



**IMS GLOBAL**<sup>®</sup>  
Learning Consortium  
Better Learning From Better Learning Technology<sup>®</sup>

# Digital Credentials and Open Badges: Enabling an Opportunity Ecosystem

Learner-Centered  
Skills-Based

IMS Global Summit – Utrecht, Netherlands

Nov 2018

# Our Panel

**Alexander Blanc**, Project Leader, Edubadge Project,  
*SURF* [alexander.blanc@surfnet.nl](mailto:alexander.blanc@surfnet.nl)

**David Kinsella**, Head of Sales and Business  
Development, *Digitalme* [david.kinsella@cityandguilds.com](mailto:david.kinsella@cityandguilds.com)

**Eric Rouselle**, Partner and Chief Innovation Officer,  
*Open Badge Factory*, [eric.rouselle@discendum.com](mailto:eric.rouselle@discendum.com)

**Rodolfo Trippodo**, Chief Executive Officer, *Italian  
Quality Company (IQC)* [rodolfo.trippodo@itaqua.it](mailto:rodolfo.trippodo@itaqua.it)

**Richard West**, Associate Professor, *Brigham Young  
University* [rickwest@byu.edu](mailto:rickwest@byu.edu)

# Skills-Based Credentials Ecosystem



# Guiding Principles

- **Learners' control** of their digital credentials
- Employers seeking job candidates based on **verified skills** in digital form
- Digital credentials encompassing **formal, informal** and **employer-based** education
- A vibrant **opportunity marketplace** rooted in verifiable digital credentials with **skills as a currency**

# Open Badges



There's *data* inside!

- **Proven micro-credentials** for recognizing and recording skills in *machine readable form*
- **Portable** and controllable by the learner
- **Scalable** with millions issued to date
- **Digitally Verifiable** via automated means: e.g. http and Blockchain
- **Capable** of linking to comprehensive learner records



# Madison College Continuing Education



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 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 Deibetes 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

High quality credentials are being published through Open Badges



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# Open Badges

# version 2.0

## OBv2

# Certification



[Click here for Certified Platforms](#)

- **Certified** Open Badges ensure *portability* among platforms, controllable by the learner without mishandling or losing badge contents
- Defined platform types
  - Issuing – create
  - Display – verify and display
  - Host - import and export faithfully

# Endorsement



As a subject matter **expert or authority**, I want to **endorse a badge** offered by an issuer

As a provider of a learning experience, I want to obtain badge endorsements from recognized subject matter experts for my badge(s)

# Accessibility



As a badge issuer, I want to ensure that my badge image is **accessible to screen readers** and other assistive technology through the use of descriptive text

# Multi-Lingual



As a badge provider, I want to manage a single version of a badge, but offer it in **multiple languages** to recipients

As a badge recipient, I want to offer viewers of my badge the ability to **change the language that is used for viewing my badge**

# Versioning



As a badge provider, I want to **update the criteria** necessary to earn a badge and **keep the previous versions** of the badge unchanged

# Enhanced Profiles



As a badge recipient, I want to use my phone number or my authenticated UID as the primary way to identify myself (rather than email)

As a badge issuer, I want to award a badge to an organization (not an individual)

# Blockchain Extension

- R&D with Blockchain show potentially promising methods 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



