



CENTER FOR
EMPLOYABILITY
OUTCOMES
AT TEXAS STATE TECHNICAL COLLEGE



Outcomes-Driven Funding & the Future of Employment Data

Sharing the status and direction of C4EO & SkillsEngine.

INTRODUCTION



Michael Bettersworth

michael@skillsengine.com

Vice Chancellor & Chief Innovation Officer,
Texas State Technical College

Executive Director, *C4EO*

Founder, *SkillsEngine*



TODAY'S TOPICS

INTRODUCTION

- Introductions
- About TSTC, C4EO, & SkillsEngine

VALUE-ADD FUNDING FORMULA

- Contact Hour Model vs. Value-Add Model
- How We Got There
- Results & Insights

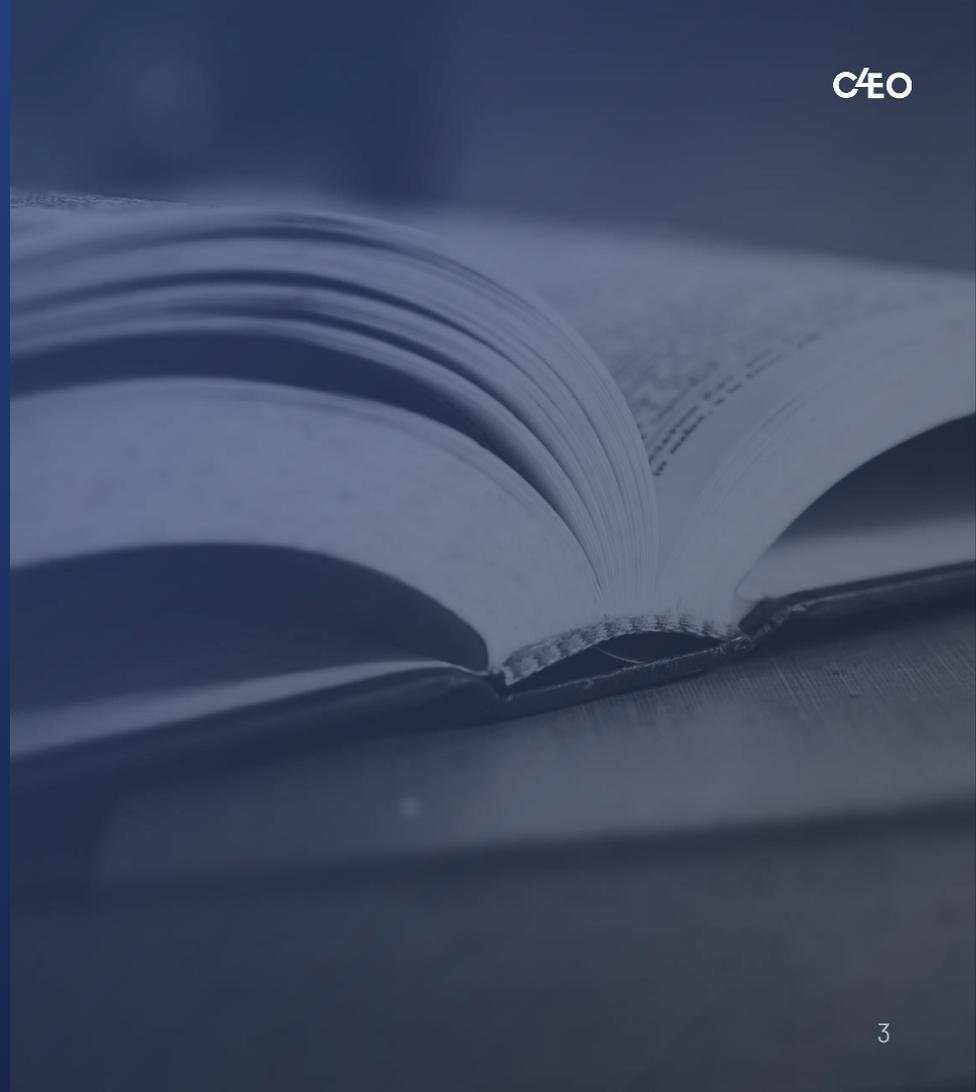
ENHANCED UI WAGE RECORD LINKAGE

- Basic Mechanics
- Enhanced UI Wage Data
- The Indiana Example

THE FUTURE OF SKILLS OPTIMIZATION

- The Burden on Employers
- Proposed Solution
- What We're Doing

DISCUSSION / Q&A





About TSTC

Helping Texas meet the high-tech challenges of today's global economy in partnership with business and industry, government agencies and other educational institutions.



- The technical college system of Texas
- 10 campuses
- 12,000 students
- 115 awards across 48 programs
- Founded 1965

UNIQUE PERSPECTIVE

**The nation's only
higher education institution
funded 100% on student
earnings outcomes**

Outcomes-Driven Funding

A formula for value-add

OLD METHOD

Contact Hour Model

A “headcount” system of cost reimbursement.

[Number of Contact hours] x [Funding rate] = State Funding

- Rewards activity, enrollment, and retention
- Aligns with academic traditions
- Encourages prolonged seat-time
- **Neutral to quality of outcome**

VS*NEW METHOD*

Value-Add Model

An “outcomes-driven” system based on student job placement & salary rates.

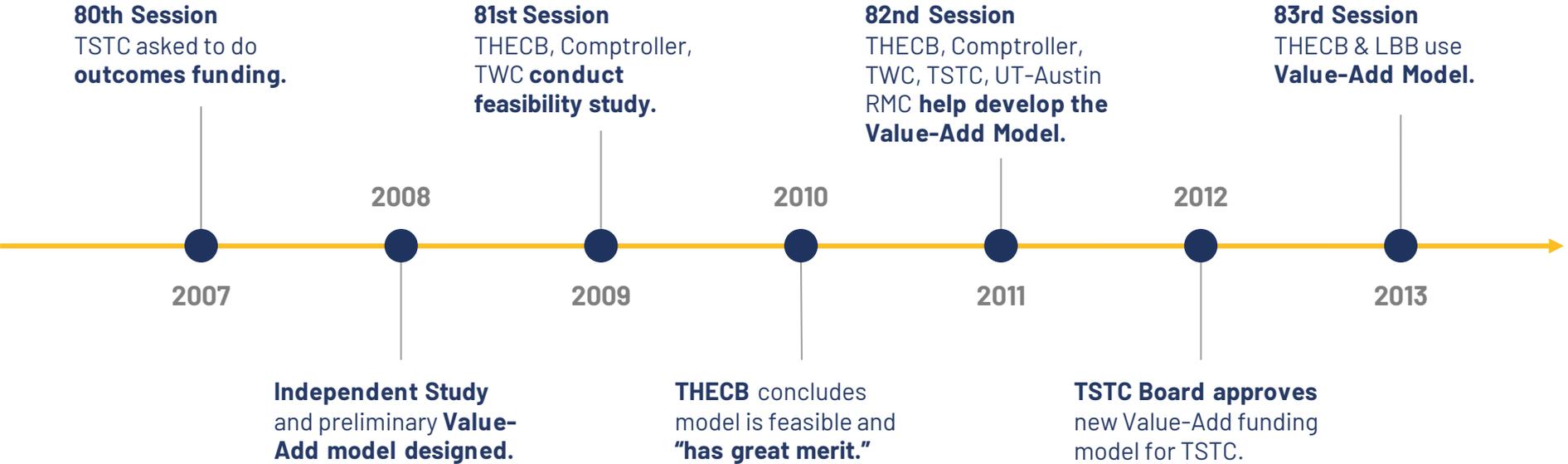
[Student Job Earnings*] x [Funding Rate] = State Funding

- Rewards outcomes and workforce alignment
- Aligns with student and industry needs
- Encourages efficiency
- **Rewards quality of outcome**

