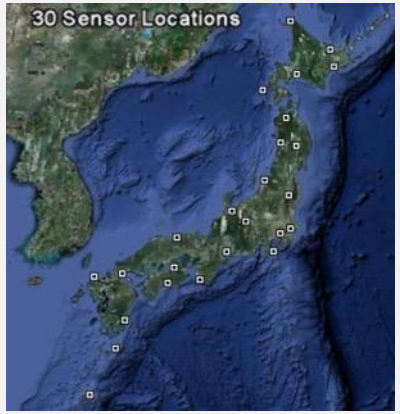


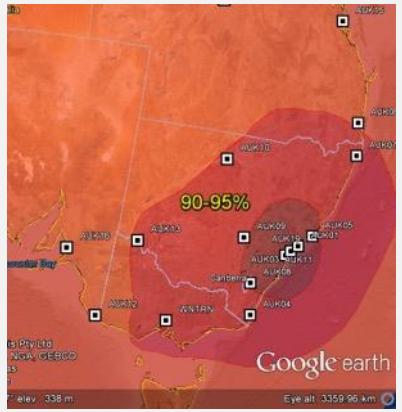
LEVERAGING PUBLIC-PRIVATE PARTNERSHIPS FOR SUSTAINABLE CAPACITY DEVELOPMENT OF NATIONAL WEATHER INFORMATION SERVICES

