CALIFORNIA CRADLE TO CAREER DATA SYSTEM

Informing the California Career Passport

A national scan of skills-based hiring technology ecosystems

In partnership with WestEd's Center for Economic Mobility

ABOUT THIS REPORT

The California Career Passport is a statewide initiative, led by the California Community Colleges Chancellor's Office (CCCCO), to develop a tool to help people find good jobs by showcasing their qualifications and skills.

In its role as a data integration and innovation leader in California, the Office of Cradle-to-Career Data (C2C) was charged with partnering with CCCCO to identify technical and policy considerations for building the Passport. In that capacity, C2C convened a Career Passport Planning Committee and commissioned a national scan to identify leading practices in other states. This report summarizes the findings of the national scan.

Through the Planning Committee, C2C is working collaboratively with the CCCCO as they design and build the California Career Passport.

ACKNOWLEDGEMENTS

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INTRODUCTION

California's economy depends on the ability of its education and workforce systems to develop, recognize, and connect the skills of more than 19 million workers. Meanwhile, industries across the state are continuing to evolve, requiring Californians to navigate education, training, and employment pathways that are increasingly more complex and nonlinear.

These structural shifts have had a major impact on how people participate in the labor market. Recent national data show significantly increased job mobility, with individuals changing jobs and reentering the job market more often than ever before[1]. Additionally, global research shows that a substantial share of workers' skills will need updating within the next five years, driven largely by technological change and the adoption of artificial intelligence (AI).[2]

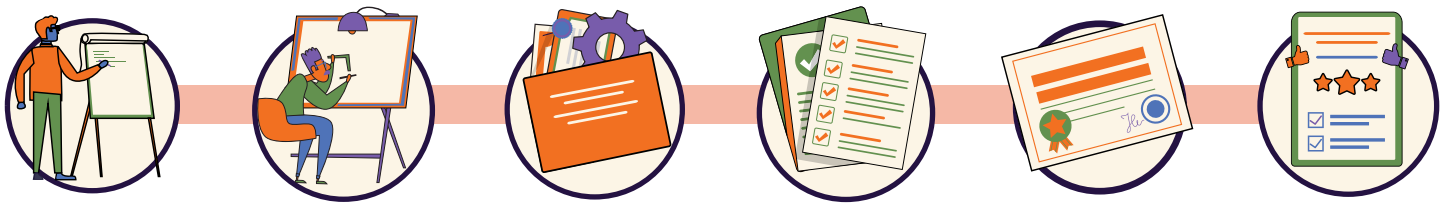
Together, these trends challenge traditional approaches to documenting and communicating skills. When workers must continuously acquire new competencies, credentials, or certifications to move more frequently between roles, reliable, up-to-date recognition of learning becomes essential for both individuals and employers. This growing need for systems that support continuous skill development and verification across an individual's life is echoed by HR professionals. In a 2025 LinkedIn report, 91% of learning and development professionals say continuous learning is more important than ever for career success.[3]

In response, California has begun to articulate a more integrated vision for career education and workforce preparation. Through the **Master Plan for Career Education** and related state initiatives, California has committed to improving how learning and skills attainment are documented, recognized, and used across education and employment systems. Included in this vision is the concept of a Career Passport, a learner/worker-controlled digital wallet that will enable Californians to securely collect, curate, and share verifiable credentials about their skills throughout their lives.

This report was commissioned by the Office of Cradle-to-Career Data (C2C) to document research findings and examines Career Passport as an implementation challenge and opportunity for California. Drawing on state policy priorities, existing infrastructure, and lessons from early adopters across the country, it explores how states can engage in similar work to strengthen opportunities for career mobility for all workers and learners.

[1] "Employee Tenure in 2024 News Release." Bureau of Labor Statistics. 26 Sept 2024, www.bls.gov/news.release/pdf/tenure.pdf
[2] "The Future of Jobs Report 2025." World Economic Forum. 7 Jan 2025, https://www.weforum.org/publications/the-future-of-jobs-report-2025
[3] "Workplace Learning Report 2025." LinkedIn. Accessed 22 Dec 2025, learning.linkedin.com/resources/workplace-learning-report

SKILLS-BASED HIRING



Skills-Based or Skills-First Hiring

The U.S. Chamber of Commerce Foundation provides a definition[4] for skills-based hiring as "the practice of evaluating a candidate beyond education credentials and experience requirements to assess a candidate's unique skills, abilities and demonstrated competencies."

Opportunity@Work uses the term **skills-first hiring[5]** to mean "when evaluating candidates and making hiring decisions, skills-first practices place primary emphasis on skills as the determinant of qualification for a role."

Both terms are used interchangeably to describe practices that focus on an individual's attained skills, rather than degrees or former work titles, in making hiring decisions.

