



# Interoperable Learning & Employment Records:

The 7 Principles of LERs and a  
Roadmap to Implementation



**C-BEN grew out of the idea that education should focus on true competency**—what an individual knows and can do—rather than on proxies for knowledge and skills. We believed that by building a network committed to growing competency-based education, we could make postsecondary education more flexible, responsive, and valuable for learners and employers.

Learning and employment records are a key to unlocking the potential for skills-based hiring and competency-based learning to create this future. We support institutions, states, and national organizations in implementing this new approach to validating and sharing skills.

**Interoperable Learning & Employment Records:  
The 7 Principles of LERs and a Roadmap to Implementation**

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# Executive Summary

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Over the last decade, calls for increased transparency about what someone knows and can do has led education reform efforts to shift the way skills are validated and documented for individuals and how individuals may use these records in the labor market over a lifetime. At the same time, employers are using skills-based hiring as a method to increase efficiency in hiring and retaining talent.

Current practices limit individual learners' access to information that could help them accomplish their goals of economic mobility – that is, information on the competencies and skills that they have gained through education, training, and experience. At the center of these efforts are traditional education transcripts that document grades and courses that learners have taken. Further, these records are controlled by institutions that require learners to seek permission to share, often at a cost.

States, institutions, employers, and even federal agencies have set sights on a new vision, where individuals have access to and use of their learning and employment data through the seamless sharing and use of **Learning and Employment Records (LERs)**.<sup>\*</sup> Leveraging new technologies, LERs are reshaping not only what is recorded about a learner's knowledge, skills, and capabilities, but also how learners can access and use their data to pursue employment and further education without barriers.



**\*Learning and Employment Records (LERs):** Learning and employment data, earned through education, workforce, service, and other experiences that taught a learner skills, knowledge, or competencies, that is owned and shared by the individual learner.

# Executive Summary

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This transformation holds great potential to opening doors for learners, but there is one critical conversation left to bring this new vision to life. To achieve this new system, data must be able to be seamlessly owned and shared by individuals. This vision requires **interoperability\*** of the data systems that produce LERs that will allow learners to accumulate multiple records over time to reflect the range of credentials and competencies earned. Further, learners will seek to use their data to interact with employment and education systems, including career navigation and job searches, that will allow them to continue to build skills and a career.

To achieve interoperability, action is required by the public and private sector. To guide action, **a common set of principles for education and employment data has been created** for use by key decision makers who provide education and training to millions of Americans each year, including policy makers, state and federal agencies, philanthropy, employers, colleges and universities, K-12 district leaders, workforce agencies, and military branches.



**\*Interoperability:** The ability of systems to work together, exchange, and make use of information from other systems. In education, interoperability is **the ability of a system to exchange education and workforce information** with and use information from other systems without special effort on the part of the user. This means all individuals, including learners and employers, **have appropriate access to education and workforce information**, allowing them to make informed decisions in the workplace.

# Vision: Talent Marketplace

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**Economic mobility should be based on what you know and can do, rather than traditional proxies for talent such as pedigree, degrees, and networks. To accomplish this vision, competencies and skills must be enabled as the currency of the talent marketplace.**

- LERs must allow individuals to own and use their competencies, skills, and credentials to leverage in the marketplace.
- Competencies, skills, and credentials in the marketplace must be transparent in order to be shared, compared, and understood.
- Job postings must include competencies, skills, and credentials in order to connect people with jobs (or employers to talent).
- Competencies, skills, and credentials must be interoperable with each other.

## **Who will benefit from interoperability of Learning and Employment Records?**

- **Learners and Workers** will have more control over information about their education and experience, making it easier for them to find new jobs or advance at their current organizations. Verifiable credentials allow the value of the credential to persist even if the institution doesn't.
- **Employers** will be able to find the best candidates for hiring, easily verifying candidate competencies and credentials, for both new and incumbent hires.
- **Education, Training, and Credentialing Providers** will be able to document learning and align their curriculum, credentials, assessments, and career services with a rapidly changing job market.
- **Government** will be able to more effectively collect data and implement effective policies that allocate resources to support education and workforce development.



# Interoperability Principles

## 1. Open Standards

Data included in LERs are formatted using a standard structure, allowing for easy exchange between individuals, education, and employment.

## 2. Privacy & Security

Systems protect the privacy and security of individuals' data, which, in turn, builds and maintains trust in LERs.