Jim Anderson, Senior Vice President, Earth Networks

OPERATING IN OVER 90 COUNTRIES



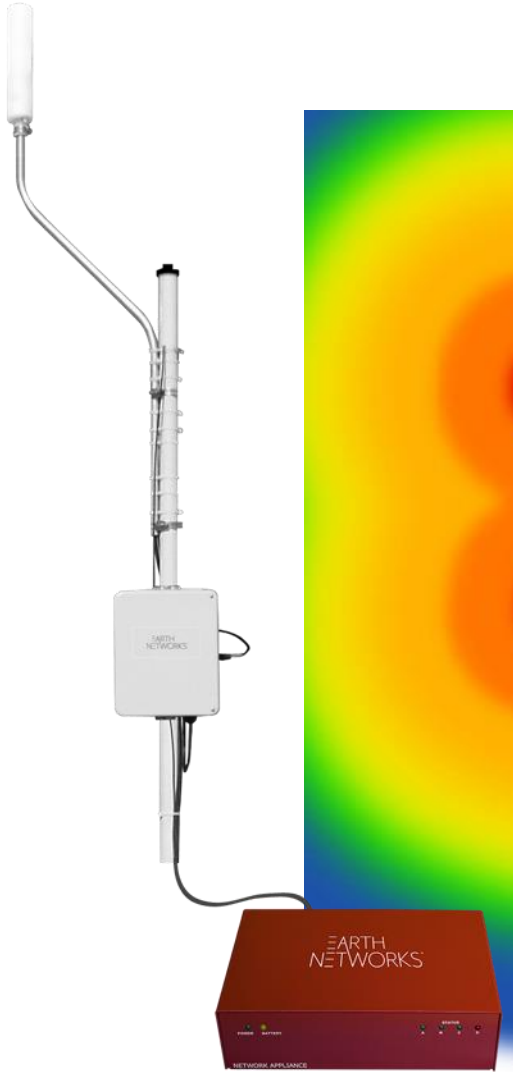


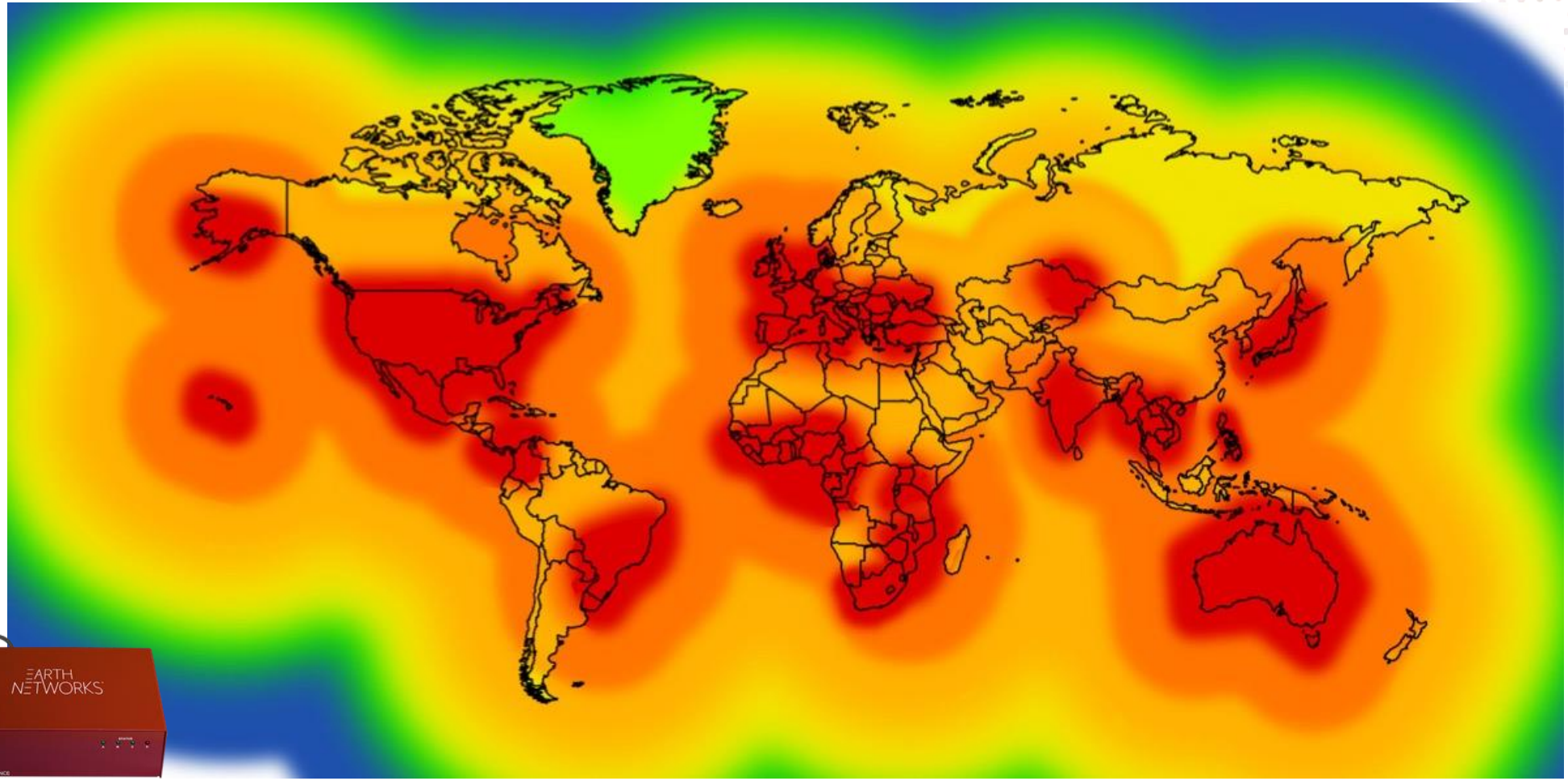


- Brazil – **INPE**
- Japan – **JMA**
- Philippines – **PAGASA**
- Australia – **BOM (with WeatherZone)**
- India – **MOD, MOES, States of West Bengal, Karnataka, and Andhra Pradesh**
- UNDP – **Uganda, Liberia, Sierra Leone, The Gambia**

A GLOBAL TOTAL LIGHTNING NETWORK

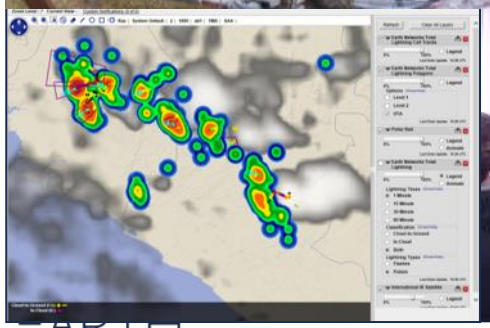
Nearly 2,000 Sensors Deployed Globally





EARTH NETWORKS

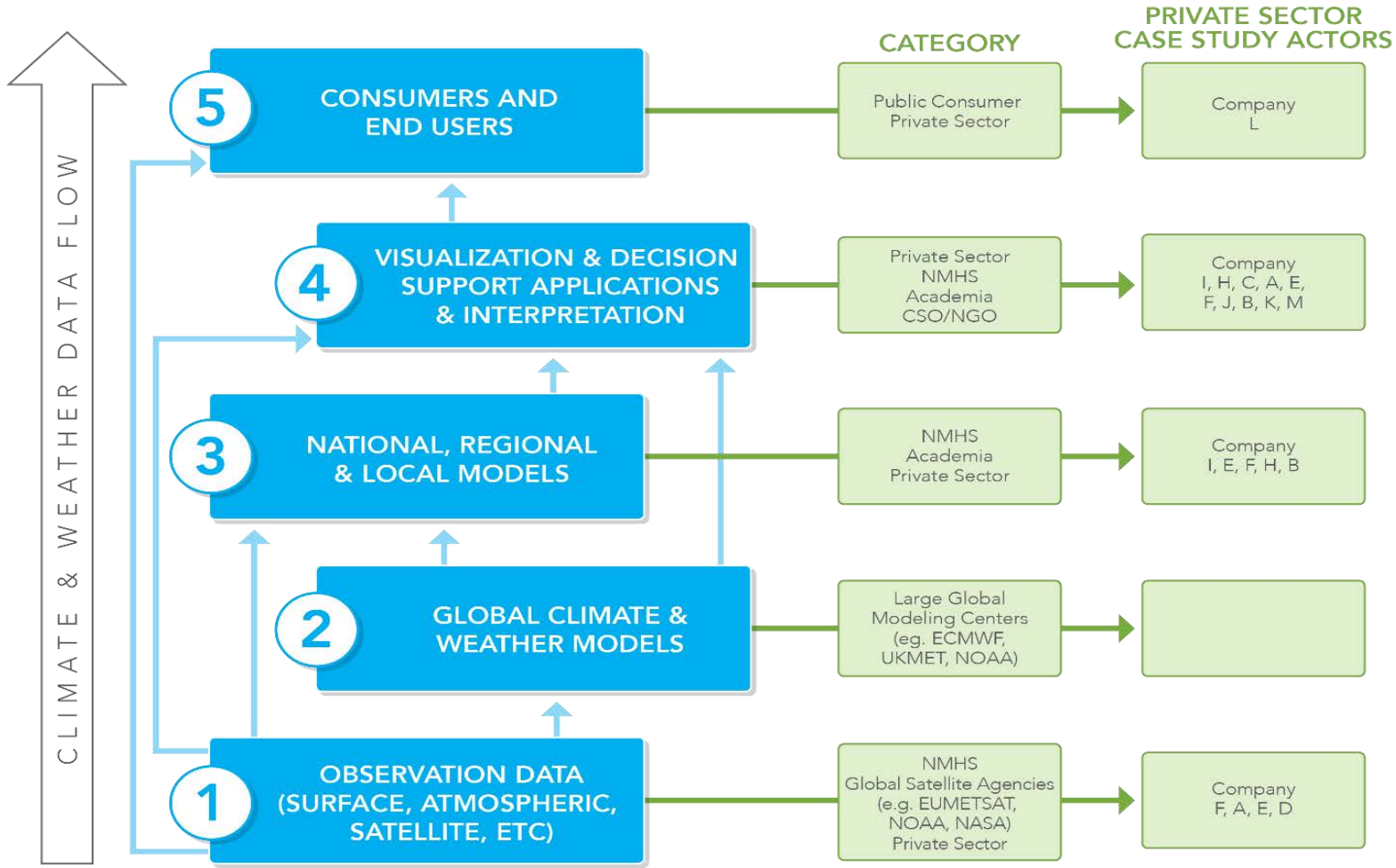
PROVIDING TECHNICAL ASSISTANCE TO NATIONAL HYDRO-METEOROLOGICAL SERVICES OF LDCS IN AFRICA