As the workforce rapidly evolves, employers have reported a number of related challenges. According to SHRM's 2025 Talent Trends report, 70% of employers report they still find difficulty filling full-time positions, with industries such as manufacturing and health care pointing to candidates lacking required technical skills or credentials[6]. However, employers often limit their access to qualified talent by depending on college degrees and past job titles as primary measures of readiness.[7]

To combat hiring challenges and promote opportunities to more individuals, more than half of U.S. state governments have enacted legislation or executive orders encouraging skills-based hiring, including eliminating degree requirements for many job postings, and shifting to a more comprehensive review of candidates' work experience and non-degree training during the hiring process.

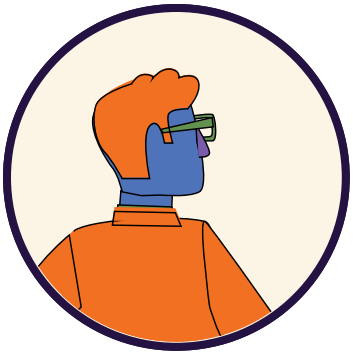
In practice, skills-based hiring is achieved through a variety of approaches, such as:

- Reassessing the job classifications that require degrees
- Processes for building consensus among employers and educators on the language of skills, what they are called, how they are defined, and how they are assessed for proficiency
- Development of skills-based job postings that use this shared skills language with a focus on competencies and required day-to-day tasks, not just degrees or years of experience
- Development of more diverse applicant assessments, such as the evaluation of work samples or administration of simulations
- Validated tests for both technical (e.g., coding) and soft skills (e.g., communication)
- Hiring for adjacent skills and a commitment to upskilling

These practices are also being implemented to promote internal talent. The SHRM 2025 Talent Trends report noted that 35% of employers are using an "internal talent marketplace" in 2025, compared to just 25% the previous year. These organizations typically use technology to match employees' skills, interests, and career goals with internal opportunities, "further enabling agile talent deployment, upskilling, and career mobility without the need for external hiring."

As employers move away from degree and prior job title screening, these practices create new demands for how skills are documented and trusted, which traditional resumes and transcripts typically can't satisfy.

[5] "Lewis, Sydney. "Beyond the Resume: How 10 Industry Leaders Are Embracing Skills-Based Hiring Practices." U.S. Chamber of Commerce. 5 Jan 2024, www.uschamberfoundation.org/workforce/beyond-the-resume-how-10-industry-leaders-are-embracing-skills-based-hiring-practices
[6] "Implement skills-first hiring." Opportunity@Work website. Accessed 12 Dec 2025, https://www.opportunityatwork.org/topics/skills-first-hiring
[7] "2025 Talent Trends." SHRM website. Accessed 15 Dec 2025, www.shrm.org/topics-tools/research/2025-talent-trends
[8] Sigelman, M., Fuller, J., Martin, A. (February 2024). Skills-Based Hiring: The Long Road from Pronouncements to Practice. Published by Burning Glass Institute



SKILLS-BASED HIRING TECHNOLOGY ECOSYSTEMS

Trust

In the context of digital resumes and credentials, trust refers to the confidence in the authenticity, accuracy, and verifiability of the information presented about a person's qualifications, skills, and achievements. It means that employers, educational institutions, or anyone viewing the digital resume or credential can rely on it to be a true representation of the individual's capabilities.

While the rapid adoption of AI has led to changes in the labor market throughout a number of industries, it has simultaneously intensified challenges related to trust, verification, and credential authenticity, creating new pressures for employers. A 2025 Greenhouse survey[9] reported that 91% of recruiters have encountered candidate deception, with 65% specifically catching applicants using AI deceptively. At the same time, the utilization of automated reviews for resumes and job application materials is becoming increasingly prevalent in today's digital landscape. These HR systems themselves leverage AI and other technologies to screen for qualifications, skills, and other key attributes, facilitating a faster and more consistent filtering process for employers, but one that can lead to new challenges. In the same Greenhouse report, 46% U.S. job seekers say their trust in the hiring process has decreased over the past year, with 42% blaming AI directly and 41% admitting to using prompt injections, hidden text designed to bypass AI filters, in their job applications.

The skills-based hiring movement, coupled with the practical challenges that HR managers have in assessing talent in an increasingly digital process, have led to increased investment in the verification and validation of applicants' self-attested experience, credentials, and skills. Digital encryption, blockchain, and other secure technologies have now made it possible to create tamper-proof digital credentials that support learners in demonstrating the credibility behind their assertions on resumes and job applications. Brought together in comprehensive systems that provide workers and learners with tools to connect to employment and education opportunities, the ecosystem of digital credentials and their application throughout an individual's lifetime continues to expand in meaningful ways.

