Workforce of the Future: Educating and Retraining the Freight Industry

Tuesday, August 28, 2018
2:00-4:00 PM ET
Purpose

Explore the future of freight education.

Learning Objectives

At the end of this webinar, you will be able to:

• Identify key trends in the current freight and logistics related workforce

• Understand the role that changing and transformational technology is having and will have on the freight workforce

• Describe about practices that develop skill sets needed for the freight-related workforce starting in K-12 and continuing through community college and university

• Identify potential partners and resources from the K-12, Community College and University networks for developing successful partnerships
Creating a Career Pathway for Global Trade & Transportation

Angeli Logan
Director of Trade & Transportation Programs
CSULB Center for International Trade & Transportation
Agenda

- Overview of CSULB, CPIE, and CITT
- Long Beach College Promise
- AGL Partnership
- About Cabrillo High School
- Engaging our Industry Partners
- Teacher Summer Institute
- Partnership with Long Beach City College
University Structure

• California State University (CSU)
  – One of the nation’s largest four-year public university system
  – CSU, Long Beach is one of 23 campuses that comprise the system

• College of Continuing and Professional Education (CCPE)
  – A community outreach arm of the University and the only college operation on self-support basis
  – Offers professional development, contract training, and degree programs in partnership with other academic units on campus

• Center for International Trade & Transportation (CITT)
  – Housed in CCPE and home to four major research centers
  – 20 year history offering industry driven non-credit certificate programs, contract training, and other activities
Industry Training & Education

- CALIFORNIA STATE UNIVERSITY LONG BEACH
- CENTER FOR INTERNATIONAL TRADE AND TRANSPORTATION
- MARINE TERMINAL OPERATIONS PROFESSIONAL
- MASTER OF SCIENCE IN SUPPLY CHAIN MANAGEMENT
- Introductions to Logistics and Supply Chain Management
- Sales Boot Camp for Logistics Professionals
Long Beach College Promise

- Commitment by LBUSD, LBCC, CSULB and City of Long Beach to make higher education an attainable goal for every student.
  
  – Provides all incoming students at LBCC with a tuition-free first year
  
  – Guarantees CSULB admission to Promise students who complete minimum college preparatory requirements.
**Student Population:** Approx. 2,600
- 68.5% Hispanic/Latino
- 14% African American
- 9.1% Filipino
- 3.4% Asian
- 1.6% White
- 2.9% other

Cabrillo is a Title I school based on having 86.9% of students qualifying for free or reduced lunch.
Goals

- Provide a foundation to ensure long-term success of the Academy
- Integrate real world content with classroom experiences
- Prepare students for entry level career opportunities
- Prepare students for and raise awareness of training and higher education opportunities
  - includes certificates, certifications, and degrees offered at a community college or four-year university
Engaging our Industry Partners

• Develop a sustainable and engaged advisory board
  – Includes logistics and supply chain professionals, educators, & workforce investment board

• Minimize transaction costs that prevent participation

• Fuel momentum
Role of Business Partners

• Advisory Board
  – Identify and shape work-based learning opportunities
  – Industry outreach
  – Quality assurance

• Guest speakers, evaluators, site visits & networking

• Resource for curriculum development
  – Single-subject integration / integrated projects
Grade-Level WBL Activities

9th Grade
- Career Planning
- Harbor Tour
- Port 101
- Port Operations

10th Grade
- Career Planning
- Maritime Operations
- Trucking Operations
- Rail and Warehouse Operations

11th Grade
- Career Planning
- Career Workshops
- Mock Interviews
- Industry Mixer
- Port Security/Tour
- POLB Environmental Programs

12th Grade
- Career Planning
- Career Workshops
- Mock Interviews
- Industry Mixer
Other Activities

Student Leadership Development

- Cabrillo Women in STEAM
- Linked Learning Student Ambassador Program

Off-Campus Industry Networking Activities

- Harbor Transportation Club/Scholarship Announcement
- CITT INUF Conference
- CITT State of the Trade and Transportation Town Hall
- IANA Expo
- POLB Celebrating Education
- POLB Women in Trade
- POLB Pulse of the Ports
- TPM Conference
AGL Teacher Summer Institute

- Designed to help teachers integrate transportation and logistics curriculum into lesson plans.
- Guided tours/site visits of the harbor, the POLB Joint Command and Control Center, marine terminals, warehouse, and freight forwarding facility
- Business partners as mentors and advisors
- Identify work based learning projects to build knowledge required for integrated projects
- Help teachers develop weekly single-subject integration activities
- Begin the development of grade-level, integrated projects
Partnership with LBCC