## 3. Unlock Learning Anywhere

Learning is lifelong, and quality learning can occur outside of the classroom. Interoperable LERs honor the value of all learning and offer processes for validating a wide range of learning, skills, and competencies.

## 4. Universal Access

Interoperable LERs are user-centered and ensure every potential user has access to and control of a digital wallet to store, manage, and curate LERs.

## 5. Alignment

All stakeholders, including employers, states, and local, regional, and federal agencies, are aligned, intentionally collaborating to support and ensure fidelity to interoperability principles.

## 6. Public and Private Partnerships Creating Public Good

A healthy marketplace is cultivated and regulated to both encourage innovation and ensure that the benefits of interoperable LERs are shared by all stakeholders.

## 7. Global Mobility

Interoperable LERs support learners' mobility by functioning in local, regional, state, national, and global talent marketplaces.



# Principles, Key Decisions, and Roadmap

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Within each principle, key decisions must be made to ensure the efficacy of the principle and promote interoperability. As with any system-level decisions, there may be tradeoffs and varying levels of benefit for each of the three primary LER stakeholder groups:

**(1) learners, (2) employers, and (3) governance entities that support the interoperability of LERs (e.g., state governments, institutions, regional collaboratives).**

The following section contains lessons learned by some of the leading systems implementing LERs and captures some of the key decisions policy makers, agency leaders, institution/district leaders had to make to align to each principle. Furthermore, brief analysis of early understandings for how these decisions benefit (or do not benefit) stakeholders.



The goal of providing the principles and key decisions together is to provide better guidance and understanding of the responsibility and as more learning systems implement LERs. Following, each of the principles and key design questions are mapped onto the new LER Roadmap, providing even further direction to when key questions must be answered during implementation.

# 01 Open Standards



*Data included in LERs are formatted using a standard structure, allowing for easy exchange between individuals, education, and employment.*

## Key Decisions

- **Collaborate with other states, systems, or organizations.** Deciding on open standards should not be left to one governance entity but, rather, chosen in collaboration with a broad stakeholder base. This could include a collaboration among states and/or with related organizations, adopting data standards developed by the private sector through voluntary consensus.
- **Ensure the standards benefit all stakeholders.** There are many entities and organizations creating open standards, which introduces competition and bias into the process. Therefore, governance entities must choose standards that prioritize stakeholders, particularly learners, over particular organizations.
- **Understand the standards and the options available.** Governance entities must understand what open standards are and what options are available, including the types of frameworks used to implement them. Governance entities must consider the flexibility of the standards and the ability for the standard to engage in a variety of technology platforms.
- **Require a standards-based approach from partnering vendors.** Governance entities must select reputable vendors with extensive experience and knowledge in the field. In the selection process, require vendors to prove through demonstration the interoperability of their systems. Consider how to keep open standards up to date, particularly across multiple states or when frameworks or standards change.

## Levels of Benefit

- **Learners.** Open standards allow learners to make informed decisions based on their specific needs. Through open standards, learners can efficiently build and transfer their own data from one education or training provider to the next, from a school to a job, or from one digital wallet to another.
- **Employers.** By streamlining the application process for learners, open standards make it easier to apply to open employment opportunities and help ensure employers have the best possible pool of applicants. Further, open standards allow employers to more fully understand their candidates.
- **Governance Entities.** Open standards make LERs more meaningful and useful to learners and employers, helping to ensure relevancy and adoption. Open standards maximize efficiency, allowing governance entities to remain flexible. Open standards create a positive experience for the learners, protecting them from inefficient and cumbersome processes to gain employment.

# 02 Privacy and Security



Systems protect the privacy and security of individuals' data, which, in turn, builds and maintains trust in LERs.

