

# NICE Webinar Series

NATIONAL INITIATIVE FOR **CYBERSECURITY** EDUCATION



Addressing the Cybersecurity Talent Gap at Scale: Introducing Learning and Employment Records

October 21, 2020

# Today's Panelists



**Rodney Petersen - Moderator**  
*Director of the National Initiative  
for Cybersecurity Education (NICE)*



**Rick Torres**  
*President and CEO*



**Darin Hobbs**  
*University Registrar & Director of  
Academic Records and Credentials*



**Alex Kaplan**  
*Global Leader  
Blockchain & AI Industry Credentials*



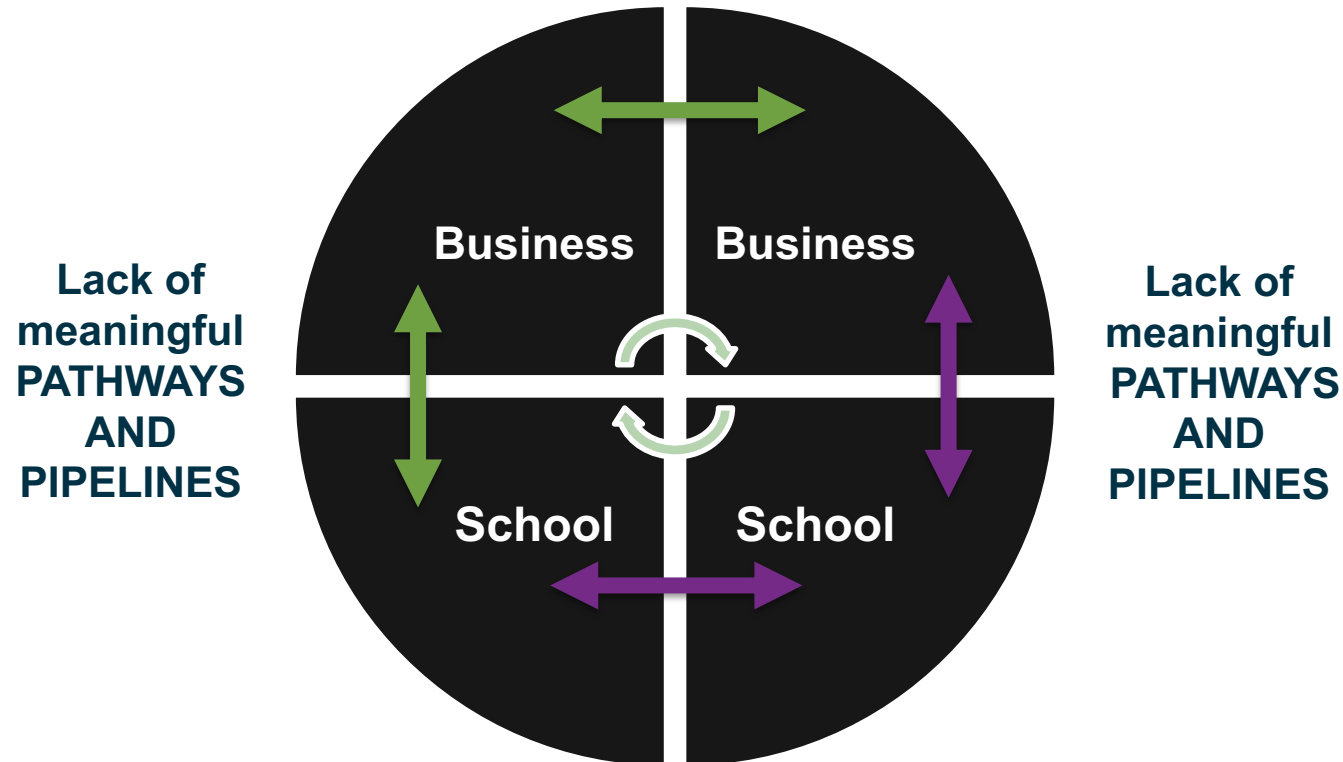
**Frank C. Cicio**  
*CEO and Founder*



# Skills mismatch-related inefficiencies and related costs

## The world of edu-workforce transitions at 30,000 feet

### Churn / long training cycles



### Transfer and articulation incomparability:

- Longer path to completion: loans, costs
- Skills-based transfers not well defined

