# Operationalizing the Principles of E-Enterprise and the Digital Strategy

### The Context

The E-Enterprise Blueprint established a set of fundamental principles to guide modernization and continuous improvement of environmental programs. In 2018, the EELC endorsed the Phased Environmental Protection Maturity Model as its “North Star”—a representation of the EELC’s vision for the future of environmental protection. One year later, the EELC adopted a Digital Strategy that sets strategic principles and actions to help orient the E-Enterprise community toward that North Star. Now, it is time to put those principles and actions into practice and use the EELC’s leadership to drive transformation in environmental programs.

### The Opportunity

All environmental programs rely heavily on IT systems for collecting, managing, analyzing and sharing information. These systems are baked into the fabric of the programs and they enable the business processes and workflows that power those programs. Making mid-stream changes to processes, workflows, and systems is extremely challenging. It’s akin to trying to change a car’s tires while barreling down a highway at 70 mph. However, as a system nears the end of its lifecycle, programs have a rare but invaluable opportunity to rethink past practice, reimagine what’s possible, and introduce truly transformative change.

The EELC should capitalize on these opportunities and fully commit the leadership and resources necessary to apply the Digital Strategy to programs that are poised to substantially modernize or replace major IT systems. States, tribes, and EPA should collaboratively reimagine our business and how we collect, manage, share, and use data to run our programs. The EELC can provide the leadership, inspiration, and direction to think and work differently.

### Committing to a New Approach to Modernizing Environmental Programs and Systems

The EELC should commission the development of a set of shared expectations for Program and System Modernization. These expectations should explicitly and fully commit programs to a radically different approach to program modernization and system development that is guided by the Phased Environmental Protection Maturity Model and strictly adheres to the principles in the E-Enterprise Blueprint and Digital Strategy.

The EELC can apply these shared expectations to program areas with near-term modernization needs (e.g. Drinking Water, NPDES Compliance and Enforcement).

The Shared Expectations for Program and System Modernization should establish a transparent, structured, and fully collaborative process that enables states, tribes, and EPA to define their program’s emerging needs; reimagine operations, processes, and workflows; and design a new system infrastructure that best meets the business needs of today and lays the groundwork for the future.

The shared expectations could include some of the following:

Conduct the Program/System Modernization Under the Auspices of E-Enterprise

The EELC will charter and oversee program and system modernizations to ensure diverse participation, deploy and coordinate resources, and maintain collaboration and accountability among participants.

Make User-Centered Design the Top Priority

Program and system modernization efforts must make user engagement the centerpiece of the process. States, tribes, EPA, the regulated community, and the public are all customers of the programs and their IT systems. All customer voices should drive the design of program processes and systems.

Question the Status Quo and Keep an Open Mind

System modernizations create space to rethink the business and innovate. Programs need to have conversations without emotional attachment to existing processes, workflows, and software. The EELC expects stakeholders to be creative and enter conversations without preconceived notions or assumptions about the future state.

Take the Time to Fully Understand Program Priorities and User Needs

Define a fully inclusive and jointly led process that:

* Identifies existing and emerging program business priorities and requirements
* Prioritizes user-centered design and the voice of the customer
* Considers what the program could/should look like in the future. How do we want it to operate? What workflows, data, and processes do we need to make it happen?
* Conducts a retrospective analysis of previous successes and failures

Document current business processes, workflows, and technology

Develop a clear picture of the as-is state. Identify any persistent barriers, pain points or obstacles that introduce inefficiency or detract from the user experience.

Improve Business Processes and Workflows before Building IT Solutions

Apply Lean and other business process improvement techniques to streamline business processes and workflows. Identify opportunities to use technology to enable process improvements and transformative approaches to service delivery. Use the E-Enterprise Lean and IT Toolkit for guidance.

Identify the Desired Future State of Business Processes and System
The modernization process must include development of a Concept of Operations that describes how the program will function in the future. What workflows, IT systems, data, and user functionality will be needed to accomplish the program’s goals? The Concept of Operations should draw heavily on the Digital Strategy’s principles for user-centric, platform-centric, and information-centric design.

Default to Using Open Data and Shared Services in the Solution Design

The Concept of Operations should maximize the use of open data and shared services in the proposed solution. Participants in the process must maximize the use of open data and cloud technology to achieve new approaches to data sharing. Modernizations also offer opportunities to design new systems that take full advantage of shared services. For example, a modernization offers a chance to integrate a Master Facility record into the design of a system from the very beginning.

Consider Alternative Approaches to Designing, Building, and Operating Systems

Participants in a modernization effort should not start with preconceived notions about how software will be designed, developed, and maintained. Typical practice has been that EPA programs build a national system for a particular program that states and tribes can choose to use. Advances in information technology have opened up new possibilities to source and fund user-driven efforts to develop and operate shared software.