

Observing Your Product/Service Flow: What You Need to Know & Why



TACG
EXPERTISE IN ACTION

Overview



What is Flow?



Lean Principles



Types of Waste



How to See Your Product/Service (Mapping the Value Stream)

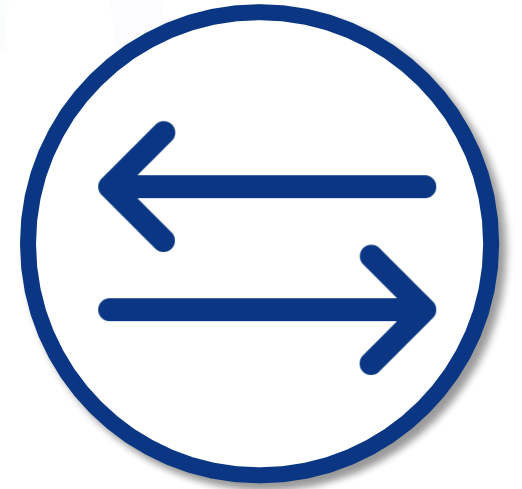


Flow Exercise



What is Flow?

- Flow is the **smooth, uninterrupted** movement of materials/services along the value stream
- **Flow** allows understanding of **capacity** and process wastes



What is Flow?

- **No Flow** = Bottlenecked system = **Waste** along Value Stream
 - Little to No predictability of output
- Goal of Flow is to improve flow of materials/services
 - This requires identification and removal of Waste



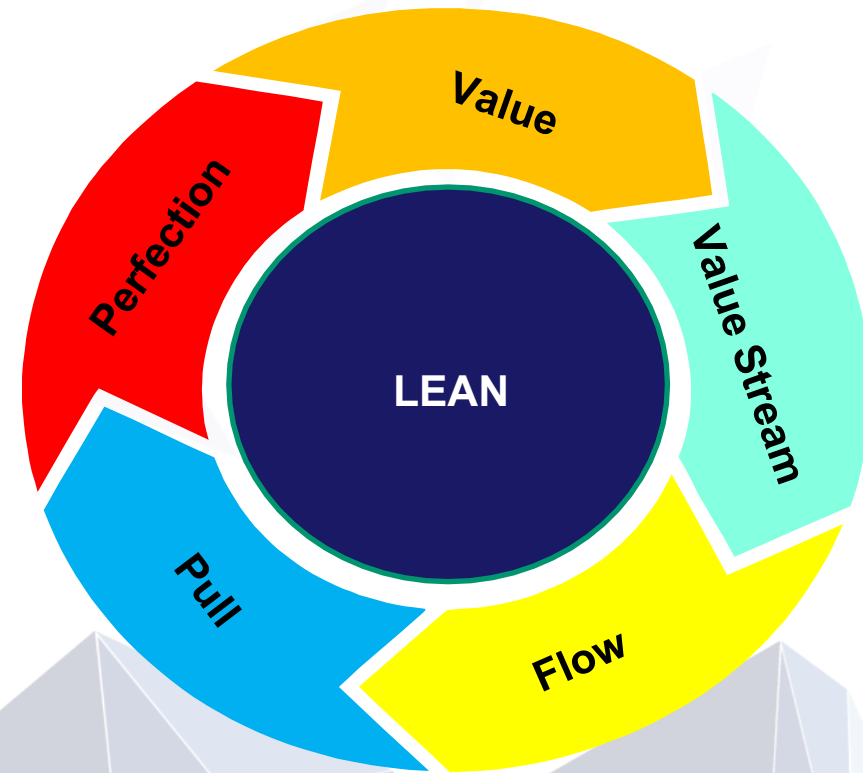
What is Flow?