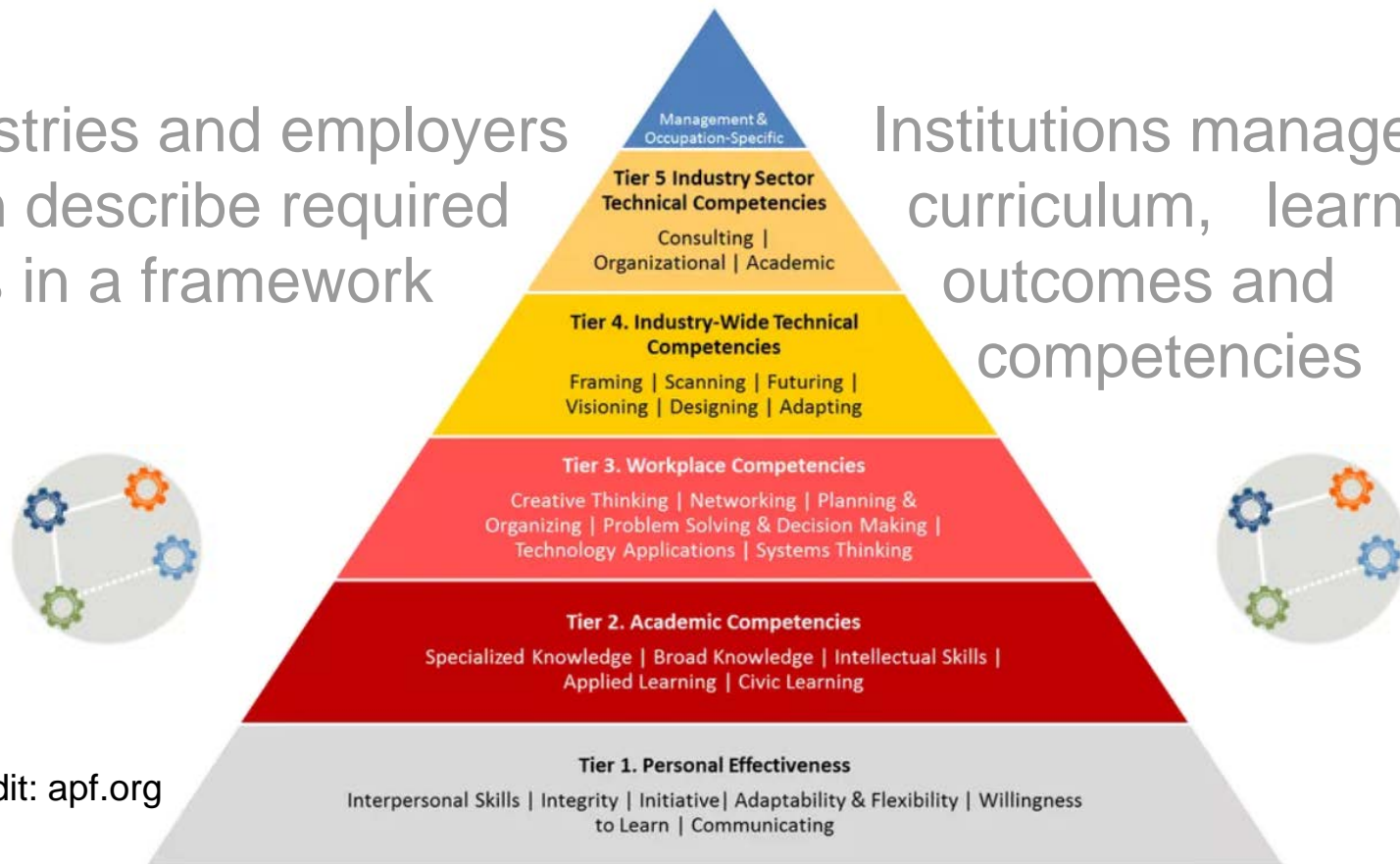
# Aligning Skills in the Ecosystem

Competency and Academic Standards Exchange  
(**CASE**)

# Skills Frameworks

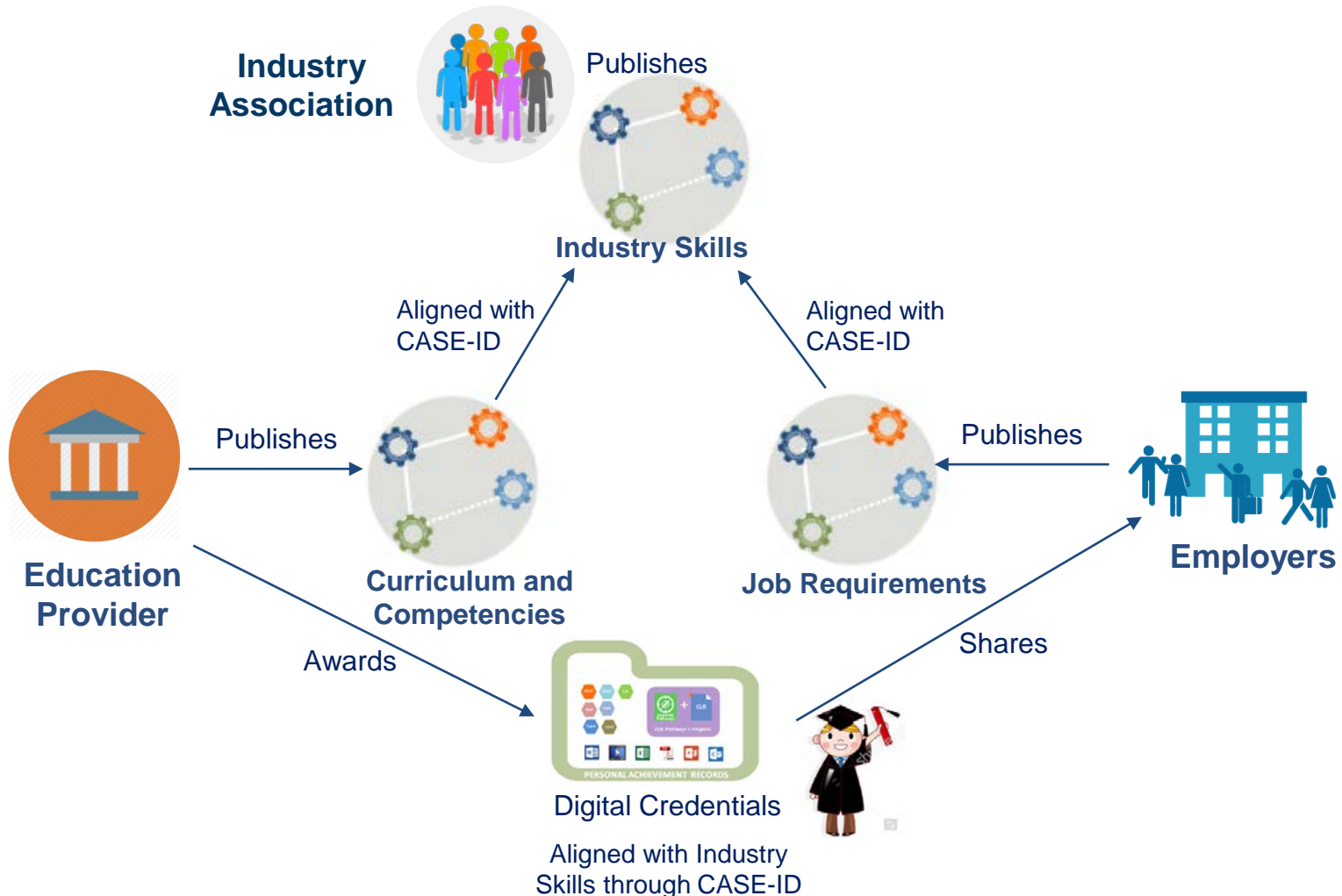
Industries and employers often describe required skills in a framework