[9] "Greenhouse 2025 AI in Hiring Report." Greenhouse. 19 Nov 2025, https://www.greenhouse.com/newsroom/an-ai-trust-crisis-70-of-hiring-managers-trust-ai-to-make-faster-and-better-hiring-decisions-only-8-of-job-seekers-call-it-fair

Validation vs. Verification

***Verifiable credentials** are those that include the metadata to confirm the source issuer of a record, namely how and where that credential was earned. This is increasingly important with the rise in false information on resumes, LinkedIn profiles, and other professional platforms, especially with the use of Generative AI tools that allow individuals to produce automated resumes and cover letters.*

Validated skills relies on a process that assesses and documents an individual's skills/competencies in a specific area, often through performance-based assessments, followed by the issuance of a verifiable artifact tied to the successful completion of that skills-based assessment, such as a digital badge.

Together, these dynamics have accelerated interest in systems that can provide more credible, verifiable representations of learning and experience in an increasingly digital hiring environment. Skills-based hiring can, in part, be facilitated by a new category of technology commonly referred to as Learning and Employment Records (LERs). The U.S. Chamber of Commerce Foundation's T3 Innovation Network defines LERs as digital records of learning and work experience that allow learners to collect, curate, and store a variety of data-rich, verifiable credentials and control how they are used, specifically to pursue educational and employment opportunities.[10]

LERs empower learners to maintain a lifelong record that consolidates a variety of formal and informal education, work history, and training records and to control who they share them with and for what purpose. LERs represent an ecosystem of stakeholders, as well as interoperable and connected technology solutions that support those stakeholders, including credential registries, digital wallets containing verifiable credentials and validated skills, talent marketplace tools (e.g., skills-to-job posting matches and "smart" resumes), and skills-centered career and career training exploration tools.

Philanthropic funding helped support a number of early LER pilot and demonstration projects, often focused on specific industries with small cohorts of participants. As the landscape of solutions and implementers continues to expand, SmartResume's SmartReport helps visualize this growth of the LER ecosystem year-over-year. The 2025 edition includes 100 logos, representing the organizations involved in issuing, sharing, and consuming LER data in the United States.[11]

While these developments are unfolding nationally, California has begun to explore its own integrated approach to skills documentation and mobility through the concept of the Career Passport.

[10] "LER Ecosystem Map." T3 Network. Accessed 18 Dec 2025, lermap.t3networkhub.org/#map-start
[11] "The 2025 SmartReport - A LER Ecosystem Map." SmartResume. Accessed 18 Dec 2025, www.smartresume.com/resources/smartreport-ecosystem-map

THE CALIFORNIA CAREER PASSPORT

On August 31, 2023, Governor Newsom signed an Executive Order calling for a Master Plan for Career Education, with a goal of integrating statewide systems to prepare Californians for a rapidly evolving workforce[12]. A core component of this integration is to update "academic transcripts that reflect skills and competency-based learning, as well as learning that occurs outside traditional academic settings." In the "Freedom to Succeed" press release accompanying the Executive Order, the Governor further urged the state of California to focus on "removing barriers to employment for diverse communities…and removing silos and increasing connection between education systems and the workforce."[13]

The Master Plan framework included the concept of a Career Passport, a digital wallet for learners and workers in California to securely collect and store their credentials and share their skills with prospective employers.

In 2024, C2C convened an interagency task force to clarify the complementary systems and processes that would be necessary to operationalize the concept of a Career Passport. The task force, which included representatives from state workforce and education entities, developed a set of recommendations centered on enhancing existing technologies like the state's postsecondary electronic transcript system (eTranscript California) and the California Community Colleges' credit for prior learning platform (Mapping Articulated Pathways, or MAP) to support the state's goals.[14] The task force also addressed implementation considerations for the adoption of other tools that would join the learner digital wallet to complete the Career Passport ecosystem, including a statewide credential registry and employer-facing tools.

The Career Passport Planning Committee was then enacted in 2025 to clarify the broad goals for implementation, determine roles, and support the state's budget approval process. During this time, the committee engaged in a variety of research activities to inform decision making, looking to early LER implementers and national trends to support a better understanding of development and implementation strategies and how they may apply to California.

[12] "Executive Order N-11-23." Executive Department, State of California. 21 Aug 2023, www.gov.ca.gov/wp-content/uploads/2023/08/8.31.23-Career-Education-Executive-Order.pdf
[13] "FREEDOM TO SUCCEED: Governor Newsom Launches New Effort To Prepare Students and Workers for High-Paying Careers." Governor of California website. Accessed 18 Dec 2025, www.gov.ca.gov/2023/08/31/freedom-to-succeed/
[14] "eTranscript California & Career Passport Task Force Recommendations." The Office of Cradle-to-Career Data. Accessed 18 Dec 2025, c2c.ca.gov/wp-content/uploads/2024/07/Final-eTranscript-California-Career-Passport-Task-Force-Recommendations.pdf