- Single Piece Flow is the smooth and uninterrupted movement of materials/services **one piece** at a time along the value stream
- Produce **only** to customer demand
 - Pros/Cons
- Batch Processing: movement of product in “**batches**” along the value stream
 - Pros/Cons



Lean Principles

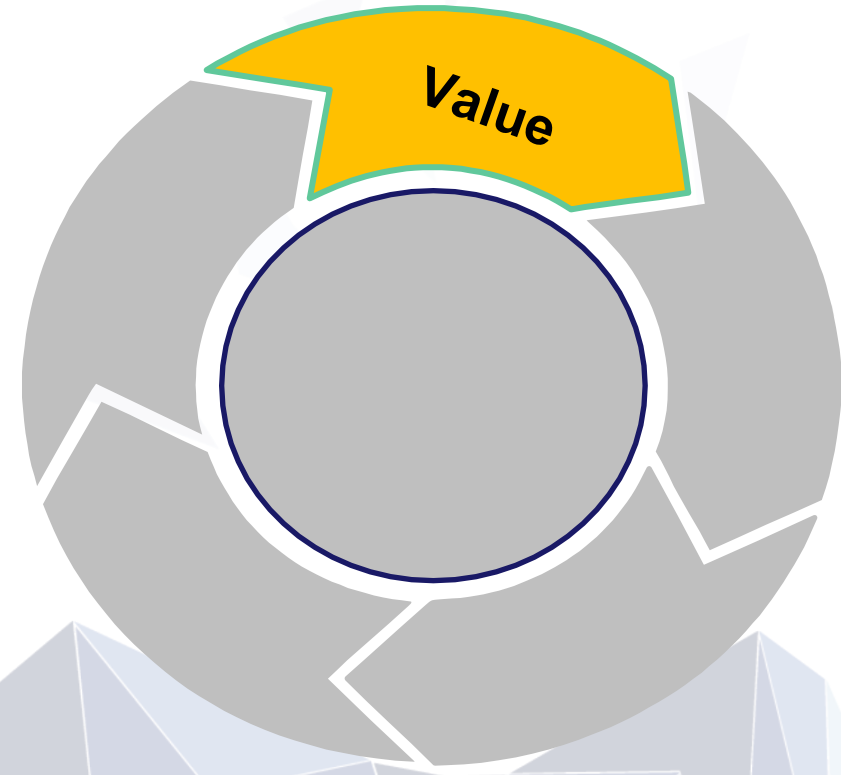
- Define Value
- Map the Value Stream
- Flow
- Pull
- Perfection



Value

Value

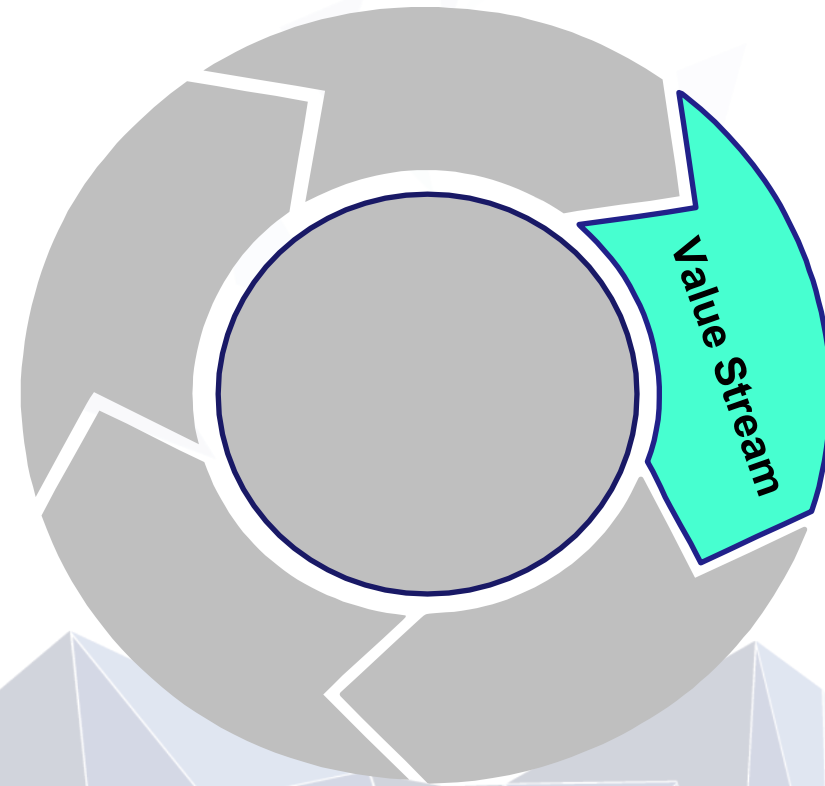
- Define value from the **customer's perspective**
- Express value in terms of a specific **service** or **product**