• LINCS - Funded by a $24.5 million U.S. Department of Labor TAACCCT grant and administered by a national consortium of colleges and university led by a national team from Broward College

• Developed eight certification modules as part of SC Pro Fundamentals – entry level certifications offered by the Council of Supply Chain Management Professionals (CSCMP)

• Students who pass the certification for SC Principles waive Module 1 of the GLS Program offered by CITT
Supply Chain Career Pathway Examples

1. Academy of Global Logistics (AGL) → LBCC / Council of Supply Chain Management Professionals (CSCMP) Certification → Education (LBCC / CSULB)

2. Academy of Global Logistics (AGL) → LBCC / Council of Supply Chain Management Professionals (CSCMP) Certification → Global Logistics Specialist (GLS) Module 1 waived with SCM Principles → LBCC (AA) / CSULB (BA / BS)

3. Academy of Global Logistics (AGL) → LBCC / Council of Supply Chain Management Professionals (CSCMP) Certification → Work → Global Logistics Specialist (GLS) Module 1 waived with SCM Principles → Work


5. Displaced Worker → LBCC / Council of Supply Chain Management Professionals (CSCMP) Certification → Global Logistics Specialist (GLS) Module 1 waived with SCM Principles → Continue Education / Work / New job

This document was funded in whole by a $24.5M TAACCCT grant awarded by the U.S. Department of Labor’s Employment and Training Administration to the LINCS in Supply Chain Management consortium. Developed in partnership with Long Beach City College (LBCC) and California State University Long Beach (CSULB), Center for International Trade and Transportation.
Summary

• Encourage active engagement of industry partners and fuel momentum
• Build on promise of education at all levels
• Create multiple entry and exit points to education and training

*Lifelong Learning for Lifetime Success!*
Thank You

• Angeli Logan
  Director of Trade & Transportation Programs
  CSULB Center for International Trade & Transportation Programs

• Contact: 562-985-2874 or Angeli.Logan@csulb.edu
Future of Freight Education

Margaret Kidd, Instructional Assistant Professor,
Supply Chain & Logistics Technology,
University of Houston
Houston, Texas

Population
- Houston 2.3 million
- MSA 6.6 million

Economy
- energy
- health care
- nanotechnology
- aerospace
- information technology

Transportation & Logistics

Source: https://www.houston.org/assets/pdf/business/Houston-Regional-Economic-Development.pdf
H-GAC Regional Multimodal Freight Transportation System

- 24,000 lane miles, carrying 465 million tons annually, 21 Intermodal connectors.
- 3 Class I Railroads – UP, BNSF, & KCS, 150 million tons freight.
- 4 deep water ports, 312 million tons.
- 2 major cargo facilities IAH, 400,000 tons.
- 21,500 Miles pipelines, 445 million tons.

Regional Economy

- Fastest population growth within top 10 Metros in US between 2010-2017
- One of America’s most diverse cities
- GDP $478.6 billion
- 182 Direct non-stop flights globally
- 90 Consular offices
- 20 Foreign banks
- 2017 Global trade valued at $192 billion Houston-Galveston Customs District
- 2017 $109.2 billion in exports and $83 billion in imports
- 2016 2.2 billion tons of freight traveled through Texas
- Top trading partners – Mexico, China, Brazil, Germany, Netherlands, Korea, Japan, Saudi Arabia, United Kingdom, & Columbia

(Source: https://www.houston.org/assets/pdf/business/Houston-Regional-Economic-Development.pdf)
Disruptive Technologies
Disruptive Technologies (May 2018). Presented at EECC Education Symposium, Federal Reserve Bank Dallas, Houston Branch. Lead Authors: Liang-Chieh Cheng, PhD. and Yunpeng (Jack) Zhang, PhD. Contributing Authors: Mary Henderson, PhD. and John Vogt, PhD.
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Last Mile Shared Economy

- Uber
- Airbnb
- Lyft
- Grubhub

Adapted from: Disruptive Technologies (May 2018). Presented at EECC Education Symposium, Federal Reserve Bank Dallas, Houston Branch. Mary Henderson, PhD.
Trends

Education and Workforce
Resources are moving to career programing and planning.

Nationally

Four years ago, Texas required all high schools to offer 1 or more of 5 Endorsements. School districts are placing resources for workforce and skillset development.