Research activities included foundational interviews with representatives from the T3 Innovation Network and SkillsFWD, a grant launched in 2024 to support state-level LER pilots in scaling their solutions.[15] The research team also attended webinars presented by practitioners and interviewed several SkillsFWD grantees, including:

Alabama Talent Triad

The Alabama Talent Triad is the result of a public-private partnership sponsored by the Alabama Governor's Office and is currently considered the most comprehensive LER example in the United States. The Triad is designed to link job seekers to employers through three main interfaces: the LER for the learner/job seeker, skills-based job description generator for employers to help them shift to skills-based hiring through updating their job posting language, and the Alabama credential registry for education and training providers. Linking these three aspects means the platform is a "one stop shop" where a learner/job seeker can curate their records, search for education/training options, and send their records to a potential employer through open job postings, all within one location.

WGU/Indiana Achievement Wallet

Leveraging its position as a leader in competency-based education, WGU's tool focuses on the learner experience of curating skills, credentials, and exploring where there are gaps for careers of interest and available educational/training opportunities to fill those gaps. Their comprehensive credential registry includes college courses down to the skill level. In 2025, WGU gathered feedback from employers on their "Lightweight Viewer," a prototype tool focused on employers as end users, to inform how digital wallets like WGU's could be paired with talent marketplace features (e.g., the ability for employers to search for candidates with specific skills or verify attested credentials) to increase adoption of LER data in HR decisions.[16]

Arizona State University - ASU Pocket

ASU started their LER project in 2019 with the Trusted Learner Network (TLN) initiative, a three-pronged approach: the underlying infrastructure technology that allows learners to collect and share their credentials, a governance policy for the network (which includes entities outside of ASU), and a community of digital credential providers and stakeholders. The ASU Pocket is the student-facing application that allows ASU students and alumni to collect and share their credentials, which include badges that ASU issues through their own, custom badging platform. ASU chose to custom develop their solutions in-house because they kept their specific learners at the center of the design and found that existing solutions being marketed to a broader potential client base did not address their specific functional requirements.

Arkansas LAUNCH

Arkansas LAUNCH is focused on interoperable data systems to address a wide range of workforce, health, social service, and education needs for residents that feed into digital wallets, which can be shared outside of the state. Related to broader goals of the state longitudinal data system (SLDS), LAUNCH is a career services platform that can be connected to a variety of digital wallets, including academic (e.g., WGU) and those used for identification purposes (e.g., a digital driver's license).

[15] "News and Insights." SkillsFWD website. Accessed 18 Dec 2025, www.skillsfwd.org/newsandinsights
[16] Glover, Haley. "Creating Value: Employer Insights on Using Digital Credentials and Skills Profiles." UpSkill America & Economic Opportunities Program. Accessed 18 Dec 2025, www.aspeninstitute.org/publications/creating-value-employer-insights-on-using-digital-credentials-and-skills-profiles/

Accelerate Montana

Accelerate Montana's LER pilot focused on employer engagement first and found their priority was on skills validation rather than verified records. Their initial investment centered on skills assessment methodologies (and regionally/culturally relevant skills definitions) rather than a robust LER platform technology.

MyCareerForward

The Council for Adult and Experiential Learning (CAEL) has used their SkillsFWD grant to develop a lightweight LER in support of their Pittsburgh Regional Upskilling Alliance (RUA) project. Their tool, MyCareerForward, is intended to operate as a translator, connecting workforce and higher education systems, aligned with what employers are looking for, and ensuring that the learner investment in training matches the employers' commitment to hiring for those skills. Their pilot focuses on the banking industry, specifically bank teller jobs, as these are funded under the federal Workforce Innovation and Opportunity Act (WIOA) in Pittsburgh.

Across these varied efforts, several themes emerged that help clarify the strategic choices states face when moving from pilot concepts to sustainable, statewide systems.

ColoradoFWD

ColoradoFWD, an LER demonstration project managed by the Colorado Workforce Development Council, connects to the state's commitment to skills-based hiring, with Colorado having identified 1.3 million STARs (Skilled Through Alternative Routes) workers in their state[17]. The LER is building on work already in place to reduce fragmented pipelines across education, training, and employment and centers on community college microcredentials issued in behavioral health, a key need in the state.

[17] How Colorado is Transforming its Workforce through Skills-Based Practices." Opportunity@Work & National Governors Association. Accessed 18 Dec 2025, www.nga.org/wp-content/uploads/2024/11/ColoradoCaseStudy_Nov2024.pdf

THEMES FROM OUR RESEARCH

Governance Approaches

In our research into existing implementation projects, three governance models emerged: projects with large, statewide implementation supported by policy and funding commitments; projects emerging from individual higher education institutions to support their own students and alumni; and hybrid projects developed with higher education and statewide partnerships.