# CEO led American Workforce Policy Advisory Board Members

## Industry LER Pilot Leaders



### Education



### Industry



### Federal & State Agencies



### Other

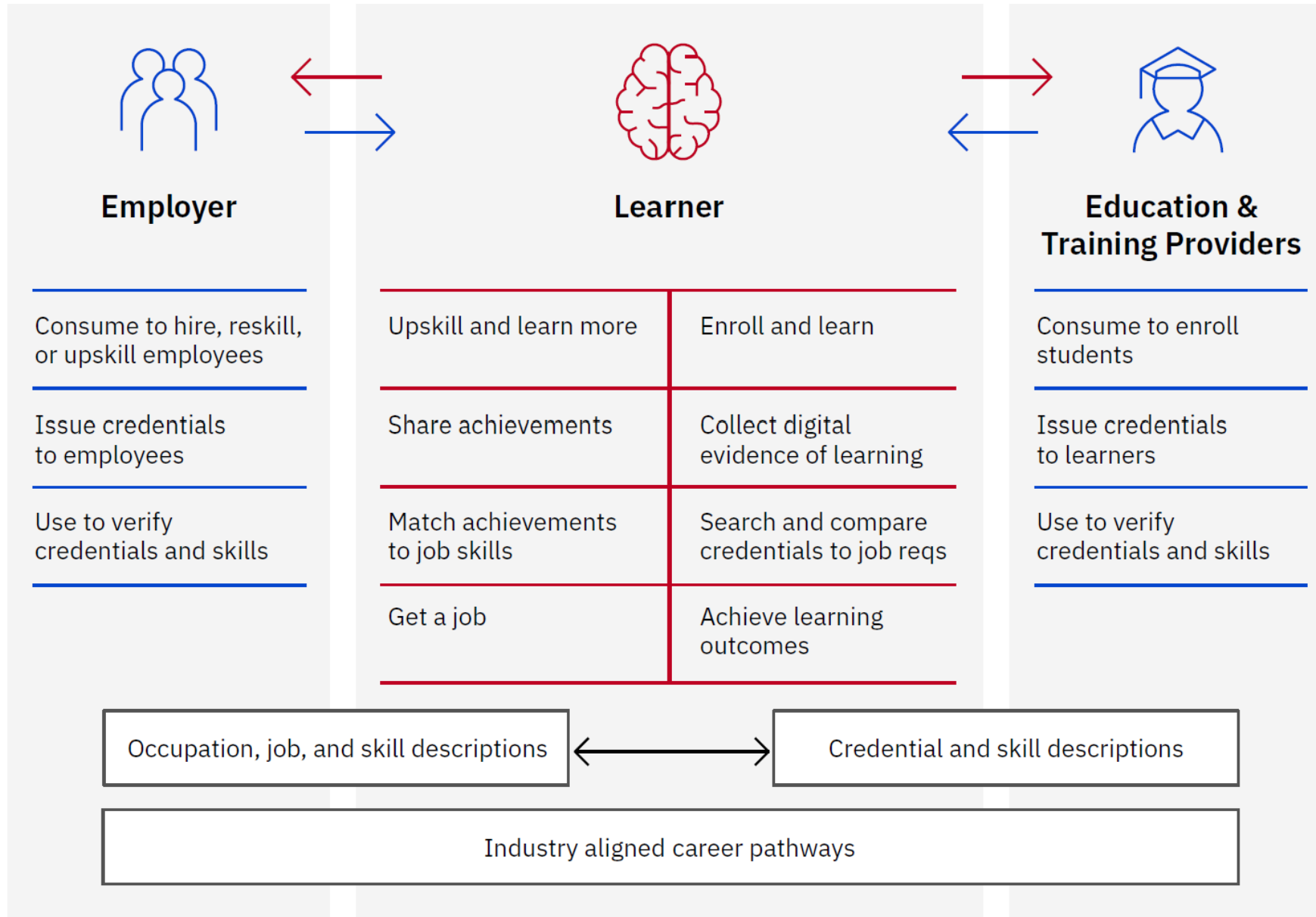


BOYS & GIRLS CLUB



MILKEN INSTITUTE

# Learning & Employment Record (LER)



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# Learning and Employment Record Pilots

The CyberPilot and related eco-System



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# Platform Components



## Achievement Wallet

A record of accomplishments and data insights that allows for recommending next steps and suggested offerings

