

# **Empowering Transportation Professionals Amid the Fourth Industrial Revolution**

**Strategies for Recruiting, Hiring, and Retaining a Skilled New Mobility Workforce**

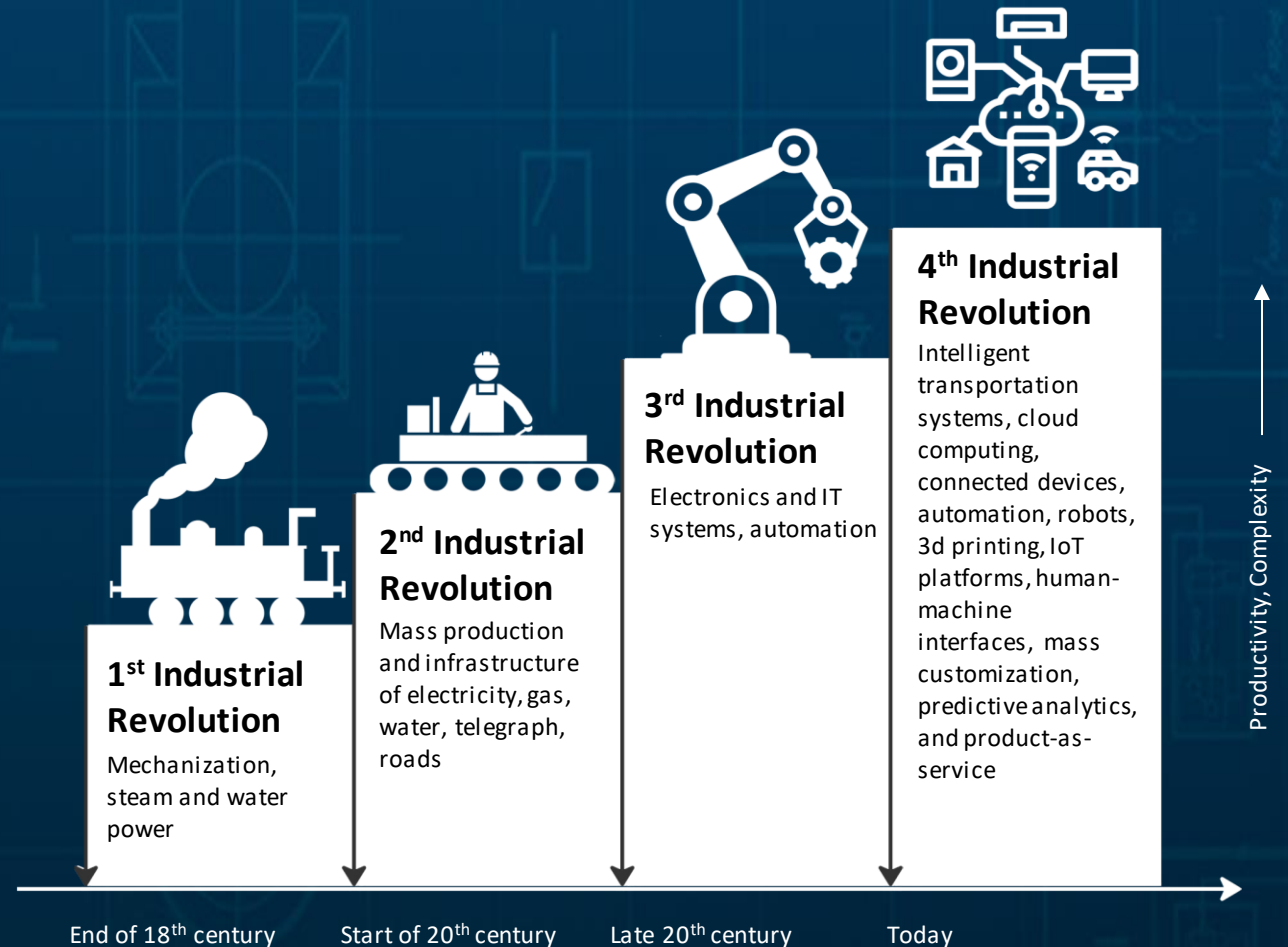
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# What is the Fourth IR?