SkillsFWD released their FWD THINKING report in 2025, summarizing key findings from their first year of research with grantees, including indicators of progress, common challenges, and insights for the field. One key takeaway is that grantees with strong institutional support encountered fewer bureaucratic obstacles and were able to achieve broader implementation.[18] Alabama is a key example of a statewide initiative yielding a large scale, sustainable resource. It did so by developing its Talent Triad project through policy and state action, specifically by codifying governance structures and passing legislation to create and financially support their skills-based talent marketplace.[19]

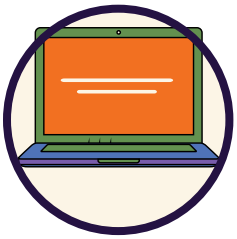
In the absence of statewide policy, another approach is for a higher education institution to develop a project through a decentralized or institution-level ownership model, as seen with projects like ASU Pocket. This model allows for greater flexibility and independence in determining a solution that meets the particular needs of a single institution or group of campuses (e.g., within a higher education system).

Finally, a hybrid variation can be seen in which a higher education institution spearheads development with support from state policy, such as Indiana scaling its state credential registry through an executive order requiring all public higher education institutions to include their information in the state credential registry, which then powers rich data tools in the WGU Achievement Wallet.

Funding options also play an important role in these governance models. LER projects with statewide funding and accompanying policy mandates are designed for broad, systemic change and long-term operation, focused on achieving specific public policy goals, such as statewide economic development or workforce alignment. They typically require governmental oversight, compliance with public procurement rules, and rigorous reporting requirements.

Alternatively, projects originating from a single institution may allow for more flexible procurement and accountability processes but may have challenges with scaling outside of the institution or sustaining ongoing funding. Projects that start with philanthropic funding are generally smaller, more flexible, mission-driven pilot or demonstration projects that allow for more risk-taking in design. They often leverage the expertise and flexibility of private partners and can help to bridge gaps when government or institution funding is unavailable or when anticipated changes in state leadership make it difficult to implement projects over a longer period of time. However, these projects may be difficult to scale and sustain in absence of long-term funding commitments.

[18] FWD THINKING From the Field." SkillsFWD. Accessed 18 Dec 2025, www.skillsfwd.org/newsandinsights/fwd-thinking-from-the-field
[19] "Issue 05: State Role and Governance." Alabama Talent Playbook. Accessed 18 Dec 2025, www.talentplaybook.org/issue-05-state-role-and-governance



Development Approaches

LER projects have utilized varying development approaches, ranging from using existing products to vendor-led implementations to fully homegrown solutions, often shaped by institutional capacity, strategic priorities, and available resources. Some larger scale initiatives, such as Alabama's and WGU's, partnered with external vendors to accelerate development, and received significant support from their vendor partners in refining robust solutions. CAEL's MyCareerForward leverages a simplified, contained ecosystem, partnering with a single badge issuer and a resume vendor to meet the needs for their project without the need for custom development.

In contrast, ASU deliberately chose a homegrown development model, allowing them to design a bespoke product and without constraints such as per-seat licenses or annual price increases. They were able to do so because of their significant internal IT resources and an institutional culture that supports positioning ASU as a technology innovator.

Across projects, however, a consistent lesson emerged: whether working with existing tools, partnering with vendors, or building internally, success depends on the ability to iterate. Teams stressed the importance of selecting vendors or structuring internal development in ways that support ongoing feedback loops, allowing systems to evolve alongside user needs rather than locking projects into static solutions.

Interoperability

Most projects have adopted modular, multi-vendor ecosystems with interoperability as a guiding principle, reducing the risks associated with dependence on a single vendor and allowing for learners to maximize use of their data. For example, ColoradoFWD is powered by an LER vendor, two credential issuing platforms, and a credential registry solution. ASU's TLN relies on a distributed infrastructure that supports prevalent data standards and enables credentials to move across a variety of systems, including campus ERPs, learning management systems, and credential issuers.

This emphasis on interoperability, in the interest of true credential portability, was highlighted by ASU as especially critical in states like Arizona with high levels of student transfer across states. Arkansas's project also leverages years of work to develop a secure data enclave and relies on extensive interoperability both within and outside of the state, partnering with states like Tennessee to build a multi-state approach in the process.

However, practical barriers to implementing interoperable systems remain. Organizations across LER ecosystems use disparate platforms (e.g., student information systems, HR systems), creating data silos at critical connection points. Further, inconsistent regulatory frameworks and policy at federal and state levels has resulted in a patchwork of requirements, complicating the exchange of records across different organizational levels. Finally, the slow adoption of related universal data standards has made interoperability more challenging. Standards such as 1EdTech's Comprehensive Learner Record standard[20] and the Learner and Employment Record Resume Standard from the HR Open Standards Consortium aim to address the particular challenges within the LER ecosystem but with no universal mandate for their adoption, inconsistent use of data formats means many records remain as static, non-interoperable PDFs rather than structured digital objects.

