



# Credential Transparency: Clearly Articulating Value To All Stakeholders

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# OVERVIEW

- The Current Credentialing Marketplace
- Credential Engine
- IMS Global Learning Consortium
- Call to Action
- Discussion



# THE PROBLEM: THE CREDENTIALING MARKETPLACE IS A CONFUSING MAZE





# WHAT DO WE MEAN BY “CREDENTIALS”?

A documented award by a responsible and authorized body that has determined that an individual has achieved specific learning outcomes or attained a defined level of knowledge or skill relative to a given standard.

Umbrella term that includes:

- Educational degrees and certificates
- Professional and industry certifications
- Apprenticeship certificates
- Licenses
- Micro-credentials
- Badges
- Innovative emerging credentials



# CURRENT CREDENTIALING PROBLEMS

Fragmented, multi-faceted, complex credentialing system that doesn't work well for credential seekers, employers, or educators

## Highly diverse and decentralized

Many actors:

- academic and training organizations
- industry groups
- occupational groups
- licensing boards
- accreditors, new types of quality assurance entities



## Many types of credentials

- different purposes
- different quality assurance mechanisms
- different regulations
- different metrics for awarding credentials
- different value in different contexts

Public and employer policies struggle to keep pace with new developments

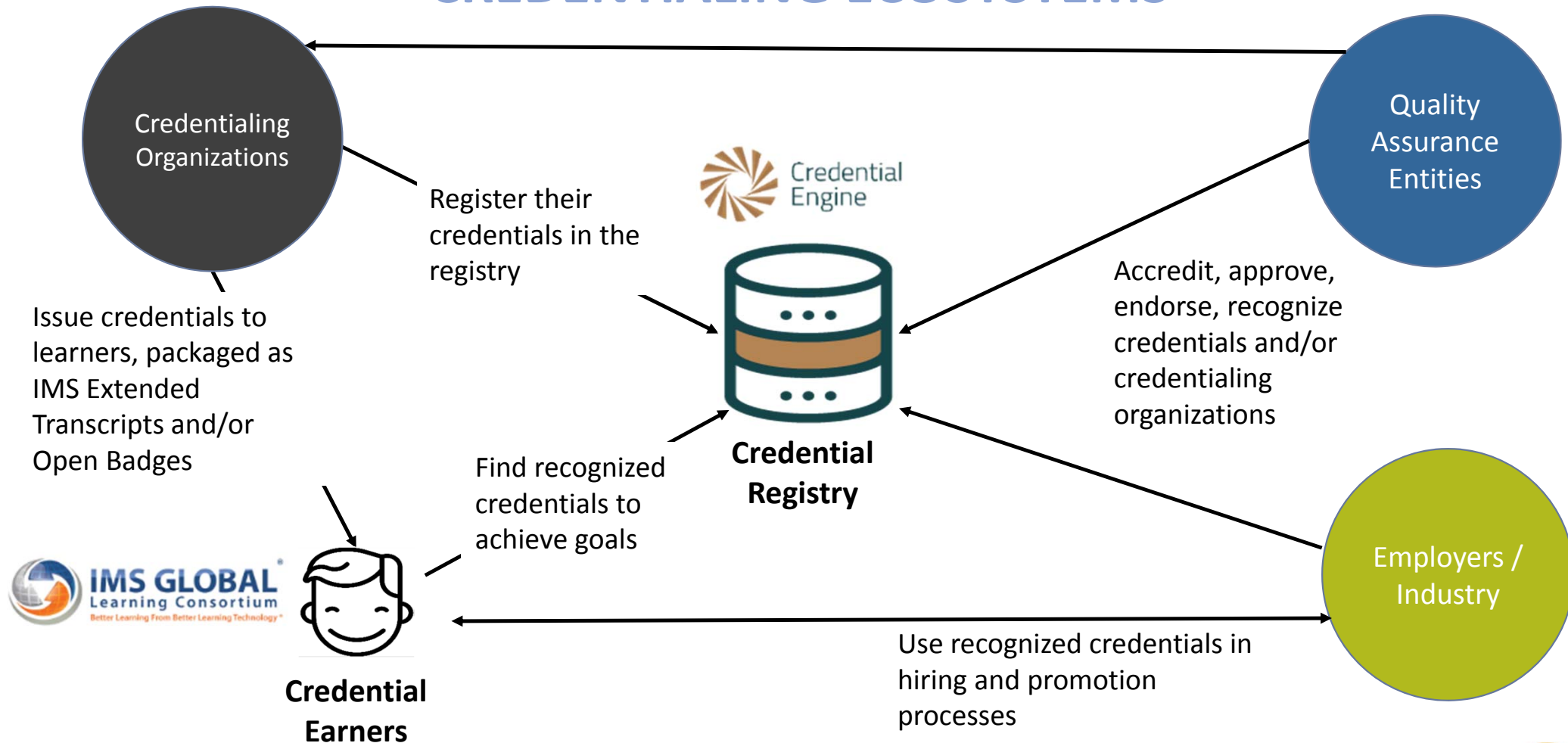


## CHARACTERISTICS OF AN IMPROVED CREDENTIALING ECOSYSTEM

- ✓ Learning-based and learner-centered
- ✓ All learning matters wherever it's obtained
- ✓ All credentials are based on learning outcomes/competencies
- ✓ Credentials are portable, transferrable, transparent, useful, and easily understood by learners, employees, employers
- ✓ Credentialing pathways, including on-ramps, increase access and equity for all learners
- ✓ Helps learners, employees, and employers make informed choices about their investment in and value of the credentials they're pursuing
- ✓ Helps employers better qualify employees and reduce recruiting time, employee turn-over, and cost of retraining
- ✓ Builds a competitive, highly skilled workforce
- ✓ Dynamic system – agility to be relevant in rapidly changing labor markets



# CREDENTIALING ECOSYSTEMS







# CREDENTIAL ENGINE

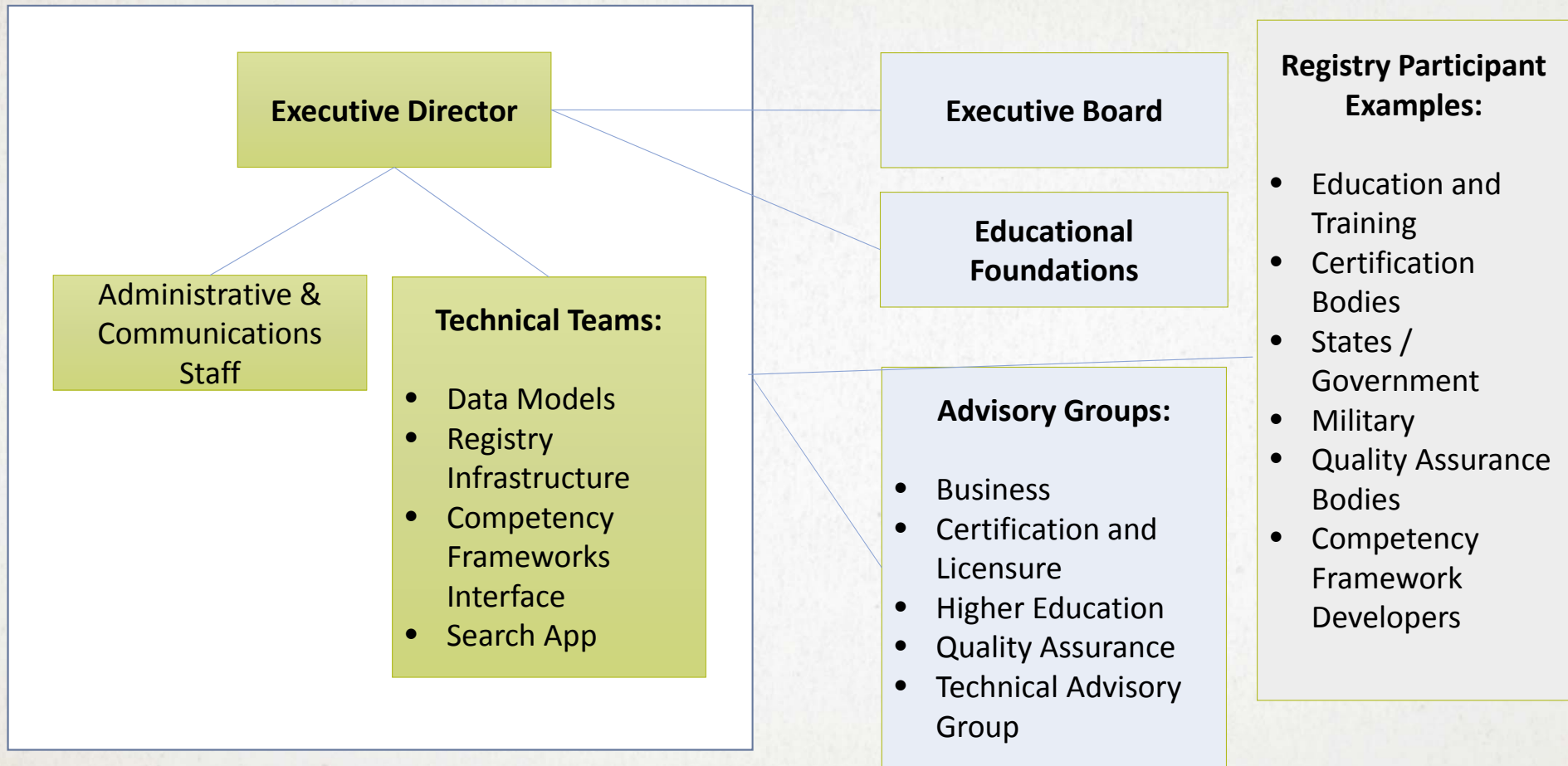
Promoting transparency and credential literacy in the marketplace to reveal the world of credentials and inform the public.

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# CREDENTIAL ENGINE ORGANIZATION LEADERSHIP



# TRANSPARENCY THROUGH CREDENTIAL ENGINE TECHNOLOGY

**Credential Transparency Description Language (CTDL) and CTDL ASN-DL** provides a common language to describe key features of credentials, credentialing organizations, competency frameworks, and quality assurance (QA) bodies based on the principles of Linked Data.



**Credential and Competency Framework Registry** continuously capture, connect, archive, and share metadata about credentials, credentialing organizations, QA bodies, and competency frameworks, supporting an open applications marketplace.



**Credential Finder** search app designed to demonstrate the power of the registry and foster a competitive apps marketplace.

**CREDENTIAL  
FINDER** BETA

Credential Registry, CTDL, and applications are open-source.



