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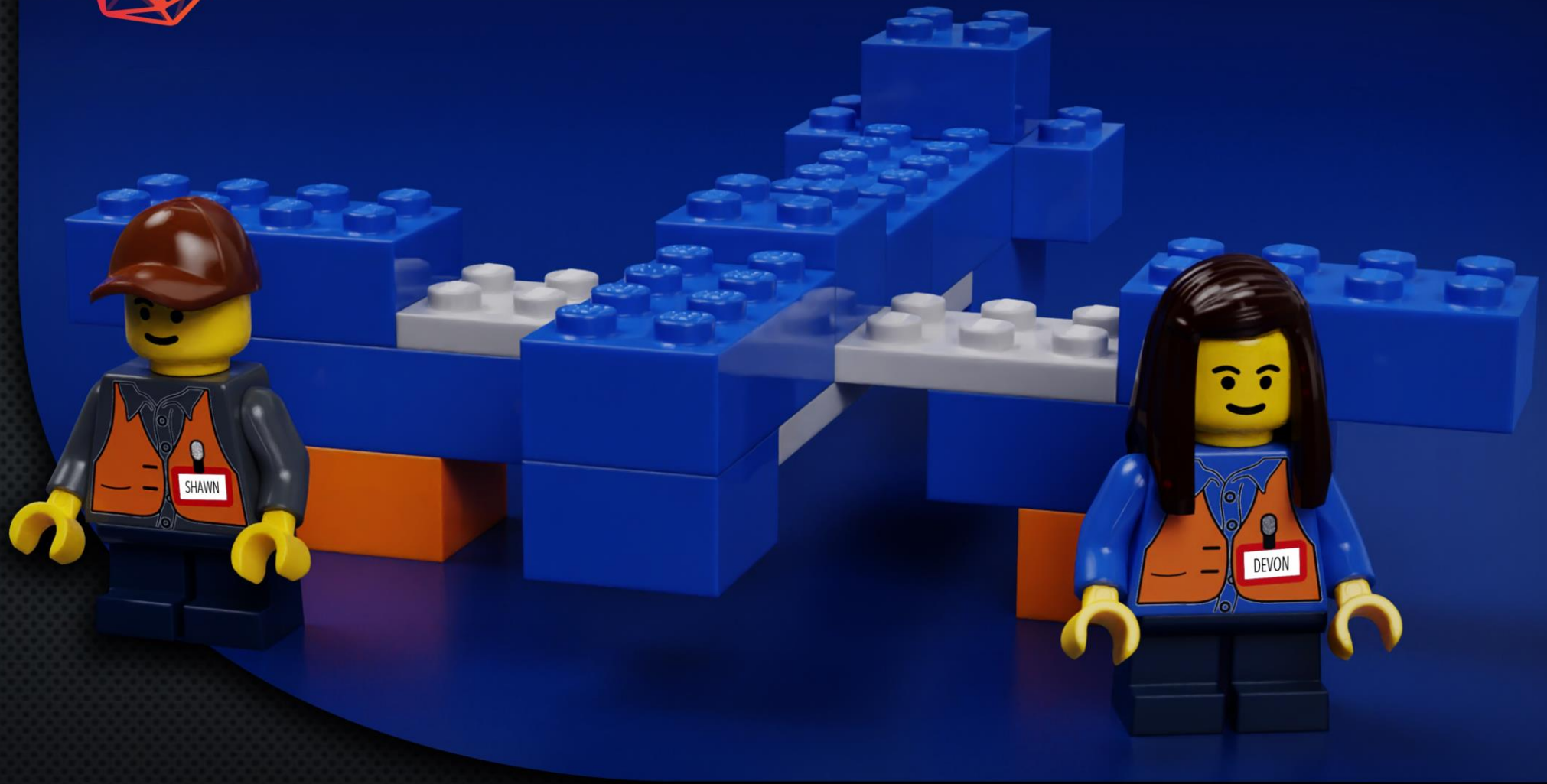
1:8



Ages
16+ 56379 | One Piece Flow Activity | 1,438 pcs |

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ONE-PIECE FLOW ACTIVITY

FACILITATOR GUIDE

This exercise is meant to educate participants on the "theory of constraints" (toc). The toc is the backbone of innergy's architecture. Toc is a philosophical solution to the problems in our industry.