- Build and operate innovative weather and lightning detection (proxy radar) networks
- Focus on high-impact weather monitoring, alerting, and disaster risk management
- Global coverage including 25 African countries (many LDCs) and ASECNA
- Under UNDP CIEWS programs: contracted by NMHS of Uganda, Sierra Leone, Liberia
- Co-lead of a USAID/SIDA Global Resilience Partnership (GRP) team project in Uganda
- Infrastructure and VAS partnerships with mobile network operators in LDCs

EARTH NETWORKS

PRIVATE SECTOR IN CLIMATE/WEATHER INFORMATION SERVICES OF SSA



Source: Robert O'Sullivan, Winrock International - African Demand for Weather and Climate Services and Business Models for Private Sector Engagement

EARTH NETWORKS

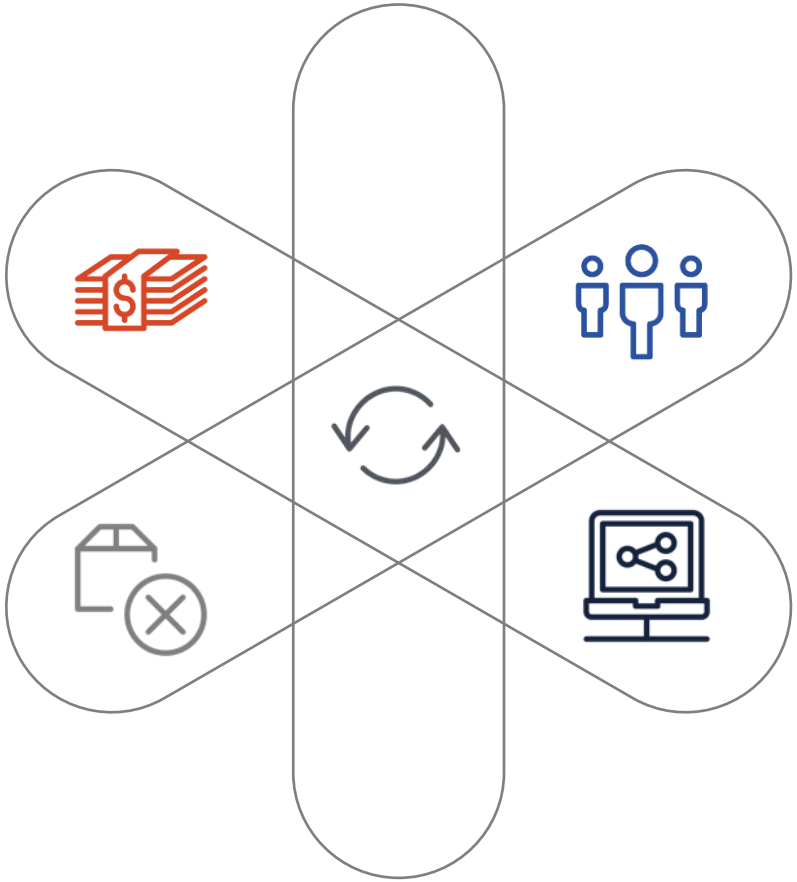
CHALLENGES FACING NATIONAL MET AGENCIES IN DEVELOPING COUNTRIES

Budgets

- Government budgets are very limited
- Sporadic donor funded programs

Services

- Inability to deliver services
- Lack of credibility
- Uniformed vulnerable communities



People

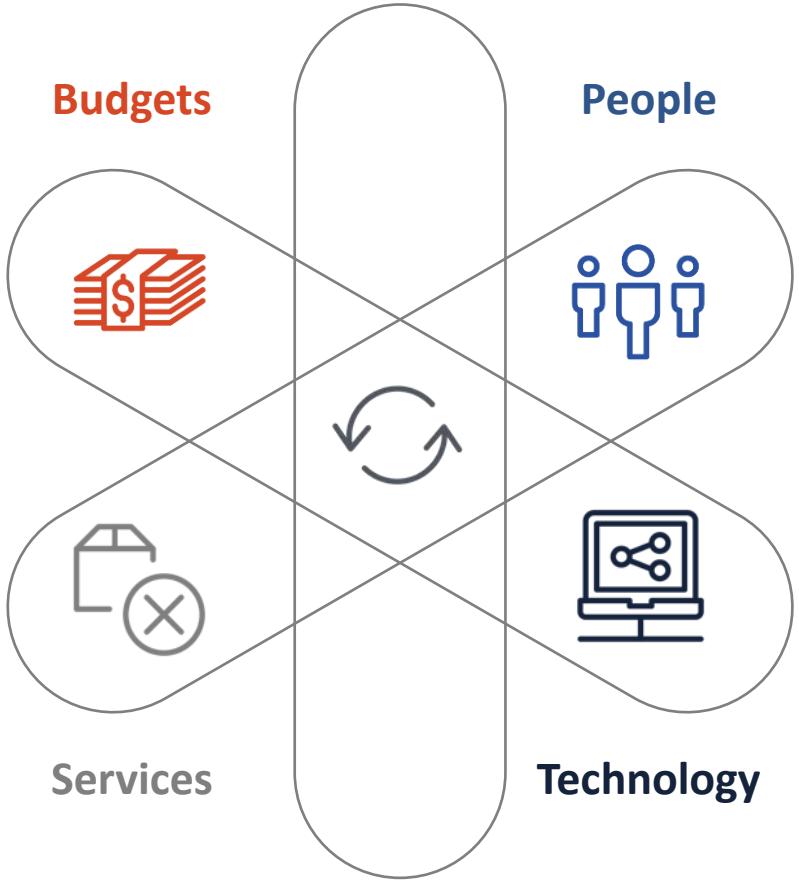
- Limited technical skills and resources
- Lack of professional, empowered staff