WHAT IT MEANS

**We get paid only if students
get a job. More placements with
higher wages equals more funding.**

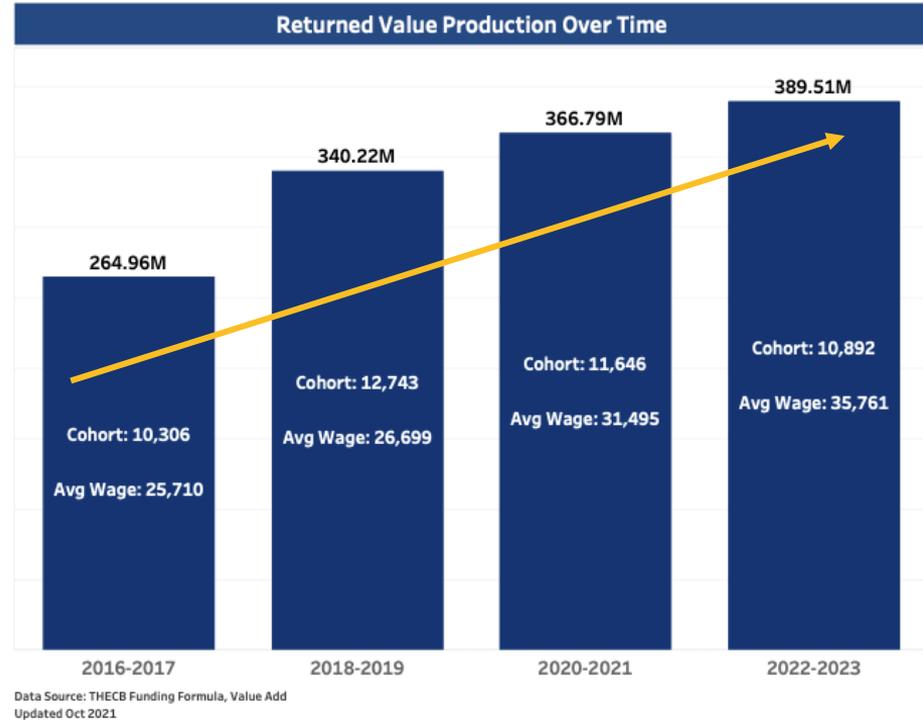
How We Got There



The Results

Since implementing the Value-Add funding model, TSTC has delivered increasing value to students and industry partners, including:

- Increased student salaries
- Increased job placements
- Enhanced industry partnerships
- Reduced inefficient curricula
- Increased state funding
- **Record graduation counts**

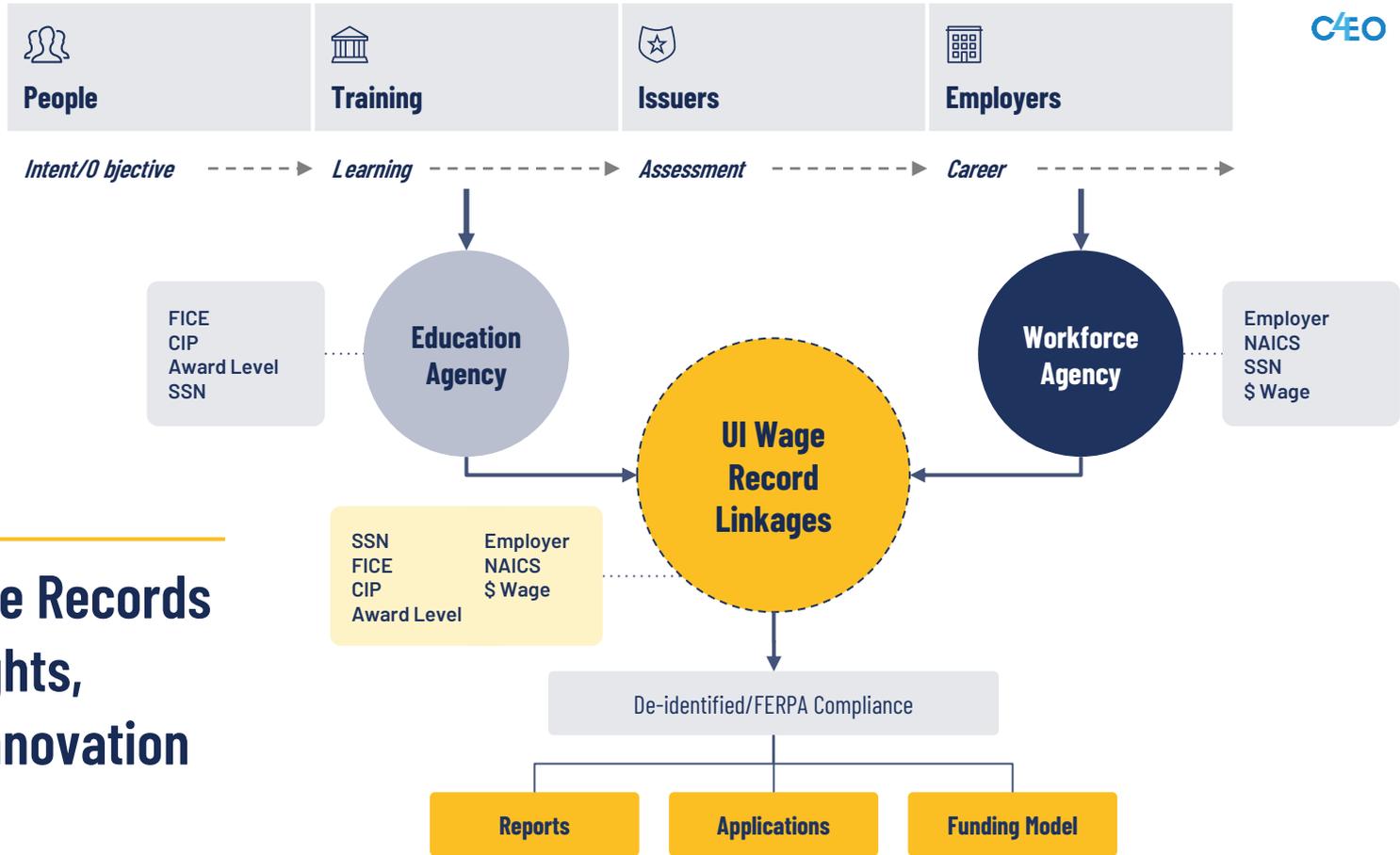


Key Learnings & Insights

- **Incentives are everything**
The best interests of students become the best interests of the college and state.
- **Faster to market wins**
Flexible entry and shorter duration training programs generate higher outputs.
- **Competency is currency**
Quality outcomes require quality programs responsive to industry needs.
- **Better data = better outcomes**
Placement and earnings outcomes drive accountability and transparency.

UI Wage Record Linkage

The enabling mechanism



Using UI Wage Records to Drive Insights, Funding, & Innovation

What are “Enhanced” UI Wage Records?

Enhancing UI Wage Records include additional employment data points which enable:

- **Alignment** by optimizing educational pathways with business and industry needs
- **Transparency** by informing students/parents on returns for their investment
- **Accountability** by benchmarking the economic returns of training programs

Basic UI Wage Records Linkages

- **SSN - Informs record linkage**
- **FICE - Educational institution**
- **CIP - Educational program**
- **Award Level - Cert, AAS, BA, etc.**
- **\$ Wages - Quarterly wages paid**
- **Employer - Business name**
- **NAICS - Industry classification**
- **Gender, ESL status, Eco Disadvantaged, CTE Status...**

ENHANCED UI Wage Records

- **Job Title - Worker job title**
- **Hours Worked - Informs hourly rate**
- **Start Date - Corrects partial quarters**
- **End Date - Corrects partial quarters**
- **Zip/County - Actual worker location**
- **Full time / Part time - Informs salary**
- **SOC - Dept of Labor Occupation**



States leading UI wage record enhancement

States leveraging UI wage record enhancements gain a major advantage in understanding labor market supply and demand.

- Washington D.C.
- Alaska
- Louisiana
- Nebraska
- Indiana*

IN ACTION: Indiana Dept. of Workforce Development

The enhancements implemented by Indiana consist of:

- Hire date
- SOC code
- Part-time/full-time status
- Zip code where work services are primarily performed

● **Voluntary participation**

New fields available but not required.

● **Simplified entry**

Data automatically carries over from one quarter to the next.

● **Reduced burden**

Eliminated an additional reporting form.

● **Reduced Fines**

Halved the non-filing penalty from \$50 to \$25.

● **Early Results**

40% of employers reported SOC codes in Q1 2020.

WHY ENHANCED UI WAGE RECORDS?