Value Stream

Value Stream

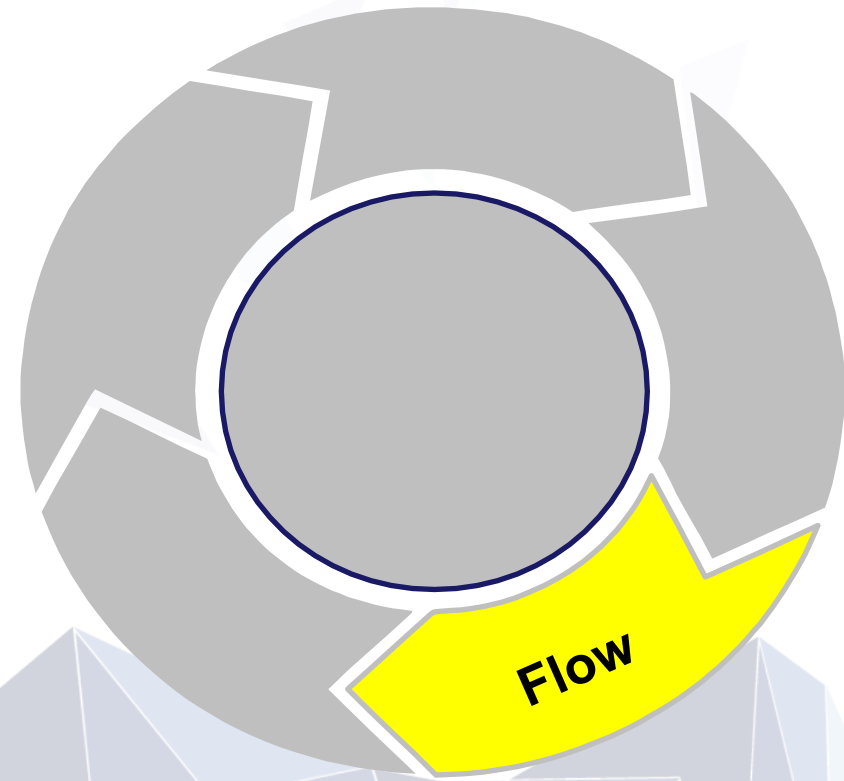
- Map **all** the steps in the end to end process that provides a service or brings a product to the customer
- Identify which steps are **value-added** or **non-value-added** (waste)



Flow

Flow

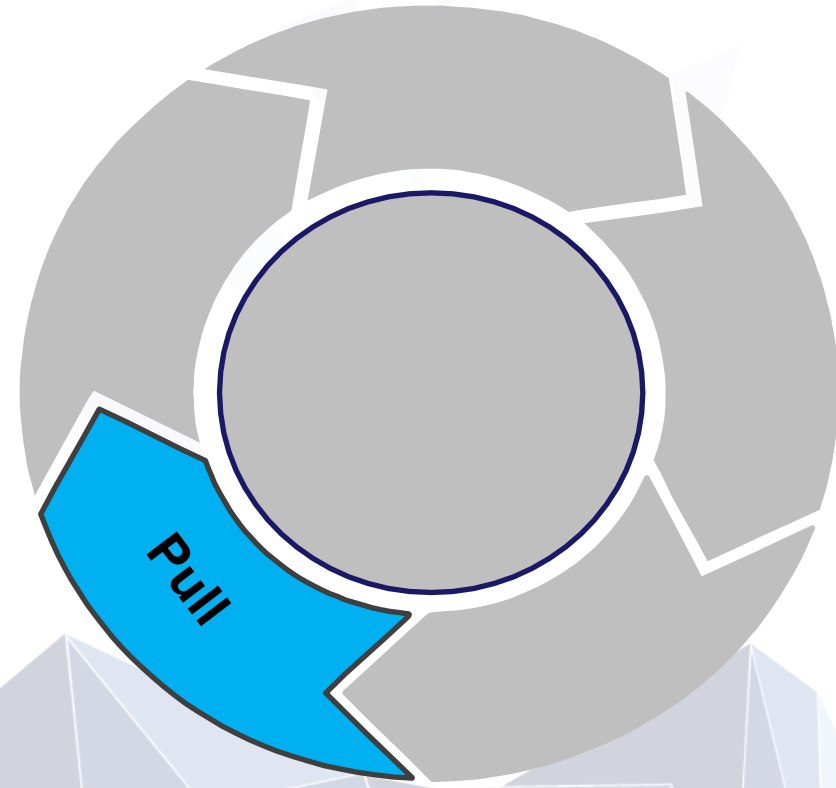
- The **smooth, uninterrupted,** movement of services/products along the value stream
- **Good Flow**= steady and predictable movement
- **Bad Flow**= work starts and stops



