UpSkill Houston:

A BUSINESS APPROACH FOR DEVELOPING HOUSTON’S TALENT PIPELINE

Southwest Insulation Contractors Association
February 7, 2019
“We cannot solve our problems with the same thinking we used when we created them.”

- Albert Einstein
The Two Gap Challenge

Two Gap Challenge:

- **Skills Gap**: People lack the skills they need for the careers industry offers
- **People Gap**: Employers cannot find the workers they need, when and where they need them

Impact of the Challenge:

- Unfilled Job Openings
- Onboard and Upgrading Costs
- Turnover and Retention
- Increasing Diversity
Common Pain Points?
  – Craft Professionals?
  – Manufacturing Professionals?

Impact on Competitiveness?
  – Overtime
  – Rework
  – Retrain replacement workers
Workforce Information

Insulation Craftworkers (BLS):
- 2016 Regional Workforce: 1,580 workers
- 2026 Regional Workforce: 1,863 workers
- Growth: 283 workers

Construction Labor Market Analyzer (CLMA)
- BLS Regional Supply of Insulators: 780
- Peak Headcount Q1 2021: 5,000
- Range of Projected Demand (2019 to 2022): 1,900 to 5,000
A Regional Labor Economy

- High School
- Technical Education (2 years or less)
- University (4 years or more)
- Career
Houston: The Skills Gap is Real

By 2022, Between 60-70% of jobs in Houston will require training beyond high school.

THOUSANDS of these jobs are in the key industry sectors that drive Houston’s regional economy.

Nearly 1 MILLION high-paying jobs in Houston can be attained with 2 years of training or less!

Half of these pay more than $40,000.

Some starting salaries reach $70,000!
Key Industry Sectors with Careers Available

- **CONSTRUCTION**
- **PETROCHEMICAL**
- **HEALTH CARE**
- **PORT AND MARITIME**
- **ADVANCED MANUFACTURING**
- **OIL AND GAS**
- **UTILITIES**
- **TRANSPORTATION**
UpSkill Houston Action Plan

Blueprint to establish collective action and impact to build a quality regional workforce and talent pipeline

– Focus on key Industry Sectors that drive Houston’s regional economy

– Demand Driven and Employer Led—to meet the needs of employers

– Supply Quality—to help residents become aware of, connect to training, and obtain good-paying jobs
UpSkill Houston: Elements & Challenges

- **Employer Leadership**: Focus on key sectors and work with business leadership to develop the collaborative strategies that address common workforce needs and challenges.

- **Collective Solutions**: Strong collaboration among employers, educational institutions, social service organizations, and public sector.

- **Awareness Challenge**: Increase awareness about the industries and careers and inspire students to explore careers in UpSkill Houston's high-growth industries.

- **Improve Employability Skills**: Improve the skills and mindsets of potential workers to be successful in industry.
Skills Gap: A Supply Chain Problem

Suppliers
- Community Colleges
- School Districts
- Community Organizations
- Family and Friends

Employers
- Companies
- Staffing Firms
- Trade Associations
Skills Gap: A Supply Chain Problem
Collective Employer Leadership

- **Demand Planning**: Getting the facts for decision-making
- **Competency Mapping**: Agreeing on skills and competencies
- **How Talent Flows into the Industry**: Where do we get our best talent
Demand Planning

Select Industrial Craft

EHCMA Region

Skilled Labor Supply & Demand

Probable Range
Peak-Shaving and Project Drift

Target Supply Level

Supply includes out-of-state workers (est.)

Projected Current Supply (net of attrition)

Select Industrial Crafts:

- Boilermaker
- Boilermaker Welder
- Carpenter (Scaffold Builder)
- Electrician
- Instrumentation Technician
- Insulator
- Ironworker (Reinforcing)
- Ironworker / Welder (Structural)
- Millwright
- Operator (Heavy Crane)
- Operator (Heavy Equipment)
- Pipefitter / Combo Welder
- Sheet Metal Worker
- Pipefitter
## PETROCHEMWORKS COMPETENCY MAPS BY SKILL SET - PIPEFITTING