## Key Decisions

- **Determine the information to be collected and shared.** This includes thoughtfully considering personally identifiable information and demographic information, which could create additional biases in the hiring system.
- **Give ownership to learners.** Data should be self-sovereign, underneath the learner's governance or agency. This means that the individual learner owns their data and gets to determine who sees it, who uses it, and for what purpose. Learners should also have autonomy over what data is displayed in their LER and what can and cannot be shared.
- **Set rigorous criteria for vendors.** Just as vendors must prove that their system is interoperable, they must also prove the privacy and security of their systems. Governance entities must set rigorous criteria for privacy and security to ensure trust in the system. This includes holding vendors and the system accountable for meeting federal data privacy laws.
- **Decide how to verify identity.** Preventing fraud is crucial. This might involve state legislatures conforming to shared ways to confirm identity, such as through the Department of Labor or using systems like ID.me.
- **Build security protocols.** Governance entities should invest resources and infrastructure to ensure that the LER platform takes steps to prevent tracking of user activity and data to ensure privacy and security.
- **Determine stakeholder priority.** Learner ownership of data is key for learner control and privacy, but doing so does not prioritize platforms/providers. Governing entities must decide if they prioritize learner data and control or platform/provider interest.
- **Provide users with more control over how personal data is collected and used.** Namely, governing entities should make decisions that ensure learners have the right to:
  - Know what data is collected/stored and how it is used/shared
  - Delete collected personal information
  - Opt out of data sale or sharing
  - Non-discrimination for use of these rights
  - Ability to correct inaccurate information
  - Limit use and disclosure of sensitive personal info<sup>1</sup>

<sup>1</sup>State of California Department of Justice (2023, May 10). California Consumer Privacy Act (CCPA). California Office of the Attorney General. [https://oag.ca.gov/privacy/ccpa#:~:text=The%20CCPA%20requires%20business%20privacy,the%20Right%20to%](https://oag.ca.gov/privacy/ccpa#:~:text=The%20CCPA%20requires%20business%20privacy,the%20Right%20to%20)

# 02 Privacy and Security



## Levels of Benefit

- **Learners.** When learners control their data, they have autonomy to choose the platform that best fits their specific needs.
- **Employers.** When learners trust the privacy and security of the platform, they are more likely to use it, giving employers a more complete candidate pool.
- **Governance Entities.** Without robust privacy and security, the system can be delegitimized, risking the LER effort. Learner ownership of data allows users to trust platforms, thus increasing market competition and improving services for learners and employers. This both retains and attracts talent to states and regions.

# 03 Unlock Learning Anywhere

*Learning is lifelong, and quality learning can occur outside of the classroom. Interoperable LERs honor the value of all learning and offer processes for validating a wide range of learning, skills, and competencies.*

## Key Decisions

- **Coordinate across stakeholder groups beyond higher education systems.** Stakeholder representation is key. Higher education representatives can show how their policies have evolved over time regarding automatic transfer policies, recognition of prior learning, and qualification frameworks to recognize diverse types of learning. However, stakeholders beyond higher education are needed, such as employers and the business sectors that are in demand in the state. A diverse stakeholder base can help determine learning, skills, and competencies that extend beyond formal learning. Particularly, employer stakeholders can help document all the learning that happens on the job, alleviating the burden from the individual learner.
- **Use a common format for credentials.** Governance entities should consider the ontology or taxonomy for the skills and competencies available in the LER, as doing so will help to validate skills from a variety of experiences beyond higher education. Consider using an existing database, such as Corporation for a Skilled Workforce or the Credential Engine Registry Search, to create an ontology of credentials. There should be little to no limiting factors on skills, adding new competencies and skills as they emerge.
- **Allow learners to self-assert skills and competencies.** Lifelong learning extends beyond the traditional educational experience, so LERs must leave space for self-assertions of skills and competencies, particularly those learned on the job. Beyond allowing self assertions, governance entities must decide how to display verified and unverified skills and if there should be a distinction between the two. They should also consider how third parties like employers can verify skills.  
Governance entities should also decide if the LER will allow space for demonstrating unverified skills. Building infrastructure for portfolios, videos, and other artifacts that demonstrate self-attested, unverified skills can help build trust and efficiency for employers and learners.
- **Engage in user testing.** As governance entities are building out systems, they should incorporate opportunities for user testing. This includes engaging learners to use LERs and to input both verified and self-attested skills. Gaining learners' insights on usability and relevancy can help inform and redirect the platform and process.

# 03 Unlock Learning Anywhere



## Levels of Benefit

- **Learners.** Allowing learners to unlock all of their skills, competencies, and learning reduces the time to get a job, improves the quality of the job application experience, and propels them to get the career they are most qualified for, helping to ensure career and economic mobility.
- **Employers.** Honoring both formal and informal learning provides the best possible candidate pool for employers, opening doors for candidates who might have been missed if only considering formal credentials. Further, allowing unverified or self-attested competencies provides agency to employers, who can follow their HR processes to test learners' skills in their own context.
- **Governance Entities.** Unlocking learning anywhere removes the educational bias that privileges some types of learning over others. As such, it improves efficiency and accuracy, building trust across stakeholder groups and states. It creates opportunities to encourage and support lifelong learning so that talent pools and the workforce continue to evolve and improve over time. Most importantly, it helps to both retain and attract talent to the state or region.