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PLANT LAYOUT (PHASE 1)

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PHASE 1 LOGISTICS

- Separate workstations in a non-linear configuration.
- Workstations 2-5 do not have incoming queue space.
- Obstacles are placed in production flow.
- Components (aircrafts) are assembled in batches of 5.
- Batches must remain together through the final inspection.
- Workers deliver each batch to next workstation.
- Raw material is placed as far as reasonably possible from workstations.
- Each worker must procure his or her own material.

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PHASE 1 COMPANY POLICY

- Workers must perform ONLY their assigned jobs. (No Thinking!)
- Raw Materials must be in Supply Containers . (No stacking)
- All QC Problems must be set aside as rework. (Turned upside down)
- QC Problems can only be detected by Inspector. (Build it if you can)
- Assemblies can only be passed to the next workstation when it is clear.

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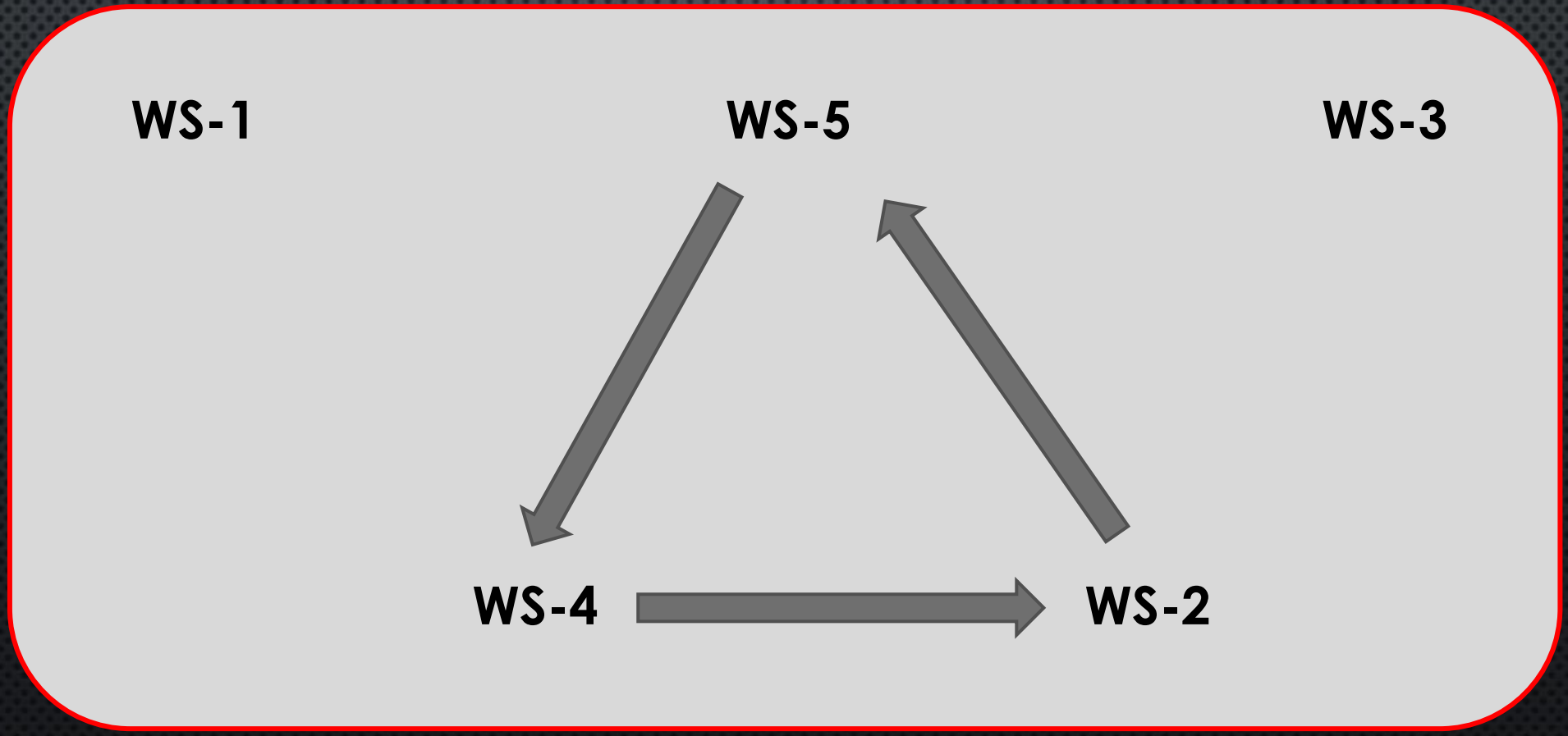
PLANT LAYOUT (PHASES 2)