## TESTING PHASE AND LAUNCH DECEMBER 7, 2017

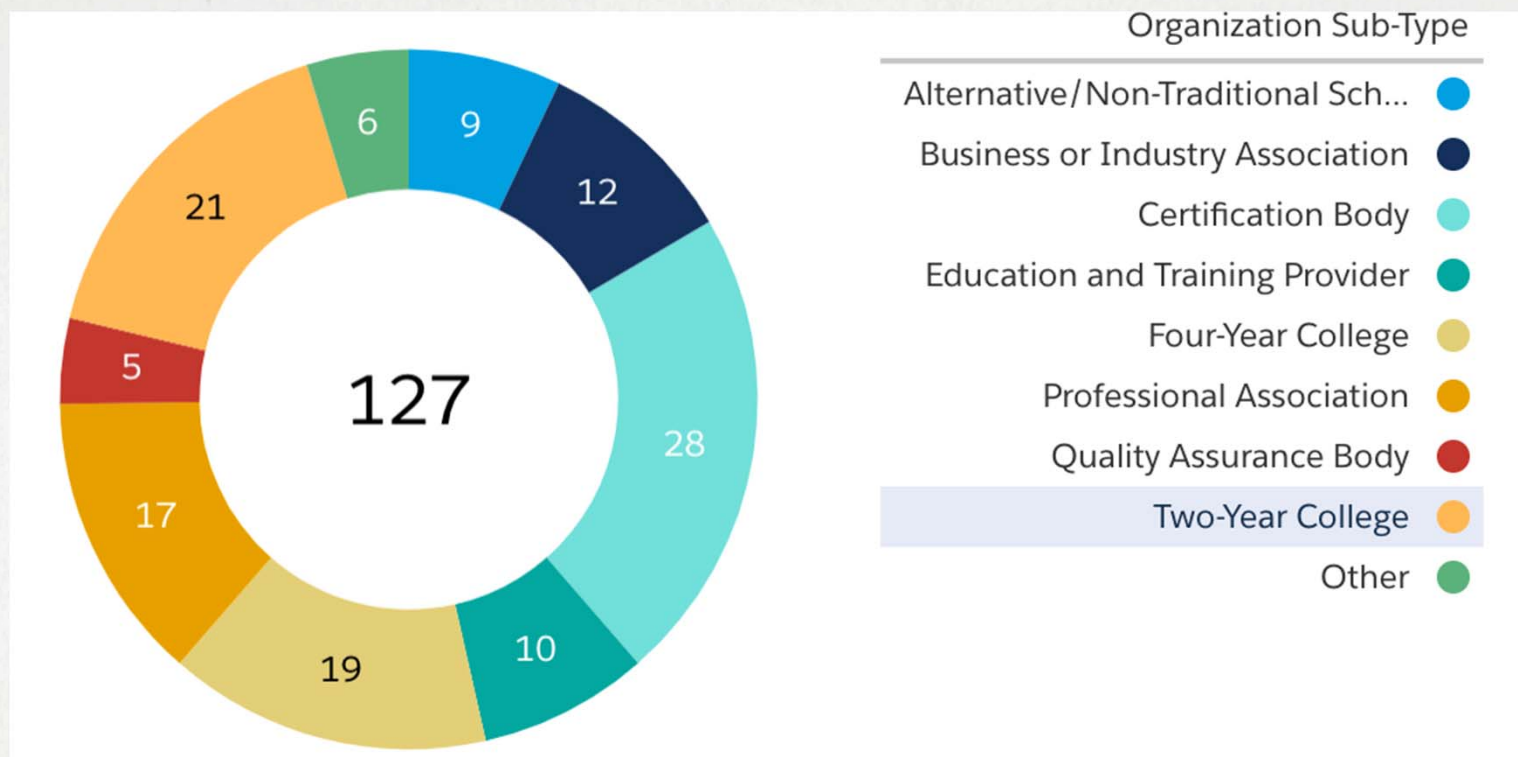
Currently, all work with Credential Registry participants is in a testing phase:

- Information is password protected as testing occurs and participant's credential information is in varying stages of being complete.
- The charts that follow show the representation of registry participant partners during the testing phase.

Beginning December 7, 2017 the production environment will be launched and all of the current participants and any credentialing organization or quality assurance organization can setup an account to request access to publish information to the Credential Registry.



## REGISTRY PARTICIPANTS BY TYPE WITH TESTING PHASE



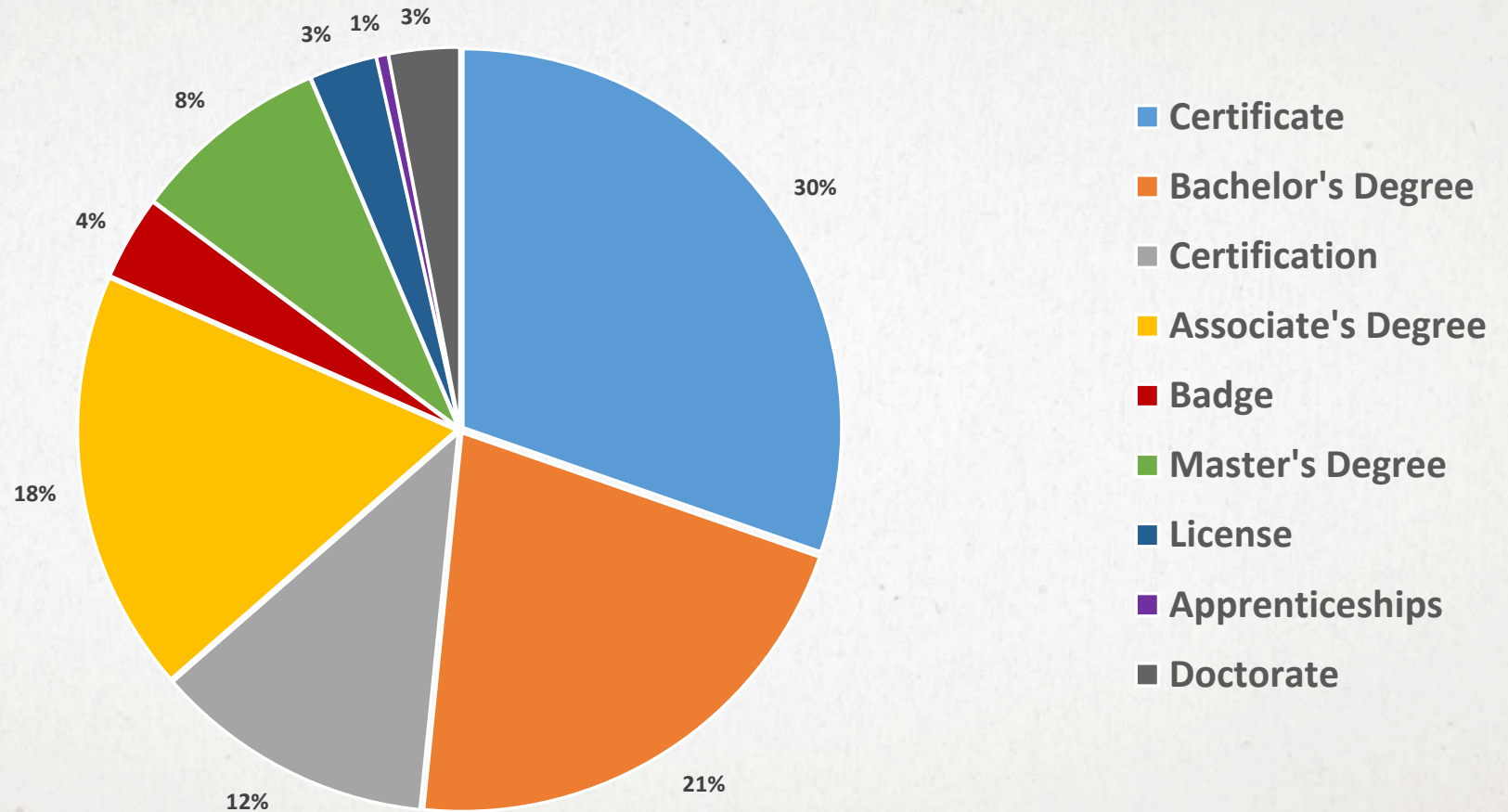
The above number does not include the credentialing organizations participating through our Indiana State project: approximately 33 additional organizations are involved in that project, including 22 institutions of higher education, 3 certification bodies, 5 licensing boards, and 3 QA bodies, and including two military training bodies.





# CREDENTIALS IN THE REGISTRY

Credentials as of October 23, 2017 (Total = 1398)



# CREDENTIAL TRANSPARENCY DESCRIPTION LANGUAGE (CTDL) EXAMPLES

## Declaring Name, Purpose, Type of Credential and Credentialing Organization

- Credentialing organization identification
- Credential organization type
- Credential identification
- Credential type
- Purpose of credential
- Where credentialing is offered
- Jurisdiction



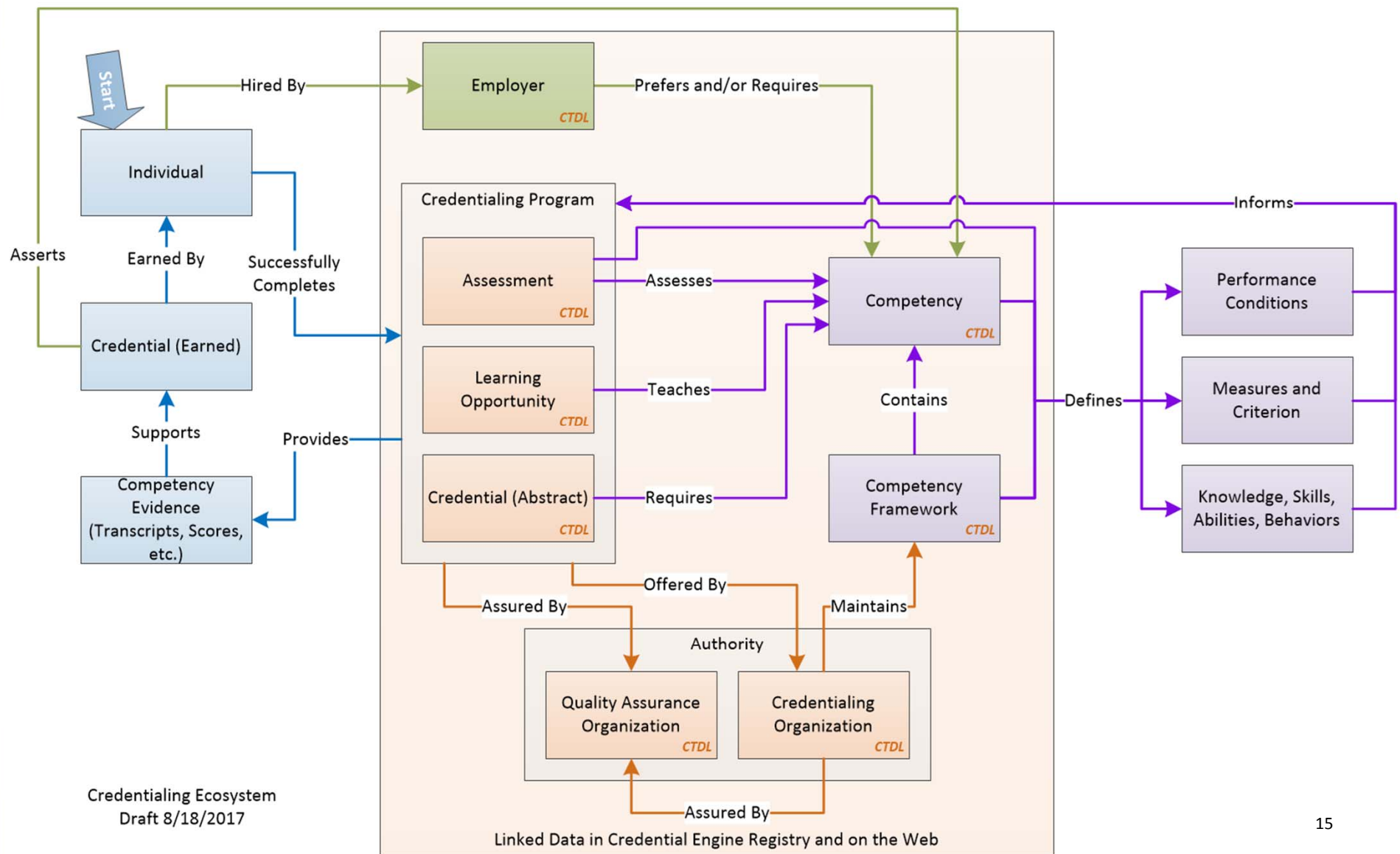
## Declaring What Is Inside the Credential

