

# Apprenticeships / skilled workforce development

## Closing the skills gap ... creating the next generation of makers

**Katherine Sanchez-Rocha** is the director for Alamo Academies team. She previously worked as a field representative and caseworker for Congressman Will Hurd in the San Antonio Regional Office.

**Latitia D. McCane** is the director of education for the Apprentice School at Newport News Shipbuilding. She is responsible for the overall leadership, vision and strategic direction.

**Tara Beck** is currently the senior manager of Skilled Workforce Development for Ingersoll Rand. She focuses her time on creating programs to help close the skills gap in their manufacturing plants.

# Interactive Panel Format

- Each panelist will share the highlight of their program
  - 10 minutes
- Each panelist will rotate between 3 groups
  - 10 minutes
- Each group will get to ask the panelists questions
- At the session, panelists will be available to share contact information and answer questions

**Please take time to record your feedback**

# Thank You!

***Your opinion is important to us!***

**Please take a moment to complete the survey using the conference mobile app.**

**Session No: WS/33**

**Apprenticeships / skilled workforce development**

Closing the Skills Gap

Alamo Academies

Ingersoll Rand

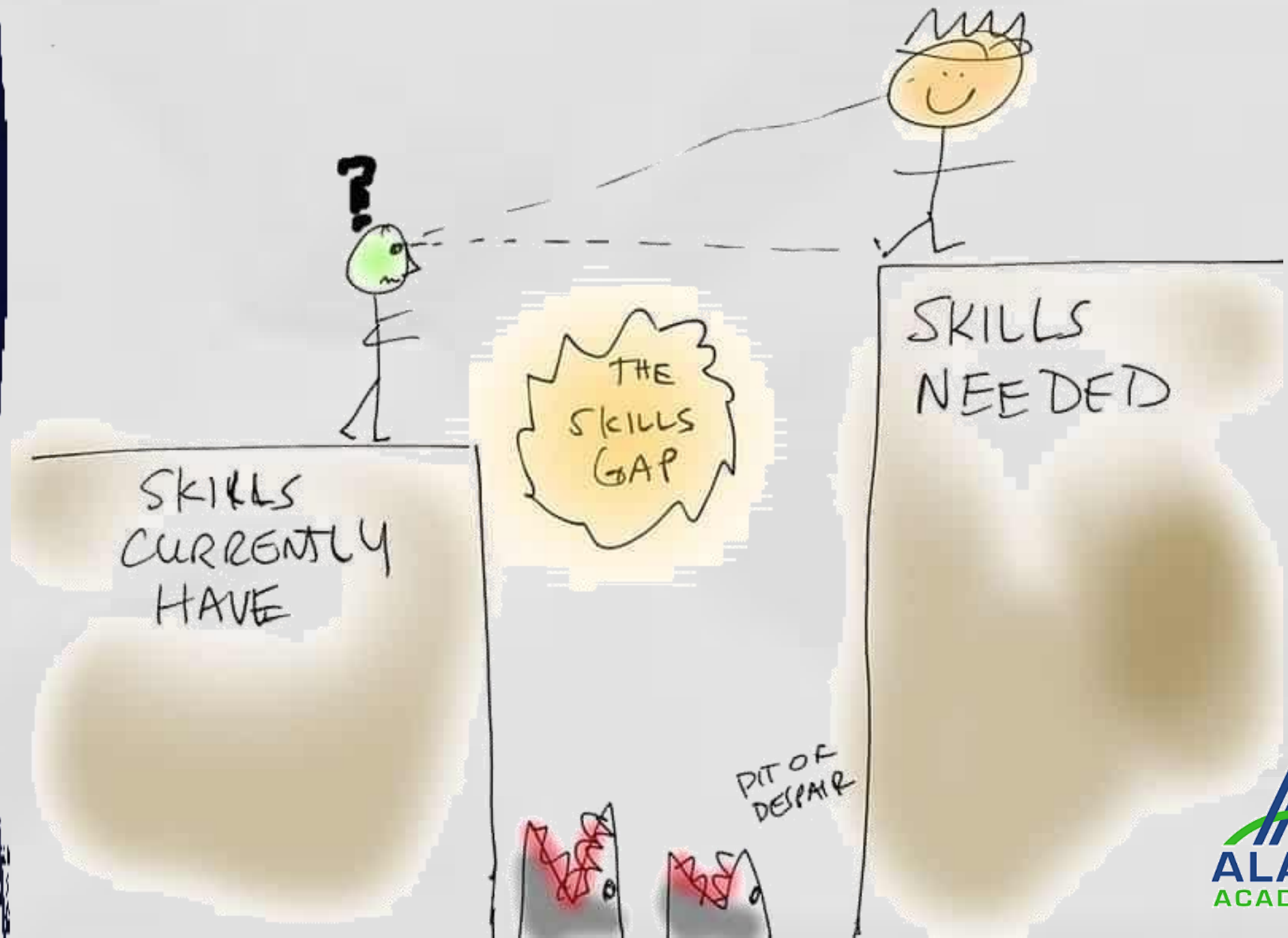
NNS Apprentice School

# Alamo Academies

**Katherine Sanchez-Rocha**  
**Executive Director**

# Alamo Academies

**Katherine Sanchez-Rocha**  
**Executive Director**





# Yesterday and Today

**Retiring workforce**

**Need to transfer knowledge**

**Develop a pipeline**

**Partnership**

# **San Antonio's Solution**

**Alamo Academies - STEM-based instructional model**

**Industry**

**School districts**

**Local communities & Government entities**

**Alamo College District**



# The Model

**Target: Middle and High