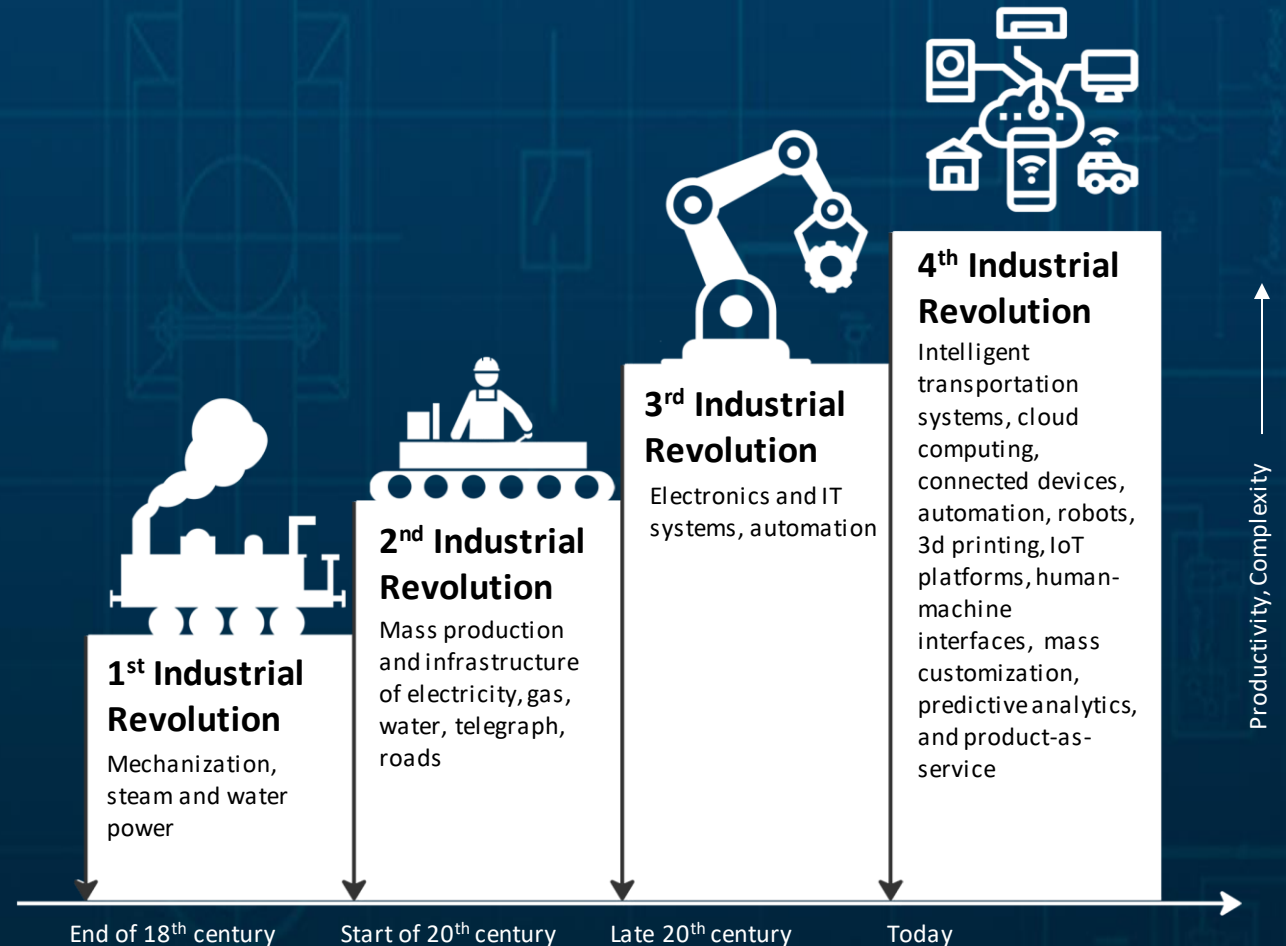
- The Fourth Industrial Revolution (Fourth IR) is a "technological revolution characterized by a fusion of the digital, physical, and biological spheres, and characteristic of its unprecedented velocity."
- In transportation systems that move people and goods, the Fourth IR "specifically refers to the use of robotics, artificial intelligence, automation, and digitalization in work processes." [1]



[1] Schwab, K. (2017). *The Fourth Industrial Revolution*. Crown.