- Credentialing eligibility requirements
- Competencies/learning outcomes required to attain credential
- Assessments required to attain credential
- Education and training for the credential
- Time required to attain credential
- Credentialing costs
- Maintaining credential
- Credential removal
- Credential holder verification services
- Version management
- Employer engagement

## Declaring Other Key Characteristics and Connections

- Primary scope of application: subject/discipline area
- Primary scope of application: career preparation and advancement
- Role of occupational regulation and licensing
- Geographic portability of credential use
- Connections to other credentials
- *Career Pathway Connections\**
- External quality assurances
- Employer recognition
- *Number and characteristics of credential holders\**
- *Employment and earnings of credential holders\**

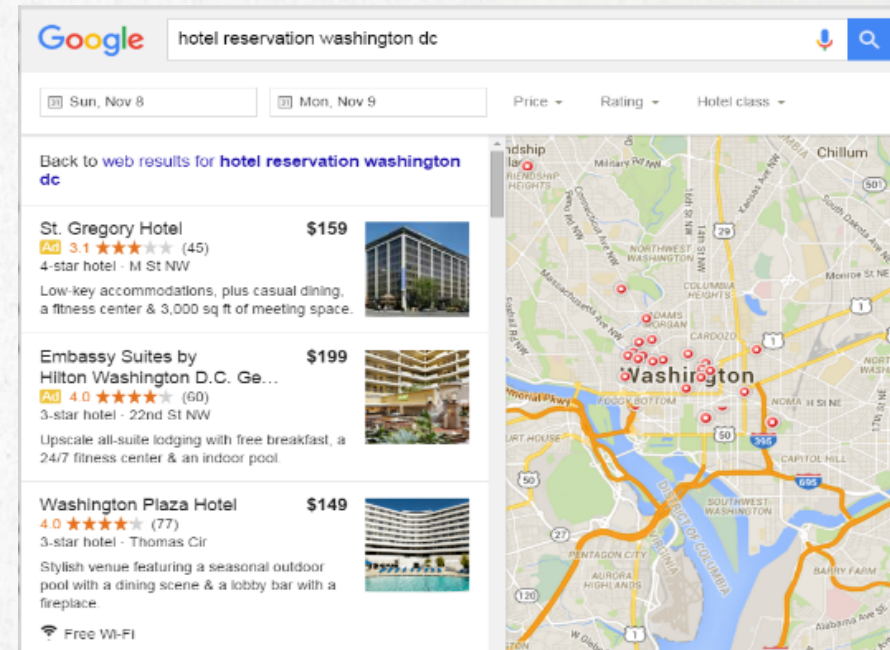
*\*Italicized descriptors are not yet in use*



# MOVING TO A WEB OF LINKED DATA: IMPROVING WEB FORMATS

World Wide Web is moving from a web of “linked” documents to “linked data.”

- Google, job and travel aggregators use common terminology (metadata) that has been accepted as web standard (e.g., Schema.org)
- Using consistent metadata for key features of credentials, the registry enables job seekers, students, workers, and employers to search for and compare credentials, just as travel apps are used to compare flights, rental cars, and hotels.





## CTDL2SCHEMA.ORG VISION

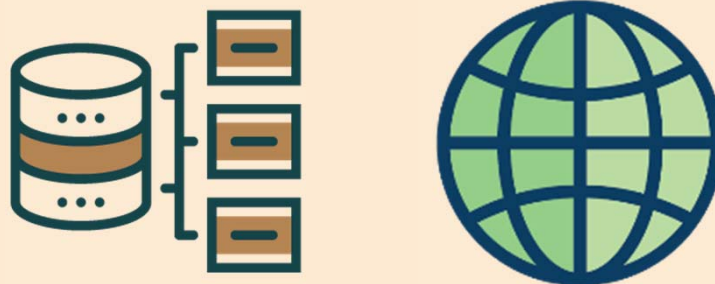
- Aim: the adoption by schema.org of (a few) additional terms from the CTDL that are necessary for search and discovery of credentials on the open Web.



- Why: schema.org is the largest repository of Linked Data terms in the world and is used by the major search engines such as Google.
- Ongoing discussions managed as github issues  
<https://github.com/CredentialEngine/CTDL2schema.org/issues>
- Start at selecting relevant use case outlines from the CTDL use cases  
<https://goo.gl/gqwYKB>



Goal: Linked Data in the Registry and on the Web.



## CREDENTIAL REGISTRY

The Credential Registry is for metadata about credentials and quality assurance:



- Requires an account to gain access.
- Uses a profile of the CTDL for validation for minimum requirements and data format.
- Provides a set of services for data quality and for getting data in and out.



## CREDENTIAL REGISTRY BOARD-APPROVED POLICIES

The Credential Engine Board approved to Credential Engine Registry Policies. The approvals were based on input from partners, and all 5 advisory groups <http://www.credentialengine.org/advisoryGroups>.



- Minimum Data Policy <http://credreg.net/registry/policy#mindata>
- Currency Policy <http://credreg.net/registry/policy#currency>





## OPTIONS TO PUBLISH CREDENTIAL INFORMATION TO THE REGISTRY



- CTDL Editor
  - Manual Entry: only recommended for small numbers of stable credential information, meaning the information doesn't change frequently.
  - Bulk Upload: Use CSV (e.g., spreadsheet) to upload when it's not possible to utilize API.
- Credential Registry Assistant API: Recommended option for structured data (e.g., data is, or can be, accessed via databases).
- Harvesting CTDL Structured Data: As a service, planning to get data that is formatted and available on the open web as CTDL structured metadata.



## GET DATA FROM THE REGISTRY

Systems and web applications can use the Registry search API to pull credential data from the registry:



- create new tools for a variety of audiences
- provide more information about credentials to existing systems and applications.



## VENDOR STRATEGY

The Credential Engine (CE) team has identified several vendors and has started conversations with them about using the CE technologies and offering services for publishing and/or consuming data from the Credential Registry.

Identify predominant vendors serving credentialing organizations:

- Initially, two segments
  - Web content management systems for all credentialing organizations
  - Related and more specialized higher education systems holding CTDL-related data





The Credential Finder search app demonstrates the benefits of common terms and comparable information.

Search

Credentials

For

Start typing to search...

Q Search

+ Filters


⌂

Found 1355 results

Sort A-Z

List

Map



Certification  
+ Badge Issued

### 21st Century Skills for Workplace Success

NOCTI

The 21st Century Skills for Workplace Success credential is a NOCTI industry-based credential measuring the skills and critical knowledge employers have indicated are necessary for success in the workplace. This credential is aligned with the Employability Skills Framework published by Office of Career and Technical Adult Education. This online assessment can be used at the secondary, post-secondary, and adult levels and is tied to the NOCTI Workforce Competency Credential. Individuals meeting a minimum benchmark also have the opportunity to earn college credit. More specific information about the standards and competencies measured can be found in the Assessment Blueprint at: <http://nocti.org/blueprint.cfm>.


4 Quality Assurance

4 Levels

19 Subjects

62 Competencies

Compare



Associate's Degree

### A.A. in Criminal Justice and Criminology

University of Saint Francis


The Criminal Justice and Criminology program is a career-focused degree with a strong liberal arts foundation. The core focuses on social justice, criminal justice, victimology, and criminology and incorporates the closely connected fields of Sociology and Social Justice as well as Political Science. The required Sociology and Social Justice core and the Political Science core provides students the opportunity to double major in either Sociology and Social Justice or Political Science. The generous amount of electives also allows students to pursue a double major or minor in a complementary field. Graduates generally enter careers in law enforcement, criminal investigation, corrections, court administration and victim services, often gaining employment with government agencies. Others continue to graduate school and seek opportunities in law, education, counseling, or research.

Ball

Delete

Register

Compare



Associate's Degree

### A.A. in Dance

University of Saint Francis


The Associate of Arts in Dance program features a sound liberal arts core curriculum with a full range of dance styles that complement the essential basics of classical ballet. The Fort Wayne Ballet Conservatory of Dance at the University of Saint Francis is an exciting partnership between USF and Fort Wayne Ballet.

Ball

Delete

Register

Compare



Associate's Degree

### A.A. in Graphic Design

University of Saint Francis

The Associate of Arts in Communication Arts and Graphic Design program will provide you with working knowledge in a specific concentration. You will be required to complete 69 credit hours and will have the option of pursuing a concentration in computer graphics, illustration, photography or web design.

Ball

Delete

Register

Compare

0 Credentials

0 Organizations

0 Assessments

0 Learning Opportunities

Toggle Details

Compare Selected



## CREDENTIAL ENGINE

Contact the Credential Engine team to learn more and include your credentials in the Credential Registry

<http://credentialengine.org/contact>

- Credential Engine <http://credentialengine.org>
- Use the Credential Engine schemas and technologies <http://credreg.net>
- Subscribe to receive updates <https://credentialengine.org/articles>
- Join the Technical Advisory Committee (TAC) <https://credentialengine.org/contact>





# IMS GLOBAL

## Skills, Competencies and Digital Credentials

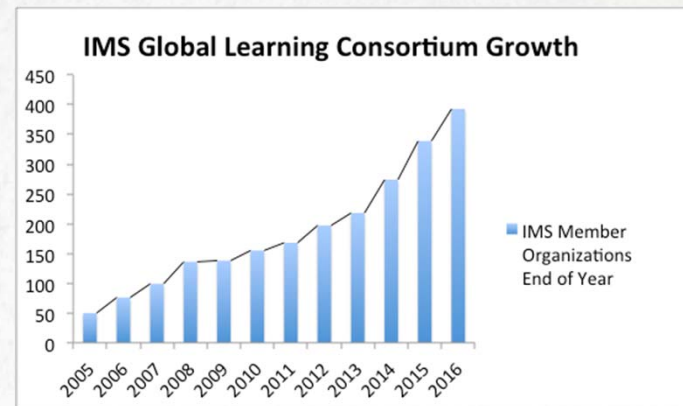
- The Foundation for Learner-Centered Programs

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Vice President, Product Management  
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# IMS Global Learning Consortium

- International non-profit Education Technology collaborative
- **430+ members** (and growing) representing higher education institutions, state educational agencies, school districts, and Ed-Tech suppliers
- Mission to advance technology for teaching and learning that can affordably scale, improve educational participation and attainment



# IMS Global Learning Consortium

AACRAO	Learning Counsel
Bill & Melinda Gates Foundation	Mozilla Foundation
Collective Shift	Online Learning Consortium,
Connecting Credentials	PARCC
CoSN	Quality Matters
Credential Transparency Initiative	Right Signals
Ed-Fi	SBAC
EDUCAUSE	SETDA
Internet2	Unizin
ISO/IEC	WCET
ISTE	WIDA

## Partnering with Leading Advocacy Organizations





# IMS Global Learning Consortium

- Over **115 leading HED institutions** (and growing), including 13 of the top 100 ranked institutions worldwide
- **100+ school districts** and states: 12 of the largest 25, 30 of the largest 100 districts in the US, and 45 states are leading efforts in the IMS Global Learning Consortium
- **181 HED suppliers worldwide**



# IMS Core Initiative Areas



### Key to IMS Interoperability Standards Shown

- CAL - Caliper Learning Analytics
- CASE - Competency and Academic Standards Exchange
- CC - Common Cartridge content package
- eT - Extended Transcript
- LIS - Learning Information Services
- LTI - Learning Tools Interoperability
- OB - Open Badges
- OR - OneRoster
- QTI - Question-Test Interoperability





# IMS Standards



COMMONCARTRIDGE®



CALIPERANALYTICS®

QUESTION and TEST INTEROPERABILITY®

OPEN BADGES

EXTENDED TRANSCRIPT

COMPETENCIES and ACADEMIC STANDARDS EXCHANGE





Search Parameters - Total Products: 408

Search by Supplier

Enter product name

Search by Registration Number

# IMS Tests and Certifies Products for Interoperability

☐ Compare Against Baseline ?

