

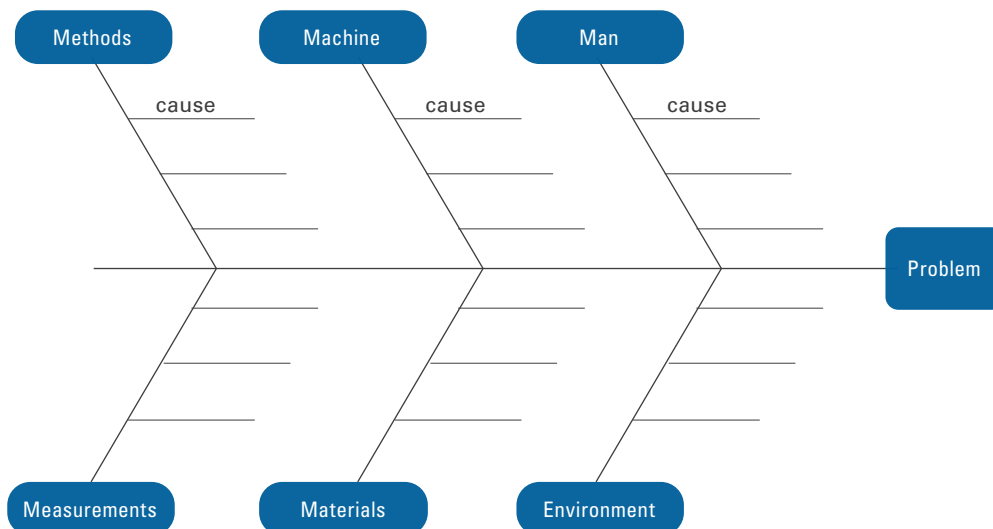
Pivoting to Manufacture PPE



Guiding Questions to Think About When Considering Pivoting to Manufacture PPE

- › Are you still operating?
 - › Customer impacts, capacity
- › Will you donate the product?
 - › Cash flow, sustainability
- › If not, who are you selling to?
 - › Hospitals
 - › NCEM
 - › FEMA
 - › Local agencies
- › Who should be involved in the decision to pivot?
 - › Owners/Top Management
 - › Sales
 - › Purchasing
 - › Product Development Engineer
 - › Process Engineer
 - › Operations Manager
 - › Governmental/Technical Partners

Let's use the Fishbone Diagram Method to Assess the Risks. The Fishbone Diagram is sometimes referred to as the 5 Ms & an E. Let's look at each one.



- Methods
 - Do I have technical specs?
 - Do I have a Bill of Materials?
 - Do I have drawings or models?
 - Are there regulatory issues or certifications?
 - Can I modify/substitute the design?
- Materials
 - What materials do I need?
 - Who are the suppliers?
 - Can I get materials?
 - Can I use substitute material?
 - What is the lead time?
 - Are there alternative suppliers?
- Machine
 - Do I have the machinery, tools & equipment to make this product?
 - Do I have the capacity in addition to my regular production?
 - Do I need a collaborator or partner?
 - Should I outsource some parts of the process?
- Manpower
 - Does my team have the skills needed?
 - Do I have enough people?
 - How will I get additional people?
 - How will I train people for this work?
- Measurements?
 - Will the material need to be tested?
 - Will the final product need to be tested?
 - Who will perform the testing?
 - Will I need to meet any regulatory requirements?
 - Are there any labeling requirements?
 - Are there any facility requirements?
- Environment
 - What are sanitation requirements?
 - What are the social distancing requirements?
 - What are the PPE requirements?
 - How do I monitor and detect?



NCMEP is administered by NC State Industry Expansion Solutions (IES) and is joined by partners from the North Carolina Community College System, NCWorks Customized Training; the Economic Development Partnership of NC; the Polymers Center of Excellence; the Manufacturing Solutions Center; and North Carolina A&T State University.