

Systems Model

Foundations of Engineering and
Technology

Technology System

- The complete process of designing, creating, using a tool and the result of its use.
- Each technology has parts that have a relationship with all other parts and to the whole.

Technology Systems Are:

- ⦿ Created from human need or want
- ⦿ Designed and developed by people
- ⦿ Modified and/or abandoned over time

Technology System Components

1. Goals- the objective, what the system should accomplish

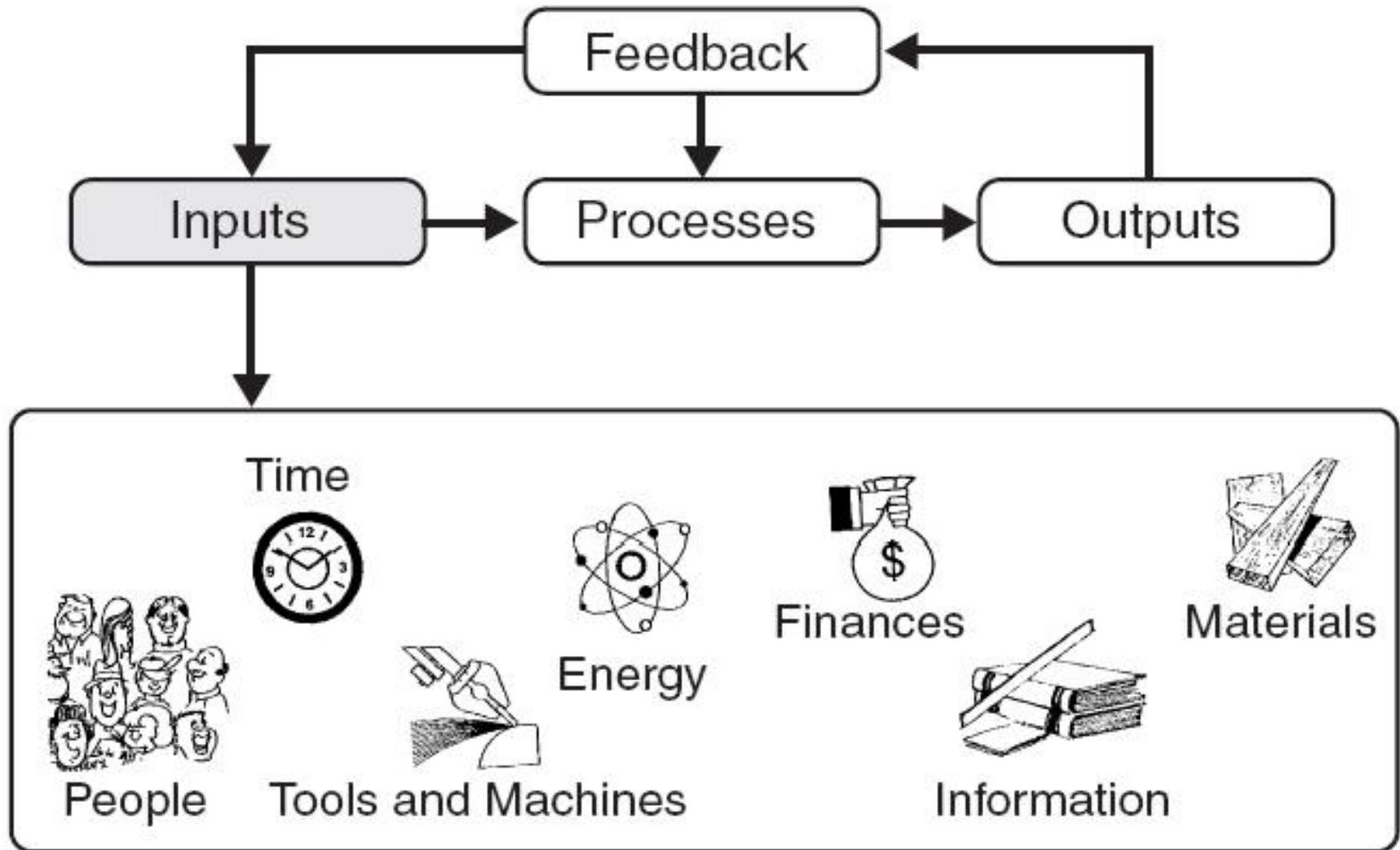
Technology System Components

2. Inputs-elements that flow into the system and are consumed or processed in the system

> 7 different inputs

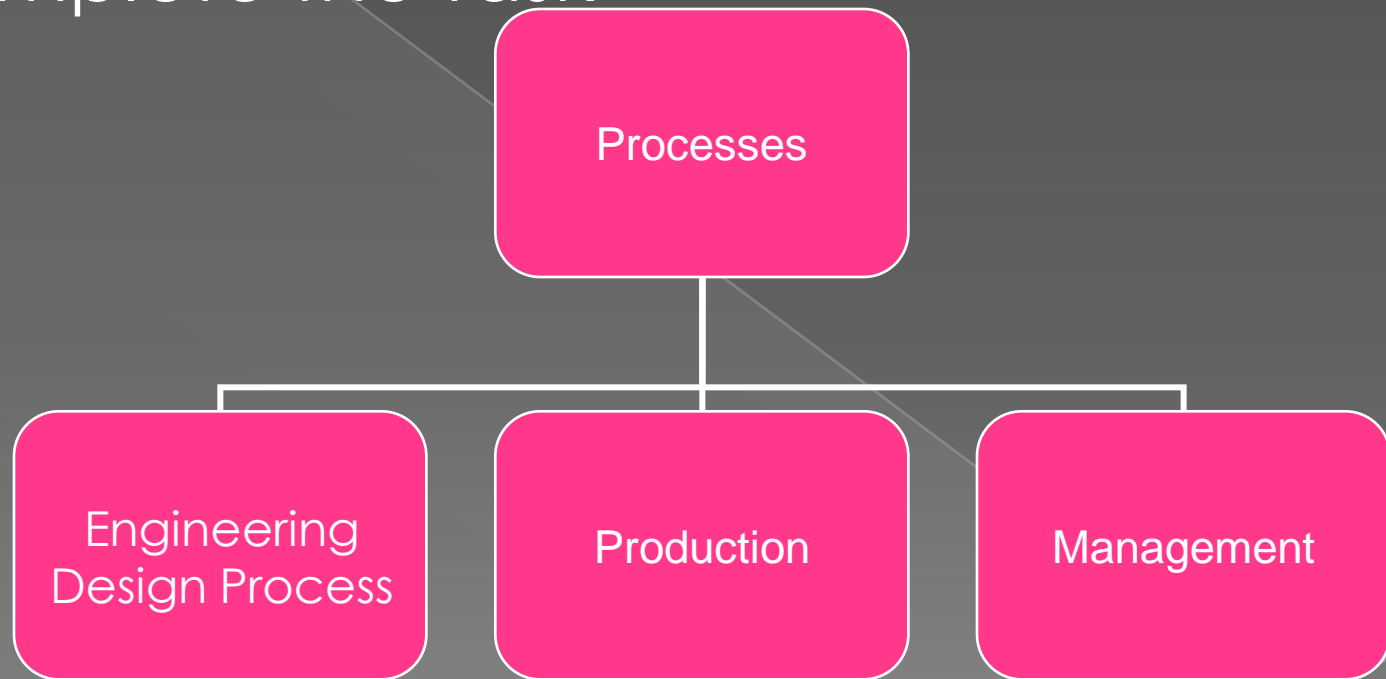
- People
- Materials
- tools or machines
- Energy
- information
- Finances
- Time

Technological Processes



Technology System Components

