Jessica Baker

Sr. Director Enterprise Data, Analytics, & Al

TVA Information Technology



Agenda

Al Governance:

A Framework for

Empowerment

Intro to TVA

TVA's AI Journey

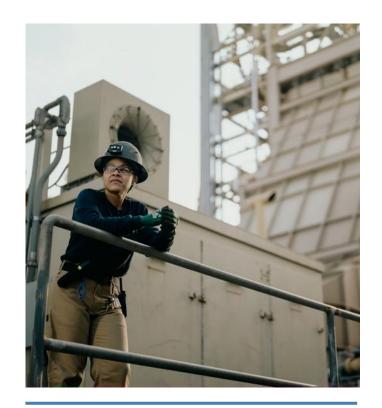
- Where We've Been
- Where We Are Today
- Where We're Going

Wrap up – Q&A



Delivering on Our Mission for the People

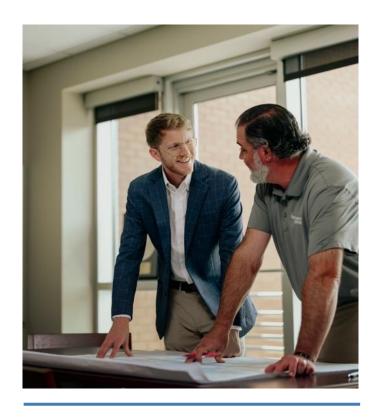
Energy | Environment | Economic Development



Provide affordable, reliable power.



Steward the Valley's natural resources.



Partner for economic growth.



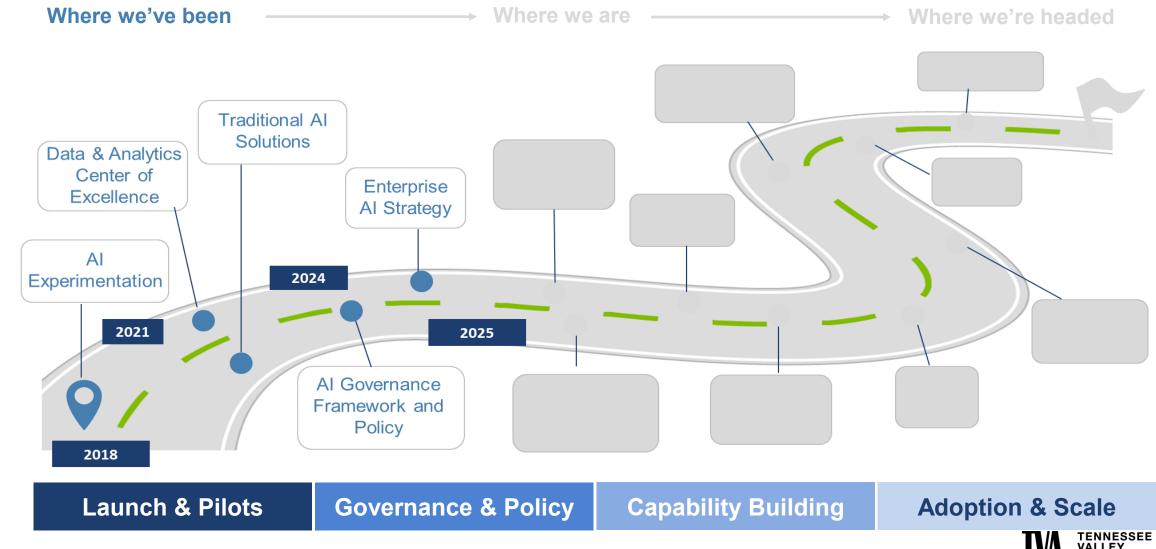
Where We Started

How To Mitigate the Risks of AI?

- Safety & Security: Vulnerabilities
- Integrity & Ethics: Unintended Consequences
- Operations: Reliability of Results
- Cost: Investment Cost/Benefit
- Competencies: Workforce Capabilities and Change Management







Regulatory Al requirements



Executive Order (EO) 13960 Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government (2020)

Guidelines and standards for the Federal government to ensure Al technology is developed, implemented, and managed in a manner that is ethical, secure, and accountable.



The White House Office of Science and Technology: Bluepri nt for an Al Bill of Rights (2022)

Protect individual rights, privacy, and ethics in the development and use of Al by defining guidelines and regulation to Al development with focus on fairness, transparency, and accountability.