School students**

**Industry demand-driven & collaborative program**

**Dual credit Program of Studies leading to college diploma**

**Nationally recognized industry certification**

**Stackable credentials**

**Comprehensive student support systems**

# 2-Year Program of Studies

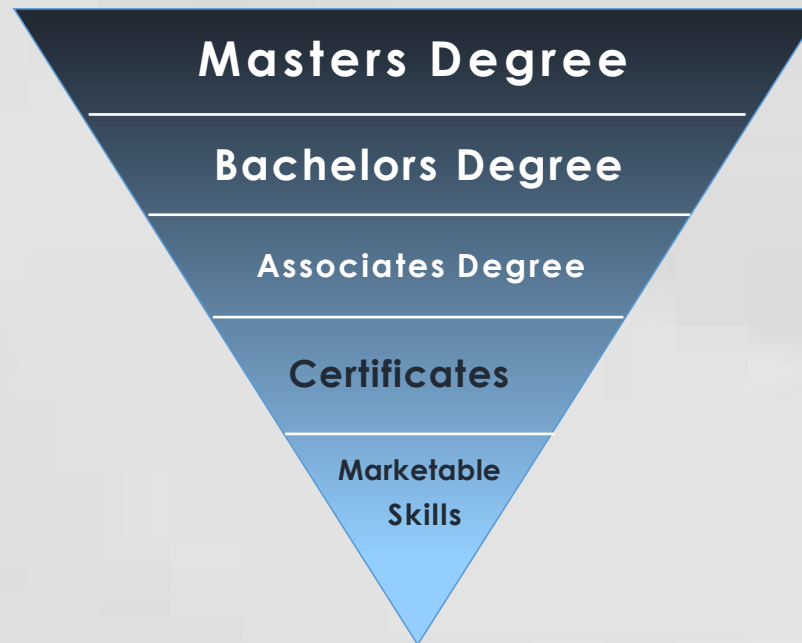
~ 30 college hours  
at  
**NO COST**  
to high school  
students

Only  
**2.5 hours/day**  
at college site

~ \$3,000  
**PAID**  
**INTERNSHIP**  
with industry

Scholarship  
equivalent over  
**\$12,000**

# Pathways Unbound



# **Accomplishing our Mission**

## **Workforce Development**

**Public strategic alliances & partnerships**

**Promoting community & economic development**

## **Pathways to Career & College**

**Boosting School-to-Careers pipeline**

**Meeting community needs**

# Impact

**95%**

to careers and/or  
higher education

**3,450+**

industry & workforce  
certificates earned

**Statistics**

**\$14,300,000+**

awarded in scholarships

**\$42,700**

average starting  
wages & benefits



# Today and tomorrow

**Need Skilled Workforce**

**Solution growing their pipeline through Alamo Academies**

**Point of entry for TMMTX**

**Companies hire exclusively from Alamo Academies**



# NEWPORT NEWS SHIPBUILDING



**Newport News Shipbuilding**  
A Division of Huntington Ingalls Industries



**THE APPRENTICE SCHOOL**

**LATITIA McCANE, APPRENTICE SCHOOL DIRECTOR**

# NEWPORT NEWS SHIPBUILDING

- ❖ 133 YEARS OF SHIPBUILDING EXPERIENCE
- ❖ LARGEST INDUSTRIAL EMPLOYER IN VIRGINIA, OVER 24,500 EMPLOYEES
- ❖ PRODUCT LINES
  - ❖ GERALD R. FORD CLASS AIRCRAFT CARRIER CONSTRUCTION
  - ❖ SUBMARINE DESIGN AND BUILD TEAMED WITH GENERAL DYNAMICS ELECTRIC BOAT
  - ❖ AIRCRAFT CARRIER REFUELING AND COMPLEX OVERHAUL (RCOH)
  - ❖ FLEET MAINTENANCE SERVICES FOR SUBMARINES AND AIRCRAFT CARRIERS
  - ❖ AIRCRAFT CARRIER DEFUELING AND INACTIVATION





