The Role of Technological Innovation in the Earth Observation Enterprise

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NATIONAL ACADEMIES Sciences Engineering Medicine

Role of Technology and Private Sector

It’s not just about more data; we need end-to-end solutions.

Models that make maps don’t make decisions.

AI is transforming the landscape by ingesting diverse and heterogenous EO data

Needs more investment, and collaboration to build foundation models.

AI and LLMs are revolutionizing user interface with EO and Analytics

Need EO-AI agent that can source the right data for a problem

Engage Private Sector in Defining Mission Requirement and Design

Increase innovation, agility, and speed.

Recognizing Sectoral Differences

Academic:

- *Priority:* Advancing knowledge, exploring new methods, workforce development.
- *Strengths:* Testbeds for innovation and piloting new technologies.

Private:

- *Priority:* Rapid, agile development and commercialization of solutions.
- *Strengths:* Moves quickly to address market needs, and scales technology.

Government:

- *Priority:* Ensuring transparency, trust, and public benefit.
- *Strengths:* Deliberate, rigorous approach to mission definition and oversight, and ensuring solutions serve the public good.

Nonprofit and Philanthropy:

- *Priority:* Addressing societal challenges, equity, and access.
- *Strengths:* Focus on communities, advocacy, and bridging gaps between sectors.

Synergies to Increase Impact

Agile Development Partnerships.

AI-First Mission Design and Data Publishing.

Accelerate Public Processes for Technology Adoption.

Enable Pathways for Workforce Development.