# 04 Universal Access



*Interoperable LERs are user-centered and ensure every potential user has access to and control of a digital wallet to store, manage, and curate LERs.*

## Key Decisions

- **Ensure affordability.** There are many costs associated with interoperable LERs, including those associated with vendors, technology licenses, and data storage. Governance agencies must decide if LERs are a free public good for learners and employers or if users will incur costs. Governance entities could consider providing a basic, free LER to all, allowing users to select a more robust platform for cost if they choose. Offering a free or low-cost LER is imperative to the success of the tool.
- **Provide learners with a marketplace of wallet options.** Users should be able to choose the right LER for them, including mobile-based digital wallets, web-based digital wallets, or wallets of varying storage types. Governance entities can choose an initial digital wallet for users, but users should be able to select from a marketplace of options as well and be able to move their credentials as they see fit. The vendors that governance entities select should be able to provide different wallets and services, and they should be able to operate in multiple markets, not just a single state.
- **Provide education to learners on how to use LERs.** Governance entities should consider basic educational resources to help users understand the purpose and advantage of LERs and how to use them effectively. This could include tutorials or other training available to the public at no cost.

## Levels of Benefit

- **Learners.** Allowing universal access to platforms allows learners to choose the services that best fit their individual needs. They can select the right wallet at the right time, moving, sharing, or combining credentials when desired.
- **Employers.** When learners have universal access to LERs and education on how to use and leverage them, they will be able to find the best employment opportunities that fit their competencies and skills, thereby giving employers access to candidates who may have been previously overlooked due to lack of access.
- **Governance Entities.** Providing a free LER option helps governing entities work towards equitable universal access for learners, helping to extend the positive reach of LERs beyond those who can afford it. Further, by ensuring universal access, governance entities, particularly states, have the opportunity to influence other governmental processes. For example, states might consider how a digital wallet could change or improve how users access support services.

# 05 Alignment



*All stakeholders, including employers, states, and local, regional, and federal agencies, are aligned, intentionally collaborating to support and ensure fidelity to interoperability principles.*

## Key Decisions

- **Engage a broad base of stakeholders.** Representation from a broad base of stakeholders is one of the most crucial steps in working toward alignment. While it is impossible to get all stakeholders at the table, a purposeful, representative sample across sectors is needed. This includes special types of employers, such as small businesses, rural and urban employers, employers who typically only hire part-time workers, and/or employers who hire immigrants. Governance entities should also consider training providers. While this includes traditional four-year institutions, it also includes community colleges, proprietary micro-credentialing programs, international schools, and nonprofit organizations and community-based organizations that provide training opportunities that are credentialed. Vendors, funders, and philanthropy should also be considered. The more stakeholders that indicate consensus around the interoperability principles and the tools, the more successful it will be.

Governance entities should also leverage existing groups that are key influencers in the work. Such influencers could include workforce development boards, employer associations, industry associations, private associations, or lobbyists. Such groups carry the power and influence of their networks and can be critical players in the movement toward alignment.

As governance entities engage stakeholders, it is critical to understand what is most important to each stakeholder group. Governance agencies should understand what stakeholders are hoping to do and/or gain from this work.

- **When possible, put it into policy.** As seen in Alabama's LER efforts, using regional and state policy to codify interoperable LERs can have a major impact on the buy-in and success of the initiative. A partnership between the governor and legislatures can create the political capital and space needed to begin and sustain the work.



# 05 Alignment



## Levels of Benefit

- **Learners.** Alignment across stakeholder groups helps ensure the portability of LERs, allowing learners to build, share, move, and use their LERs for employment across regions, states, and even countries. Alignment also ensures greater data accuracy, allowing learners to trust the content (and worth) of their LER.
- **Employers.** Ensuring alignment across stakeholder groups will help to change the learning data infrastructure, putting more focus on skills than formal credentials, helping place the right candidates in the right positions. Doing so can transform employers' hiring process, including:
  - ◇ Replacing resumes and transcripts with LERs that are machine readable for AI use in hiring processes.
  - ◇ Focusing on matching skills with specific job descriptions.
- **Governance Entities.** Alignment helps build connectivity across sectors, prevent or break down silos, and ensure equity for learners and stakeholders alike. Prioritizing alignment and collaboration between vendors also prevents lock-in; that is, no specific vendor is required if platforms follow standards of interoperability and alignment.