3. Processes- the steps needed to complete the task



Processes

◉ *Engineering Design Process*

- > Define the Problem
- > State Constraints and Specifications
- > Research the Problem
- > Alternative Solutions
- > Final Solution
- > Model and Prototype
- > Testing and Evaluation
- > Communicate

Processes

Production Process-

Actions completed to produce the product, structure or service

Management Process

Controlling and supervising the people, materials, and the production of the output.

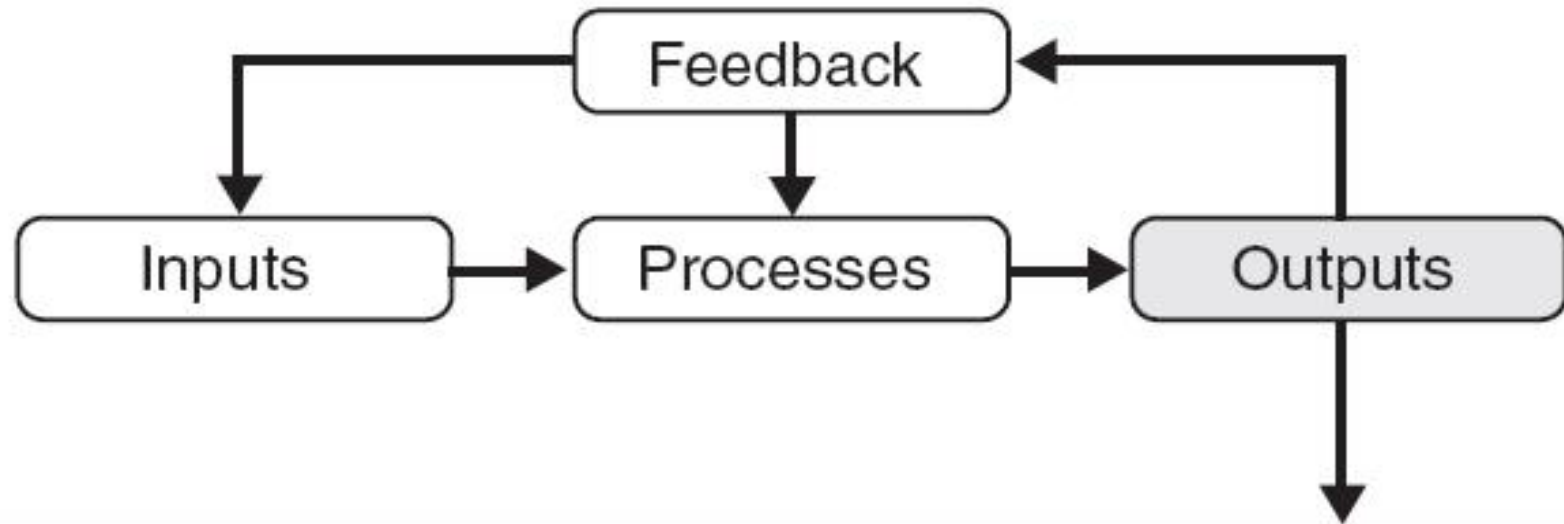
Technology System Components

4. Outputs

- > finished product and wastes or pollution
- > Can be intentional or unintentional

5. Feedback- Information about the output of a system used to regulate the inputs and processes

Technological Processes



Desired or Undesired
Intended or Unintended
Immediate or Delayed