Technology

- Technology mismatch with capacity
- Basic operational constraints

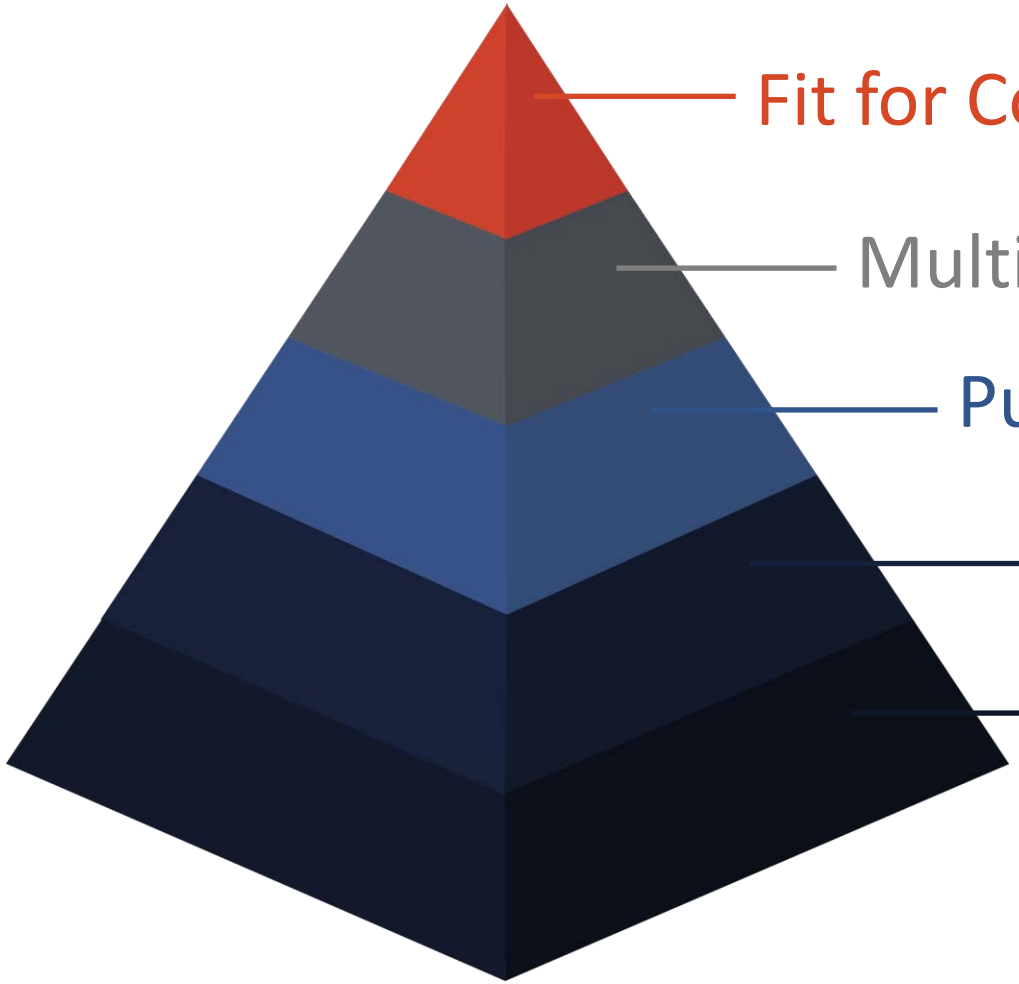
EARTH NETWORKS

INTERNATIONAL DEVELOPMENT EFFORTS: CHANGING OR PERPETUATING THE STATUS QUO?



- Short term funding with insufficient time for full adoption and development of sustainability model
- Investments in climate information vs. real-time monitoring/alerting
- Emphasis on specialized, unintegrated observing and modeling systems
- Procurement of unsuitable technologies
- Closed systems that offer little value to stakeholders
- Time lag between program design and implementation
- Grants going into NMHS with limited absorptive capacity and human resources
- Mixed record on ensuring sustainability