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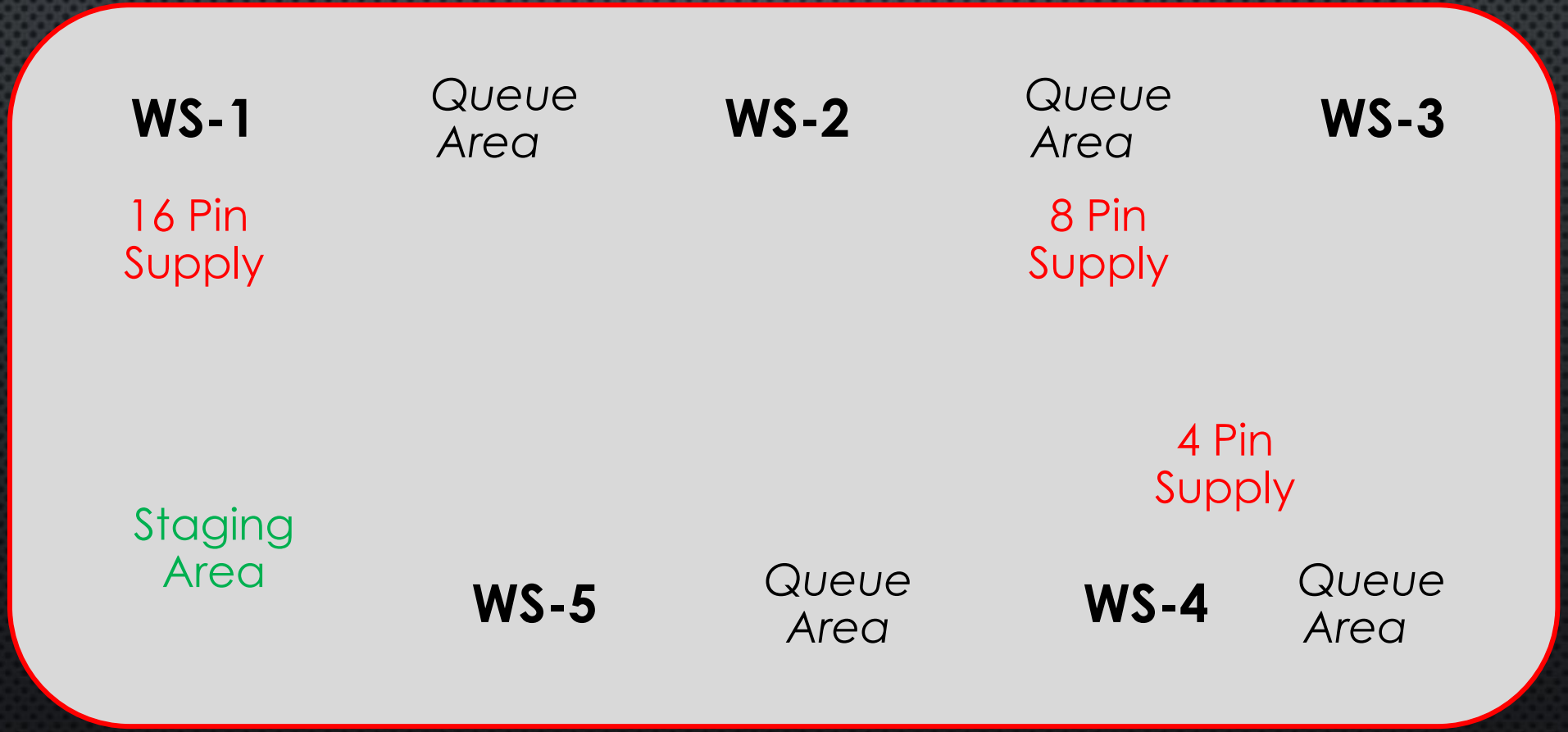
PLANT LAYOUT (PHASES 2-4)