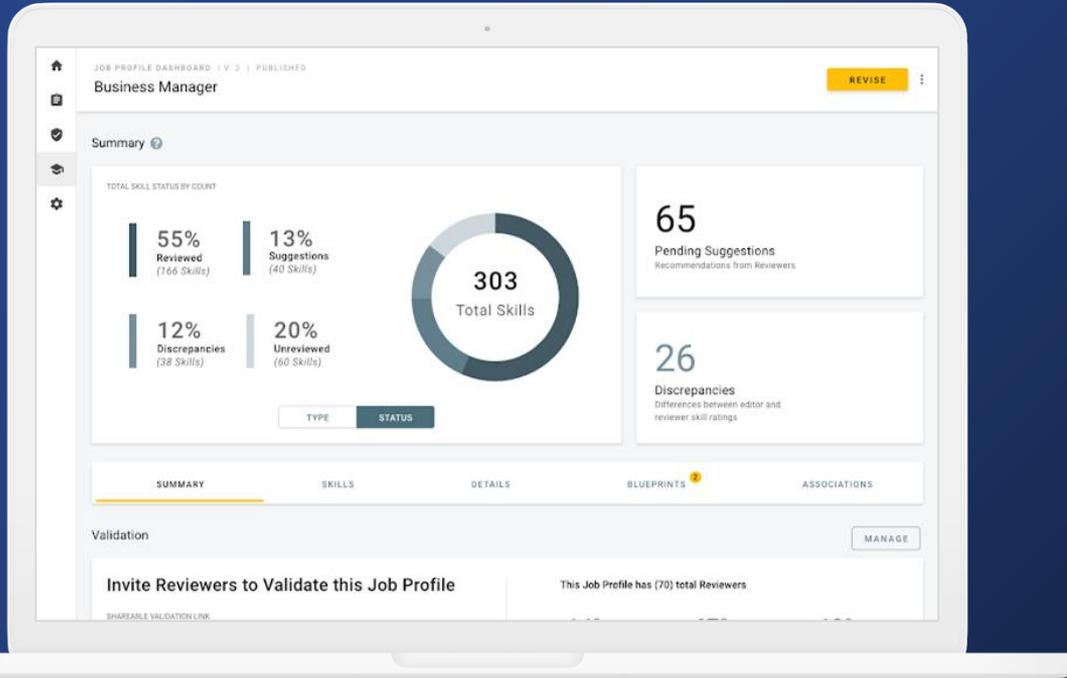
SUPPLY DEMAND OPTIMIZATION

- Longitudinal modeling of labor market movements
- Source of new, emerging occupational titles
- Coverage for rural areas not addressed under the OES

BENEFITS TO PUBLIC

- Better aligned talent pipelines for employers
- More informed choices for consumers (i.e., value)
- Career-relatedness associated with training

What's Next? Optimizing Skills



JOB PROFILE VALIDATIONS

Getting Input From Industry



Improving workforce outcomes for state & federal agencies



Formal recognition by the THECB (GIPWE) for use in Texas by all Community Colleges



Adopted by TEA for update of entire state CTE standards



US Gov. HR office uses our services (largest employer in the world)



Growing Skills Library focused on industry validation

2,900+

Industry experts (SMEs) engaged in skill reviews

1,500+

Organizations engaged in Calibrate reviews

160,000+

Skill validations conducted by industry experts

1,800+

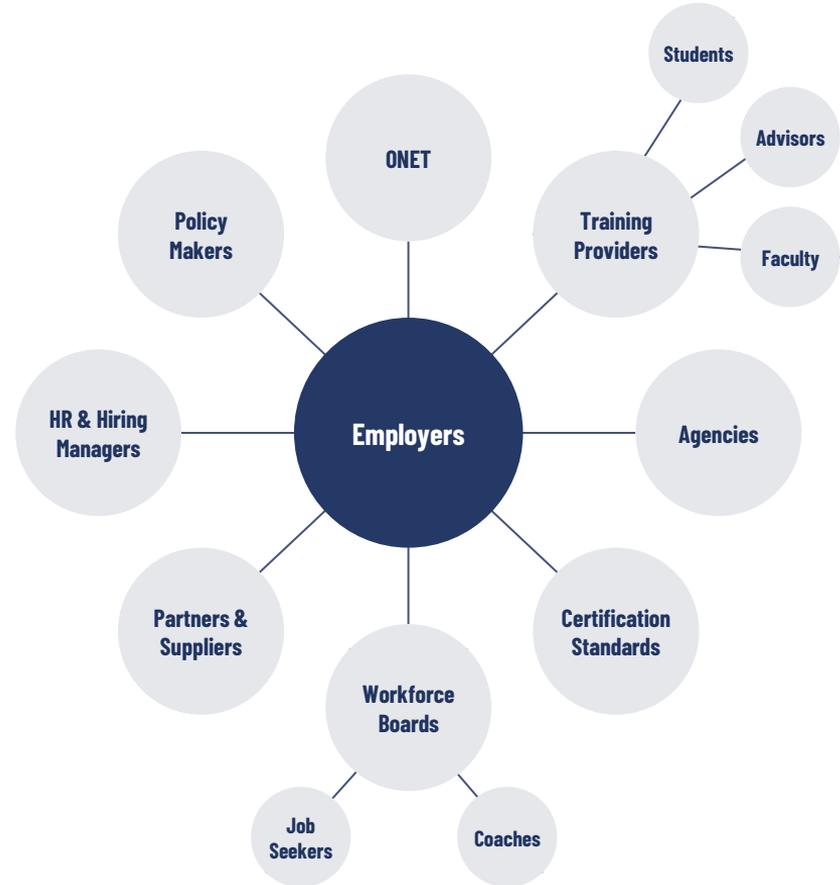
Unique occupational skill profiles created

Disparate data systems burden employers

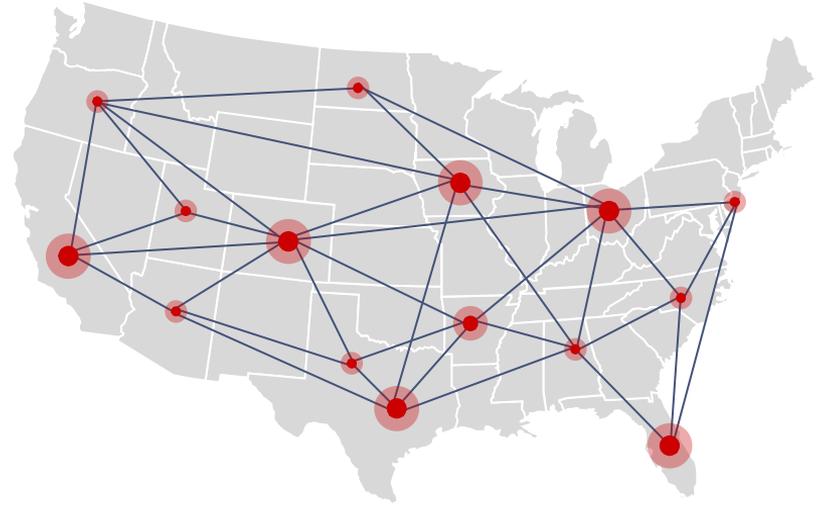
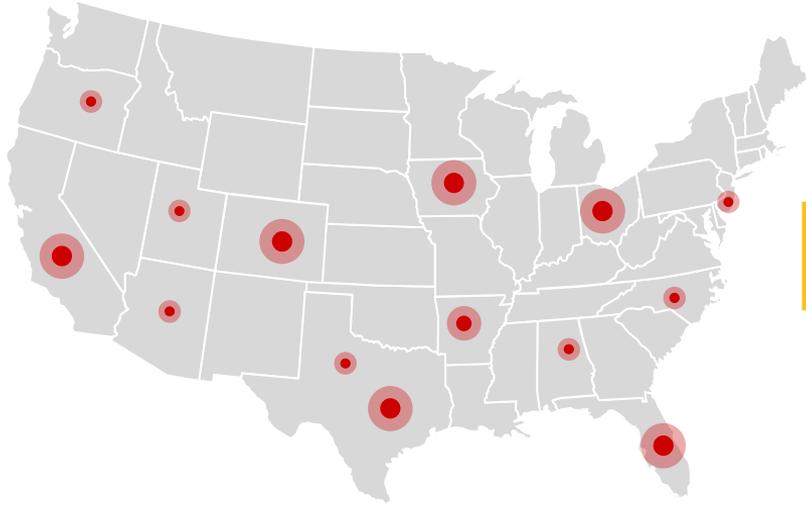
Employers face an impossible landscape of data demand from an array of partners, collaborators, suppliers, and supporters.