### Portfolio of Work



### Learning & Employment Record

Verified credentials on a secured block chain technology



## Marketplace of Skill

### Achievement Providers

Where today's learners develop their skills

Degrees

Certificates

Other  
Credentials

WGU

Work  
Experience

Apprenticeships

Professional  
Certification

## Achievements

Degrees, certificates and other credentials, work experience, etc. that are documented in the open badge standard and portable between SIS and HRIS systems



## Skills Data

Skills meta-data documented in Rich Skills Descriptor format that can be tagged to achievements to allow more meaningful translation



## Secure Record of Achievement

Built on blockchain technology







# Myhub<sup>SM</sup> Universal Wallet

The new Myhub<sup>SM</sup> Universal Wallet being developed as part of the LER project will be ready for fall 2020.

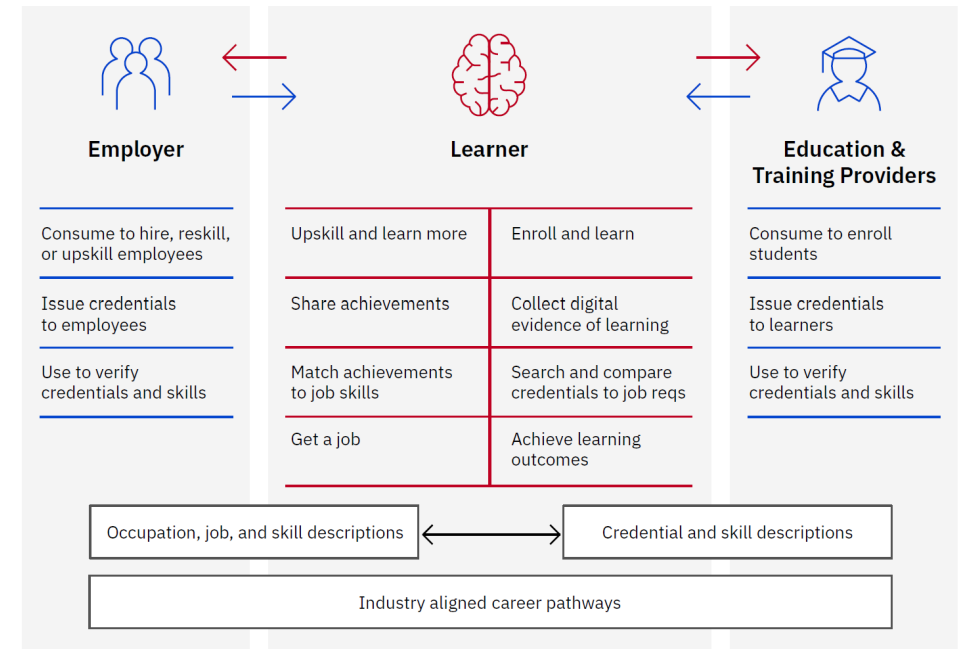
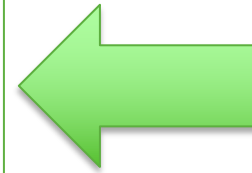
- A single point of integration for all credentials (academic and co-curricular (CLR) and non-academic) whether they exist on the chain or not.
- **Learner** will leverage real-time market-based skills profiles to determine where they are and the path to obtain the necessary skills.
- **Institutions** (fee) will be able to assess and advise individuals, groups, classes based on skill gaps.
- **Enterprise** (fee) will be able to do skill-based recruiting.

The screenshot displays the Myhub Passport for Robert Franklin, a Software Engineer. The interface is divided into several sections:

- Skills:** A summary card shows 105 total skills. A breakdown includes 55 Technology skills, 20 Professional Skills, and 30 Business Development skills. Below this is a 'TOP 10 SKILLS' list with star ratings for Advertising, Resource Management & Budgeting, Problem Solving, Presenting Effectively, and Process Improvement.
- Education:** Lists a Bachelor's in Science Computer Science (2014-2018) and a Certificate in Software Engineering (2012-2013) from the University of Michigan. A 'View all validated education data' button is present.
- Experience:** A call-to-action box encourages adding work experience to gain a competitive advantage.
- Portfolio:** Features a project titled 'Angular v React' with a description of digital marketing and associated hashtags.