CONDITIONS FOR SUSTAINABLE PROGRAM DEVELOPMENT



Fit for Context Technology

Multi-Year Project Investment

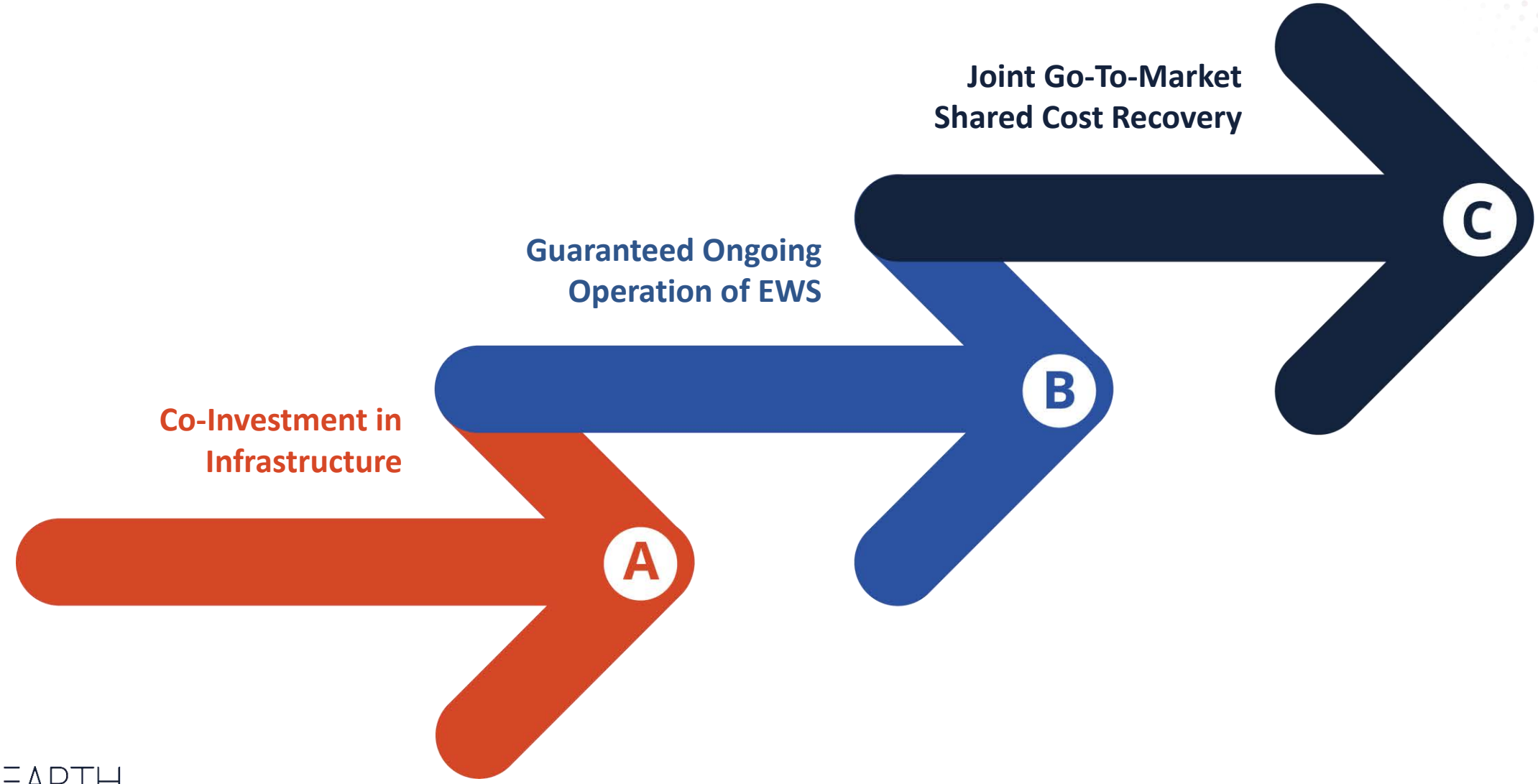
Public Private Partnerships

Data Rights and Markets to Enable the PPPs

Multi-Stakeholder Approach

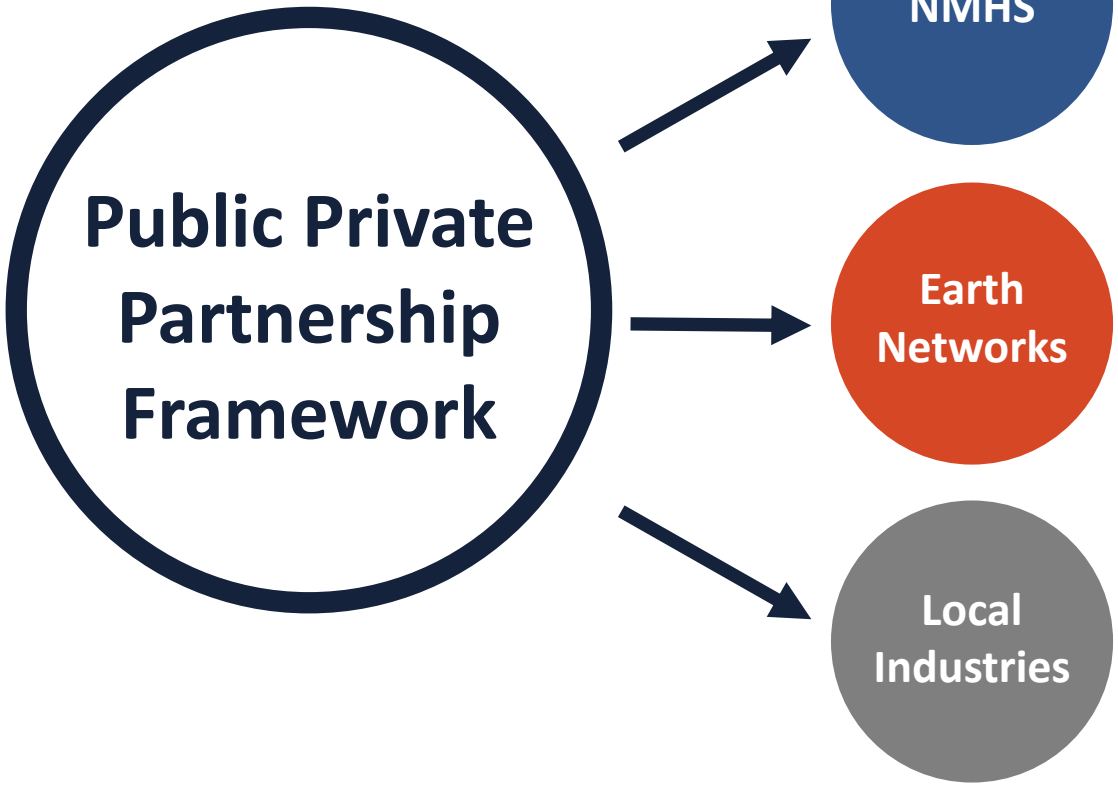
EARTH NETWORKS

PUBLIC PRIVATE PARTNERSHIP TO ENHANCE NMHS INFRASTRUCTURE, CAPACITY AND SUSTAINABILITY



EARTH NETWORKS

PUBLIC PRIVATE PARTNERSHIP TO ENHANCE NMHS INFRASTRUCTURE, CAPACITY AND SUSTAINABILITY