Problematic results:

- Duplication of efforts/data
- Inaccurate insights & information
- Employers exit rather than adjust



Evolving the Strategy for Shared Skills Data



CURRENT REALITY:

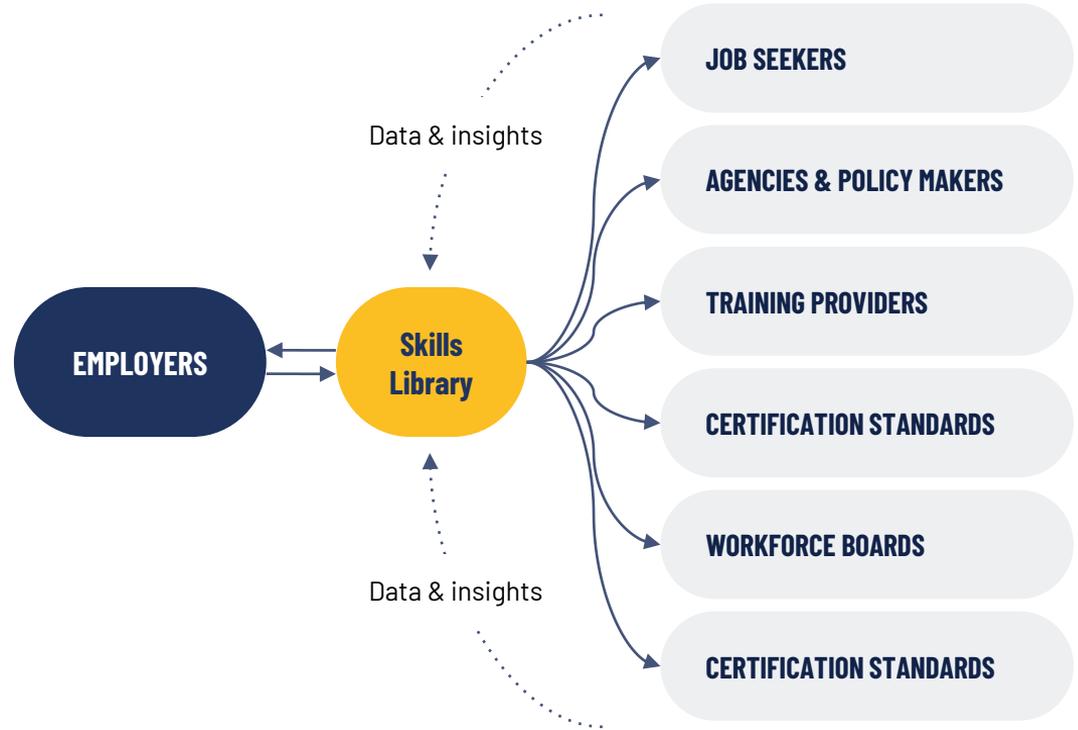
- Siloed and locally focused
- Duplicative and redundant
- Inefficient sharing of insights/data

FUTURE VISION:

- Connected and unified
- Streamlined and interoperable
- Efficient sharing of insights/data

Efficient for industry is efficient for everyone

Removing the burden on employers through more efficient data sharing enables everyone to benefit from greater insights and ability to respond to labor market demands.



OUR VISION

Build the world's wikipedia of skills

A single source of truth to unify the employment ecosystem through our common skills language.





**NOT another way to build
resumés, job postings, explore
careers, select majors, etc.**

**A way to make them ALL smarter
and more effective, with skills.**

Questions & Discussion

APPENDIX

Background



How we got here



Created to address the Chapter 135 Forecasting Mandate (formerly TSTC Forecasting).

Activities:

Research, publications, speeches, testimony, public policy, outreach, data modeling.



Created to improve student employability outcomes by aligning curriculum to market needs.

Generated revenue for operations and profit for TSTC.

- Ensuring value for stakeholders
- Maintaining market relevance
- Listening to customer signals

OUR MISSION

Better employment outcomes for everyone, through skills

We are on a mission to connect educators, employers, agencies, and individuals through a common skills language.

VALUE

Create lasting value for TSTC and everyone in the employment ecosystem.

INNOVATION

Fuel industry & community progress with innovative tech & data solutions.

IMPACT

Drive social impact at scale with a focus on better employment outcomes for all.

Actively contributing to national discussions on skills and outcomes



SkillsEngine Calibrate

Max

PUBLISHED | Revision 1

Data Scientist

EDITORS

DEACTIVATE REVISE

Last updated on May 10, 2019

DESCRIPTION

Data science is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from data in various forms, both structured and unstructured.[1][2] similar to data mining

Status

	WORK ACTIVITIES	KNOWLEDGES	SOFT SKILLS	TOOLS & TECHNOLOGIES
Unrated	123	11	25	0 ✓
Unreviewed	3	0 ✓	0 ✓	0 ✓
Discrepancies	0 ✓	0 ✓	0 ✓	0 ✓
Suggestions	0 ✓	0 ✓	0 ✓	0 ✓

Work Activities 123

EDITOR RATING	WORK ACTIVITY	REVIEWER RATING
○○○	Advise others on information technology issues	NO REVIEWS
○○○	Advise scientific or research personnel	●●○○
○○○○	Analyze business problems	●●○○
○○○○	Analyze data to identify or resolve operational problems	●●○○

- Summary
- Status
- Work Activities
- Knowledge Domains
- Soft Skills
- Tools & Technologies
- Associations
- View Report (html)
- Download (pdf)
- Reviews
- Deactivate
- Pending Suggestions
- Unrated
- Unreviewed
- Review Discrepancy

JOB PROFILES

Start With The End In Mind



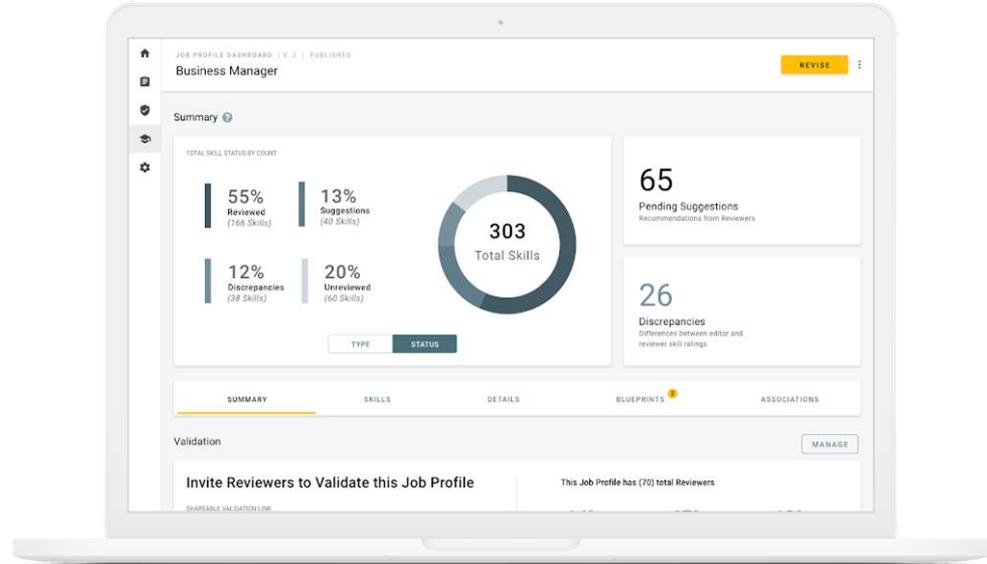
User-facing tools utilizing a common skills language

- [Calibrate](#) software platform for skills-based curriculum alignment
- Skills-based [API data services](#)
- [Professional Services](#) offerings



Teach what matters

Aligning educators with industry demand



Profiler

Convert unstructured text into high quality skill data for any application.



Matcher

Translate text sentences into well-written, highly structured skills.



Warrior

Bring skills from the battlefield to the labor market.

Calibrate Job Profiles

Identify the occupations that your curriculum targets and the skills students need to succeed

Engage Industry

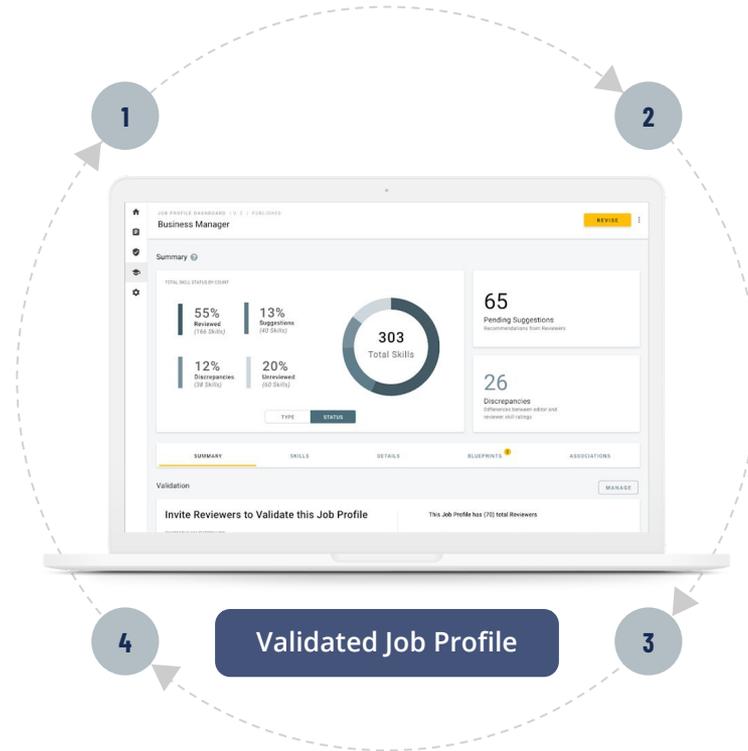
Collect feedback from Industry SMEs about which skills are most critical