# Why Cybersecurity for the Pilot: well suited for a national use case

- **Proof of concept validation** through NYC based Cybersecurity Workforce Alliance
  - Business: ROI gains via skill-based hiring
  - Learner social trajectory gains
  - Academic: Adjusted curriculum to skills-based outcomes
  - “Virtual Apprenticeships” of “Applied Learning”
- **NICE Framework perfectly suited** for skill-based course mapping understood by business and academics
- **Need:** Clear nationwide shortage of talent
- **Highly scalable eco-system**



The pilot leverages the NICE Framework for its skills-based achievements and capabilities that guide the learner to the right learning experiences and help employers find the right candidate

## The career path

**SKILLS OVERLAP**

Select the bar to expand skills information and view potential courses for roles where you need skills you don't have.

Unmatched 420 →  
Matched 15 →  
Missing 17 →

**RECOMMENDED LEARNING RESOURCE**

**Digital Forensics in Cybersecurity**  
Western Governors University  
C840 / CCID24 [Learn More](#)

**THIS COURSE WILL GET YOU THE FOLLOWING 3 MISSING SKILLS**

- Information Systems/Network Security** →  
Analyze > All-Source Analysis
- Information Technology Assessment** →  
Analyze > All-Source Analysis

The central diagram shows a career path for a woman with curly hair, branching into three roles: All-Source Analyst, Technical Support Specialist, and Program Manager.

## Employers search for job candidates

**Search Criteria**

<b>Industry Expertise</b>	NICE Cybersecurity Framework
<b>Competencies</b>	Collection Operations (CLO), Threat Analysis (TWA), Executive Cyber Leadership (EXL), Cyber Operations (OPS)
<b>Skills</b>	Collection Operations, Threat Analysis
<b>Schools</b>	WGU, Central NM Community College
<b>Degree</b>	Bachelors

[Reset](#) [Edit Search Criteria](#)

**96%**

Candidate 1

[View Profile](#)

**68%**

Candidate 2

[View Profile](#)

# The cyber pilot successfully demonstrated a replicable model for a national LER infrastructure

Cyberskills pilot goals and objectives	Outcomes
We show a learner's path from high school to a cybersecurity career using validated skills-based credentials	✓
Using an industry aligned career pathway, learners determine what skills they have and need, and where to get those needed skills	✓
Learners own their credentials and decide whom they share them with, assuring data privacy is respected	✓
Employers search for and select qualified candidates using their trusted and validated credentials	✓
Interoperability with other credential and career pathway systems is demonstrated	✓



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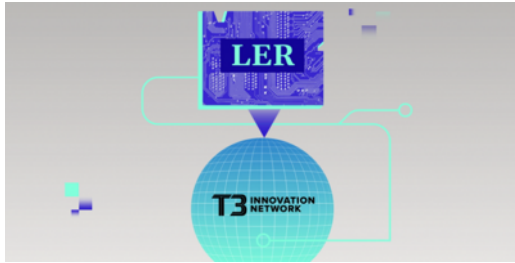
How do I get involved?



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# Resources



[lerhub.org](http://lerhub.org)



[https://www.iq4.com//static/CWA\\_Credential\\_IRC\\_Qualification.pdf](https://www.iq4.com//static/CWA_Credential_IRC_Qualification.pdf)

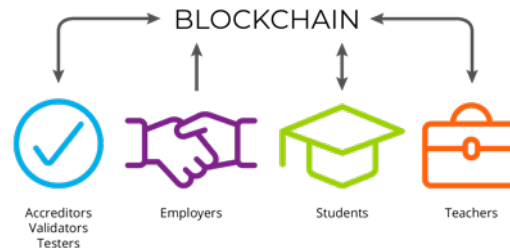


<https://www.nist.gov/nice>



Blockchain in Education

<https://tech.ed.gov/blockchain/>



<https://www.studentclearinghouse.org/blockchain/>



<https://www.openskillsnetwork.org/>



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# Thank You for Joining Us!

**Upcoming Webinar:** Competencies - The Next Frontier for Closing the Cybersecurity Skills Gap

**When:** December 16, 2020 at 2pm EST

**Register:** <https://nist-nice.adobeconnect.com/webinardec2020/event/registration.html>

[nist.gov/nice/webinars](https://nist.gov/nice/webinars)