Executive Order (EO) 14110 on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence (2023)

Strengthen guidelines, requirements and standards for the use of Al. Understand Al, having the people, tools, and skills necessary to develop and use Al safely and ethically. Enable innovation and drive the workforce with Al within the Federal government. Act and do as a world leader in Al and ensure consumer protections and privacy of data and be a leader.



Office of Management and Budget (OMB) Memorandum 25-021 Advancing Governance, Innovation, and Risk Management for Agency Use of Artificial Intelligence (2025)

Strengthening Al governance, the advancement of responsible Al innovation, and managing the risks from the use of Al. Development of strategies to promote innovation safely, fairly, and remove barriers to its use through tactical and comprehensive policies and standards.



OMB Memorandum 25-022 Advancing the Responsible Acquisition of Artificial Intelligence in Government (2025)

Outlines new requirements for federal agencies acquiring AI. It emphasizes cross-functional collaboration across the agency, risk management, and competition through interoperability, performance-based acquisitions, modular contracting.



Al Governance Framework

Principles, Policies, & Guidelines

Development of standards, policies, and guidelines for consistent use and to ensure safe, secure, fair, and trustworthy Al

Al System Design & Operations

Ensure reliability and appropriate use of Al systems, tools, and technology. Usage monitoring to optimize operations, mitigate risks.

Algorithm Design & Operations

Al Models and applications are ethically built and managed to ensure consistency, quality, and reliability across the Al lifecycle

Data Governance

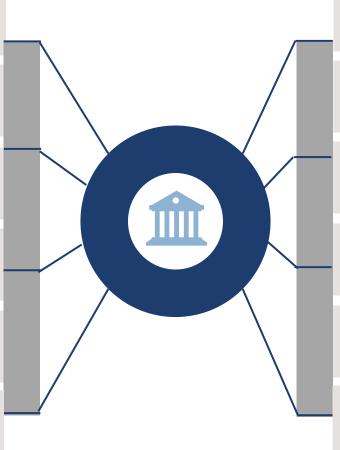
Robust data governance practices ensuring data is collected, stored, high quality, and managed securely and ethically

Security & Privacy

Al systems, models, and applications are secure and privacyenhancing

Safe & Fair

Ensure responsible and ethical use of AI systems that protect individual's safety and uphold their fundamental rights



Strategic & Value Alignment

Strategic plan for integrating AI into the enterprise in alignment with TVA's Strategic Priorities and Policies

Risk & Impact Management

Assess Al risk and impacts and implement guardrails and processes to mitigate risks

Transparency & Explainability

Provide visibility into Al applications being deployed and used. Ensure models have explainable results

Compliance & Auditability

Ensure documentation, lineage and traceability for models and artifacts to support reproducibility and auditability

Accountability (ownership)

Ownership over each aspect in the Al/MLOps lifecycle is documented and used to support oversight and control mechanisms

Skillset Development

Promote AI skills development to enable the workforce, optimize the use of AI systems, and cultivate innovation



Where We Are Today

How To Operationalize AI?

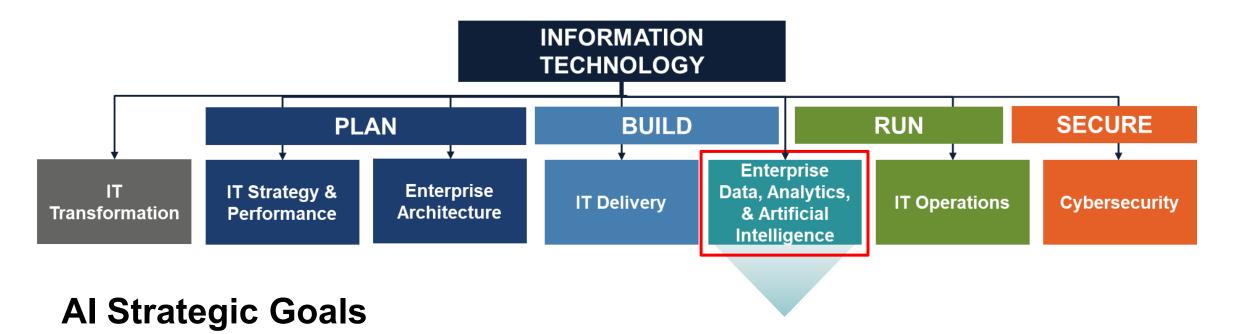
- Operating Model: Federated Workforce & Execution
- Data: Trust, Reusability, Accessibility
- Tools & Platforms: Enterprise Solutions
- Prioritization: Evaluation Model
- Business Enablement: Data & Al Literacy