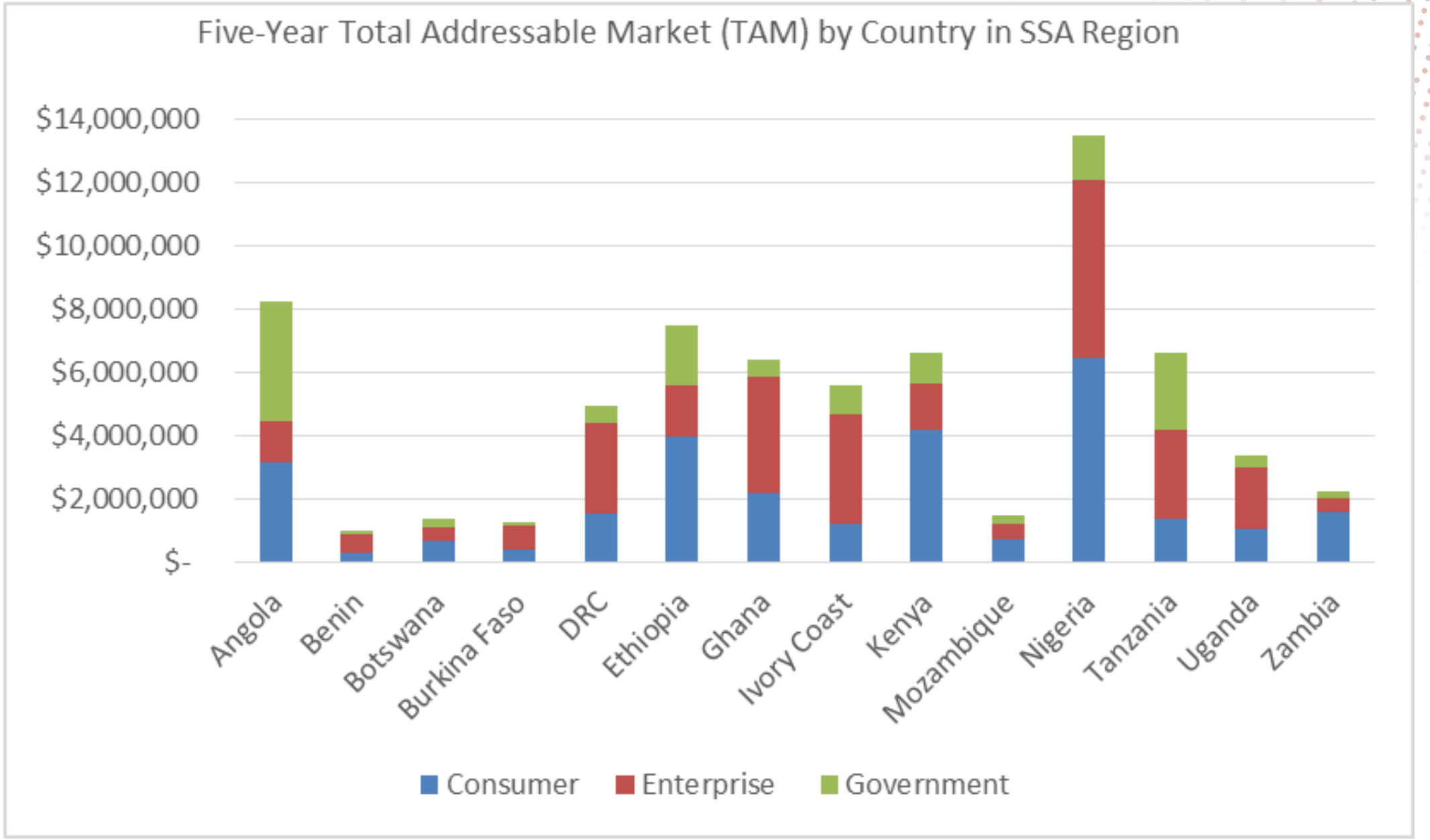


- Ownership of observation network equipment
- Data license and review/approval of weather information communication
- Increased capacity to fully utilize the Early Warning System (EWS)
- Shared data creates sustainability model

- Implementation and operation of EWS
- Contractually defined data access
- Development of end user services and “last mile” content delivery
- Sales and marketing with revenue sharing for cost recovery to sustain the EWS