Institutions manage curriculum, learning outcomes and competencies



Credit: apf.org

# CASE Aligns Frameworks



# CASE Aligns Frameworks



and **Credentials**



Digital Credentials



Aligned with Industry Skills through CASE-ID  
[Trademark Information](#)

# CASE-compliant Framework

## Mathematics Georgia Standards of Excellence - 2017

Search... <https://case.georgiastandards.org/cfdoc/>

- 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 equatio...**
        - ▶  **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.
        - ▶  **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  $y'' + p(x)y' + q(x)y = r(x)$ .
- ▶  History of Mathematics
- ▶  Statistical Reasoning
- ▶  Calculus
- ▶  Advanced Mathematical Topics
- ▶  Engineering Calculus



**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

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# CASE®

Competency  
Statements



Rubrics




Relationships  
Among Standards



a data ***format*** and ***exchange*** standard

# Capturing All Learning Achievements

# Comprehensive Learner Record

- A digital transcript from a single issuer with the complete array of skills and achievements verified by the issuer 
- 100% compatible with Open Badges. Open Badges can be contained in CLR
- Supports skills-mastery *and* traditional course records
- An open standard, built for the learner to share via privately shared links on the web



# Comprehensive Learner Record



[Live Examples in a CLR Viewer](#)

# Digital Credentials ROADMAP

# Badge Connect



A learner easily  
**moves badges to  
their favorite  
certified platform**

Open standard for web  
services

Enabling the ecosystem

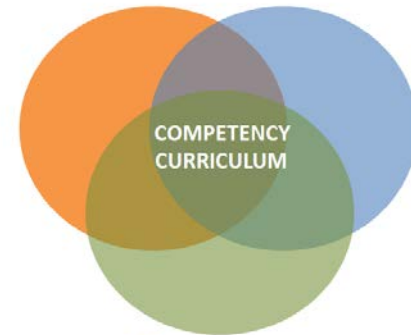
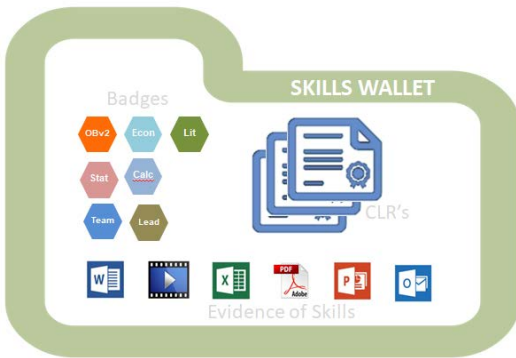
# Talent Stream

A Demonstration Project



Learner provides a **machine readable link** to HR talent systems

# A Skills-Based Digital Credentials Ecosystem



Employers



Learning  
Organizations

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**David Kinsella**, Head of Sales and Business  
Development, *Digitalme* [david.kinsella@cityandguilds.com](mailto:david.kinsella@cityandguilds.com)

**Eric Rouselle**, Partner and Chief Innovation Officer,  
*Open Badge Factory*, [eric.rouselle@discendum.com](mailto:eric.rouselle@discendum.com)

**Rodolfo Trippodo**, Chief Executive Officer, *Italian  
Quality Company (IQC)* [rodolfo.trippodo@itaqua.it](mailto:rodolfo.trippodo@itaqua.it)

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