



The ARM Institute

Innovative Models in STEM Workforce

**Helping Manufacturers Meet
Workforce Challenges**



Today's Presentation

- 1) ARM Institute Intro
- 2) Competency Frameworks
- 3) Supporting Workforce Transition

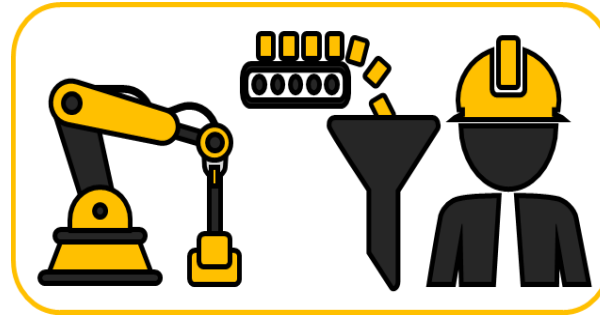
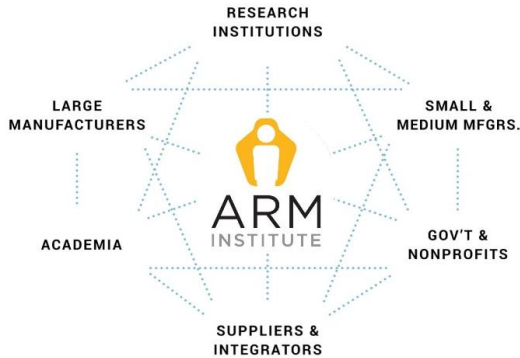
Manufacturing USA Network



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Pursuing Mission on **Three Fronts**



Consortium Collaboration & Impact

Convening and leveraging a nationwide consortium of 450+ organizations to participate in funded projects and drive innovation

Technology Development & Resources

Lowering barriers to adoption of robotics and AI by advancing technology through funded projects led by consortium members and by providing advanced manufacturing technology services

Education and Workforce Development (EWD) Impact

Expanding the robotics workforce with new and better career pathways with roboticscareer.org and national workforce initiatives

Robotics Competency Framework

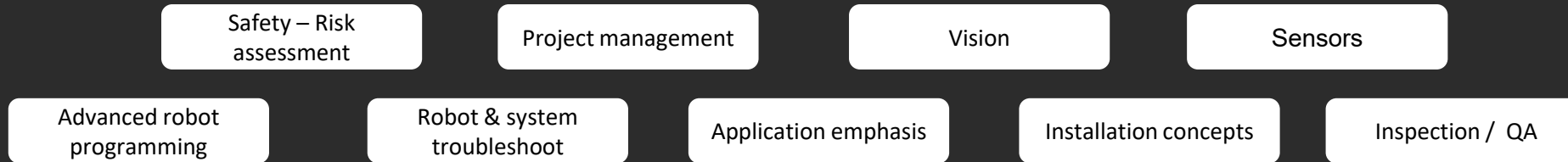
Essential Soft Skills

Industry 4.0
Robotics Career Pathways

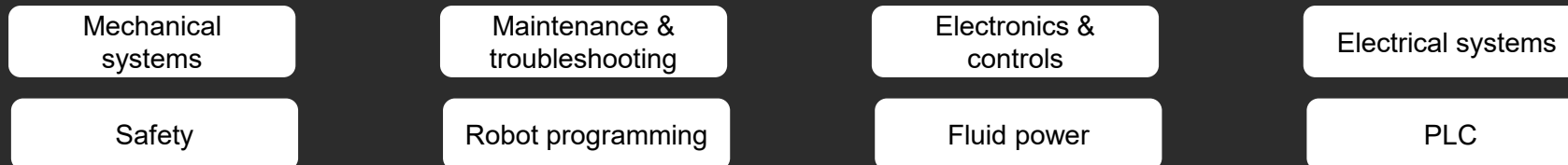
Robotics Integrator Applied Industry 4.0