Organizational Alignment and Strategy



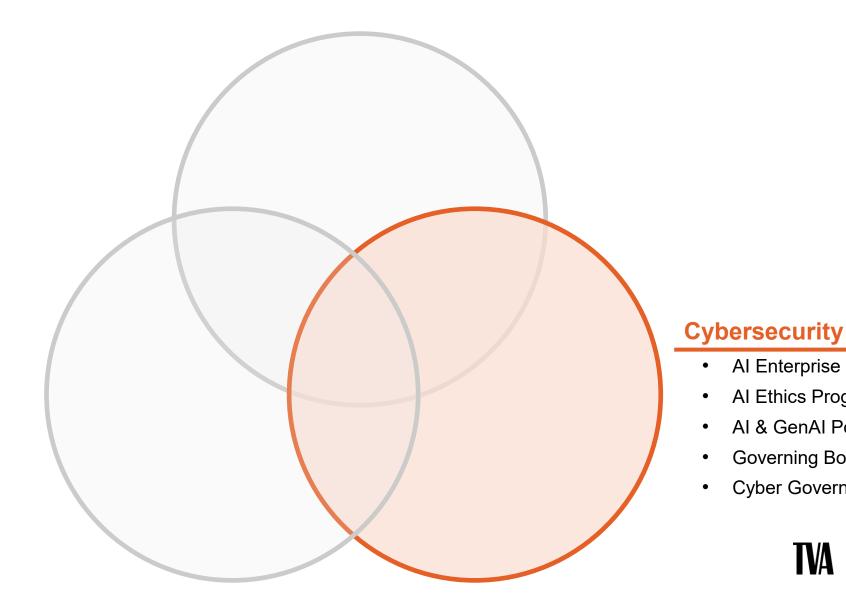
1 Ensure Al Governance & Responsible Use

2 Leverage Secure Al Tools & Technology

3 Build Enterprise Al Capabilities

4 Deliver Value With Al





Al Enterprise Risk

Al Ethics Program

Al & GenAl Policy

Cyber Governance

Governing Body

Data & Al Team

- Data Governance
- Al Governance
- Strategy & Operating Model
- Governance Platform & Standards
- Use Case Evaluation
- Training, Consulting, & Facilitation of Change Agent Network

Cybersecurity

- Al Enterprise Risk
- Al Ethics Program
- Al & GenAl Policy
- Governing Body
- Cyber Governance

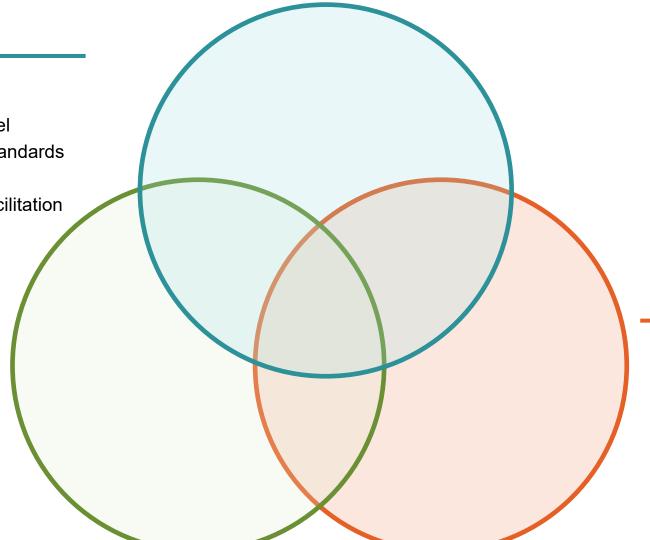


Data & Al Team

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Business Units

- Al Technology & Use Case Request
- Workforce Capabilities
- Communications & Change Management