COMPARE PRODUCTS

Apply

Reset

IMS Standards



Product Category



Audience



 **eSync Training**  
Product:  
**Adobe Connect LMS  
LTI By eSyncTraining  
V1.7.6**  
LTI V1.0 Certified

 **Agilix Labs, Inc.**  
Product:  
**Agilix Learning  
Services 2010.3**  
LTI V1.0 Certified  
CC V1.0 Certified


 **Agilix Labs, Inc.**  
Product:  
**Agilix Learning  
Services 2012.1**  
LTI V1.1 Certified

 **Australian Institute  
of Higher Education**  
Product:  
**AIH Learning Portal  
V1.1**  
LTI V1.0 Certified

 **American University  
in the Emirates**  
Product:  
**Akademia V1.1**  
LTI V1.0 Certified  
LTI V1.1 Certified

 **McGraw-Hill  
Education**  
Product:  
**ALEKS 2012.3.26**  
LTI V1.1 Certified

 **McGraw-Hill  
Education**  
Product:  
**ALEKS 2012.2.7**  
LTI V1.0 Certified

 **Blackboard, Inc.**  
Product:  
**Blackboard Learn  
(SaaS) September  
2017**  
LTI Content Item

 **Apex Learning**  
Product:  
**Apex Learning LTI  
V1.0**  
LTI V1.0 Certified

FIRST

PREVIOUS 1 2 3 4 5 6 7 8 9 ...

NEXT

LAST



# Skills, Competencies and Digital Credentials



# Challenges Managing Competencies

- Existing course-based technology platforms were **not designed to capture and manage skills** and competencies<sup>(1)</sup>
- Organizations resort to managing competencies with **spreadsheets – not a scalable solution**
- IMS has published CASE™ - a **open data standard** for **managing competency** and skills-based learning models

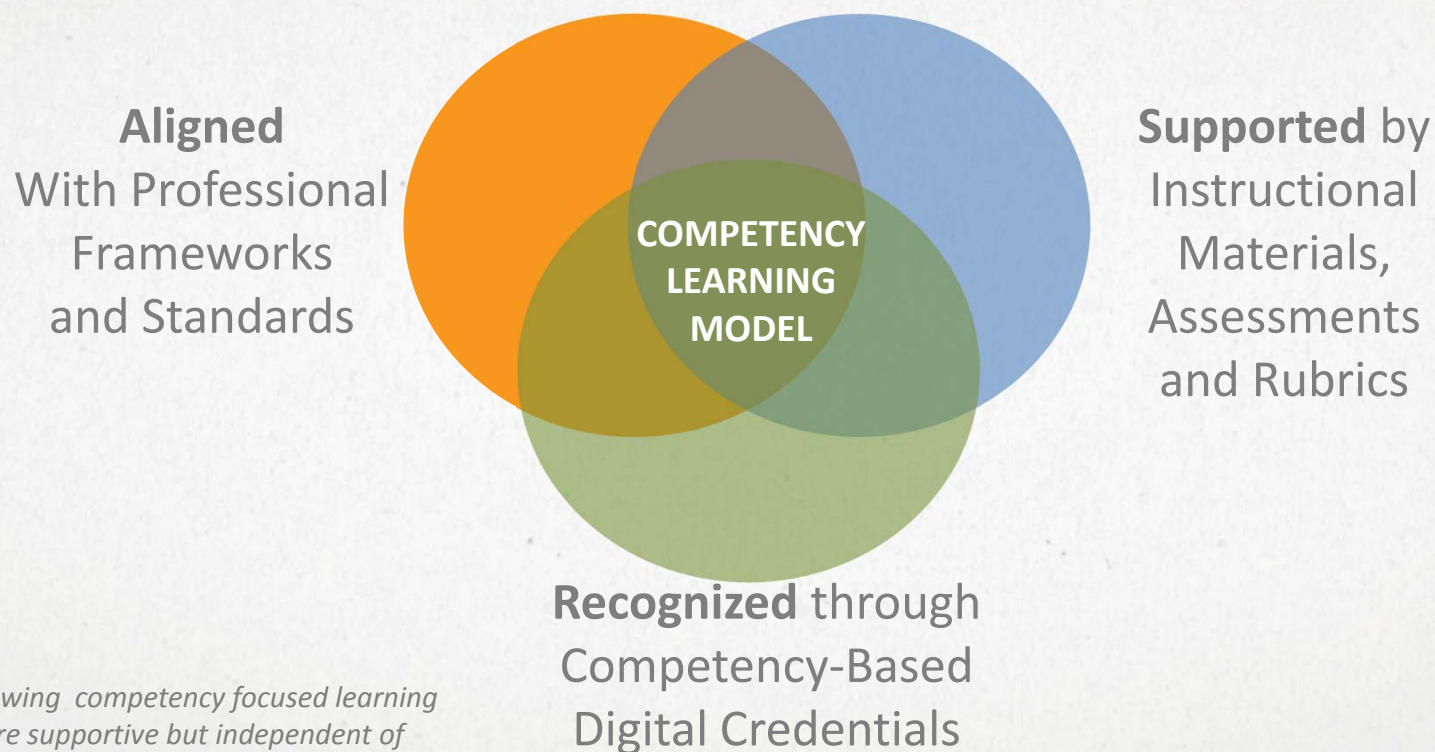
(1) C-BEN TIP Project in Educause Review: [Competency-Based Education: Technology Challenges and Opportunities](#).





# An Open Competency Standard

Using IMS' Competency and Academic Standards Exchange (CASE)



*Note: growing competency focused learning models are supportive but independent of formal "Competency Based Education"*





# Competencies and Academic Standards Exchange™ (CASE™)

## Competencies



## Rubrics



## Relationships Among Standards



The CASE standard has three component types



# Interoperable Competency Data

- CASE defines how competency statements are **formatted** and exchanged digitally
- Supports **alignment** with courses, external frameworks
- **Issuing organizations** have complete control over curriculum terminology and hierarchy

## Competencies



Quick Reference: Georgia Department of Education:  
<https://case.georgiastandards.org/cftree/doc/365>



# Interoperable Mastery Rubrics

- CASE connects standards and competencies to **performance criteria**
- Provides the way to transmit **rubrics** between different products and platforms

## Rubrics



# Alignment and Equivalency

- CASE describes **relationships between competencies**, e.g.  
"Precedes", "Is Related To"  
"Is Part of", "Same as", ...
- CASE links your curriculum elements to **standards and other professional frameworks**

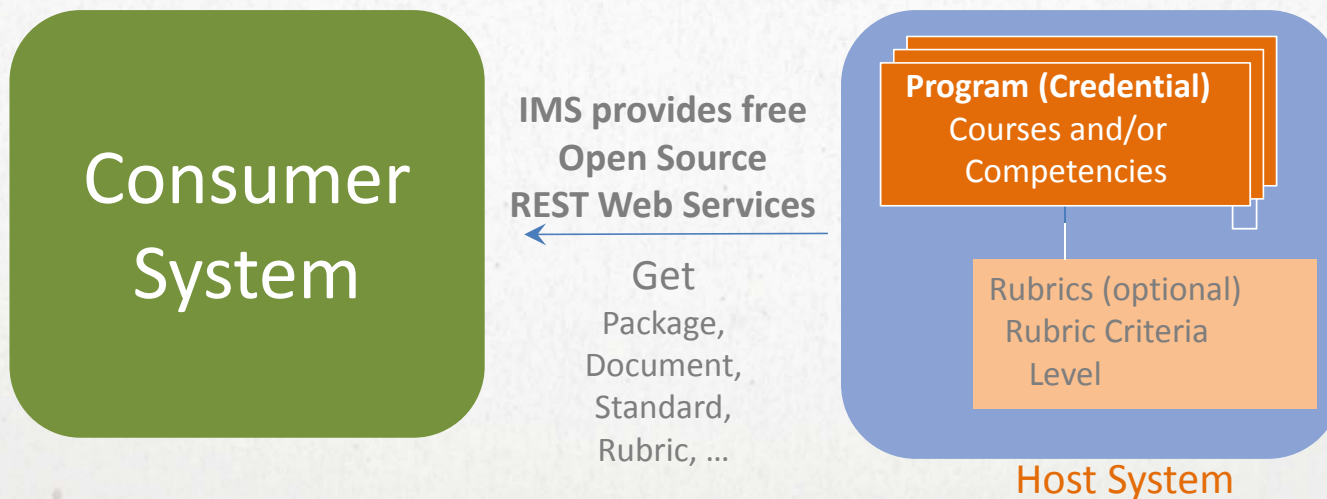
## Relationships







# CASE Supports Multiple Use Scenarios

CASE Standard Element	Example HED Implementation	K12 Implementation	Employer Implementation
Document	Credentialed Program	Academic Standards	Job Requirements
Item	Course or Competency		
Relationship	Is child, is parent,...		
Rubrics, Criteria, Criterion Levels			




# Credentialed Program - BSN

OpenSalt.org – Free Open Source Data Management PortalSign in

**Bachelor of Science in Nursing (BSN)**Tree ViewAssociation View

Search...

- ▼ Bachelor of Science in Nursing (BSN)
  - PO1 Health Assessment
  - PO2 Safety and Quality Practices
  - PO3 Nursing Research and Informatics
  - PO4 Policy, Finance, and Regulations
  - PO5 Communication
  - PO6 Organizational and Systems Management
  - PO7 Health Promotion and Disease Prevention
  - PO8 Diversity
  - PO9 Professional Role
  - PO10 Global Accountability and Public Service

**PO1 Health Assessment**

**Full Statement:** Health Assessment: Conduct comprehensive and focused assessments of health and illness parameters in individuals, groups, and vulnerable populations


**Education Level:** BA

**Type:** Program Outcome

[More Info](#)

Is Child Of


Document: Bachelor of Science in Nursing (BSN)

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[About OpenSALT](#)




# Supports Courses and Competencies

**PCG Education** OpenSalt.org – Free Open Source Data Management Portal [Sign in](#)

**BSN-FP4001 - Orientation to Baccalaureate Nursing** [Tree View](#) [Association View](#)

- BSN-FP4001 - Orientation to Baccalaureate Nursing
  - Evaluate scholarly nursing literature that supports evidence-based nursing practice
  - Explain ways to promote safe, quality, evidence-based care to populations and communiti...
  - Identify information management tools and technologies to monitor and improve outcomes
  - Communicate in a manner that is consistent with expectations of nursing professionals**


**Communicate in a manner that is consistent with expectations of nursing professionals**

**Full Statement:** Communicate in a manner that is consistent with expectations of nursing professionals

**Education Level:** BA


**Type:** Competency

[More Info](#)

**Is Part Of** 

**PO5 Communication:** Communicate effectively with all members of the healthcare team, including interdepartmental and interdisciplinary collaboration for quality outcomes

**Bachelor of Science in Nursing (...)**

**Is Related To** 

**KN2 Level Two** **Beta Credentials Framework**

**Is Child Of**

[About OpenSALT](#)





# K12 CASE-compliant Curriculum

## Mathematics Georgia Standards of Excellence - 2017

- Mathematics Georgia Standards of Excellence - 2017
  - Advanced Mathematical Decision Making
  - Mathematics of Industry and Government
  - Mathematics of Finance
  - Multivariable Calculus
    - Algebra
    - Derivatives
    - Integration
    - Differential Equations
      - Students will explore solution methods of linear differential equations.
        - MMC.DE.1 Students will use, apply, and solve linear first-order differential equations.**
          - MMC.DE.1.a Solve linear first-order differential equations of the form  $y' + p(x)y = q(x)$ .
          - MMC.DE.1.b Solve homogeneous linear first-order differential equations using a substitution.
          - MMC.DE.1.c Solve Clairaut equations.
          - MMC.DE.1.d Explore the concepts of families of solutions and envelopes.
          - MMC.DE.1.e Write linear first-order differential equations that represent real-world phenomena and solve them, such as exponential growth and decay.
          - MMC.DE.1.f Students will solve linear second-order differential equations of the form  $y'' + p(x)y' + q(x)y = r(x)$ .

