TECHNOLOGY VALUE STREAM

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CSD-380
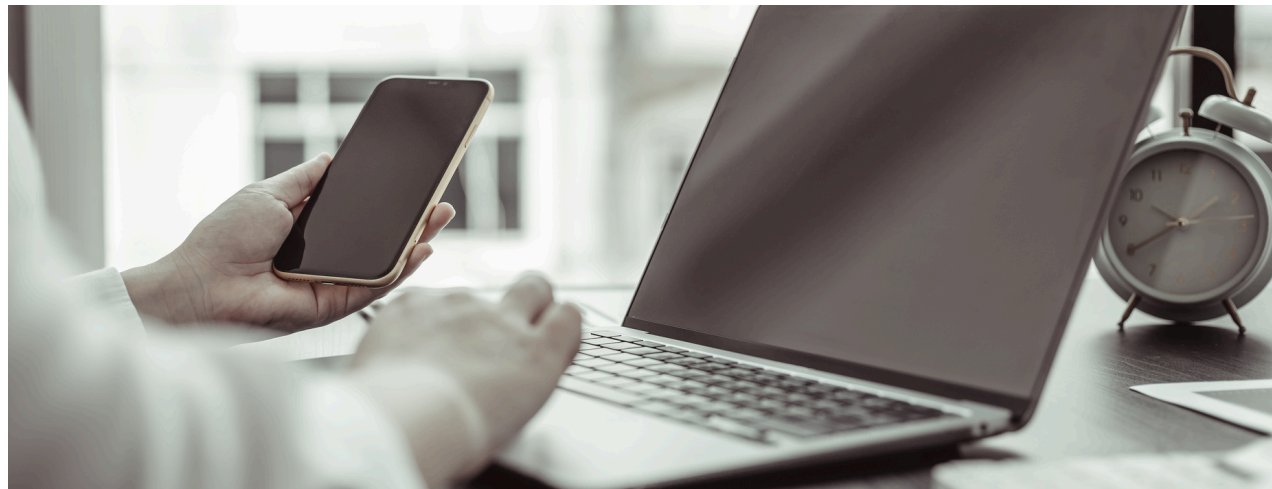
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MODULE 1 ASSIGNMENT 2

GITHUB LINK

ABOUT

TECHNOLOGY VALUE STREAM

01 **What is a value stream?**

All "the processes involved in delivering a product or service, with the purpose of identifying and eliminating the waste within the system." (isixsigma). I

02 Example

For example, when a restaurant cooks a meal to a customer's order the value stream the restaurant undergoes to make that happen is: acquiring ingredients, menu planning, food preparation, staffing, cooking, and delivering the cooked product.

03 There are three parts to the value stream

3 PARTS

CREATION

This part is taking raw materials into a final offering. Such as combining webiste features or cooking the meal.

DELIVERY

Not a **physical** delivery, but everything required to attract the customers: social media marketing, cold calls, etc.

CAPTURE

Details the pricing or financing of the product or service.

LEAD TIME VS PROCESS TIME

LEAD TIME

The lead time of the Value Stream is the entire time it takes for a request to be completed. This starts specifically when a customer or client makes the request: such as ordering at a restaurant or requesting new features on an application. At a restaurant the customer may place an order and wait a total of 5 minutes for their meal to be brought to them.