# How is the Fourth IR impacting transportation?

- Transformational technologies and related socioeconomic shifts are occurring at such a rate that educational institutions are struggling to provide the relevant training and education for in-demand occupations.
- This “mismatch” between workers and the necessary KSAs required to implement, operate, and maintain new transformational technologies poses a huge challenge for public- and private-sector transportation employers.



# Farm Teams For The Future



In an interview with the *Sporting News*, Branch Rickey described his farm team contribution to baseball not as any form of "inventive genius" but rather as "the result of stark necessity." Explaining further, he said: "We did it to meet a question of supply and demand of young ballplayers."

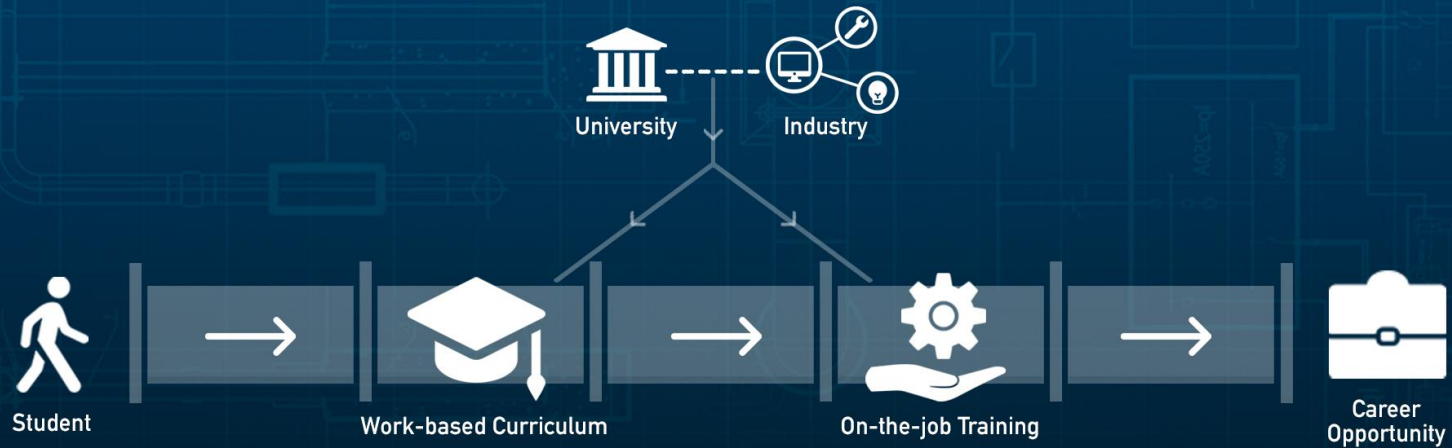
# Recruiting and Retaining in the Fourth IR

- Talent pipelines provide a strategy to bring together leaders in industry, government, and education to crack the KSA code.
- Talent pipelines provide a targeted way to reconfigure traditional training models to put the S (skills) and A (abilities) back in KSA.
- What does a Talent Pipeline do differently?
  - Built-in accountability and flexibility in programming through collaborative industry and university partnerships;
  - Direct support from industry partners to train future talent; and
  - Addressing real-time changes in industry practices.