**MMC.DE.1** Students will use, apply, and solve linear first-order differential equations.

**Full Statement:** Students will use, apply, and solve linear first-order differential equations.

**Education Level:** 12

Is Parent Of

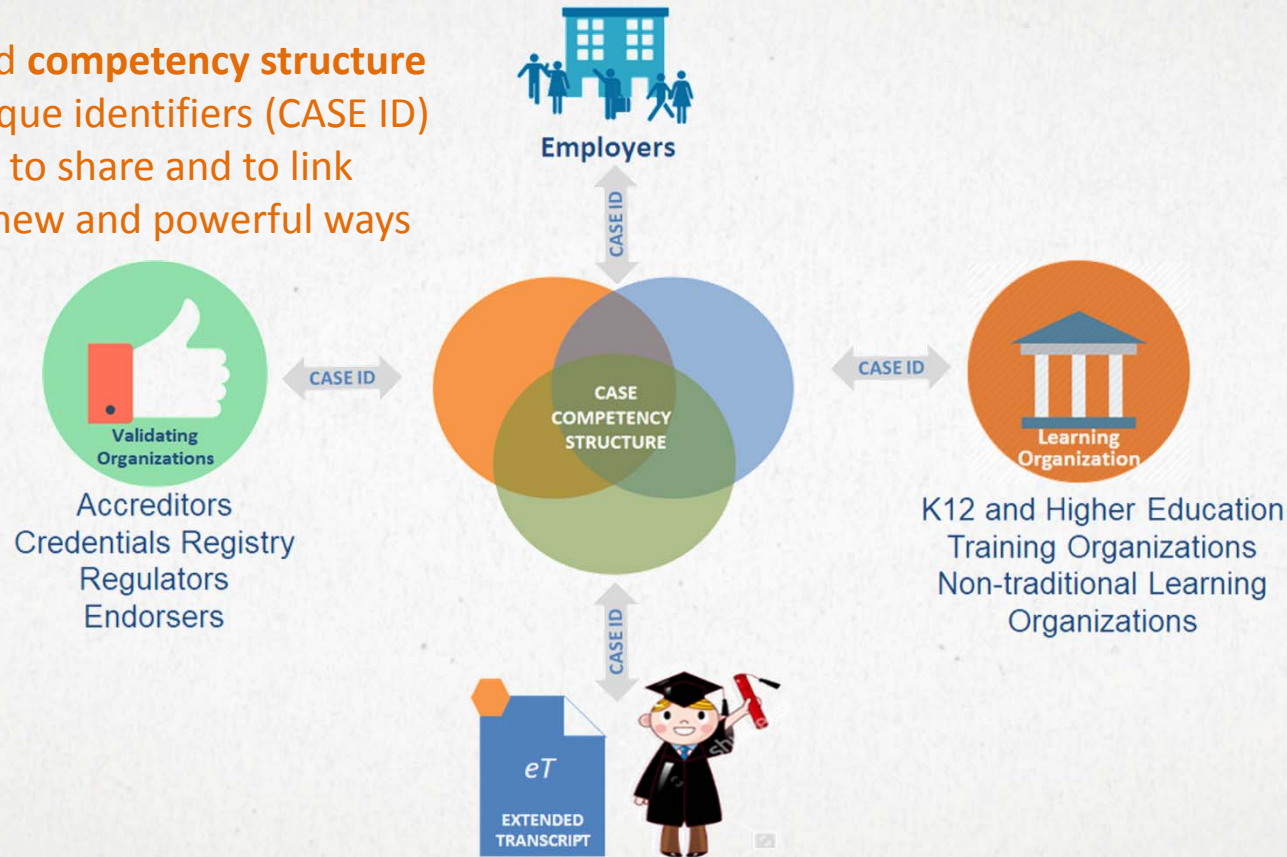
- MMC.DE.1.a Solve linear first-order differential equations of the form  $y' + p(x)y = q(x)$  using an integrating factor.
- MMC.DE.1.b Solve homogeneous linear first-order differential equations using a substitution.
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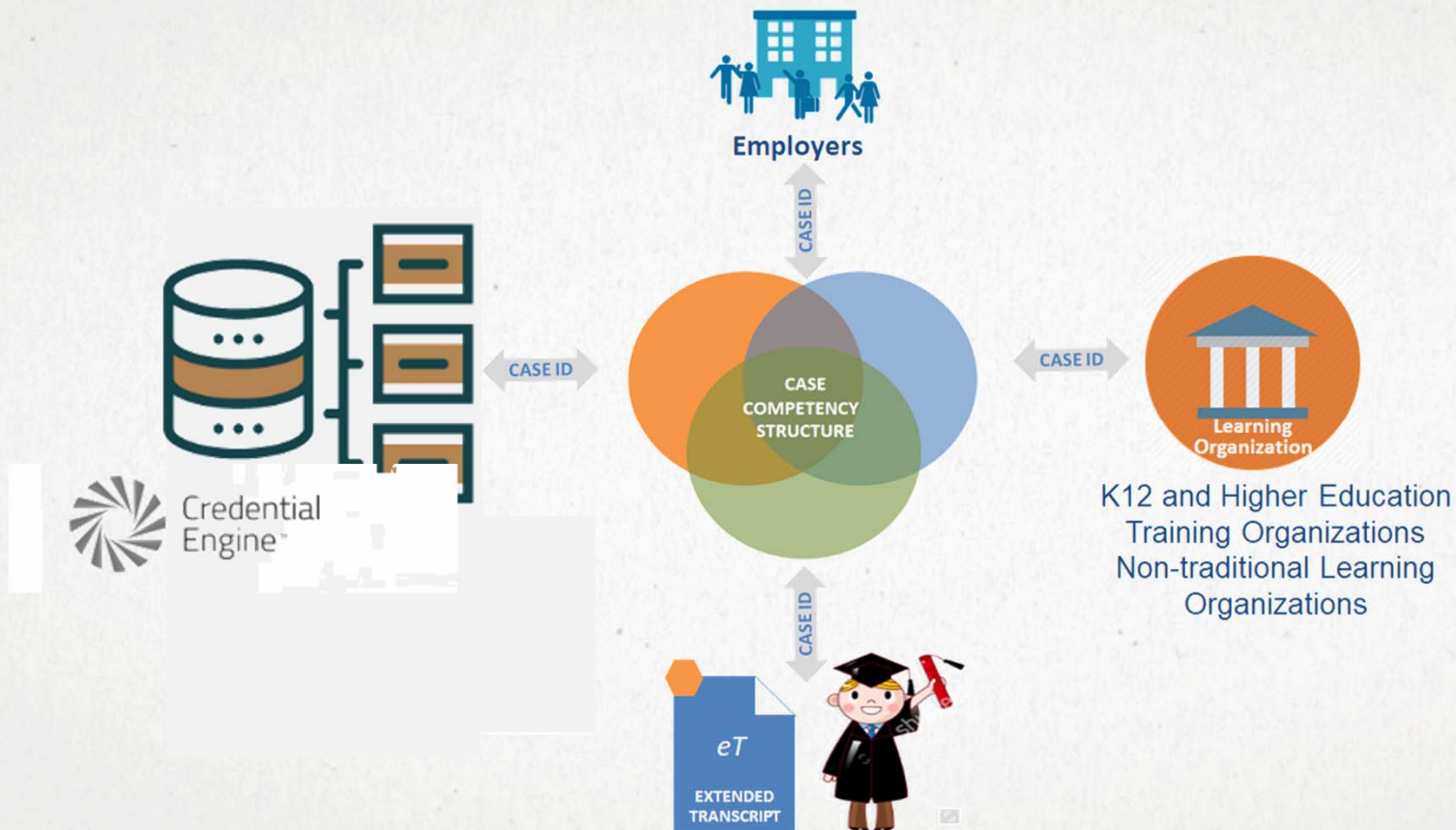


# CASE Enables Alignment

A standards-based **competency structure** using globally unique identifiers (CASE ID) provides a means to share and to link competencies in new and powerful ways