Pull

Pull

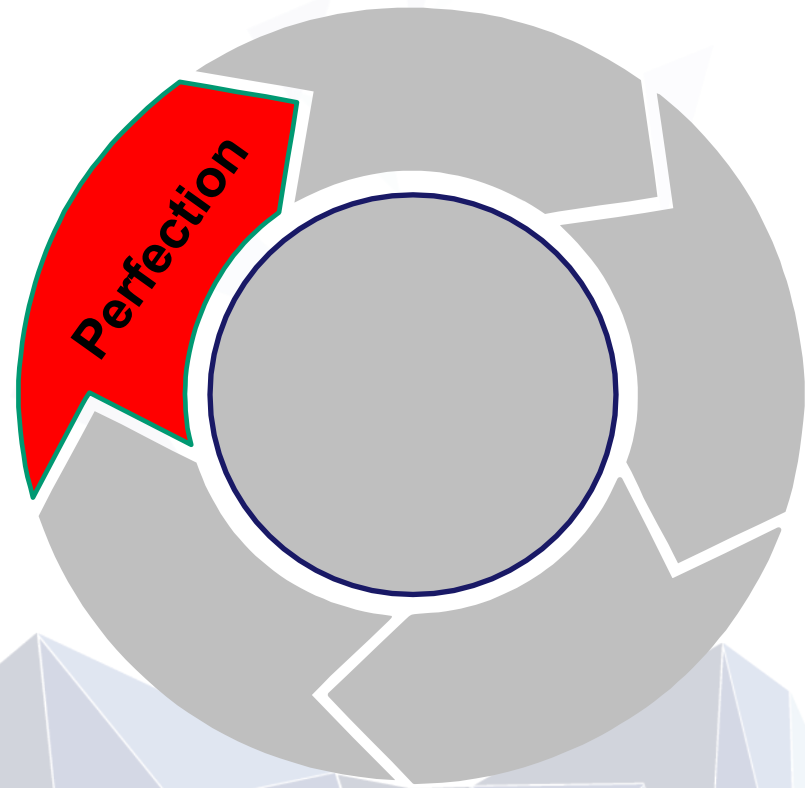
- **Nothing** is done by the upstream process until the downstream **customer** signals the need
- Actual **demand** pulls the service/product through the value stream



Perfection

Perfection

- The **complete** elimination of waste
- **All** activities create value for the customer by continuous improvement