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PHASE 2 LOGISTICS

- Separate Workstations are in a *logical work sequence*.
- Workstations 2-5 *have* incoming queue space.
- There are *no* Obstacles placed in production flow.
- Components (aircrafts) are assembled in batches of 5.
- Batches must remain together through the final inspection.
- Workers *pass* each batch to next Workstation Queue Area.
- Raw material are located at the appropriate Workstations.

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PHASE 2 COMPANY POLICY

- Workers must perform ONLY their assigned jobs. (Still No Thinking!)
- Workers can fix their own QC problems. (Bend to fit, paint to match)
- Workers can NOT fix QC problems generated by other workstations.
- All QC Problems must be set aside as rework. (Turned upside down)
- QC Inspector verbalizes QC problems to the workers.
- The Inspector will announce the completion of the first good plane.

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PHASE 3 LOGISTICS

- Workstations are in a cellular layout.
- Workers can have only one assembly at their workstation.
- Workers can have only one assembly in the queue between workstations.
- There are no barriers in the workflow.
- Aircrafts are assembled in batches of one.
- Components cannot be passed to the next workstation until it's queue is empty.
- Raw materials are located at the appropriate workstation.

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PHASE 3 COMPANY POLICY

- Workers must perform ONLY their assigned jobs.
- QC problems that cannot be fixed must be set aside (upside down) as rework.
- Workers can fix only their own QC problems. (Bend to fit, paint to match)
- QC problems can be verbalized by any worker.
- Components are passed to the next receiving queue only when it is empty.
- The Inspector will announce the completion of the first good plane.

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PHASE 4 LOGISTICS

- Workstations are in a cellular layout.
- Workers can have only one assembly at their workstation.
- Workers pass assemblies directly to the next workstations (queues are eliminated).
- There are no barriers in the production flow.
- Aircrafts are assembled in batches of one.
- Components are passed to the next workstation when workstation is empty.
- Now using Phase 4 instruction sheets.
- Workers may assist the next workstation by performing additional duties.

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PHASE 4 COMPANY POLICY

- Workers can perform any step in the production process.
- QC problems can be detected and fixed by any worker. (Fix it if you find it)
- QC problems that cannot be fixed must be set aside as rework.
- Components are passed to the next workstation only when it is empty.
- The Inspector will announce the completion of the first good plane.

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THEORY OF CONSTRAINTS- 3 MEASURES

Throughput

- Is the rate at which the system generates money through sales, not production. If you produce something that you don't sell it's not throughput.

Operational Expenses

- Is all the money the system spends to turn Inventory into throughput.

Inventory

- Is all the money that the system has invested in purchasing things which it intends to sell.

- The Goal is to make money!
- To make more Money, we must:
  - Increase Throughput
  - Decrease Expenses
  - Decrease Inventory

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