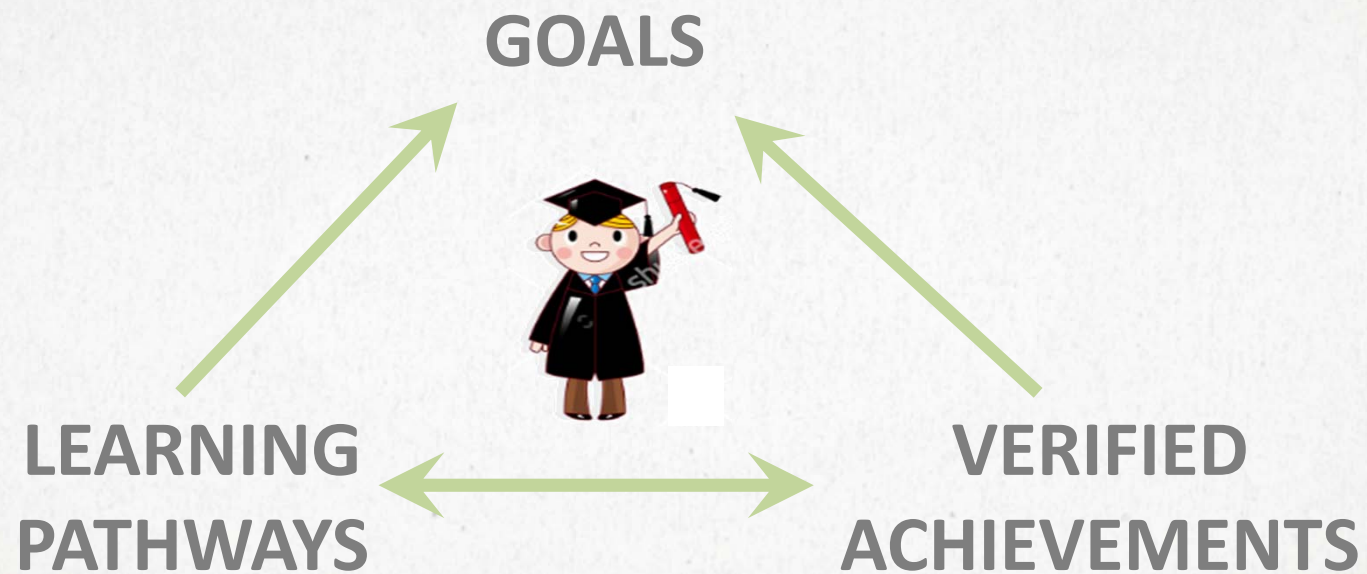
# CASE Enables Alignment



# Digital Credentials



# IMS Vision for Digital Credentials





# IMS Vision for Digital Credentials

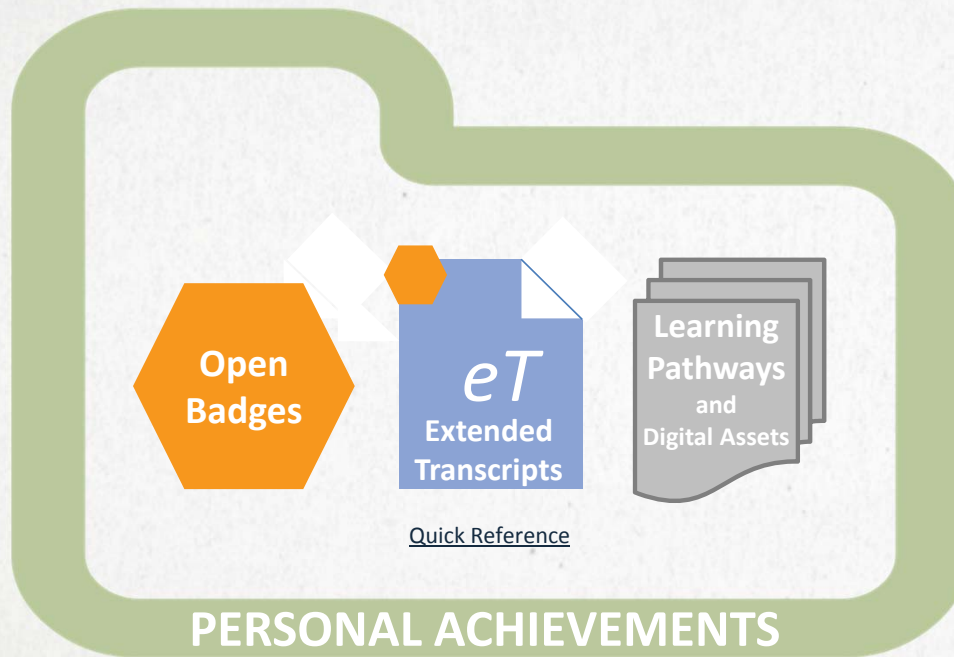


# Digital Credentials are for Sharing

- Learner's knowledge, skills and abilities are their **valuable assets** to leverage and to
- **Share** with the **learner**, other **institutions** and critically, **employers**
- Modern linked-data structures can be **mined** in support of 'talent search and acquisition'



# Four Digital Components



Applicable Technology Standards

**Open Badges**

**Extended Transcripts\***

Learning Pathways

Personal Achievements  
“Folder”

Bolded items are existing published standards,  
others specifications are underway.

\*The Extended Transcript is also known as a Comprehensive Student Record (CSR) or Digital Learning Record



# Open Badges





# Open Badges

- **Proven** vehicle for communicating skills
- **Portable** and controllable by the learner
- **Scalable**
- **Verifiable** via automated means: e.g. http and Blockchain
- **Capable** of encapsulating high-quality credentials like extended transcripts





## Madison College Continuing Education



### Medical Nutrition Therapy 1 Course

Part of the Dietary Manager Certification, this course reviews the medically prescribed diets needed for specific disorders/diseases. Diets for medical conditions such as diabetes mellitus & cardiovascular disease are examined. Nutritional assessment techniques are introduced to evaluate dietary changes needed to manage weight & disease processes.



This badge is issued by Madison College Continuing Education

#### SKILLS

- Dietary Manager
- Dietary Manager Certificate
- Diets For Cardiovascular Disease
- Diets For Diabetes Mellitus
- GI Disease State Diets
- GI Progression Diets
- Medical Nutrition
- Medical Nutrition Therapy
- Medically Prescribed Diets
- Modified Diet Menus
- Nutritional Assessment Techniques
- Weight Management

#### WHAT IT TAKES TO EARN THIS BADGE

- Master nutrition concepts
- Thorough understanding of health conditions and related diet planning
- Identify disease states that affect the GI system
- Plan GI progression diets
- Plan modified diets
- Address specialized nutrition needs of diabetics

[View Additional Information](#)

#### STANDARDS

- ✓ ANFP Practice Standards: Menu Planning, Calories, and Portion Sizes
- ✓ ANFP Practice Standards: Documenting Fluid Intake
- ✓ ANFP Practice Standards: Documenting in the Medical Record

*There are many excellent examples of Open Badge Programs making a difference today, for example Madison Technical College in Wisconsin*





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- ✓ ANFP Practice Standards: Documenting Fluid Intake
- ✓ ANFP Practice Standards: Documenting in the Medical Record

Clear **description**  
and enumeration of  
relevant **skills**.







## Medical Nutrition Therapy 1 Course

Part of the Dietary Manager Certification, this course reviews the medically prescribed diets needed for specific disorders/diseases. Diets for medical conditions such as diabetes mellitus & cardiovascular disease are examined. Nutritional assessment techniques are introduced to help the student understand how to manage weight & disease processes.

This badge is issued by Madison College

### SKILLS

- Dietary Manager
- Dietary Manager
- Diets For Diabetes Mellitus
- Diets For Diabetes Mellitus
- Medical Nutrition Therapy
- Medical Nutrition Therapy
- Nutritional Assessment Techniques
- Nutritional Assessment Techniques

### WHAT IT TAKES TO EARN THIS BADGE

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[View Additional Information](#)

### STANDARDS

- ANFP Practice Standards: Menu Planning, Calories, and Portion Sizes
- ANFP Practice Standards: Documenting Fluid Intake
- ANFP Practice Standards: Documenting in the Medical Record

Detailed criteria to earn the badge







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- Diets For Diabetes Mellitus
- GI Disease State Diets
- GI Progression Diets
- Medical Nutrition
- Medical Nutrition Therapy
- Modified Diet Menus
- Nutritional Assessment

### WHAT IT TAKES TO EARN

- Master nutrition
- Thorough
- Identify
- Plan GI pro
- Plan modified
- Address spec

[View Additional Information](#)

### STANDARDS

- ✓ ANFP Practice Standards: Menu Planning, Calories, and Portion Sizes
- ✓ ANFP Practice Standards: Documenting Fluid Intake
- ✓ ANFP Practice Standards: Documenting in the Medical Record

Aligned to industry standards



# Extended Transcript

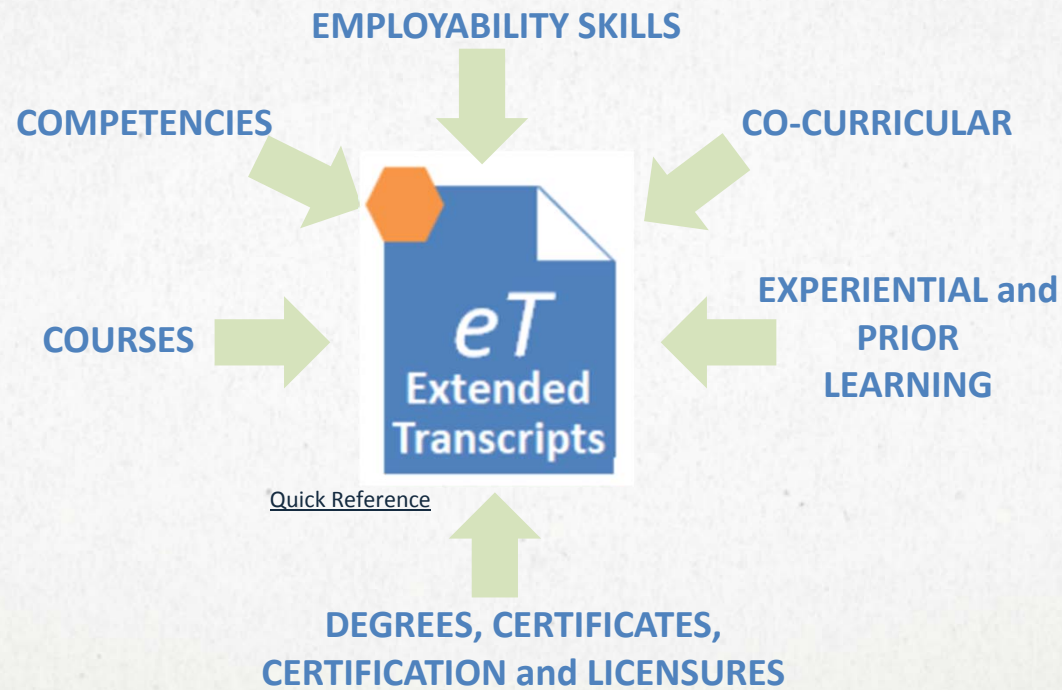


# Extended Transcripts (*eT*)

- Supports **stackable micro-credentials** and **more complex** competency and program models beyond badges
- Not all skills are badged, but all **verified skills and achievements** should be captured, managed and leveragable by the learner
- eT is a **complement** and **extension** to Open Badges
- eT can be linked **via an Open Badge** and eT can contain Open Badges



# Extended Transcripts






# Relationship with Credential Registry


Each **type of credential** is registered as one entry in the Credential Registry, e.g. Associate of Science in Forensic Science



# Phase I Pilot Project – UMUC

**UMUC**  
University of Maryland  
University College

*In 2016 UMUC conducted an Extended Transcript pilot for 1400 graduate students with excellent results. See [www.imsglobal.org/et](http://www.imsglobal.org/et)*

  
Learner id: 00023451  
Status as of: 11/21/2016

**OFFICIAL TRANSCRIPT** ⓘThis is an official transcript.  
Learner information is guaranteed unaltered from the source.**MASTERS OF BUSINESS ADMINISTRATION**

Develop and recommend strategies for an organization's sustainable competitive advantage.

In-Progress

Evidence (1)

- Apply security principles to improve security throughout the system.
- Describe basic models and methodologies of systems life cycle.
- Describe the elements of a maturity model.
- Describe the phases of the system life cycle.
- Interpret and apply concepts of at least one development methodology.