Types of Waste



DEFECTS

Anything that results in product or service not fit for use



WAITING

Any time between processes steps where work stops



INVENTORY

Excess of product or service to demand requirement



TRANSPORTATION

Unnecessary movement of product/material



MOTION

Unnecessary movement of people or equipment



OVER PRODUCTION

Producing above requirement

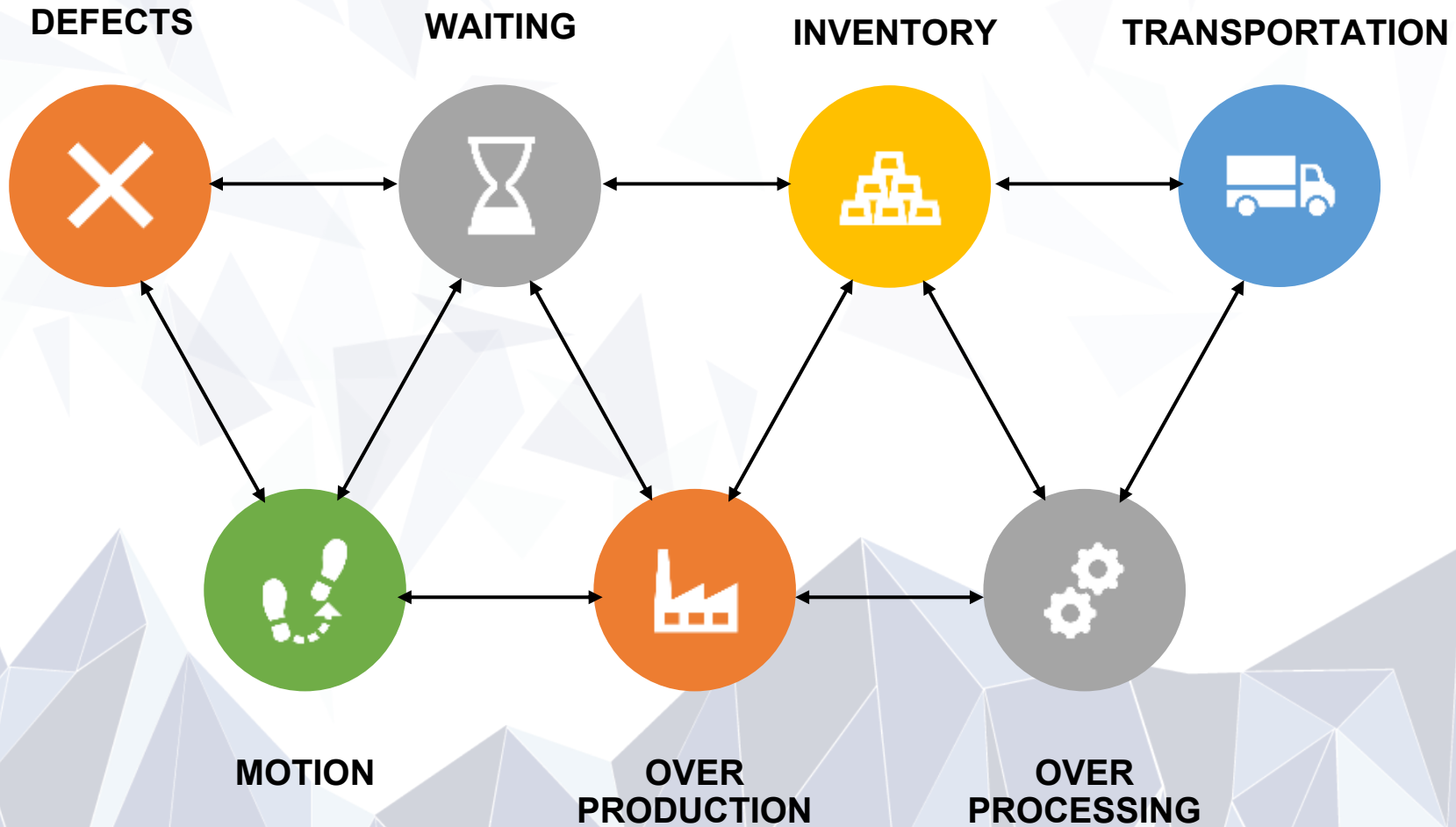


OVER PROCESSING

Doing more work to product or service above requirements



Types of Waste



Seeing your Product/Service: Mapping the Value Stream

- **Value Stream Mapping (VSM)**
 - **Universal** language to **see** value flow
 - **See relationships** between material and information
 - Used to **analyze, design, and manage** flow of material and information
 - Makes waste **visible**
- **Caution:** The VSM is a snapshot in time



Takt Time

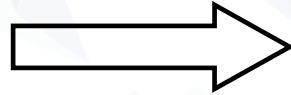
- Takt time is the **rate of production** required to meet customer demand
- Production in a Service environment?
- Takt Time calculation= Available Time/Demand