# THE APPRENTICE SCHOOL



- ❖ NNS' PRODUCTION LEADERSHIP ACADEMY
- ❖ FOUNDED IN 1919
- ❖ NEW STATE OF THE ART BUILDING OPENED IN 2013
- ❖ ABOUT 850 IN 19 TRADES PLUS 8 ADVANCED OPTIONAL PROGRAMS, INCLUDING MARINE ENGINEERING (BACHELOR'S DEGREE) AND SIX SPORTS PROGRAMS
- ❖ ACCREDITED BY ACCREDITING COMMISSION OF THE COUNCIL ON OCCUPATIONAL EDUCATION
- ❖ ALMOST 3,000 GRADUATES AMONG CURRENT EMPLOYEES
- ❖ APPRENTICE GRADUATES HOLD 44% OF PRODUCTION MANAGEMENT POSITIONS
- ❖ 82% OF ALUMNI REMAIN WITH NNS 10 YEARS AFTER GRADUATION
- ❖ MARITIME CERTIFICATE AWARDED IN 2019
- ❖ PRE-APPRENTICESHIP PILOT WITH NEW HORIZONS



# ADMISSION REQUIREMENTS

- HIGH SCHOOL GRADUATE
- UNITED STATES CITIZEN
- ABILITY TO OBTAIN A SECURITY CLEARANCE
- ABILITY TO PERFORM THE DUTIES OF THE OCCUPATION
- COMPLETE MEDICAL AND DRUG SCREEN

- Candidates have a strong background in math and science

Algebra I	Algebra II
Geometry	Advanced Math
Principles of Technology	Mechanical Drawing
Chemistry	Physics
Vocational/Technical Education or Computer Science	

**\*Minimum of (4) courses required**

# STRONG EMPHASIS ON LEADERSHIP

- iLEAD Program benchmarked at the U.S. Naval Academy
- The Apprentice School Leadership Experience at The College of William and Mary
- Frontline Foreman Accelerated Skills Training
- Six Division III level sports
- Student Organizations
  - Student Government
  - Jaycees
  - Society of Manufacturing Engineers
  - National Society of Leadership & Success
  - Society of Naval Architects and Marine Engineers
  - Engineering & Robotics Club
  - Bass Club



# STUDENT EXPERIENCE SNAPSHOT

- APPRENTICES STARTING TODAY...
  - STARTING PAY - \$17.79/HOUR
  - PAY INCREASES EVERY 90 DAYS FOR THE FIRST 1 ½ YEARS
  - PAY INCREASES EVERY 6 MONTHS FOR THE REMAINDER OF APPRENTICESHIP
  - COMPLETION PAY RATE OF \$29.73/HOUR (\$62K ANNUALLY)
- BENEFITS START AFTER 90 DAYS
- Tuition-free experience
- Textbooks provided
- Academics on the clock
- Real life experience building complex products
- No service agreement





# Welcome:

*The Journey Begins...*



# **The Beginning:**

*Step One...*

## **Business Case**

**Aging Workforce**

**Less experienced backfills**

**Lack of Available Skilled  
Workforce**

## **Bench Marking**

**Based on Research &  
Industry Feedback**

**Proven Track Record of  
Success Over Time**

**Repeatable Model for  
Multiple Locations**

## **Aligned Values**

**Focus on Lean Principals**

**Fills Critical Skills Gap**

**Supports Community &  
Economic Mobility**



# **The Solution:** *Federation For Advanced Manufacturing Education...*

## **FAME is:**

Grassroots, employer driven program focused on developing Advance Maintenance Technicians (AMT). Local Companies & College partner to create a Co-Op.

## **How it works:**

Students learn Professional Practices, Lean Principals & Technical Skills by attending school 2 days & working 3 days a week.