# 06 Public and Private Partnerships Creating Public Good



*A healthy marketplace is cultivated and regulated to both encourage innovation and ensure that the benefits of interoperable LERs are shared by all stakeholders.*

## Key Decisions

- **Rely on the broad, representative base of stakeholders.** Once a governance entity has convened a broad base of stakeholders, it must empower them to collectively create a plan, including setting standards for minimum features and determining required resources, funding, and goals. In particular, governance entities should empower business and industry stakeholders to lead the charge, with government and education training providers there to support the vision.
- **Encourage a marketplace.** Governance entities should encourage and/or enforce a marketplace of vendors to provide platforms and services, which will drive competition, innovation, and, ultimately, learner choice. This includes creating space for the private sector to provide products in multiple states, thereby ensuring interoperability. Doing so will also help prevent a few providers from dominating the market.
- **Balance regulation and deregulation.** A healthy balance of regulation and deregulation related to LER development can improve conditions for innovation and protect the marketplace.

## Levels of Benefit

- **Learners.** A healthy marketplace helps to ensure choice for learners, one of the most important aspects of LERs. Public and private partnerships help prevent monopolies and silos, thereby allowing learners to own their data; choose their digital wallet; and use, share, and move their data as they see fit.
- **Employers.** A healthy marketplace that allows for learner choice gives employers access to candidates who may come from contexts not otherwise explored.
- **Governance Entities.** Cultivating public and private partnerships safeguards against siloed systems and monopolistic vendors. By encouraging a competitive and innovative marketplace, governance entities can better control cost, maintain choice, and, most importantly, improve the experience and usability of LERs for learners and employers.

# 07 Global Mobility



*Interoperable LERs support learners' mobility by functioning in local, regional, state, national, and global talent marketplaces.*

## Key Decisions

- **Define global mobility for the state or region.** Governance entities, particularly states, must determine the scope and benefit of global mobility for their users. This includes determining the partnerships within the state or region that work with international organizations, including employers and community-based organizations. By defining global mobility and identifying the benefits, governance entities will have a more efficient path toward this principle.
- **Ensure states and users have choice.** The choice of technology matters greatly. LERs should be portable across contexts, sectors, states, and countries, given the learners' consent to share access to their data. By mandating open standards from vendors who can demonstrate interoperability across multiple systems, users will have more choice globally.
- **Find global exemplars.** Governance entities should identify global institutions that are doing this work well and learn from how they communicate and generate alignment. It is important to have knowledge of global institutions, their innovations, the technology they use, and where the field is going beyond the US..

## Levels of Benefit

- **Learners.** Global mobility ensures that learners can retain their learning, skills, and competencies across their experiences, build upon them, and then use them for any local, regional, national, or international opportunity. This opens doors for careers aligned to learners' skills and supports economic mobility.
- **Employers.** Globally interoperable LERs significantly decrease limits on employers' candidate pools. This is especially important for in-demand or cutting-edge jobs that local training programs might not yet target. In such cases, employers can fill critical openings with a larger base of employees.
- **Governance Entities.** While governance entities, particularly states, focus on retaining talent, it is equally important to attract talent from beyond the region. Ensuring global mobility repositions states as a workforce destination, attracting talent from across the country and around the globe.

# LER Roadmap Implementation:



The following pages provide a crosswalk that demonstrates how the interoperability principles and their key considerations map onto the LER Roadmap.