Robotics Specialist Advanced Industry 4.0



Robotics Technician Fundamental Industry 4.0

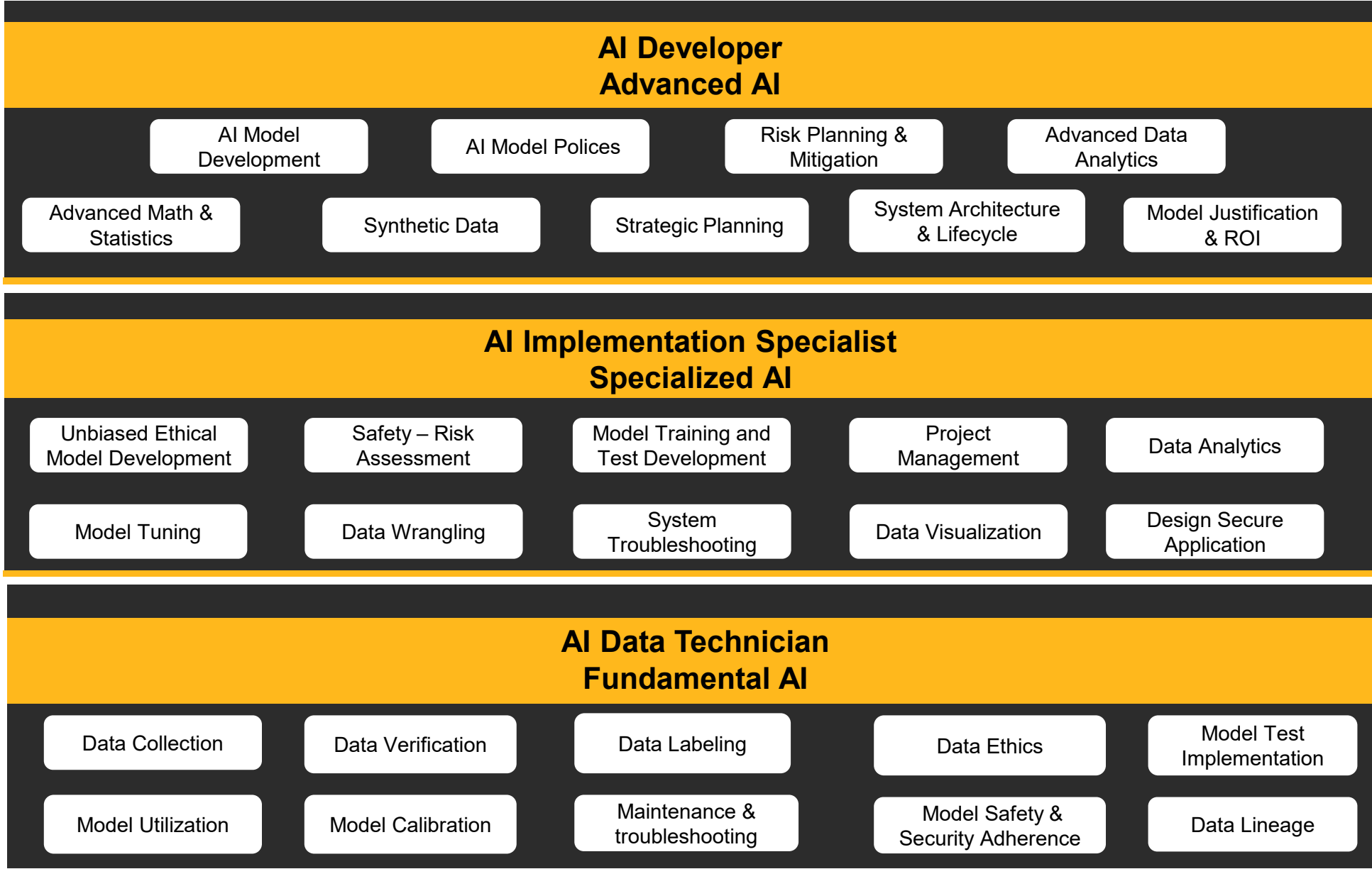


- Critical thinking
- Teaming
- Problem Solving
- Technology Aptitude
- Leadership
- Conflict Resolution
- Adaptability
- Attention to detail
- Technical Learning Ability
- Active Listening
- Interpersonal
- Communications
- Time Management
- Work Ethic

AI Competency Framework

Essential Soft Skills

AI in Manufacturing
Career Pathways



- Ethics & Integrity
- Leadership
- Critical thinking
- Healthy Skepticism
- Quality Mindset
- Growth Mindset
- Adaptability
- Problem Solving
- Technical Learning Ability
- Professionalism
- Active Listening
- Communications
- Divergent Thinking
- Interpersonal
- Conflict Resolution