[20] "Latest Comprehensive Learner Record Standard Improves Security, Portability and Verification of Digital Credentials." 1EdTech. 4 March 2025, https://www.1edtech.org/1edtech-article/latest-comprehensive-learner-record-standard-improves-security-portability-and

Prioritized Use Cases

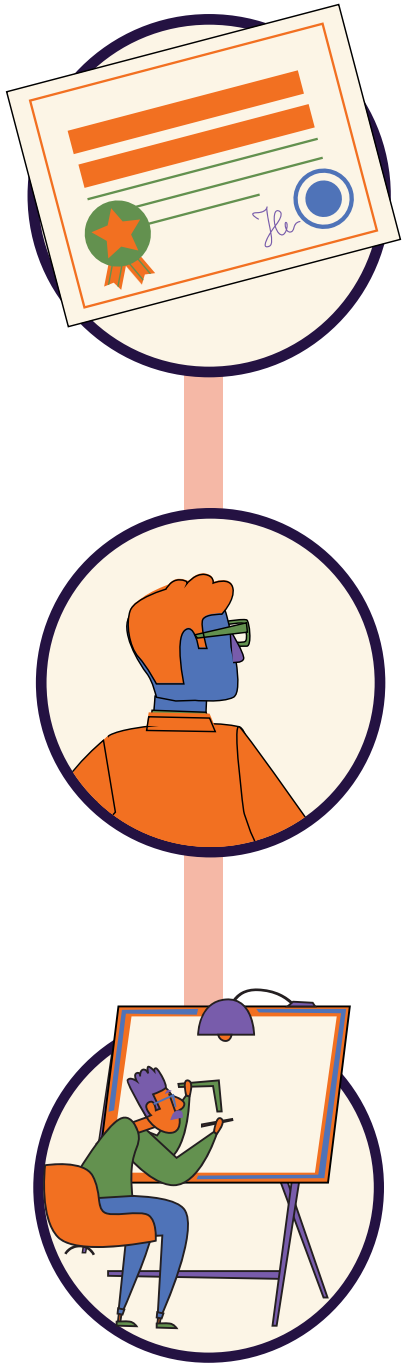
LER projects vary in how they prioritize users, use cases, and features, but most share a common reliance on iterative development models. A prevalent pattern is to begin on the "supply side" by delivering clear value to learners and workers before fully engaging employers on the "demand side." This approach allows projects to pilot technologies, refine the user experience, and build trusted data assets before tackling the more complex challenges of employer adoption.

For example, WGU's focus remains on helping learners curate skills and credentials, identify gaps relative to desired careers, and discover relevant education and training opportunities. Similarly, ASU Pocket was designed to give learners lifelong access to and control over their academic, co-curricular, and professional records, addressing the limitations of traditional transcripts that primarily serve institutional needs.

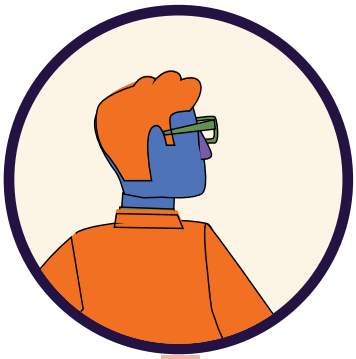
In contrast, Alabama's project was designed from the onset to prioritize "the needs of employers in the design of a solution to solve statewide talent shortages."[21] The system pays equal attention to the state's competencies framework and credential registry, the Skills-Based Job Description Generator for employers, and the learner/worker wallet.

Projects that started with a learner focus are now turning their attention to the next phase. For example, ASU is piloting employer-facing functionality by starting with on-campus employers, with students earning validated skill badges that populate their ASU Pocket and can then match to job postings in the ASU talent marketplace.

Several projects illustrate how prioritization is shaped by local needs, existing industry partnerships, or specific user groups. For example, ColoradoFWD focused on a single industry partner ecosystem, testing a sector-based approach that allows employers to explore the value of verifying credentials in a simple technology environment. Montana's project required less investment in technology to verify credentials because employers are often key partners in developing those training programs. In a state made up primarily of small businesses with limited capacity for technology integrations, they focused on demonstrating the value of identifying the skills of existing employees, in the language of employers, to support businesses in managing and retaining their staff. CAEL's implementation strategy focused on target industries (based on employer demand) and scalability. For example, they are moving next to IT and cybersecurity, which have overlapping skills with banking (the focus of their pilot), as well as established training programs.