## LER Roadmap Stage 1: Developing – Researching & creating the LER solutions

### Interoperability Principle Alignment

- |                             |   |
|-----------------------------|---|
| 1) Open Standards           | 5) Alignment  |
| 2) Privacy and Security     | 6) Public and Private Partnerships Creating Public Good |
| 3) Unlock Learning Anywhere | 7) Global Mobility                                      |
| 4) Universal Access         |   |

### Key Design Questions

- What states and organizations are already doing work with interoperable LERs? (Principle 1)
- What organizations are states partnering with? (Principle 1)
- What stakeholders are involved in other states and organizations doing work with interoperable LERs? (Principle 1)
- Which stakeholder benefits should be prioritized in development? (Principle 1)
- How can stakeholder collaboration be prioritized in development? (Principle 1)
- What governance entities are involved in development and oversight? (Principle 1)
- What are the key governance expectations for developers to comply with? (Principle 1)
- What type of framework best fits the needs of all stakeholders? (Principle 1)
- Which vendors already have field experience and a record of success? (Principle 1)
- How are vendors expected to demonstrate interoperability? (Principle 1)
- How have vendors previously collaborated with other states and organizations? (Principle 1)
- How do vendors plan to adapt to standard changes? (Principle 1)
- What personal information is required for optimal user experience? (Principle 2)
- What personal information should privacy and security protections prioritize? (Principle 2)
- How are vendors/other stakeholders able to access and use personal user information? (Principle 2)

### Relevant Resources

- [Alabama Talent Playbook](#)
- [AWPAB LER Report](#)
- [Designing a Responsible Universal LER Ecosystem](#)
- [Digital Promise: Harnessing Collaboration](#)
- [Digital Promise: Inclusive Design Principles](#)
- [Experience You](#)
- [T3 Innovation: Skills Based Hiring and Advancement](#)

# LER Roadmap Implementation: Principles in Action



## LER Roadmap Stage 1: Developing – Researching & creating the LER solutions

### Key Design Questions

- What states and organizations are already doing work with interoperable LERs? (Principle 1)
- What privacy and security systems are other states/organizations/vendors already prioritizing? (Principle 2)
- What vendor criteria do other states and organizations require for user privacy and security? (Principle 2)
- How can developers collaborate with state legislatures on identification verification processes? (Principle 2)
- What verification methods or processes are states/organizations/vendors already using? (Principle 2)
- What data tracking risks are involved in the development of interoperable LERs? (Principle 2)
- How can developers collaborate with governance entities to determine security and tracking expectations? (Principle 2)
- Which stakeholders are prioritized in development? (Principle 2)
- What steps can be taken to meet the needs of all stakeholders? (Principle 2)
- What individual priorities should be considered for each stakeholder? (Principle 2)
- What data protections should developers prioritize? (Principle 2)
- How are learners/users informed of their data privacy rights? (Principle 2)
- What stakeholders outside of higher education can/should be involved in development? (Principle 3)
- What benefits and/or areas of expertise can stakeholders outside of higher education bring to the table? (Principle 3)
- How do learners/users/vendors benefit from diverse stakeholder involvement? (Principle 3)
- What credentialing systems already exist? How can these existing systems inform the development of interoperable LERs? (Principle 3)
- At what point(s) in development should user testing take place? (Principle 3)
- What feedback/input should be prioritized in user testing? (Principle 3)
- What costs are associated with the development/use of interoperable LERs? (Principle 4)
- How are interoperable LERs funded? (users, governments, organizations, etc.) (Principle 4)
- What key information should be included in user training / education? (Principle 4)
- How can regions/state legislating bodies promote and support the use, growth, and trust in interoperable LERs? (Principle 5)
- What key governing agencies should be prioritized in collaboration? (Principle 5)
- How can stakeholders collaborate meaningfully to determine key decision points—features, funding, resources, goals, etc.? (Principle 6)
- What are the key roles and responsibilities of various stakeholders? (Principle 6)
- How does marketplace competition benefit various stakeholders? (Principle 6)
- What areas of development and interoperability should be regulated? (Principle 6)
- What regulating bodies should have authority? (Principle 6)
- What stakeholders are involved or prioritized in regulation decisions/standards? (Principle 6)
- What regional/state organizations already collaborate with global organizations? (Principle 7)
- What standards of global interoperability should be prioritized in the development of interoperable LERs? (Principle 7)
- How can data privacy and security standards comply with global security expectations? (Principle 7)
- What other nations are doing work with interoperable LERs? (Principle 7)
- How can states/regions/organizations/vendors collaborate with nations already doing this work? (Principle 7)