Align Curricula

Leverage Validated Job Profiles to identify skill gaps and align curriculum with Industry needs

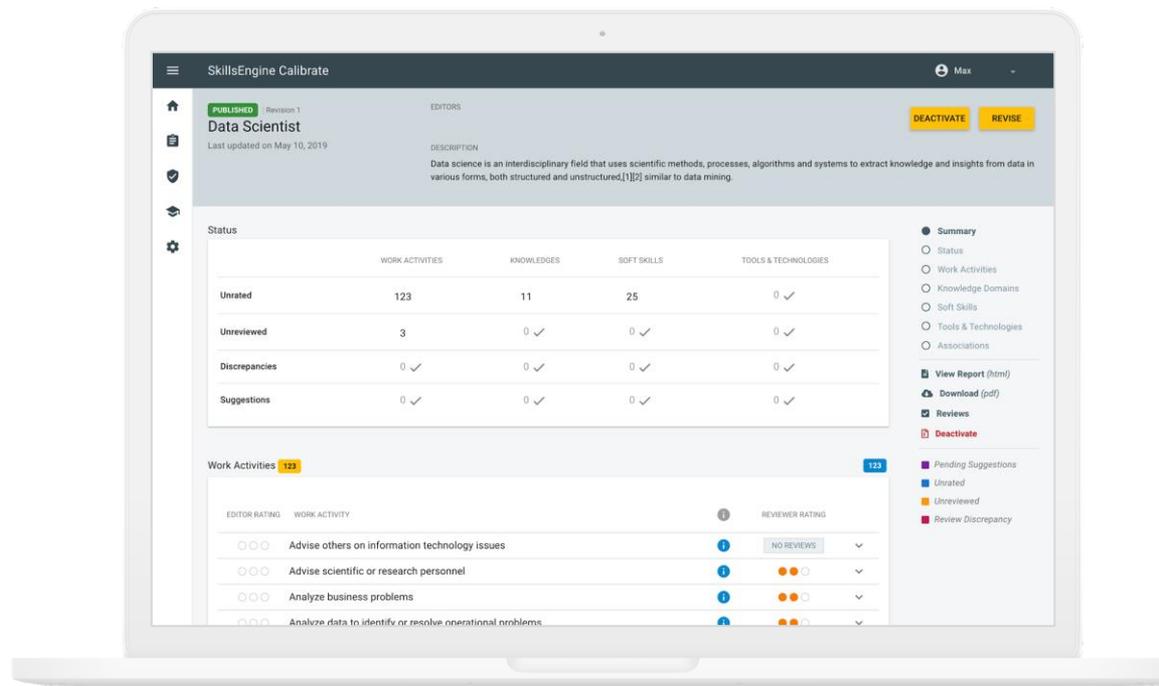
Stay Updated

As skill requirements change and occupations evolve, revise and refine Job Profiles to update and keep curriculum relevant



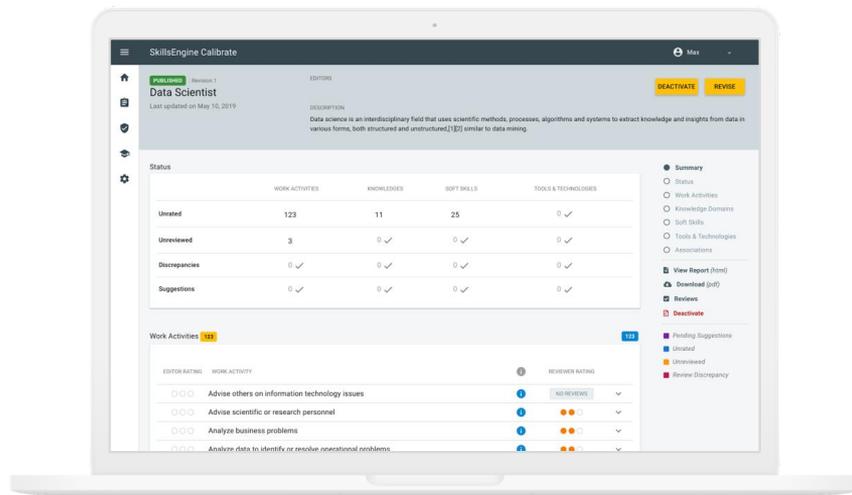
A collection of demonstrable, observable, and measurable skills and characteristics.

- Describe the skills required by employers for a specific job or occupation
- Include of four types of skills



JOB PROFILES What is a Skill?

Job Profiles are living documents that represent the most up-to-date and relevant industry validated skill requirements for a specific occupation.



Comprised of four (4) skill types:

Work Activities

How units of time are organized on the job - what you actually do on the job.

Knowledge Domains

Areas of knowledge that someone needs to know in order to do the job.

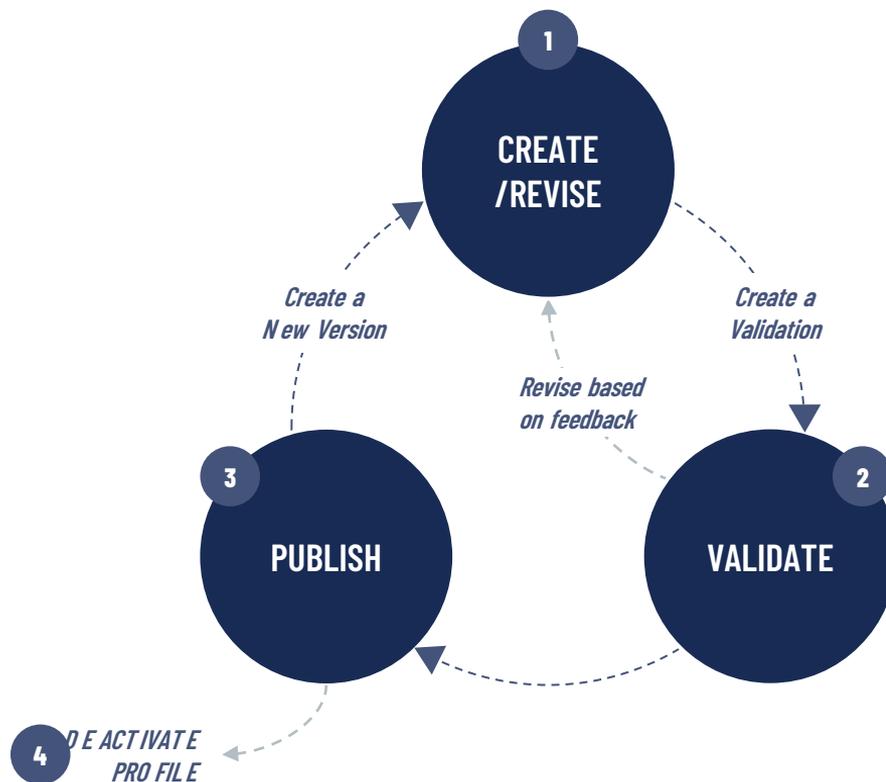
Employability Skills

Behaviors, interpersonal skills, character or personality traits, attitudes, social and emotional intelligence - what make you effective at the job.

Tools & Technologies

Categories and specific examples of machines, equipment, software, and technologies used on the job.

- 1 Create or Revise**
Edit the Job Profile details. Review and rate skills.
Make edits based on Industry feedback.
- 2 Validate**
Create a Job Profile Validation to collect feedback
and input from your Industry partners.
- 3 Publish**
Use your validated Job Profiles to identify skill gaps
in curriculum and more.
- 4 Deactivate**
Archive unused and irrelevant Job Profiles.





Critical

Highly relevant, required, and central to this job. Candidates are disqualified if these skills are missing or deficient.



Important

Important, complementary, and frequently performed within this job, but not required. Candidates can acquire or become proficient in these skills while on the job.



Beneficial

Supplementary and helpful, but not necessary for the job. Candidates will benefit from having these skills but are qualified without them.