PROCESS TIME

Often called touch time, process time is specifically the time period an organization is working to fulfill the customer's request. Regarding a restaurant, this is the amount of time it takes the chefs to prepare, cook, and wait staff to deliver the food.
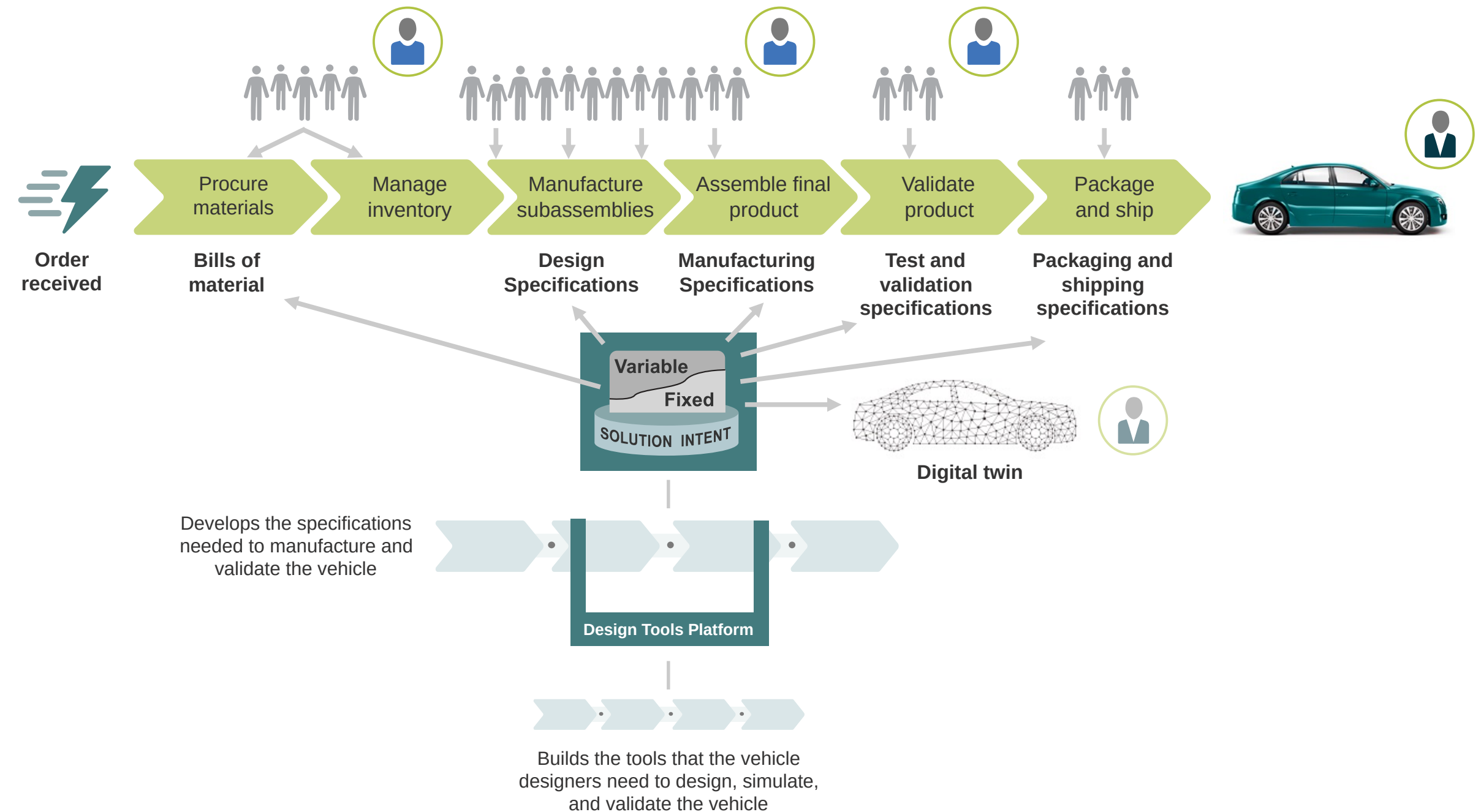
LEAD TIMES VISUALIZED

PRODUCTION

As lead times are initiated only after the order is achieved, this is where organizations try to limit the timing.

After receiving the order, many steps are needed: verification of sales expectations, inventory of goods verification, production initiation, testing, and shipping to consumer.

An excess amount of goods/services should not be created that would excessively exceed demand.

Order received

| Procure materials | Manage inventory | Manufacture subassemblies | Assemble final product | Validate product | Package and ship |

Bills of material

Design Specifications

Manufacturing Specifications

Test and validation specifications

Packaging and shipping specifications

Variable

Fixed

SOLUTION INTENT

Digital twin

Develops the specifications needed to manufacture and validate the vehicle

Design Tools Platform

Builds the tools that the vehicle designers need to design, simulate, and validate the vehicle