**PATHWAYS:** Industry Based, High School CTE, Community College, Military, Community Based, Other Industry

### PIPEFITTER HELPER

<table>
<thead>
<tr>
<th>ENTRY LEVEL</th>
<th>MID LEVEL</th>
<th>TOP LEVEL</th>
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<tbody>
<tr>
<td>OJT: 6 Months - 1 Year</td>
<td>OJT: 1 Year - 2 Years</td>
<td>OJT: Until ready for Independent Work confirmed by Site Supervisor</td>
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<tr>
<td>PRACTICE SAFETY AWARENESS</td>
<td>APPLY BASIC PIPEFITTING TRADE MATH</td>
<td>APPLY ADVANCED PIPEFITTING TRADE MATH</td>
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<tr>
<td>IDENTIFY BASIC TOOLS</td>
<td>READ AND INTERPRET A TAPE MEASURE</td>
<td>COMPLETE PROPER VALVE INSTALLATION</td>
</tr>
<tr>
<td>PRACTICE SAFE HOUSEKEEPING</td>
<td>PERFORM PROPER OXYFUEL CUTTING</td>
<td>READ, INTERPRET, AND DESCRIBE A PLAN OF WORK FROM A BASIC ISO</td>
</tr>
<tr>
<td>APPLY BASIC CONSTRUCTION MATH</td>
<td>IDENTIFY COMMON FITTINGS</td>
<td>REFERENCE THE GRAVES BLUEBOOK TO COMPLETE A PIPING SYSTEM LAYOUT</td>
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<td></td>
<td>IDENTIFY BASIC COMPONENTS OF AN ISO</td>
<td>INSTALL AND CONNECT A PROPER FLANGE ASSEMBLY</td>
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<tr>
<td></td>
<td>IDENTIFY AND USE BASIC PIPEFITTING HAND AND POWER TOOLS</td>
<td>IDENTIFY COMMON COMPONENTS OF PIPE/VESSEL TRIM (Pipe to gauges)</td>
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<tr>
<td></td>
<td>PERFORM PROPER GRINDING AND BEVELING OF PIPE</td>
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<td></td>
<td>CUT, REAM AND THREAD PIPE</td>
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Flows of Talent

- Petrochemical?
- Industrial Construction?
Align and Coordinate

Brazosport College
The College of Choice®

SER

Alief
Independent School District

Spring Branch
Independent School District

San Jacinto College
Your Goals. Your College.

BakerRipley
Community Developers

Lone Star College

United Way
United Way of Greater Houston
Helping families THRIVE

HCC
Houston Community College
Prototypes

• **Women in Construction:** S&B Engineers and Constructors and United Way of Greater Houston THRIVE Network

• **JumpStart:** Jacobs and Lee College

**Trio Electric:** Program for pre-apprenticeships: Trio Electric, Spring Branch ISD, HCC
Awareness:

WHAT ARE YOU UP FOR?
Awareness: The Challenge

- Mission Completed: We have convinced America that the only pathway to success is a four-year college degree

- Advanced and technical careers confront an awareness and perception challenge
  - Dirty, hard, and unsafe
  - Menial and not challenging
  - No opportunity for advancement

- Parents and Students have trusted sources
  1. Family, friends and neighbors
  2. School counselors and teachers
  3. Faith institutions
Awareness: The Campaign

- Inspire students to pursue the many good careers in our region’s critical industry sectors.

- Raise awareness about the great careers that require two years of education or training beyond high school but less than a four-year college degree.

- Support schools and their staff as they encourage students to consider these careers.

- Continuously improve the campaign.
Findings: The Opportunity

- Industry-specific overviews
  - Messages around safety, stability, and growth
  - Company can be a proxy for stability and growth
  - Resources about careers, salaries, and pathways to get to them
- Stories about young people in successful these careers—put a face to the careers
  - Why they enjoy the careers
  - How it makes a difference
  - What they get to do
- Opportunities to meet with industry leaders
- In-person observation of the careers
My Life As . . .

www.UpSkillMyLife.org
Key Learnings

- **Collective Mindset**: Go to where Employer Leaders already meet with the mindset that they share a workforce
  - Petrochem Works steering team
  - AGC and ABC

- **Collective Learning**: Help stakeholders translate how employers and others think
  - Student and Parent focus groups on awareness and perceptions
  - Competency Mapping

- **Collective Doing**: Prototyping to address a meaningful pain point
  - S&B’s Women in Construction program
  - Awareness Campaign
Thank You

WHAT ARE YOU UP FOR?
A REWARDING CAREER IN ONE OF HOUSTON’S THRIVING INDUSTRIES COULD BE YOURS IN TWO YEARS OR LESS.

CONSTRUCTION  OIL AND GAS  HEALTH CARE  ADVANCED MANUFACTURING  UTILITIES  PETROCHEMICAL  PORT AND MARITIME