# LER Roadmap Implementation: Principles in Action



## LER Roadmap Stage 2: Issuing – Issuing verifiable LERs to learners & earners

### Interoperability Principle Alignment

- 2) Privacy and Security
- 4) Universal Access
- 5) Alignment

### Key Design Questions

- What personal information is required for optimal user experience? (Principle 2)
- To what extent are users/learners able to control their own data collection and sharing? (Principle 2)
- Are users aware of their data ownership and sharing options? (Principle 2)
- How are vendors able to demonstrate user/learner privacy and security? (Principle 2)
- To what extent are learners/users informed of the security/tracking risks and preventative measures? (Principle 2)
- How are learners/users informed of their data privacy rights? (Principle 2)
- What skills and competencies can/should be recognized? (Principle 3)
- How are skills and competencies verified? (Principle 3)
- How can learners/users demonstrate unverified skills/competencies in a meaningful way? (Principle 3)
- At what point(s) in development should user testing take place? (Principle 3)
- What feedback/input should be prioritized in user testing? (Principle 3)
- How can users/learners access LERs? Are there both paid and free options available? What features are available for different cost tiers? (Principle 4)
- What types of wallet /wallet features should be available to users? (Principle 4)
- What process(es) allow users to transfer credentials between platforms/vendors? (Principle 4)
- What training/education options are available to users/learners? (Principle 4)

### Relevant Resources

- [Alabama Talent Playbook](#)
- [Designing a Responsible Universal LER Ecosystem](#)
- [Digital Promise: Harnessing Collaboration](#)
- [Digital Promise: Inclusive Design Principles](#)
- [Experience You](#)
- [T3 Innovation: Skills Based Hiring and Advancement](#)

# LER Roadmap Implementation: Principles in Action



## LER Roadmap Stage 3: Equity – An ongoing driver and measure of success for the work

### Interoperability Principle Alignment

- |                             |                     |
|-----------------------------|---------------------|
| 1) Open Standards           | 4) Universal Access |
| 2) Privacy and Security     | 7) Global Mobility  |
| 3) Unlock Learning Anywhere |                     |

### Key Design Questions

- Which stakeholder benefits should be prioritized in development? (Principle 1)
- What type of framework best fits the needs of all stakeholders? (Principle 1)
- Are users aware of their data ownership and sharing options? (Principle 2)
- To what extent are learners/users informed of security/tracking risks and preventative measures? (Principle 2)
- Which stakeholders are prioritized in development? (Principle 2)
- What steps can be taken to meet the needs of all stakeholders? (Principle 2)
- How are learners/users informed of their data privacy rights? (Principle 2)
- Can users/learners easily make decisions and changes to how their data is collected and used? (Principle 2)
- What stakeholders outside of higher education can/should be involved in development? (Principle 3)
- What skills and competencies can/should be recognized? (Principle 3)
- How can a skill/competency ontology benefit all stakeholders? (Principle 3)
- How can/should developers/vendors value and prioritize a variety of learning experiences? (Principle 3)
- How are skills and competencies verified? (Principle 3)
- How can learners/users demonstrate unverified skills / competencies in a meaningful way? (Principle 3)
- How can users/learners access LERs? Are there both paid and free options available? What features are available for different cost tiers? (Principle 4)
- What types of wallets/wallet features should be available to users? (Principle 4)
- What process(es) allow users to transfer credentials between platforms/vendors? (Principle 4)
- How are wallets interoperable across states, organizations, and vendors? (Principle 4)
- What training/education options are available to users/learners? (Principle 4)
- How can user training be funded to allow access at no additional cost? (Principle 4)
- How do various stakeholders benefit from global mobility? (Principle 7)

### Relevant Resources

- [Alabama Talent Playbook](#)
- [Designing a Responsible Universal LER Ecosystem](#)
- [Digital Promise: Harnessing Collaboration](#)
- [Digital Promise: Inclusive Design Principles](#)
- [Experience You](#)
- [T3 Innovation: Skills Based Hiring and Advancement](#)

# LER Roadmap Implementation: Principles in Action



## LER Roadmap Stage 4: Using – Learners and earners using LERs to discover & access opportunities

### Interoperability Principle Alignment

- |                         |                             |
|-------------------------|-----------------------------|
| 1) Open Standards       | 3) Unlock Learning Anywhere |
| 2) Privacy and Security | 4) Universal Access         |