- Arts & Humanities
- Business & Industry
- Multidisciplinary Studies
- Public Service
- STEM

Texas HB 5
UPSKILL HOUSTON

- Industry led approach
- Bridge the gap to fill jobs in middle skills occupations

CRITICAL SECTORS

- Petrochemical Manufacturing
- Industrial & Commercial Construction
- Healthcare
- Port Maritime & Logistics
- Utilities
- Advanced Manufacturing
- Oil & Gas – Upstream & Midstream

Source: https://www.houston.org/upskillhouston/
• Bringing together statewide Administrators, Faculty, Staff and Industry Professionals to identify common learning outcomes between secondary and post secondary courses to facilitate regional articulation.
• The project focuses on creating a vertical alignment process between high school and community college career and technical education courses.
• Our vision is to create connectivity and continuity between secondary and postsecondary curriculum that promotes seamless transitions for students leaving high school, entering college and into the workforce.

Texas Career Cluster
Project 2011-12

Source: http://www.txcareerclusters.org/.
Students pursuing classes in the Transportation, Distribution and Logistics Career Cluster will learn about careers and businesses involved in the planning, management and movement of people, materials and products by road, air, rail and water. It also includes related professional and technical services such as infrastructure planning and management, logistics, and maintenance of equipment and facilities.

This career cluster is organized into eight career pathways:

- Facility and mobile equipment maintenance
- Health, safety and environmental management
- Logistics planning and management services
- Sales and services
- Transportation operations
- Transportation systems and infrastructure
- Planning, management and regulation
- Warehousing and distribution center operations

Source: http://www.k12.wa.us/careerteched/clusters/Transport.aspx
- Engineer: Aerospace, flight, railway, industrial health and safety, marine
- Transportation manager
- Air traffic controller
- Airline pilot
- Urban or regional planner
- Logician
- Shipping and receiving supervisor
- Storage and distribution managers
- Operations technician
- Industrial equipment mechanic
- Electrician
- Fleet manager
- Auto or auto body mechanic
- Vehicle and system inspector
- Railroad safety inspector
- Longshore worker
- Ship, tugboat or ferry pilot
- Cargo and freight agent
- Health and safety manager
- Marketing manager
- Sales representative
- Flight attendant
**High Schools Career & Technical Education**

**Houston ISD**
- 43,155 CTE Students
- 163 Career Pathways
- 41 Schools Offer
- 214,175 In District Students – All Grade Levels
- 74.93% Economically Disadvantaged
- 100 Languages Spoken
- 136,707 Bilingual/ESL/LEP
- 77.9% Graduation Rate
(Source: https://www.houstonisd.org)

**Pasadena ISD**
- 33 Career Pathways
- 7 Schools Offer
- 55,395 In District Students – All Grade Levels
- 90.9% Graduation Rate
- 76.9% Economically Disadvantaged
- 20% Students in CTE
- 27% Bilingual/ESL
- Transportation, Distribution & Logistics – Maritime Port Operations Program
(Source: https://www.pasadenaisd.org/about)

**Student Demographics**

**Houston ISD**
- 61.84% Hispanic
- 24.02% African American
- 4.05% Asian
- 8.70% White

**Pasadena ISD**
- 82% Hispanic
- 7% African American
- 3% Asian
- 7% White
### Career and Technical Education Plan of Study

**Cluster:** Transportation, Distribution & Logistics

<table>
<thead>
<tr>
<th>9th Grade</th>
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<th>11th Grade</th>
<th>12th Grade</th>
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**CTE Electives & Pathways:**

- Principles of Transportation, Distribution & Logistics
- Energy, Power & Transportation Systems
- Aircraft Technology
- Advanced Aircraft Technology

- Principles of Transportation, Distribution & Logistics
- Energy, Power & Transportation Systems
- Automotive Technology
- Advanced Automotive Technology

- Principles of Transportation, Distribution & Logistics
- Energy, Power & Transportation Systems
- Collision Repair & Refinishing
- Advanced Collision Repair & Refinishing

- Principles of Transportation, Distribution & Logistics
- Energy, Power & Transportation Systems
- Small Engine Technology
- Advanced Small Engine Technology and/or Precision in Transportation, Distribution & Logistics

- Principles of Transportation, Distribution & Logistics
- Energy, Power & Transportation Systems
- Transportation Systems Management
- Precision in Transportation, Distribution & Logistics

- Principles of Transportation, Distribution & Logistics
- Energy, Power & Transportation Systems
- Logistics, Planning, and Management Systems
- Precision in Transportation, Distribution & Logistics