Irrelevant

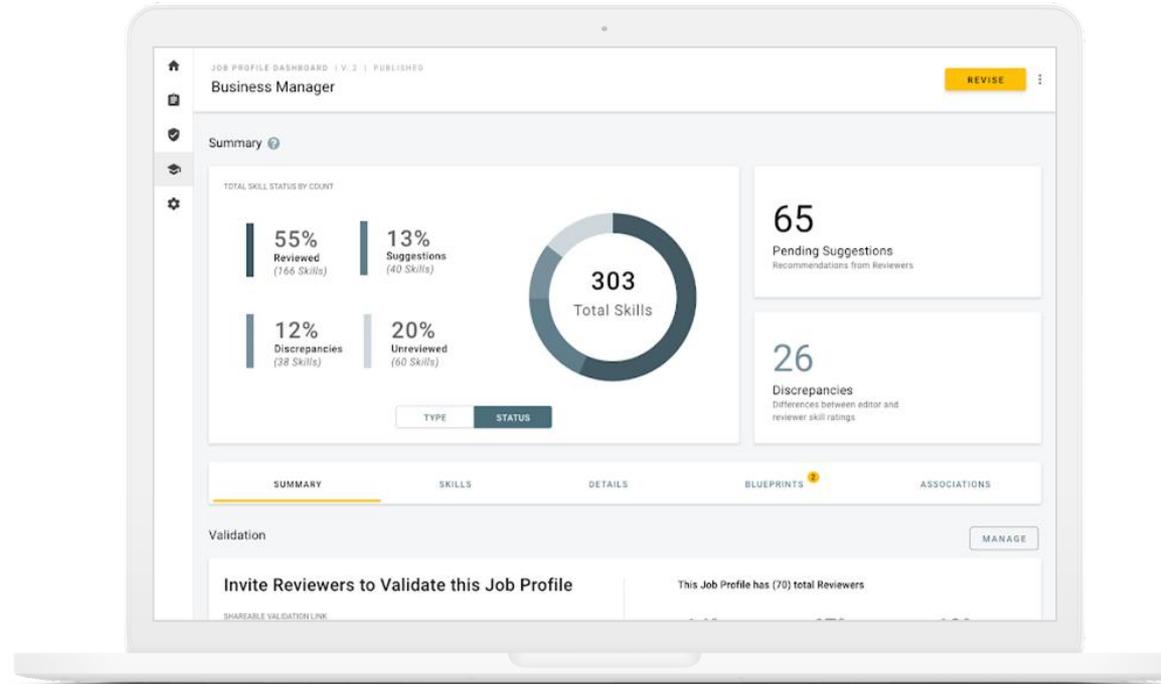
Not relevant to this job. Candidates gain no benefit or advantage in this job from having these skills.

VALIDATIONS What is a Job Profile Validation?

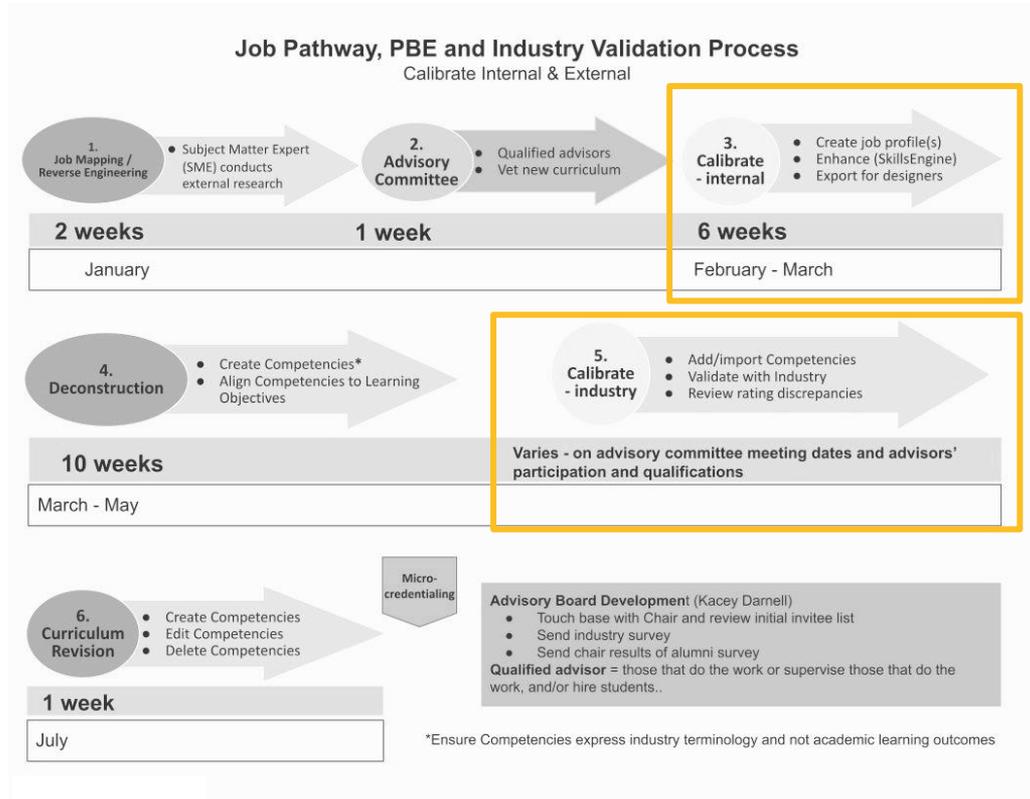
A collection of Reviewers and their review of a Job Profile

Reviewers can be Industry experts or advisors, faculty and alumni, or anyone else invited to review the Job Profile.

- The revision being reviewed may not always be the most current revision of the Job Profile
- When a Validation is updated Reviewer feedback is kept and updated with each new revision of the Job Profile
- Closing a Validation will archive all feedback and assigned Reviewers.



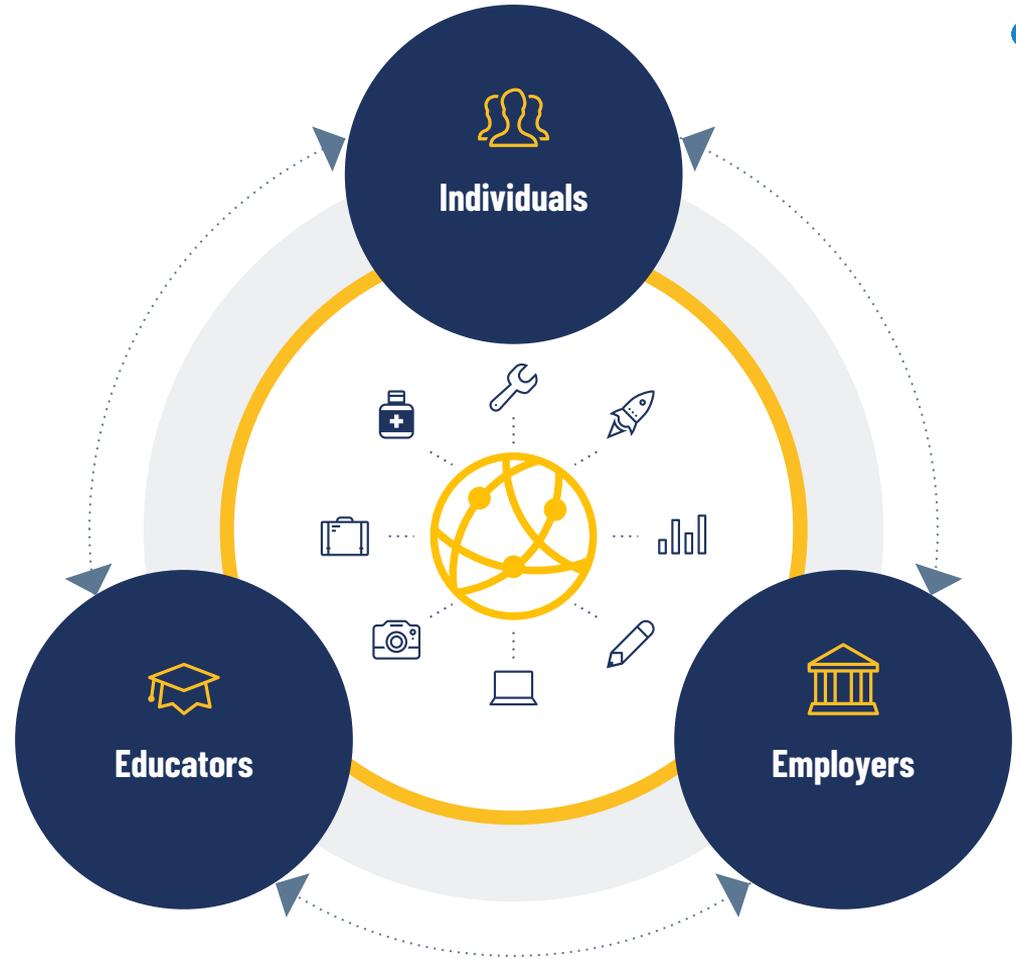
Deeply integrated in TSTC core operations to validate curriculum



Where to next?