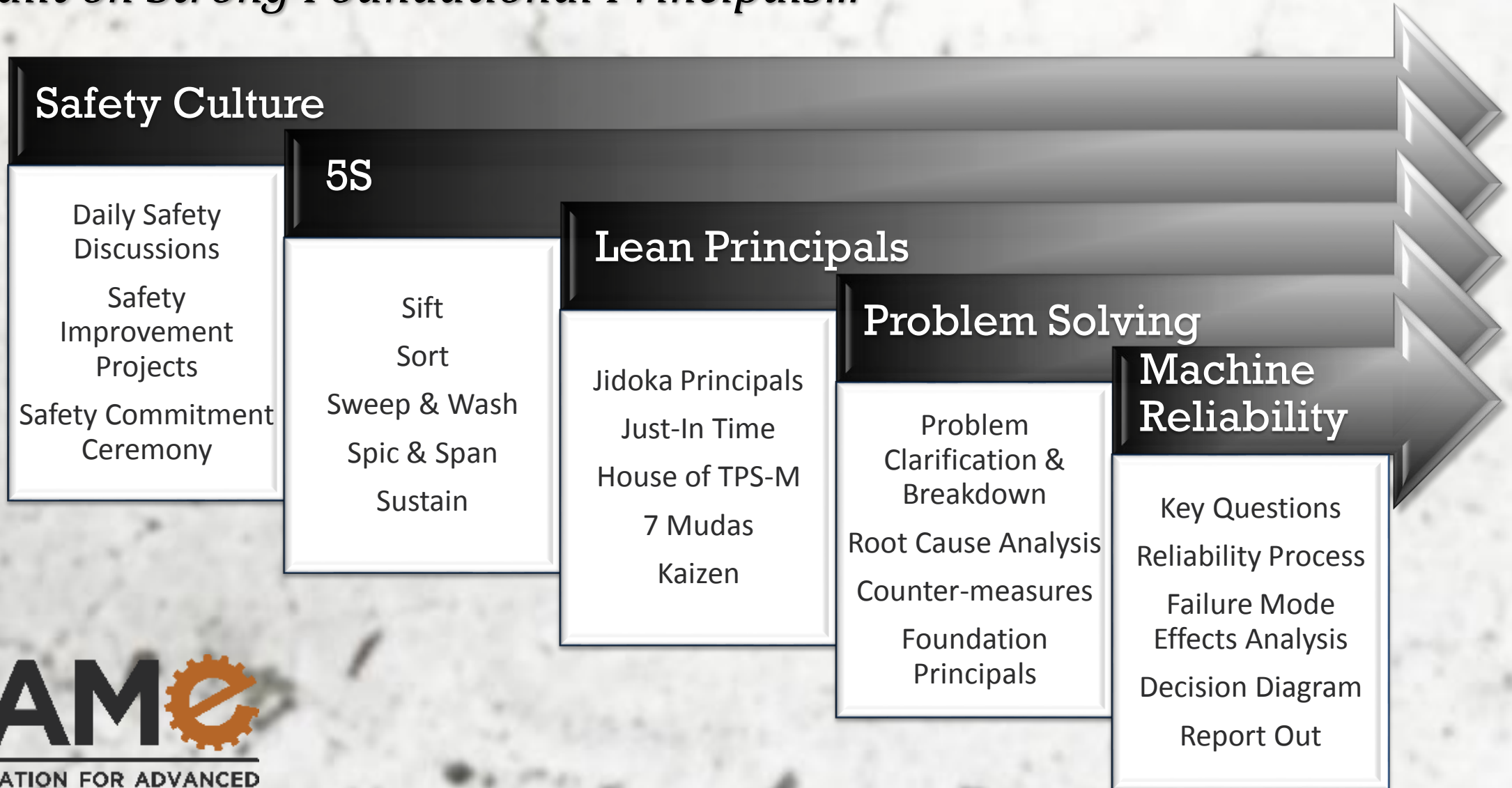
## **Desired Results:**

Companies pay competitive wages to allow students to graduate with no academic debt.  
Companies create personal pipeline of highly trained AMT talent to hire after graduation.



# The Results:

*Built on Strong Foundational Principals...*



# The Results:

*Built on Strong Foundational Principals...*



## **5 Professional Practices**

Dress  
Posture  
Greeting  
Presentation  
AMT Practices

## **6 Professional Behaviors**

Attendance  
Initiative  
Diligence  
Interpersonal Relationships  
Teamwork  
Communication

## **7 Essential Behaviors**

Attitude & Respect  
Discipline & Character  
Responsibility  
Organization  
Time Management  
Productivity  
Social Media Ethics



# The Outcome:

*A Partnership in Skilled Workforce Development...*

- **A Pipeline of Global Best Multi-Skilled Maintenance Technician**
- **A great Career Path for students entering the workforce or looking for a Career Change**
- **A repeatable model to help solve the Skilled Workforce Gap**

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