**Note:** Students may choose one CTE sequence only.

Illustration
Three HISD Schools

Austin High School
- Maritime Logistics
- Maritime Piloting & Deck Operations
- Maritime Systems Engineering
- Dual Credit HCC

Sterling High School
- School of Logistics & Global Supply
- Aviation Magnet
- AAS HCC
- Pilot’s License

Yates High School
- Oceanic Shipping
- Logistics
- Transportation Technology
- Dual Credit HCC
Port of Houston Partners in Maritime Education

Maritime Education High Schools

- Dr. Kirk Lewis Technical High School, Pasadena ISD
- Galena Park High School, Galena Park ISD
- Jack Yates High School, Houston ISD
- La Porte High School, La Porte ISD
- North Shore High School, Galena Park ISD
- Stephen F. Austin School for Maritime Studies, Houston ISD

Program Goals

- Introduce youth to maritime career opportunities in port related industries
- Encourage higher education in the maritime field
- Continue developing partnerships between port employers and education institutions so that relevant education programs continue to be accessible to develop tomorrow’s maritime workforce
- Dual course credits
- Exposure to maritime careers such as U.S. Coast Guard, US Customs & Border Protection, vessel pilot, warehousing and logistics

Program Benefits

Source: http://porthouston.com/maritime-education/
Community College Network

Other Community Colleges: Alvin Community College, Blinn College, College of the Mainland, Galveston College, Lee College, and Wharton County Junior College.
San Jacinto College International Business & Logistics
(Source: https://www.youtube.com/watch?v=YI8BQ5YKn0)
Area Universities & Colleges

Tier 1
- University of Houston – University Park
- Rice University
- Texas A & M University – College Station
- Baylor College of Medicine
- Brazosport College
- Houston Baptist University
- Lamar University
- North American University
- Prairie View A & M University
- Sam Houston State University
- South Texas College of Law
- Texas A & M University – Galveston
- Texas Southern University
- The Art Institute of Houston
- University of Houston – Clear Lake
- University of Houston – Downtown
- University of Houston – Victoria
- University of Phoenix – Houston Campus
- University of St. Thomas
- University of Texas Health Science Center – Houston
- University of Texas M.D. Anderson Cancer Center
- University of Texas Medical Branch at Galveston

Source: Greater Houston Partnership
Texas A & M Galveston
Maritime Transportation, BS, Marine Engineering & Technology, BS, Maritime Administration, BS, Master Maritime Administration & Logistics.

Texas Southern University
Maritime Transportation, Management & Security BS and Transportation Planning & Management MS.

University of Houston
Supply Chain & Logistics Technology Program, BS and MS.
Direct Emphasis Track – Pathway for Community College Transfers to University of Houston, College of Technology, Supply Chain Program

MAJOR CORE REQUIREMENTS

- Must receive a "C" or better in major core courses
- Taken since Fall 2003.

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<td>Inventory &amp; Materials Handling</td>
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<td>Global Supply Chain</td>
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<td>ACCT 2331</td>
<td>Accounting Principles</td>
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Choose the appropriate track.

Operations Track (18 SH Minimum)

- SCLT 3381 Industrial/Consumer Sales
- MECT 1364 Materials & Processes Int.
- TELS 4341 Production & Service Ops
- Approved Elective
- Approved Elective
- Approved Elective

Systems Management Track (18 SH Minimum)

- CIS 2332 Intro to Client/Server Tech
- CIS 2334 Information Systems Apps
- CIS 3343 Information System & Design
- CIS 3365 Database Management
- Approved Elective
- Approved Elective

Global Logistics Track (18 SH Minimum)

- SCLT 3340 Geography for GSC
- SCLT 3375 Maritime Operations
- SCLT 3376 Global Trade Intermediaries
- Approved Elective
- Approved Elective
- Approved Elective

Directed Emphasis Track (18 SH Minimum)

Up to 18 hours of transfer coursework related to Supply Chain may be applied by departmental approval.
Salary Range
Graduates with BS Degree

Supply Chain and Logistics Technology, University of Houston, College of Technology

Houston Electric League Internship & Scholarship Winner at Eaton Corp.