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COMMON SCENARIO

DEPLOYMENT LEAD TIMES REQUIRING MONTHS

July						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Organization Size

The larger the organization the longer the lead times can become. While many hands can make light work, they also require more time to communicate business needs.
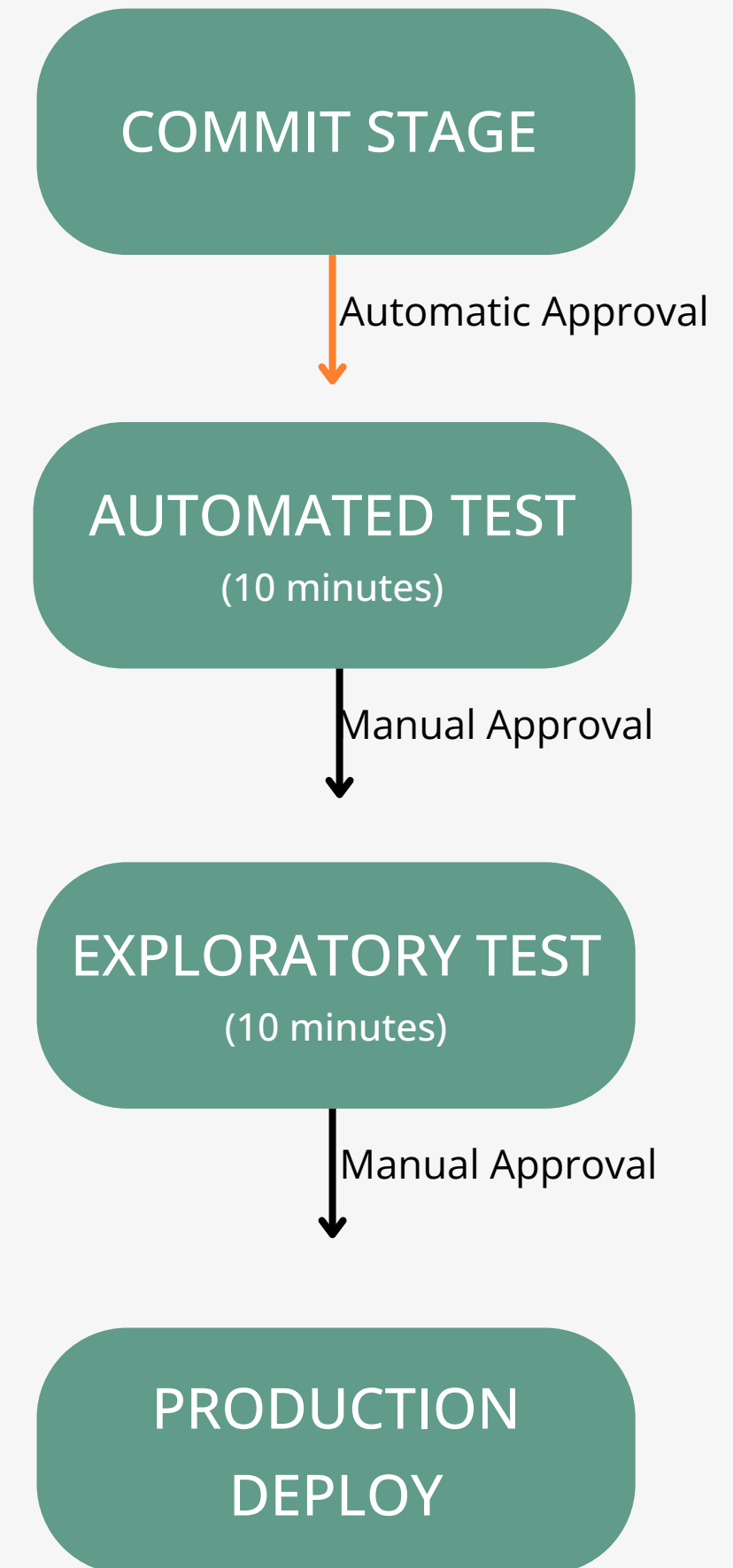
Stages

The more complex an organization or project is, there are more steps required to ensure that each stage of the Software Development Lifecycle Cycle (SDLC) is completed properly and securely.

IDEALS

DEPLOYMENT LEAD TIMES OF MINUTES

BITE SIZED

Breaking deployment into smaller, more manageable pieces, developers can focus on providing higher quality code. This is done by provided and committing smaller segments of code. After committal, the code is submitted for an automated test, followed by a more in-depth exploratory test. If the code passes all previous phases, it moves into production deployment.

COMMIT STAGE

↓ Automatic Approval

AUTOMATED TEST
(10 minutes)

↓ Manual Approval

EXPLORATORY TEST
(10 minutes)

↓ Manual Approval

PRODUCTION DEPLOY

IMPLEMENTATION

Scope

Working with a team to determine the scope of the needed value stream. Include managers and representatives from various departments. Outside perspective could also be beneficial.

Families

Determine which grouping of products and/or services fit best together. Label these as product families.

Duplicates

Locate areas with overlap, identical processing steps, and determine priority of processes for the product families.

Template

Plan and initiate work on the Value Stream Map Template. This will allow for faster edits and easier walkthroughs of future timelines.

The Future

Take the template and apply it to future products, services, or updates to the current goods and services.

DRAFTING

Finalize the value stream map.

CITATIONS

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