## Traditional Hiring Model



## Talent Pipeline Model



# The ITS Engineering Talent Pipeline Pilot at CSULB

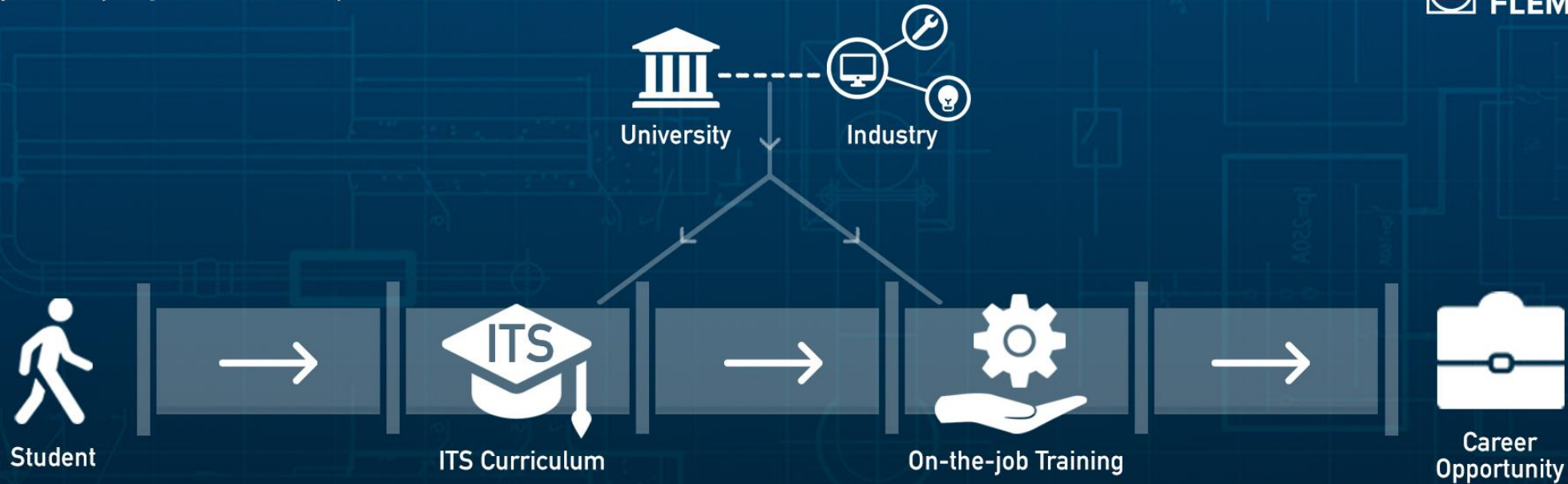
In late January 2023, CSULB's Center for International Trade and Transportation, the Colleges of Engineering and Continuing and Professional Education, and the Undergraduate Research Opportunity Program will select CSULB Engineering Students to participate in the pilot effort.

The pilot team will set schedule of meetings, lectures, and research activities for the Spring 2023 ITS Engineering Talent Pipeline cohort.

Throughout pilot program deployment, the CSULB team will coordinate with industry partner, Gannett Fleming, through scheduled meetings to ensure that members of the pipeline cohort are prepared to succeed in their related paid summer internship. Gannett Fleming host the CSULB cohort at its Irvine, California offices.