Utilize a common skills language to unify the employment ecosystem

Build the foundation for a dynamic and self-sustaining skills-based employment ecosystem.

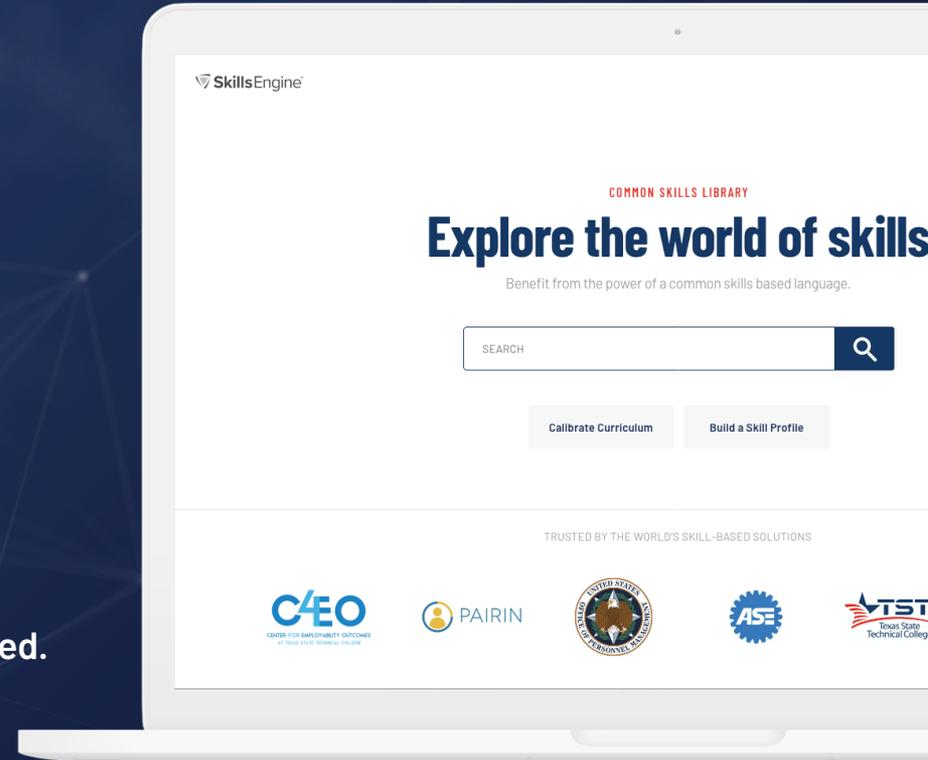


COMING SOON

Open Skills Platform + Profile Manager

Give everyone the power to benefit from,
and build with, our common skills language.

Publicly accessible. Community sourced. Expertly curated.

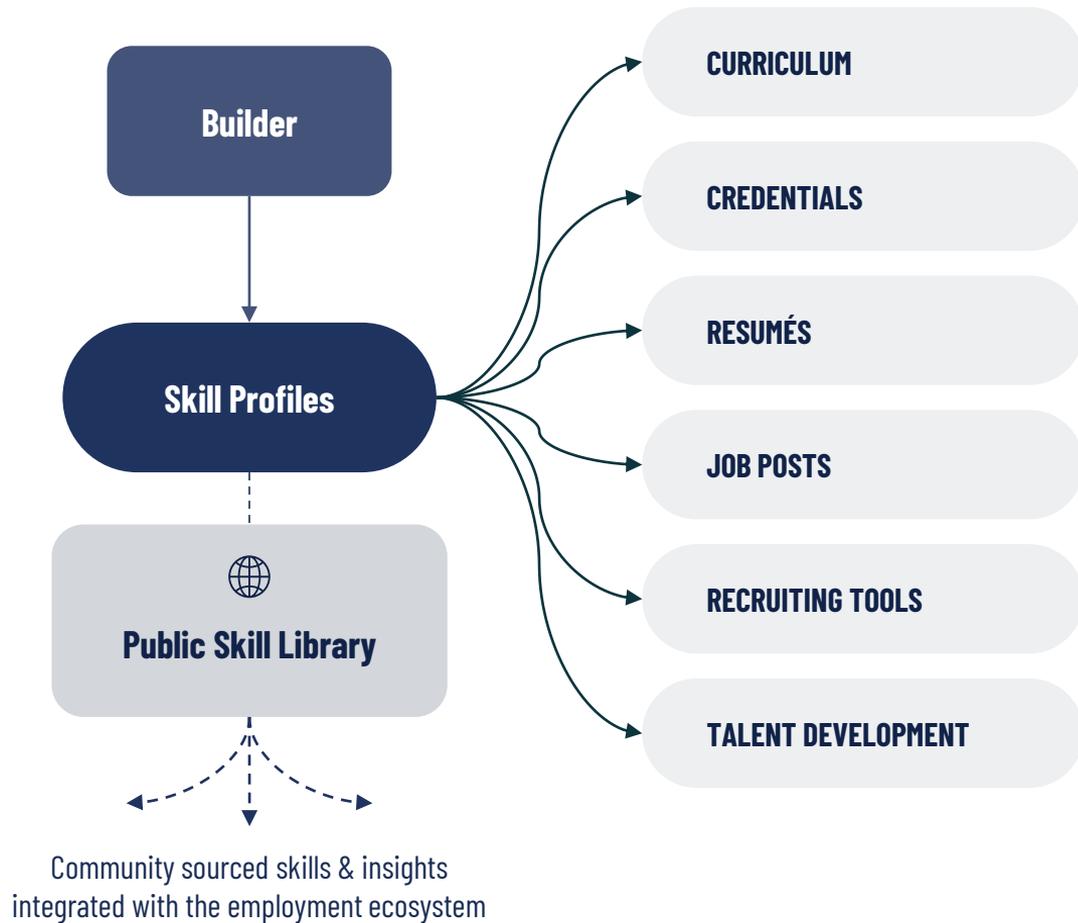


Putting the world of skills to work for everyone

Our ambition is to create a platform to enrich the existing employment ecosystem with our common skills language and make the resulting insights available to everyone.

CONFIDENTIAL

C/EO



WHO THIS HELPS



EMPLOYERS

- Greater access to qualified talent
- More efficient signaling of workforce needs to training providers
- Enhanced talent acquisition, retention, development, and planning



JOB SEEKERS

- Greater access to relevant career opportunities
- Improved tools for skills communication and job acquisition
- Enhanced data for career development and planning



EDUCATORS & AGENCIES

- Objective data to align program offerings with employer needs
- Direct regional engagement with employers
- Improved responsiveness to changing industry need

Use Cases

Use Case: Coaches Helping Job Seekers

Career coaches through the Markle network will use the Builder tool directly with job seekers to help them achieve their career goals.

Partner: Rework America Alliance (Markle)

EXAMPLE USE CASES

- Enhance a job seeker's resumé with career-relevant skills
- Provide an understanding of the skills required for a targeted job
- Explore related skills and careers based on an individual's skills
- Assess the baseline skills of an individual to inform coaching direction



Use Case: Individuals Seeking a New Job

Job Seekers and students will use the new Skill Builder and Public Library tools to explore and discover career-relevant skills and enhance their job seeking efforts better skills data.

Partner: TSTC, Markle, Texas Workforce Boards

EXAMPLE USE CASES

- Capturing and validating personal skill sets to enrich job seeking activities
- Explore careers/skills related to an individual's existing skill sets
- Explore skills required for a target career or job progression



Use Case: Industry Certification Standards

Industry certification and standards groups will use the Builder to author and validate skill profiles to feed microcredentials and share with their national network of partners and SME's.

Partner: ASE

EXAMPLE USE CASES

- Create and validate skill profiles for specific micro-credentials
- Make skill standards publicly accessible through the Public Skill Library
- Exchange skill profiles with partner organizations and network members



Use Case: Employment Ecosystem Integrations

Credly and other partners will integrate the Skill Builder capabilities and Public Library data directly into their existing workflows to help their customers enhance the work they're already doing.

Partners: Credly, Pairin, CourseTune, etc.