[21] "Issue 03: Employer Engagement." Alabama Talent Triad. Accessed 18 Dec 2025, www.talentplaybook.org/issue-03-employer-engagement



Stakeholder Engagement and Data Collection

Governance, development, and prioritization decisions are reinforced and revised through ongoing engagement with learners, employers, and other stakeholders. Most LER implementation projects reflect cyclical feedback loops from stakeholders that support both initial design and ongoing enhancement. Projects regularly gather input from learners, institutions, workforce partners, and employers to refine features and clarify value propositions over time. As documented in the SkillsFWD FWD THINKING report, intentional engagement with stakeholders has underscored the importance of crafting targeted messages tailored to specific user groups, rather than relying on a single, generalized narrative about LER value. The same report also found that grantees entering projects with established partnerships, particularly with workforce and industry organizations, were better positioned for early success, a pattern reflected across many of the projects examined.

Many initiatives have sequenced stakeholder engagement by prioritizing learners first while gradually bringing in employers as consumers of learner data. Projects that focus initially on learner value use student feedback to inform early product enhancements and build a critical mass of users and data before asking employers to engage. For example, WGU has collected extensive feedback from students to improve its digital wallet experience and more recently engaged employers through testing of its "Lightweight Viewer," a prototype designed specifically for employer end users. Employer feedback on this tangible tool has helped WGU explore how digital wallets could be paired with talent marketplace features, such as searching for candidates by validated skills or verifying credentials.

This pattern reinforces a finding across projects: employers are more willing to provide meaningful input when they can react to a concrete product rather than an abstract concept. It also addresses the practical challenges of the employer adoption lag. A Jobs for the Future 2025 market scan reports that "despite the increasing use of digital credentials and LERs, employer adoption of these solutions for use in job applications remains limited."[23] Frequently cited reasons for this slow start include the IT resources required to integrate LER data with existing HR information and applicant tracking systems, legal and compliance concerns related to skills-based hiring, a misalignment between the language of skills and competencies found in digital credentials/ LERs and the language of job descriptions and job postings, and the perception that the related technology itself is untested. Broader cultural conditions include a continued bias towards degrees and specific higher education institutions.

[23] Leu, Sharon & Lee, Joan. "Verifiable Credentials Wallets in a Skills-First Talent Marketplace." Jobs for the Future. 10 Mar 2025, www.jff.org/idea/verifiable-credentials-wallets-in-a-skills-first-talent-marketplace/

[24] "Tear the Paper Ceiling STARS Hiring Playbook." Opportunity@Work. Accessed 18 Dec 2025, /www.tearthepaperceiling.org/stars-hiring-playbook#playbook-form

Slow employer adoption contributes to the gap between demonstrating user value and capturing quantitative measurements of success. The difficulty in contributing employment outcomes to LER adoption is a common challenge across projects, particularly as funders and policymakers increasingly seek evidence of workforce and employment outcomes specific to the adoption of skills-based hiring practices and the technologies that support them. Beta testing, surveys, focus groups, and other approaches are embedded in most LER implementation projects and can measure qualitative feedback from learners and employers. But while platform usage data (e.g., number of logins) can often be tracked, linking engagement to broader employment outcomes is more complex and some states are looking at opportunities to connect the dots. For example, a longer-term vision of the Alabama Talent Triad is to one day connect platform activity to employment data through the SLDS.

For those states engaged in LER implementation with employer participation, there are practical challenges to measuring a direct correlation between digital credentials and the distinctive attributes of their format and delivery methods (including verification and validation) and the impact they have on employment decisions. Most tracking in this space is anecdotal and may be best served by the type of business roundtable questions introduced by Opportunity@Work looking to assess the outcomes of skills-based hiring practices.[24] Potential questions for engaging with employers around measuring the outcomes of credential attainment and digitization might include:

- Is it changing hiring practices?
- Is it changing the ability for people to get into jobs?
- What is the ROI of shifting to a digital marketplace? What did it cost their employers to shift their hiring approach?

Taken together, these implementation themes point to a set of practical questions that states can use to clarify priorities and design LER initiatives that are both credible and sustainable.

[23] Leu, Sharon & Lee, Joan. "Verifiable Credentials Wallets in a Skills-First Talent Marketplace." Jobs for the Future. 10 Mar 2025, www.jff.org/idea/verifiable-credentials-wallets-in-a-skills-first-talent-marketplace/

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GUIDING QUESTIONS FOR OTHER STATES/ IMPLEMENTERS

Quick Guide

States exploring the development of LERs, or similar skills-based hiring infrastructure, must navigate a range of strategic, technical, and political considerations. Drawing on lessons from early adopters and California's planning process, the following guiding questions are intended to support states in clarifying priorities, sequencing implementation, and designing for long-term impact.

Governance, Partnerships, and Shared Vision

- Who will lead this work?
- Who will be involved in this work?

Framing and Stakeholder Engagement

- What problem(s) are we solving for?
- How will this help different user groups?
- How will we engage with stakeholders?
- How will we recruit participants?

Funding and Development Strategy

- What funding options are available to us?
- How can we plan for scaling?
- How can we plan for sustainability?