### Key Design Questions

- How are vendors expected to demonstrate interoperability? (Principle 1)
- How do vendors plan to adapt to standard changes? (Principle 1)
- What personal information is required for optimal user experience? (Principle 2)
- To what extent are users/learners able to control their own data collection and sharing? (Principle 2)
- Are users aware of their data ownership and sharing options? (Principle 2)
- How are vendors able to demonstrate user/learner privacy and security? (Principle 2)
- To what extent are learners/users informed of security/tracking risks and preventative measures? (Principle 2)
- How are learners/users informed of their data privacy rights? (Principle 2)
- Can users/learners easily make decisions and changes to how their data is collected and used? (Principle 2)
- What skills and competencies can/should be recognized? (Principle 3)
- How are skills and competencies verified? (Principle 3)
- How can learners/users demonstrate unverified skills/competencies in a meaningful way? (Principle 3)
- How can users/learners access LERs? Are there both paid and free options available? What features are available for different cost tiers? (Principle 4)
- What types of wallets/wallet features should be available to users? (Principle 4)
- What process(es) allow users to transfer credentials between platforms/vendors? (Principle 4)
- How are wallets interoperable across states, organizations, and vendors? (Principle 4)
- What training/education options are available to users/learners? (Principle 4)
- How can user training be funded to allow access at no additional cost? (Principle 4)

### Relevant Resources

- [AWPAB LER Report](#)
- [Alabama Talent Playbook](#)
- [Designing a Responsible Universal LER Ecosystem](#)
- [Digital Promise: Harnessing Collaboration](#)
- [Digital Promise: Inclusive Design Principles](#)
- [Experience You](#)
- [T3 Innovation: Skills Based Hiring and Advancement](#)



# LER Roadmap Implementation: Principles in Action



## LER Roadmap Stage 5: Adopting – Integrating systems & behaviors that accept LERs for opportunities

### Interoperability Principle Alignment

- |                             |   |
|-----------------------------|---|
| 1) Open Standards           | 5) Alignment  |
| 2) Privacy and Security     | 6) Public and Private Partnerships Creating Public Good |
| 3) Unlock Learning Anywhere | 7) Global Mobility                                      |
| 4) Universal Access         |   |

### Key Design Questions

- What type of framework best fits the needs of all stakeholders? (Principle 1)
- How are vendors expected to demonstrate interoperability? (Principle 1)
- How do vendors plan to adapt to standard changes? (Principle 1)
- How are vendors able to demonstrate user/learner privacy and security? (Principle 2)
- What stakeholders outside of higher education can/should be involved in development? (Principle 3)
- What benefits and/or areas of expertise can stakeholders outside of higher education bring to the table? (Principle 3)
- How do learners/users/vendors benefit from diverse stakeholder involvement? (Principle 3)
- What skills and competencies can/should be recognized? (Principle 3)
- How can a skill/competency ontology benefit all stakeholders? (Principle 3)
- What steps can be taken to increase third party and employer trust in skills/competencies and the verification methods used? (Principle 3)
- How can learners/users demonstrate unverified skills/competencies in a meaningful way? (Principle 3)
- How are wallets interoperable across states, organizations, and vendors? (Principle 4)
- What sectors should be prioritized in stakeholder involvement? (Principle 5)
- What educational institutions should be included in the stakeholder pool? (Principle 5)
- How will the needs/priorities of various stakeholders be considered? (Principle 5)
- How can regions/state legislating bodies promote and support the use, growth, and trust in interoperable LERs? (Principle 5)
- How can vendor competition be prioritized? (Principle 6)
- How does marketplace competition benefit various stakeholders? (Principle 6)
- What areas of development and interoperability should be regulated? (Principle 6)
- How do various stakeholders benefit from global mobility? (Principle 7)
- What standards of global interoperability should be prioritized in the development of interoperable LERs? (Principle 7)
- How can data privacy and security standards comply with global security expectations? (Principle 7)

### Relevant Resources

- [Alabama Talent Playbook](#)
- [AWPAB LER Report](#)
- [Designing a Responsible Universal LER Ecosystem](#)
- [Digital Promise: Harnessing Collaboration](#)
- [Digital Promise: Inclusive Design Principles](#)
- [Experience You](#)
- [T3 Innovation: Skills Based Hiring and Advancement](#)

# Take Action



## **Provide Feedback**

Share your insights on how interoperability principles can be used or improved.



## **Adopt the Principles**

Share, adopt, and elevate interoperability principles across your system.



## **Integrate Principles into Processes**

Commit to using these interoperability principles to inform practices, decision making, and innovation across your system

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1417 Hanson Drive Franklin, TN 37067

615-517-1256