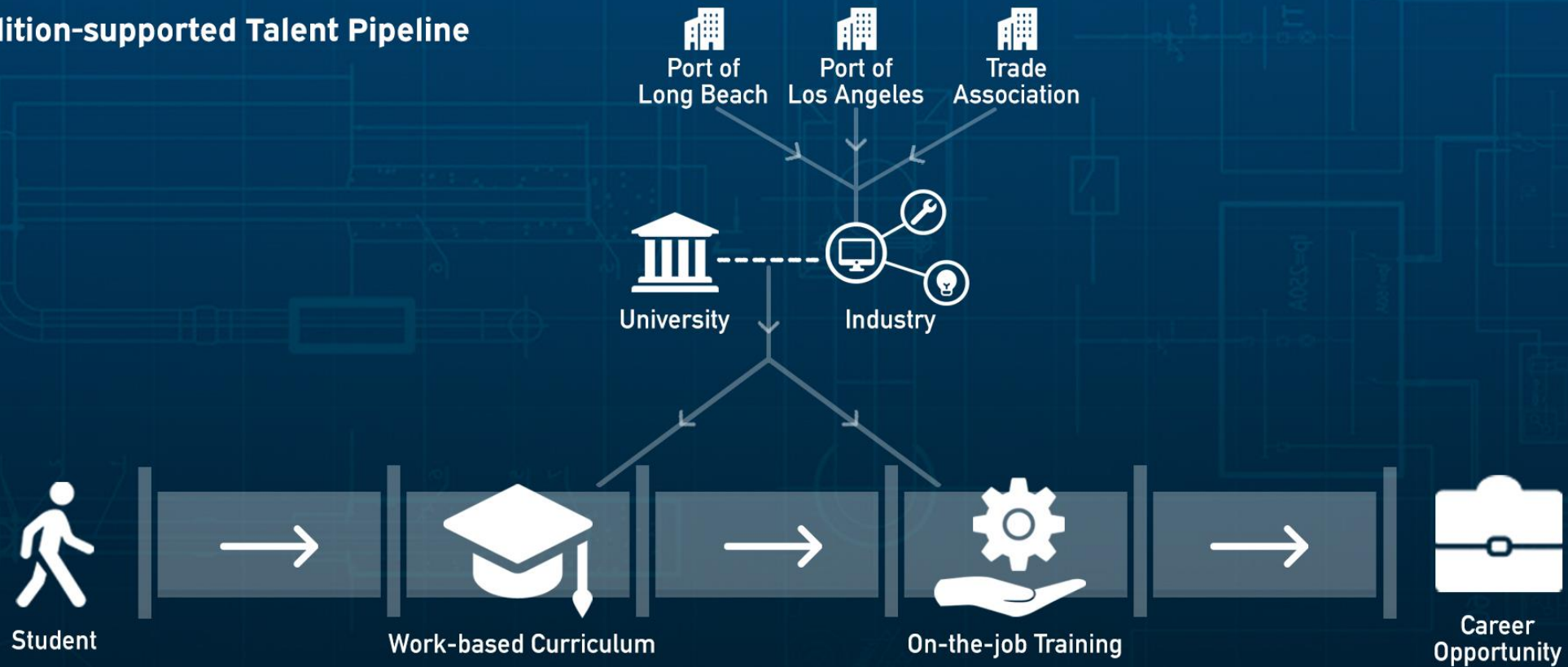
# The CSULB-Gannett Fleming Talent-Pipeline Pilot

## Single-employer Talent Pipeline



# Scaling Single-Employer Talent Pipelines

## Coalition-supported Talent Pipeline



# Recruiting and Retaining in the Fourth IR

- Talent pipelines are flexible; they can be designed to provide an additional workforce development layer that students seeking degrees can optionally participate in to enhance their ability to compete for in-demand occupations.
- Talent-pipeline programs can be linked to targeted degree, certificate, and non-credit professional development to provide workforce development solutions that empower emerging, incumbent, and displaced professionals to join the transportation workforce.
- Through serving emerging, incumbent, and displaced professionals, educators offering certificate, 2-year, four-year, and graduate opportunities can play a role in establishing new educational marketplaces to drive student enrollment.

# **The Workforce X-factor: TEAMWORK**

**What is the key factor for leaders in industry, education, and government seeking to address technological disruption and skills gaps?**

# **In a word: teamwork**

- **Public- and private-sector transportation organizations seek to recruit and retain professionals who are skilled project managers and team players.**
- **The best and brightest incumbent and emerging transportation professionals seek to be part of positive work cultures that champion ethical team values.**

**Teams make people feel like they  
belong and are appreciated.**

“Almost all employees (93 percent) who reported feeling valued said that they are motivated to do their best at work and 88 percent reported feeling engaged. This compares to just 33 percent and 38 percent, respectively, of those who said they do not feel valued.”[1]

“Companies that make employee recognition a priority have workers who are 56% less likely to be looking for a new job.” [2]

“83% of executives believe attracting and retaining talent is an issue for their company.”[3]

[1] APA Survey Finds Feeling Valued at Work Linked to Well-Being and Performance. (2012). *American Psychological Association (Press Releases)*.

<https://www.apa.org/news/press/releases/2012/03/well-being>

[2] Caminiti, S. (2022, May 31). Recognition is a simple yet effective way to keep employees from quitting. *CNBC Workforce Wire*.

<https://www.cnbc.com/2022/05/31/recognition-is-an-effective-way-to-keep-employees-from-quitting-.html>

[3] *Allegis Group Announces Findings From Its Global Benchmark Study*. (2016, July 20). Allegis Group. <https://www.allegisgroup.com/en/about/press/allegis-group-announces-findings-from-its-global-benchmark-study>