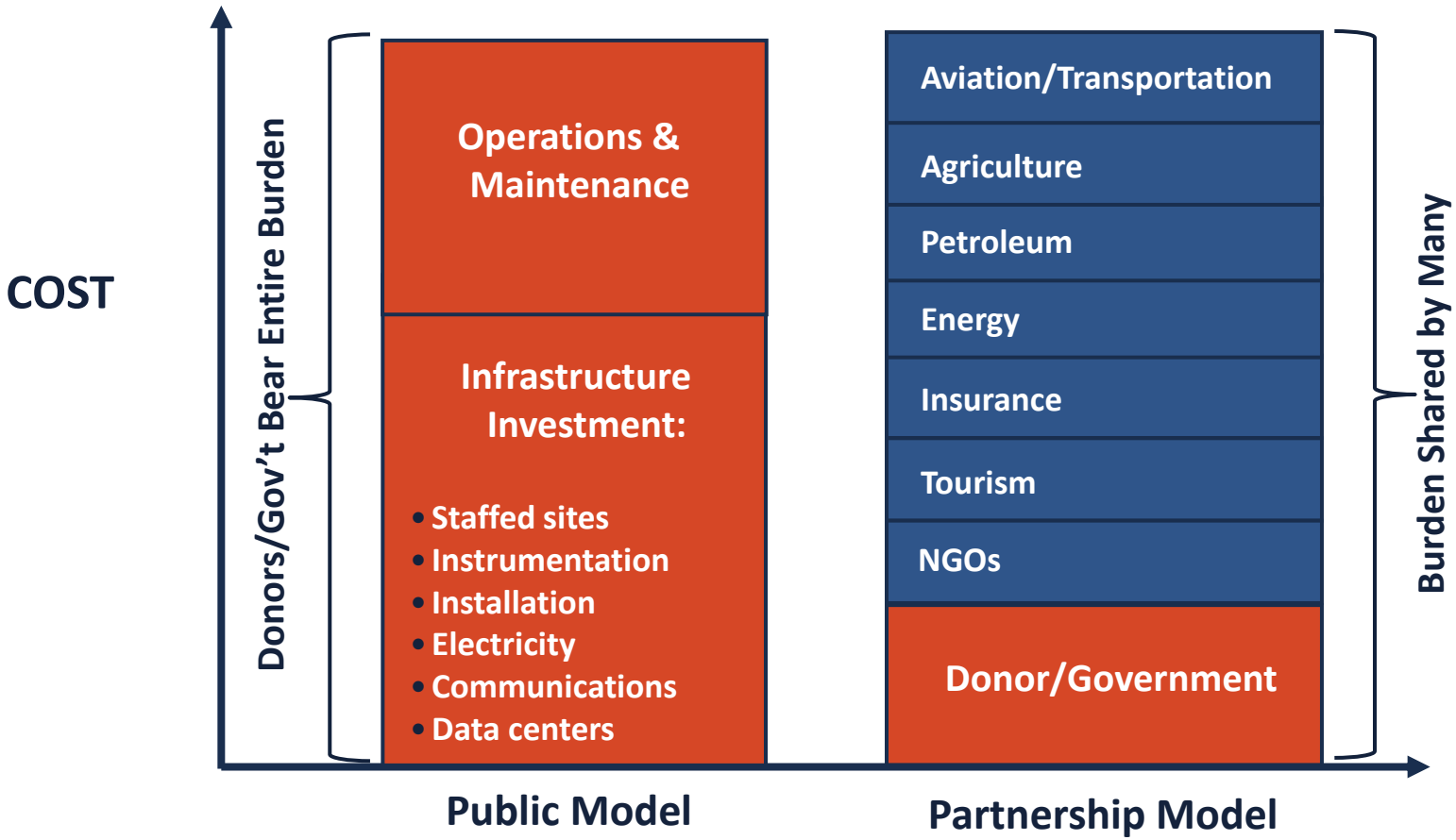
- Purchase data and services developed by Earth Networks , Partner and Met Agency
- Industries: Insurance, Aviation, Electrical, Agriculture, Mining, Petroleum, Mobile, and many others

EARTH NETWORKS


Five-Year Total Addressable Market (TAM) by Country in SSA Region
$14,000,000
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$-
Angola
Benin
Botswana
Burkina Faso
DRC
Ethiopia
Ghana
Ivory Coast
Kenya
Mozambique
Nigeria
Tanzania
Uganda
Zambia
Consumer
Enterprise
Government