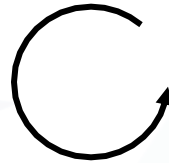
Mapping Symbolology



Push Arrow



Flow Arrow



Pull Arrow



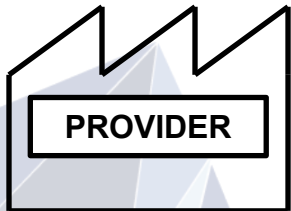
Operator



Information



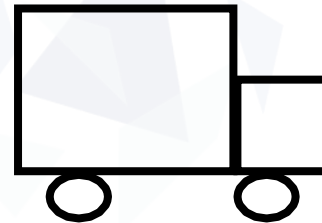
Electronic Information



Supplier/Customer



Inventory



Transportation/
Shipment

Process
C/T
C/O
Shifts
Rework

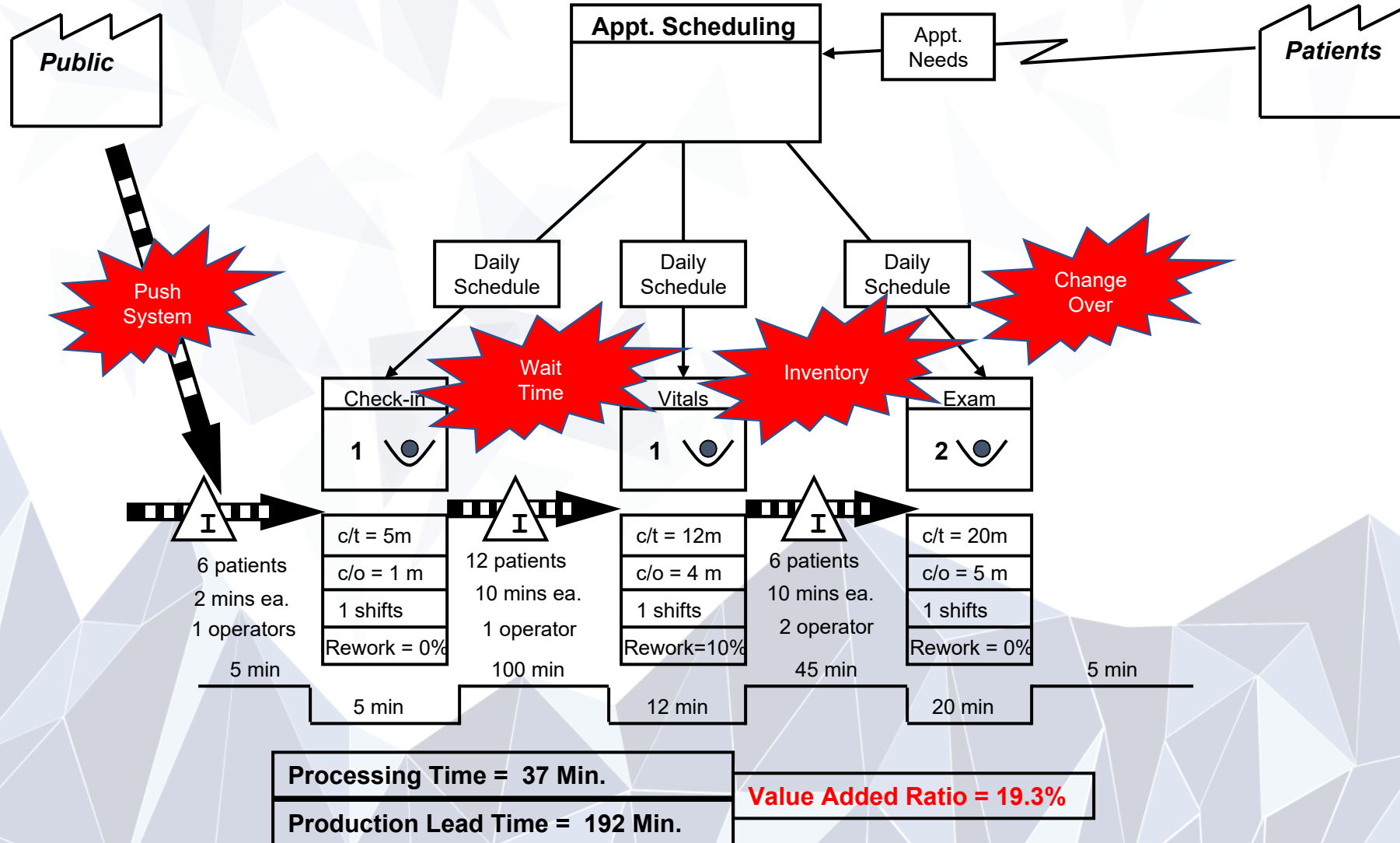
Process

Business Unit

Business Dept.



Value Stream Map Example



Exercise

- **Demonstration:** how Work in Process (inventory) restricts flow
- Class participation
- Instructions provided prior to beginning
- Q&A session to follow





Questions?