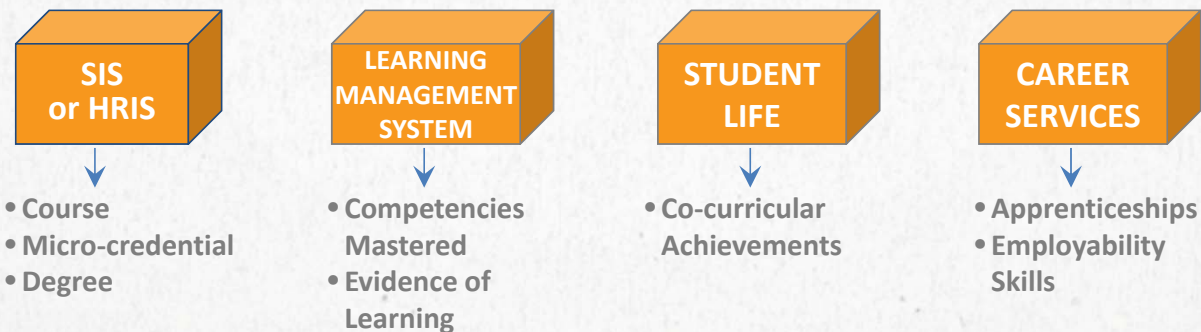
**Situation Audit Report**  
Exceeds Performance Requirements  
Sep 8, 2016

✓



# Challenges in Phase I

Achievements and skills have **many data sources** in the institution or organization



Making learner's achievements **difficult to manage and share** in useful ways



# Conclusions from eT Phase I

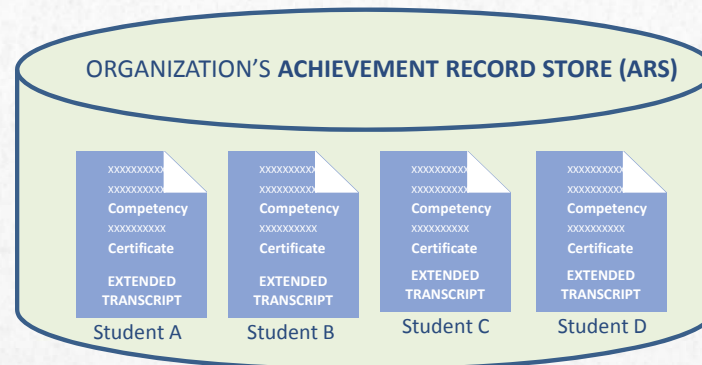
- Organizations **need a place to store and manage** their learner's achievements beyond courses
- Once collected, the **achievement records** form a **valuable repository** of learner knowledge, skills and achievements
- Standardized achievement records can be **leveraged at scale**





## What If...

Institutions captured learners' verified knowledge, skills and achievements in ways that could **help the learner in their employment search?**



Vision of Phase II *eT* project, an et-based "Achievement Record Store"

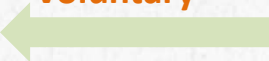


# SkillsCenter™ Search

SkillsCenter Search is a pilot program now being organized with University of Wisconsin Extension that provides anonymous, secure and blind talent search for employer platforms



- Secure
- Anonymous
- Voluntary



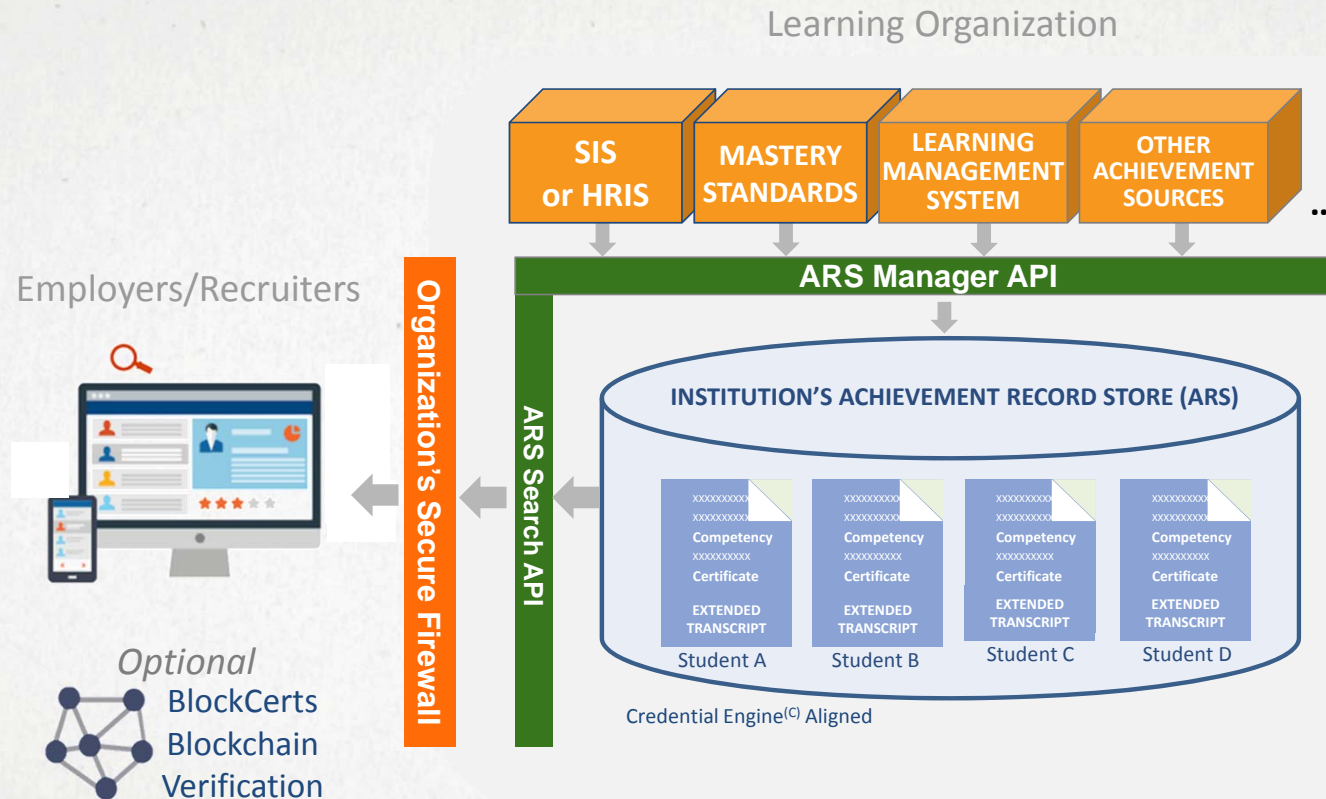
University  
of  
Wisconsin  
Extension  
Career  
Services



eT achievement records are **searchable**.



# SkillsCenter Search™ Architecture



eT achievement records are **verifiable**



# BlockCerts Extension

- Blockchain is a promising method to verify issuance when issuer-based verification\* is not available
- **Open Badge extension** for BlockCerts is in progress within IMS' OB working group
- Will be made available open source for use by product suppliers and institutions to verify the authenticity of issued credentials

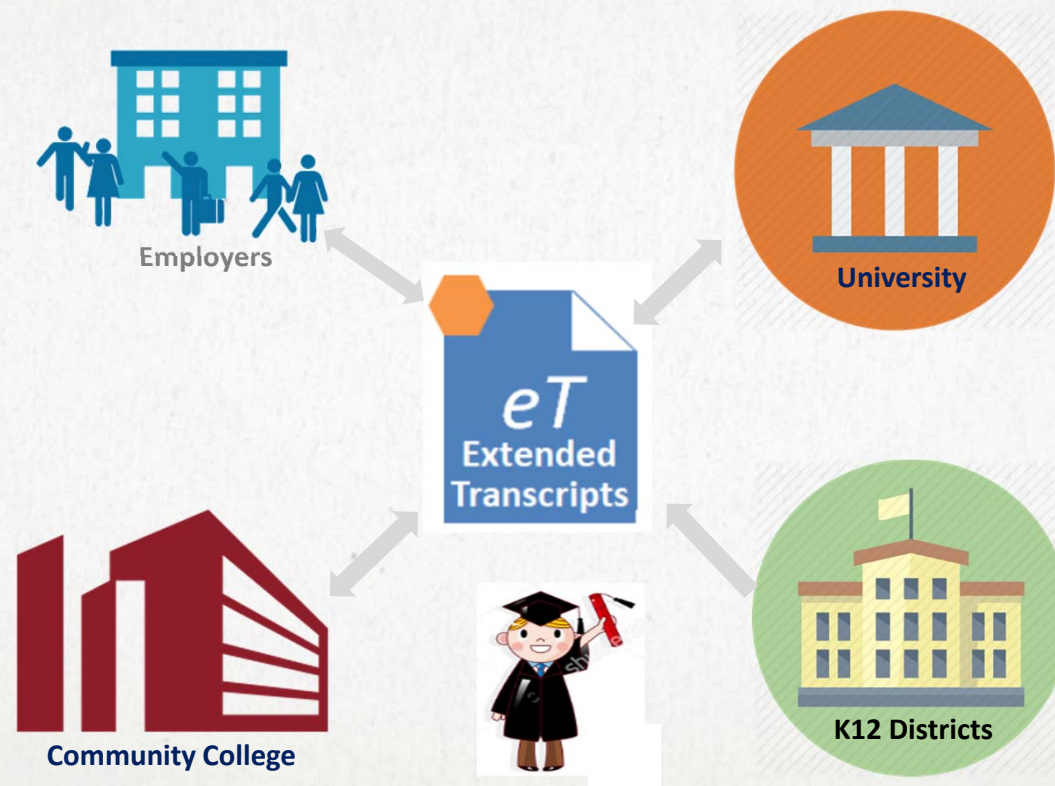
\*Open Badge display standards currently provide for real-time verification with the issuer