Student Industrial Distribution Organization (SIDO)
Best Practices with Industry & Community Partners

- Guest Speakers
- Advisory Board
- Industry Input Curriculum
- Coach Teachers
- Invite Students to Tour
- Job Shadow
- Mentor
- Service Learning
- Internship
- Equipment & Material for Labs
- Scholarships
- Naming Opportunities
- Career Fairs
- Soft Skill Training
- CTE Student Organizations
- Experiential Learning
- Develop Industry & Community Coalitions
- Teacher Externship
- Students as Resource for Industry Problems/Applied Research
- University Student Ambassadors to Local High Schools
- Student Capstone Projects
Moving Workforce Ahead - Certifications & Conferences

- SCPro™ Fundamentals Certifications. Developed by the TAACCCT LINCS Grant and the Council of Supply Chain Management Professionals – Over 11,000 Certifications completed 2015-2016.

- Center for Supply Chain Education/Broward College

- Eight Stackable Supply Chain Certifications
Career Resources Texas

- Texas Internship Challenge
- Virtual Job Shadow [https://www.virtualjobshadow.com/](https://www.virtualjobshadow.com/)
- MPOWER Texas [http://texasgenuine.org/educator-resources/mpower-texas](http://texasgenuine.org/educator-resources/mpower-texas)
- Texas Workforce Commission Texas Career Check
  [https://texascareercheck.com/](https://texascareercheck.com/)
- My Next Move [https://www.mynextmove.org/](https://www.mynextmove.org/)
- Career One stop Apprenticeship Finder
Regional Scholarship, Internship & Training Resources

- East End Chamber of Commerce [https://www.eecoc.org/](https://www.eecoc.org/)
- Harris County International Trade & Transportation Conference [http://harriscountyevents.net/agenda/](http://harriscountyevents.net/agenda/)
- Houston Electric League [http://www.hel.org](http://www.hel.org)
- Houston Transportation Professionals Association [http://htpa.net/](http://htpa.net/)
- International Longshoreman’s Association [https://ilaunion.org/](https://ilaunion.org/)
- ITMA Houston [https://www.itmahouston.org/transportation/](https://www.itmahouston.org/transportation/)
- Transportation Club Houston [https://www.transclubhou.org/](https://www.transclubhou.org/)
- US Department of Veterans Affairs [https://www.benefits.va.gov/vocrehab/](https://www.benefits.va.gov/vocrehab/)


Disruptive Technologies (May 2018). Presented at EECC Education Symposium, Federal Reserve Bank Dallas, Houston Branch. Lead Authors: Liang-Chieh Cheng, PhD. and Yunpeng (Jack) Zhang, PhD. Contributing Authors: Mary Henderson, PhD. and John Vogt, PhD.


Pasadena ISD. Retrieved from: https://www1.pasadenaisd.org/about.


Texas Southern University, College of Science, Engineering & Technology, Department of Transportation Studies. Retrieved from: http://transportation.tsu.edu/chairs-message/.


University of Houston, College of Technology, Department of Construction Management, Supply Chain & Logistics Technology Program. Retrieved from: http://www.uh.edu/technology/departments/cm/undergraduate/sclt/sample-degree-plan/.
Apprenticeships at Cummins: Past, Present, and Future
Agenda

• Brief Background of Cummins

• Diesel Technician Shortage

• Past Approaches

• Present Approach

• Future Initiatives

• Developing a Pipeline (K-12...and Beyond)
Brief Background of Cummins

- Founded in 1919
- NYSE Symbol: CMI
- 2017 Fortune 500 Rank: 159
- 2017 Revenues: $20.4B
- 2017 Net Income: $1B
- Employees: 58,600
- Major Business units
  - Engine Segment
  - Components
    - Filtration
    - Turbo Technologies
    - Emission Solutions
    - Electronics and Fuel Systems
  - Power Systems
  - Electrified Power
  - Distribution

Cummins Inc. designs, manufactures, sells and services diesel and alternative fuel engines from 2.8 to 95 liters, diesel and alternative-fueled electrical generator sets from 2.5 to 3,500 kW, as well as related components and technology.

Cummins serves customers through our network of 500 company-owned and independent distributor facilities and approximately 7,500 dealer locations in more than 190 countries and territories.
Cummins Sales and Service – North American Distribution Regions

*Buyout of JV Distributorships in 2015*
Cummins Sales and Service - Gulf Distribution Region

- Gulf Region: 26 locations
  - 24 service centers
  - 2 Corporate HQs
- Specialization in Marine and Oil/Gas
- ~1,200 employees
  - 490 diesel technicians
- Revenues in excess of $1B in 2017
Diesel Technician Shortage