EXAMPLE USE CASES

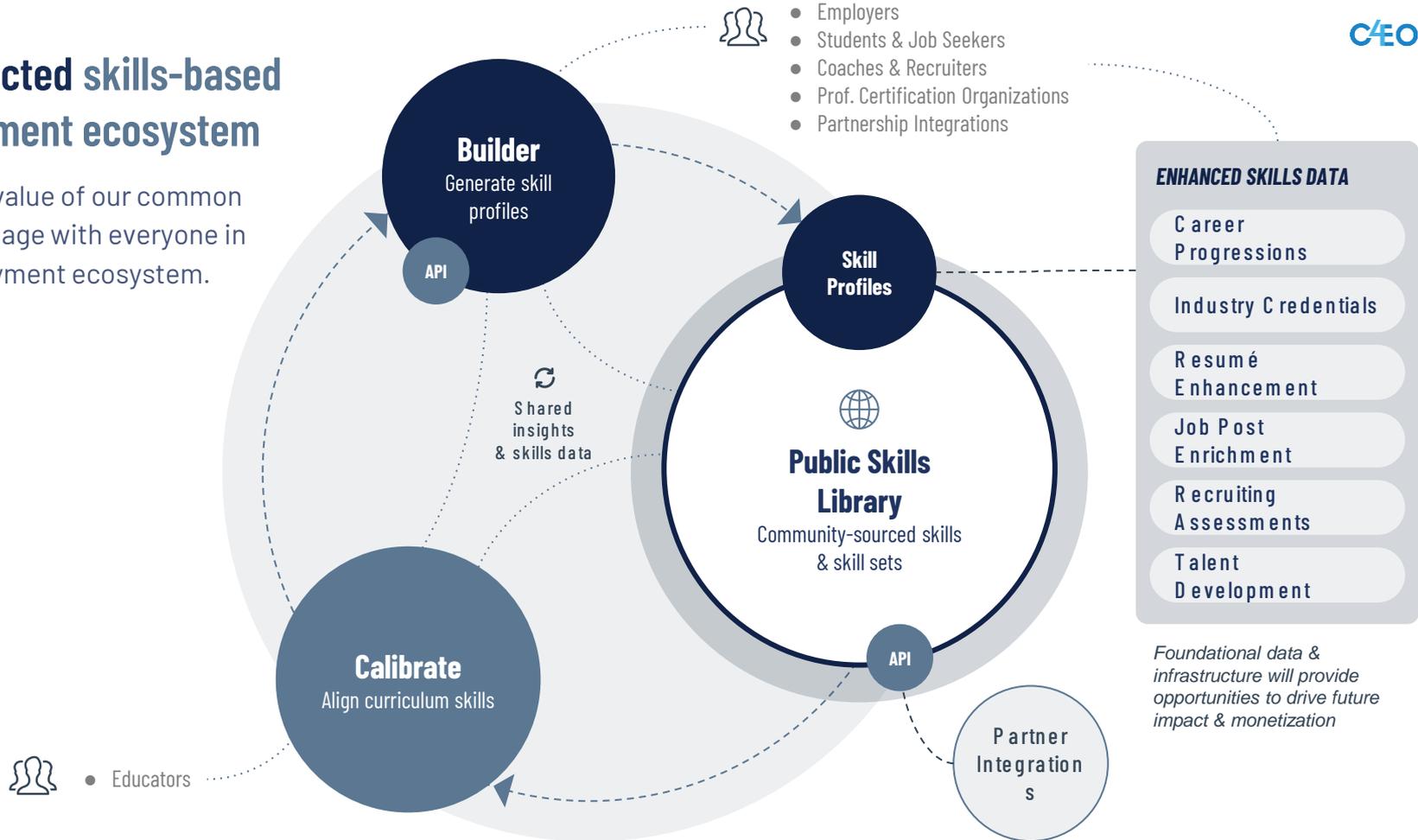
- Embed skill profiles within shareable Credly credentials
- Enrich Badgr pathway mappings with skill profile data
- Enhance CourseTune workflows with skill profile data



Future State

A connected skills-based employment ecosystem

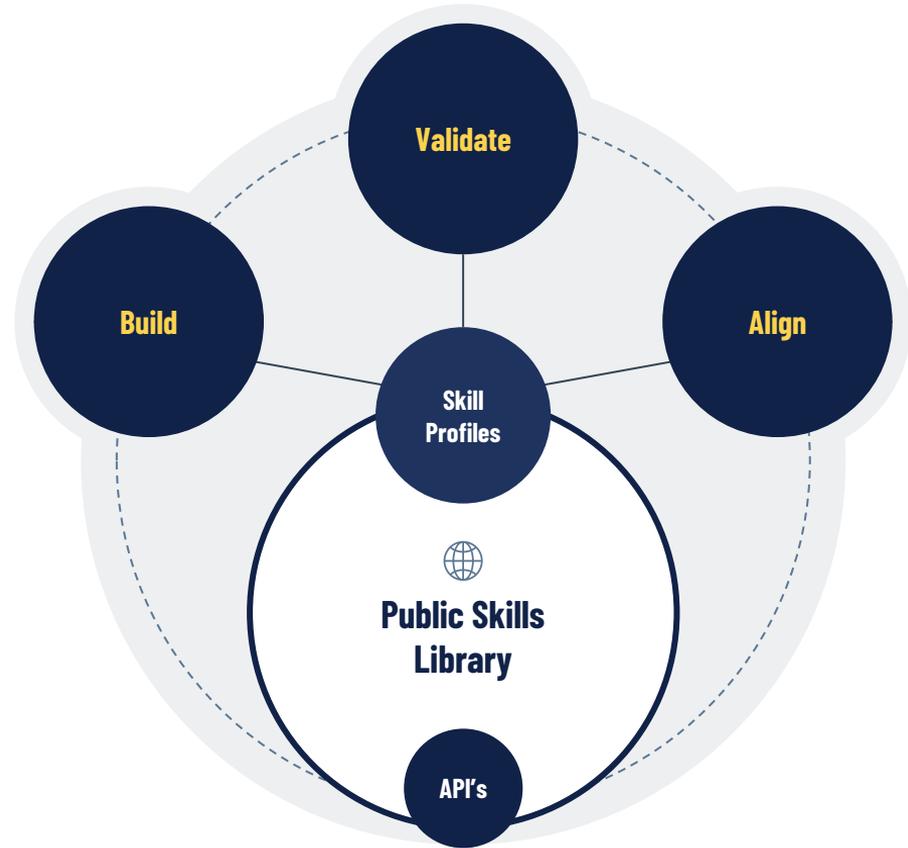
Share the value of our common skills language with everyone in the employment ecosystem.



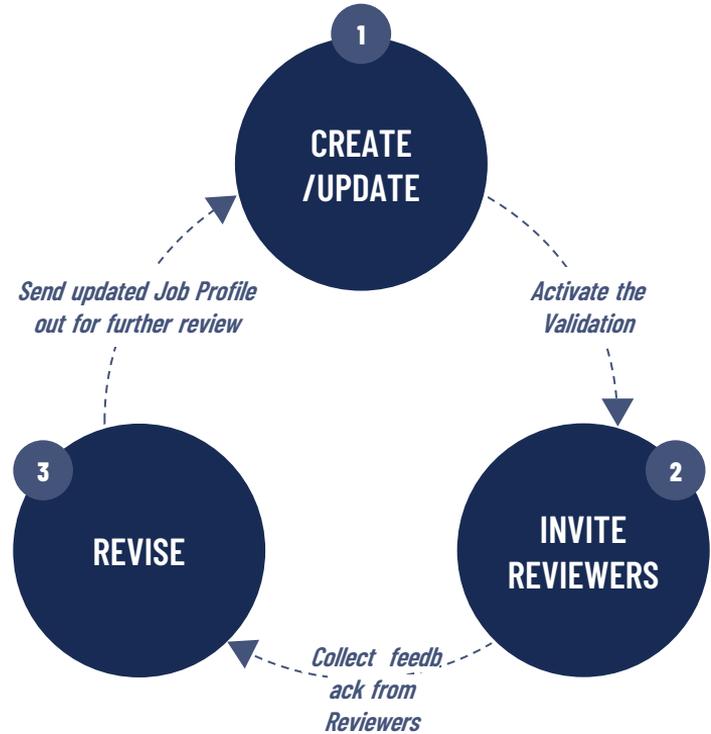
● Educators

Future State: Unified skills ecosystem

We will continue to open our core capabilities to the public with the goal of simplifying and improving the experience and value for everyone.



- 1 Create or Update a Validation**
Automatically created or updated when a Job Profile revision transitions into the "Review" state.
- 2 Invite Reviewers using the Shareable Link**
Reviewers get notified when an update happens.
- 3 Revise the Job Profile**
Start a new revision of the Job Profile that includes the feedback from your Reviewers.



C4EO CENTER FOR
EMPLOYABILITY
OUTCOMES
AT TEXAS STATE TECHNICAL COLLEGE