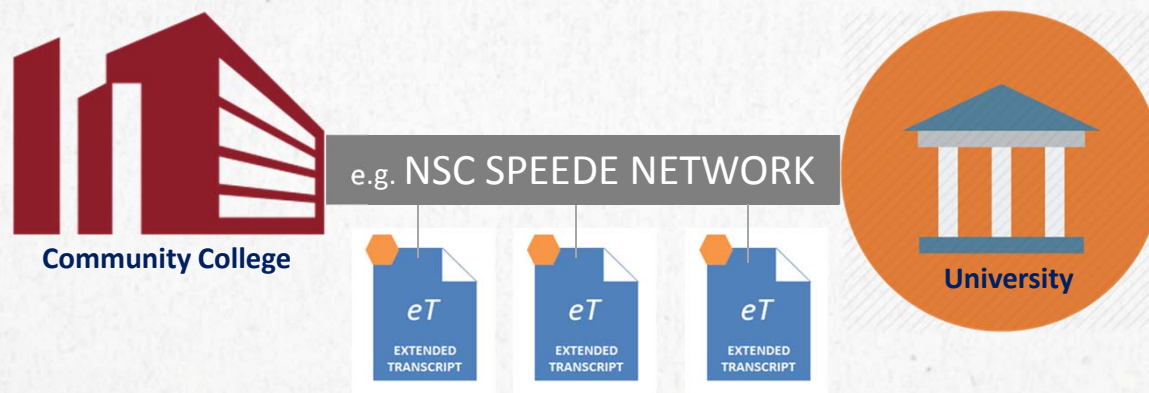


# eT Records are Transportable

Formal, informal and employer-centered learning

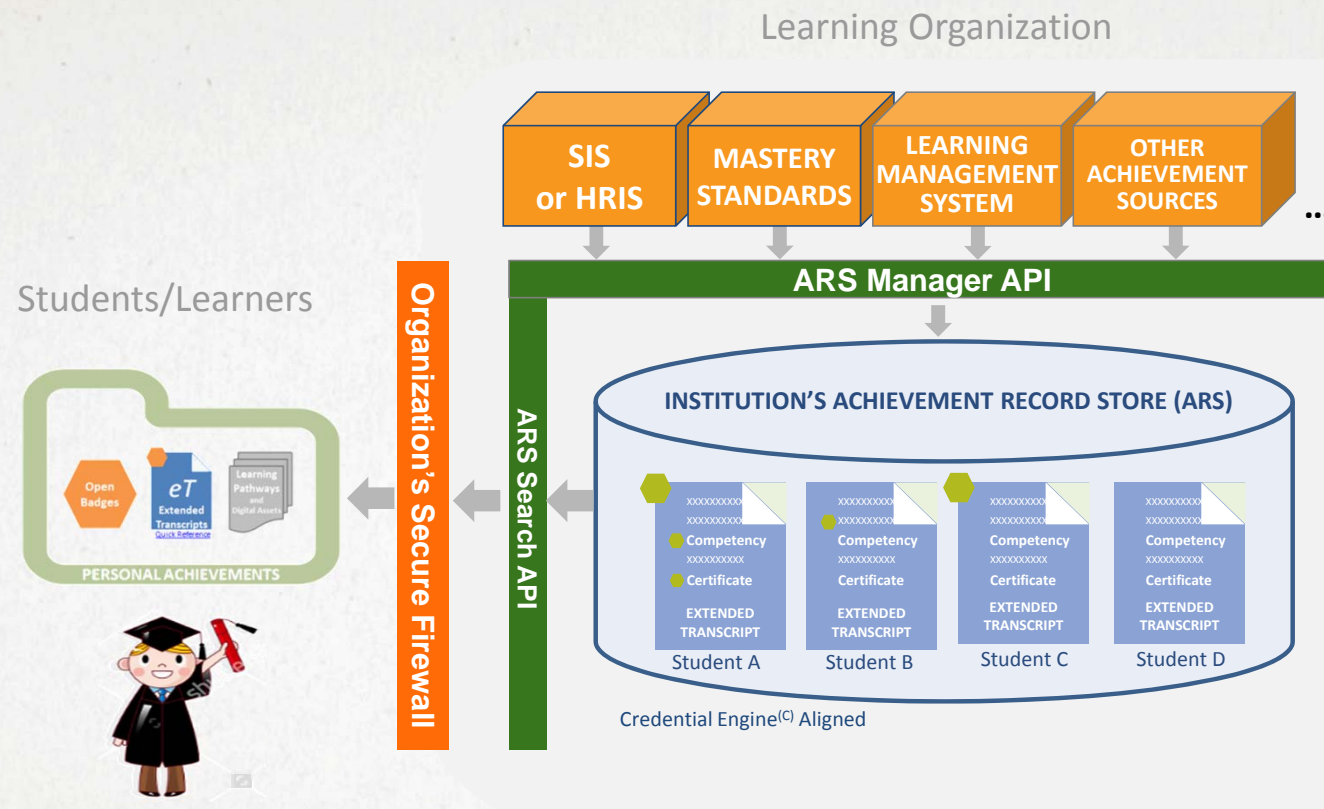


# Portable and Transferrable using Institution's Existing Transport Networks



# Personal Achievements





eT achievement records are **portable**





# Personal Achievement Records



- Learner Controlled
- Free and Universal
- Personal and securable
- Curatable into verifiable resumes

## Vision:

A learner's securable **personal collection of their digital credentials and assets**, manageable online or offline, untethered from a commercial platform but **interoperable** with any commercial platform



# Leveraging Verified Personal Skills

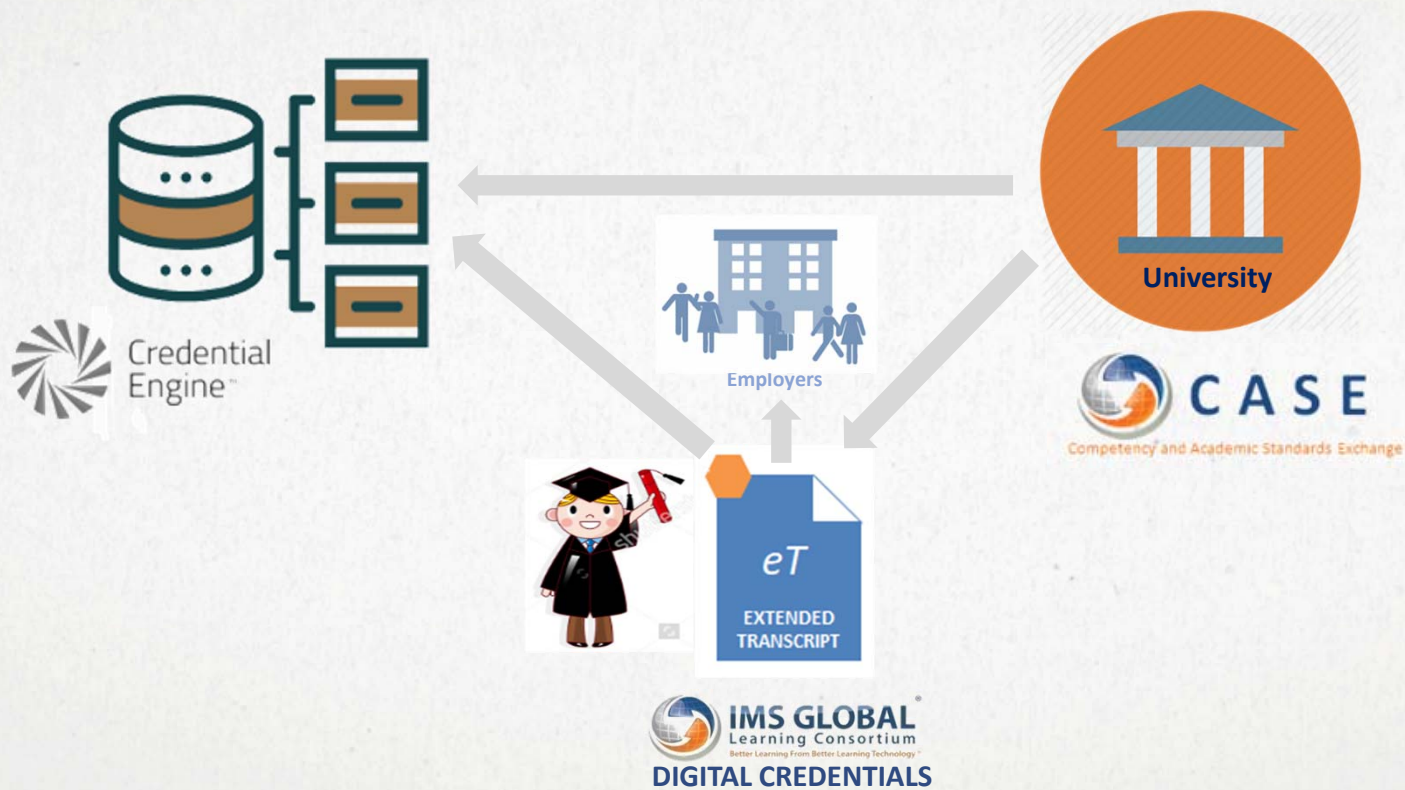
In the near future, learners will be able to **connect to job opportunities** automatically through standards-based, verified credentials via their personal achievements record



Find and apply for jobs using **verified** credentials



# An Open, Interoperable Ecosystem





# HARMONIZATION THROUGH

- Shared use cases and workflows
- Mapped relationships among the standards
- Terms and metadata definitions
- Linked data

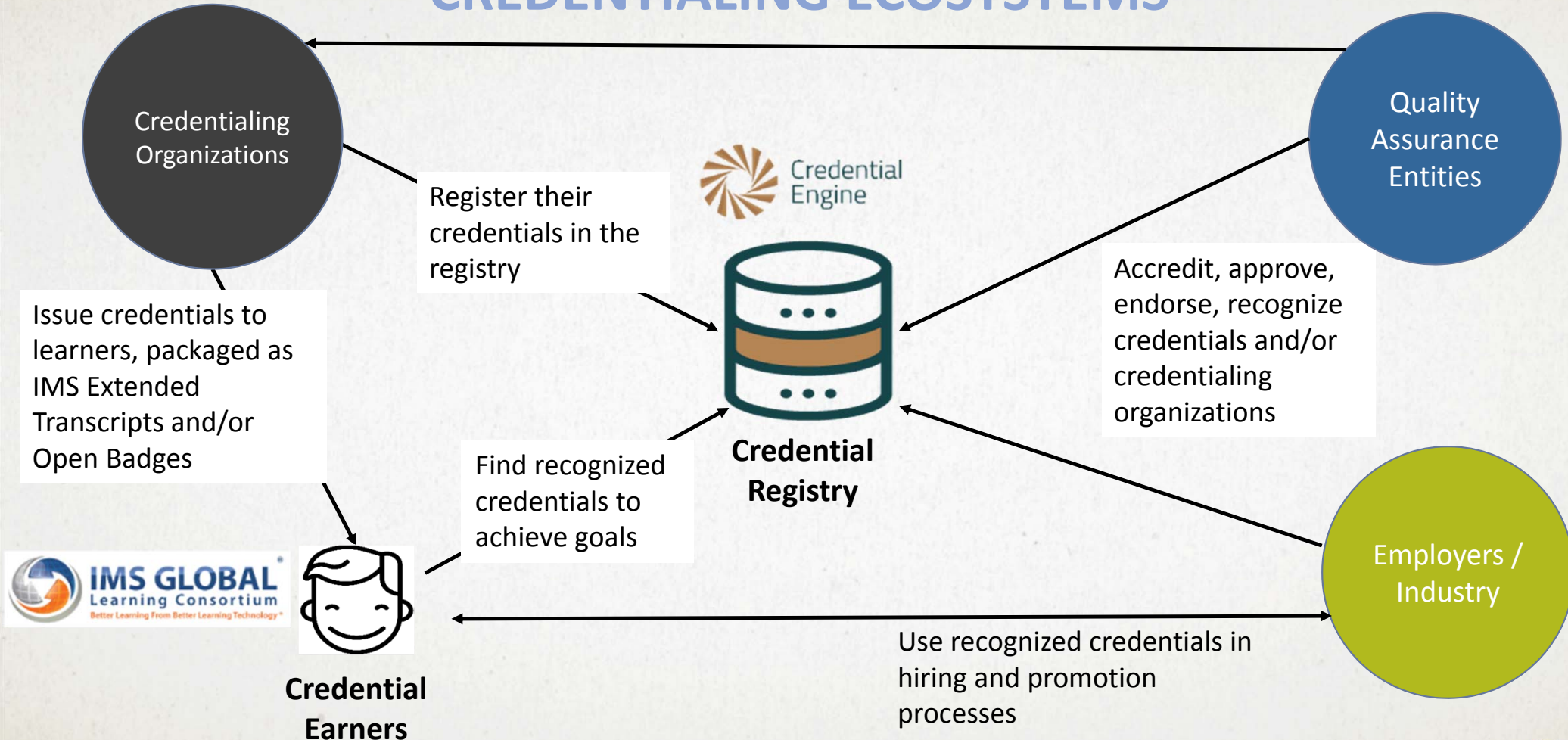




Credential Engine and IMS Global are harmonizing technologies and standards through people and dialogue - get involved!



# CREDENTIALING ECOSYSTEMS



## CREDENTIAL ENGINE

Contact the Credential Engine team to learn more and include your credentials in the Credential Registry

<http://credentialengine.org/contact>

- Credential Engine <http://credentialengine.org>
- Use the Credential Engine schemas and technologies <http://credreg.net>
- Subscribe to receive updates <https://credentialengine.org/articles>
- Join the Technical Advisory Committee (TAC) <https://credentialengine.org/contact>



# IMS GLOBAL

- Extended Transcripts (eT) <https://www.imsglobal.org/activity/et>
- Open Badges (OB) <https://www.imsglobal.org/initiative/enabling-better-digital-credentialing>
- Competencies and Academic Standards Exchange (CASE) <https://www.imsglobal.org/case>
- Join IMS Global and participate in workgroups  
<https://www.imsglobal.org/imsmembership.html>





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