Prioritizing Users and Use Cases

- Which user(s) and features are most important to start with?
- Which features do we add later?
- How will we incorporate feedback loops throughout the projects?

Accountability, Outcomes, and Data Infrastructure

- What are the reporting requirements for this project?
- How will we measure success?
- How will data collection features be incorporated into the system to address reporting requirements?
- What other data collection methods will we need to implement (e.g., employer surveys)?
- What role does the SLDS play in measuring outcomes?

The suggestions that follow are not intended as a prescriptive roadmap, but as prompts that can be adapted to different policy contexts and capacities to support decision making.

Governance, Partnerships, and Shared Vision

A foundational question for states is who should lead and govern this work. States should identify the key agencies and institutions required for success and determine an appropriate governance model. State-mandated initiatives with legislative or executive backing can enable scale and sustainability but require substantial coordination and compliance capacity. Institution-led or hybrid models may allow faster iteration but often require explicit strategies for alignment and expansion.

Formal cross-sector working groups can support this governance by providing a structured forum for shared decision making. These groups help align goals across systems, surface implementation constraints early, and maintain focus on learner and employer needs rather than institutional silos.

Equally important is clarity of purpose. States should explicitly define the problems they are trying to solve: Are learners struggling to communicate skills across institutions and jobs? Are employers unable to verify credentials or identify qualified candidates? Is the goal to improve transfer, internal mobility, equity of access, or workforce alignment? Clear definition of challenges, informed by data analysis (e.g., labor market data) and inclusive and rigorous stakeholder engagement, helps avoid technology-driven solutions that lack practical relevance.

Framing and Stakeholder Alignment

Because LER ecosystems can feel abstract, states benefit from developing shared language and accessible framing that resonates with a variety of audiences. Tailored messaging is particularly important when engaging employers, learners, and policymakers, each of whom bring different priorities and levels of familiarity to the work. Use of highly technical or arcane terminology can be polarizing and distracting to stakeholders.

Metaphors and narratives can help communicate learner control, portability, and lifelong use. For example, the Career Passport Planning Committee likened an LER to a closet: full of the clothes you have purchased from a variety of stores that now belong to you, and you get to decide what to wear and when. A credential registry was described like a clothing company's website or catalog, and verified credentials like the emailed receipt you get for each online order.

Early and ongoing engagement with stakeholders is essential and should include higher education leaders, students, workers, employers, HR professionals, and industry organizations. Structured feedback loops such as pilots, focus groups, and beta testing help ensure that tools address real needs and build trust over time. Employer engagement, in particular, is often more productive when stakeholders can react to tangible tools rather than abstract concepts.

Funding and Development Strategy

States should assess whether resources support a comprehensive technology procurement or whether a phased approach (e.g., pilots, demonstrations, or grant-funded initiatives) is more realistic. Smaller pilots can generate early lessons and stakeholder buy-in, while larger procurements may be appropriate when policy mandates and solid funding are already in place.

Regardless of approach, successful initiatives employ iteration. Whether working with vendors or building internally, teams should plan for ongoing refinement based on user feedback, rather than treating implementation as a one-time launch.
Planning for sustainability should begin early. States should consider how policy levers, such as legislation, executive orders, or budget allocations, might support long-term operation and scaling. Reliance on short-term grant funding alone can limit impact unless paired with a clear transition strategy.

Prioritizing Users and Use Cases

States should determine which users and use cases to prioritize first and why. Many projects begin by focusing on learners, allowing teams to improve credentialing processes, refine the user experience, build a "supply" of candidates with trusted credentials, and demonstrate value before engaging employers. Others, driven by acute workforce needs, prioritize employer-facing tools from the outset. Both approaches can be effective if sequencing is intentional and responsive to local context. Continuous feedback loops with stakeholders will ensure that sequencing and project phases address user needs.

States should also clarify vendors' roles in stakeholder engagement. While vendors may support user research or employer outreach, states should retain ownership of strategy, governance, and long-term direction to ensure alignment with public goals.

Accountability, Outcomes, and Data Infrastructure

States should establish expectations for accountability and reporting prior to development. This includes defining what success looks like and how progress will be measured. While usage metrics and qualitative feedback are often feasible in early stages, linking LER adoption directly to employment outcomes remains challenging, particularly given slow employer adoption of skills-based hiring practices.

To address this, states may consider structured employer conversations (e.g., such as business roundtables or through surveys) to assess whether skills-based approaches are changing hiring practices, expanding access to jobs, or improving internal mobility.

Reporting mechanisms should be embedded into project design rather than added later. Finally, states should assess the potential role of their SLDS. While not all initiatives require immediate integration (and not all states have a mature SLDS to connect to), early consideration of data governance, privacy, and interoperability can enable future connections between LERs and employment outcomes in responsible and meaningful ways.