Workforce Supply Chain Assessment Process

Internal Analysis

- Evaluate current state: cost, skills, roles, level of automation
- Evaluate future state
- Apply workforce readiness model

External Analysis (Landscape)

- Engage external stakeholders
- Identify/evaluate training resources
- Identify talent pool

Gap Analysis

- Skills
- Labor
- Training resources

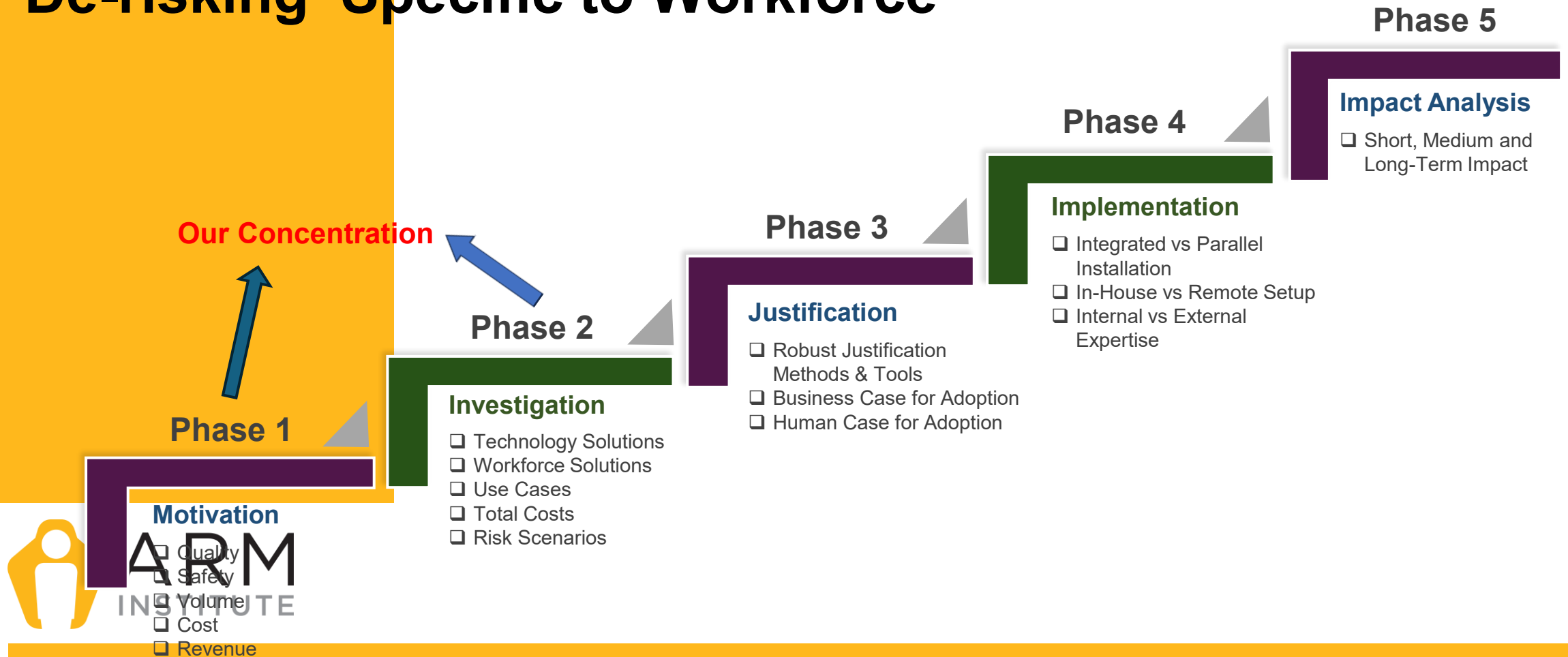
Recommendation Examples:

- Workforce Readiness Assessment
- HR hiring guidance
- Upskilling and Reskilling Strategies
- Training Resources
- Key Partners Identification

If Automating...

Technology Adoption Process

'De-risking' Specific to Workforce





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The ARM Institute leads the way to a future where people and robots work together to respond to our nation's greatest challenges and to develop and produce the world's most desired products.