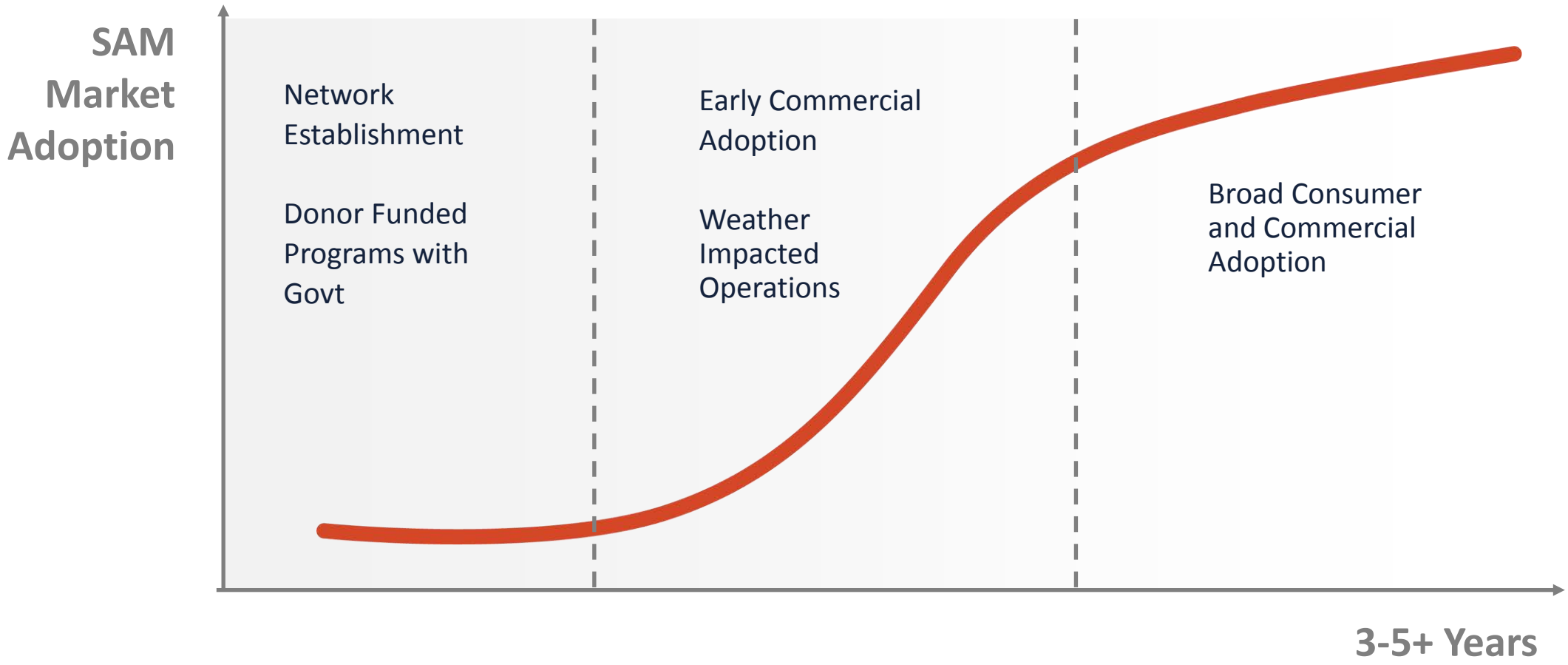
PUBLIC PRIVATE PARTNERSHIP ENABLES SUSTAINABLE DELIVERY OF MET SERVICES

Total Operating Cost of Weather Observing Networks



EARTH NETWORKS

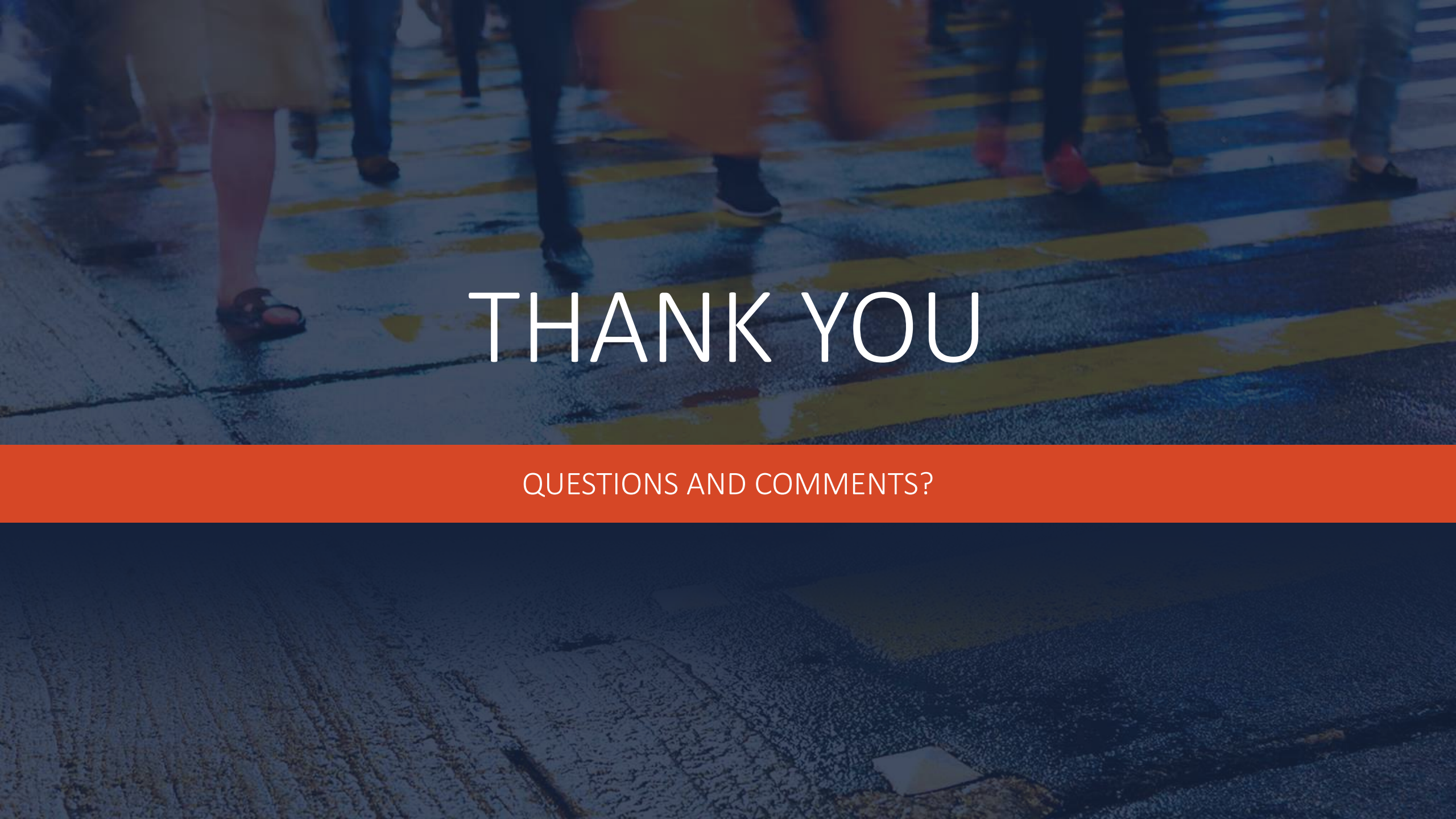
SALES ADDRESSABLE MARKET – A MEASURE OF MARKET ACCEPTANCE AND ADOPTION



COST-RECOVERY WITH INDUSTIES AND NGOS SOURCING ADVANCED WEATHER INFORMATION

- Enables commercialization of data and value added products
- Creates sustainable operational environment
- Leverages private sector technological innovations
- Supports and enables a wide array of industries
- Provides long term funding to sustain NMHS
- Benefits a variety of international CCA and DRR programs

EARTH NETWORKS



THANK YOU

QUESTIONS AND COMMENTS?