Cybersecurity

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Enterprise Al Maturity

- Al-Enabled Business Strategy
- Investment
- Value Capture

Cybersecurity

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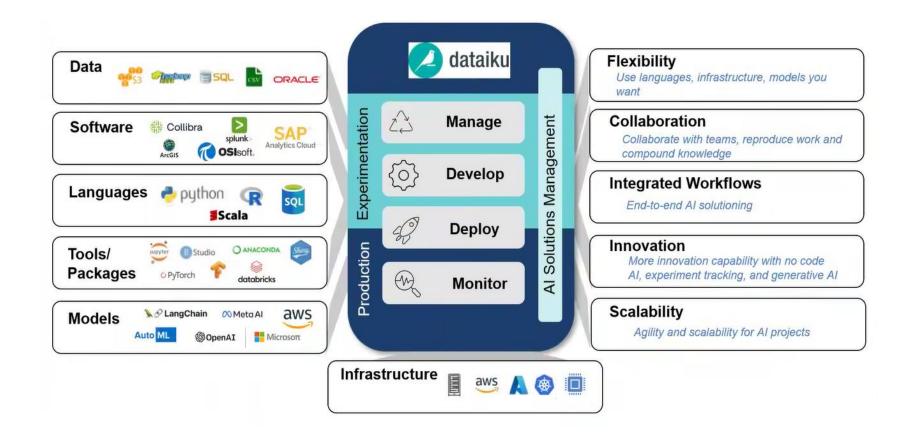


Al Governance Platform: Dataiku

Central Control Tower

- ✓ Track Development progress
- ✓ Validate workflows
- ✓ Catalog & Repository
- ✓ Deliver Responsible AI
- ✓ Monitoring

Centralized program oversight is crucial for maintaining visibility and reducing risk





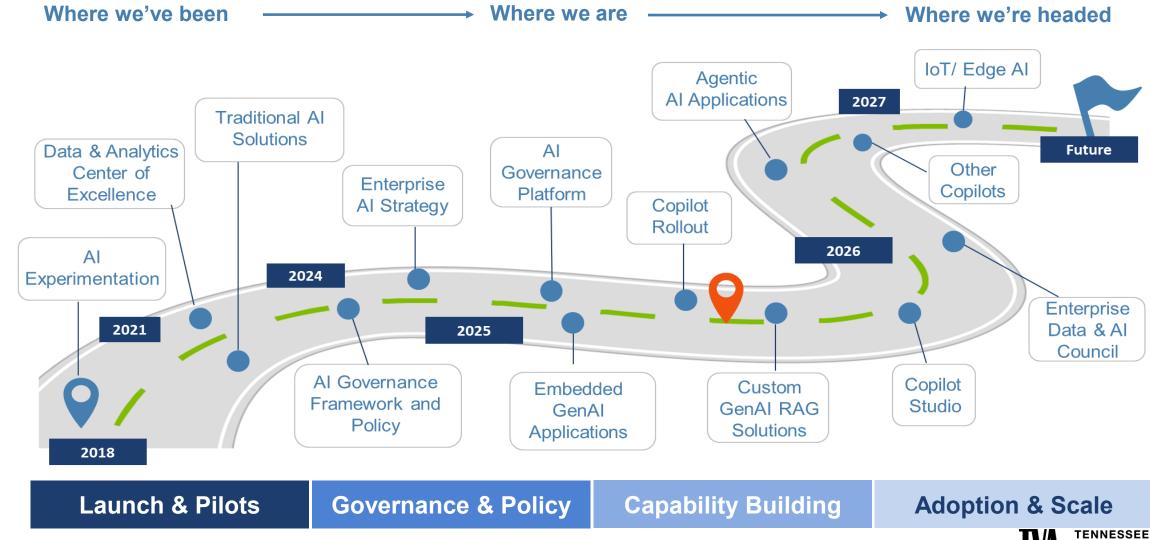
Where We're Going

How To Deliver Value From AI at Scale?

- Alignment: Enterprise Strategy
- Compliance: Lifecycle Management
- Deployment: Repeatable Playbook
- Value: Realize Benefits
- Adoption: Embed In Daily Work







Al Scaling Roadmap

Lighthouse Projects

Prove the value and light the way

Le Citizen Developers

Empower the edge within guardrails

Federation

Scale by distributing execution with central governance





Promoting Responsible & Secure Adoption of Al



Al Standards & Policies

Align Innovation with Al Governance, Data Governance, Cybersecurity, and Regulatory policies



Promote Ethical Use of Al

Development of ethical AI that ensures privacy, fairness, transparency, and safeguards TVA's reputation and trust



Invest in Al Talent

Prioritize training employees on Al risks, development, and use



Strategic Priorities

Align Al Strategy and use cases with TVA's Enterprise Technology Strategy



Foster A Culture of Innovation

Encourage collaboration, innovative solutions, and investments into Al



Questions?

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TVA Information Technology