• Supply of diesel technicians is rapidly shrinking
  – Fewer high school technical programs
    • Lack of funding
    • More focus on college preparedness than technical pathways
    • Proficiency levels lower
    • Less support and input from business partners
    • Stigma of blue-collar jobs
  – “Gray Tsunami”
    • 75 million Baby Boomers on verge of retirement
    • 10,000 people each day reach 65 years of age

• Demand is steadily increasing
  – More diesel engines on the road now than ever before
  – Pay rates for skilled technicians rising
  – 51 current openings for techs in our region alone
Past Approach:

1960s - 1990s (Memphis)

- Students hired directly from local Vo-Tech diesel programs
- Cummins worked directly with Vo-Tech programs to develop relationships with students
  - Actively recruited students we wanted to hire as apprentices before they graduated
- 3-year program
- Under the Supervision of a Journeyman
  - Mixed Workload
    - Hands-on work
    - Qualifications, Certifications, and Classwork
- Candidates promoted to Journeyman upon completion of Apprenticeship
- Success Story: Robert Davis, Service Manager, Cummins Sales and Service - Memphis
Past Approach:

Cummins Mid-South Apprenticeship Program

- Late 1990s - 2015
- Candidates selected at hiring as apprentices
  - Hired directly out of 2-year post-secondary programs
  - Some worked in shops for a short time before beginning program
- Worked in shop for 3 weeks per month, Training 1 week per month
- 1-year program
- Hefty raise upon completion
- Completed program with all current certifications
- Suffered from natural attrition
- No service agreement
Present Approach:

Cummins Inc.’s TAP Program

- Much more formalized approach than past programs
- Started in 2015
- 4 year program with 2-year service agreement (upon completion)
- Candidates hired from 2-year trade schools, military, and high school Vo-Tech programs
- 3 Partner Schools
  - Central Piedmont Community College (North Carolina)
  - Salt Lake City Community College (Utah)
  - Vincennes University (Indiana)
  - Plans for additional schools throughout US and Canada
- Full-Time paid employee while earning Associate in Applied Science (AAS) degree
  - Basic course credits earned transferable towards bachelor’s degree
  - Full-time employee, Part-time student
  - 401K, Insurance, Benefits, etc.
Cummins Inc.’s TAP Program

- Cummins-specific courses completed in class
  - Travel / lodging costs covered by Cummins
  - First 2.5 years dedicated to engine fundamentals
  - Last 1.5 years focus on 1 of 5 specialties
    - Diesel engines, High Horsepower, Marine, Power Generation, or Service Operations
- Basic courses completed online
  - Math, English, etc.
  - 5 PAID hours per week to complete
- Tools Provided
Cummins Inc.'s TAP Program

- Highly Skilled Technician
- Apprentice
- Leadership
- Management
- Engineering
- Training
- Design
- Sales/Sales Support
- HR
- Quality
- Health & Safety
- Finance
- Logistics
Future: TEC (Technical Education for Communities)

- 22 sites worldwide
- Current local initiative: East High School T-STEM
  - Only TEC in North America
- Aims to close the global skills and labor gaps
- Established coalition of business, educational, and governmental partners
- Integration of Soft Skills curriculum
- Focuses on high school students
- Provides opportunities for traditionally disadvantaged youth
  - Diversity and Inclusion of underrepresented demographics
- Eventual feeder for TAP
Gaps and Challenges

- Many different pathways and entry/exit point options
- Focus should be on creating defined pathways and communicating to students/parents
Creating a Pipeline (K-12...and Beyond)

• Initially, interaction began with HS students
  – Recent data reveals that’s just not soon enough
  – We must pique interest in kids as early as elementary school

• New Approach
  – K-5 (Elementary): Basic exposure to brand and support of key initiatives; foundational understanding of Cummins and our diverse job roles
  – 6-8 (Middle School): Deeper dive; more hands-on projects
  – 9-12 (High School): Highly technical programs; provide dual-enrollment credit
  – College: Support through internships
Creating a Pipeline (K-12...and Beyond)

• As an industry, we cannot leave it solely to educational systems to prepare our children for the jobs of today and tomorrow
  – Schools systems are typically under-funded
  – Influence and direction of industry partners is absolutely CRITICAL
  – Interaction and support of vocational programs allows us to dictate today the type of workers we see in our shops tomorrow

• It’s never too early!
  – Brand and industry awareness
  – Support of school initiatives/students
  – Fuels the greater good
For More Information

• **TAP (Cummins’ Technician Apprenticeship Program)**
  – Victor Garcia ([victor.Garcia@cummins.com](mailto:victor.Garcia@cummins.com))
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