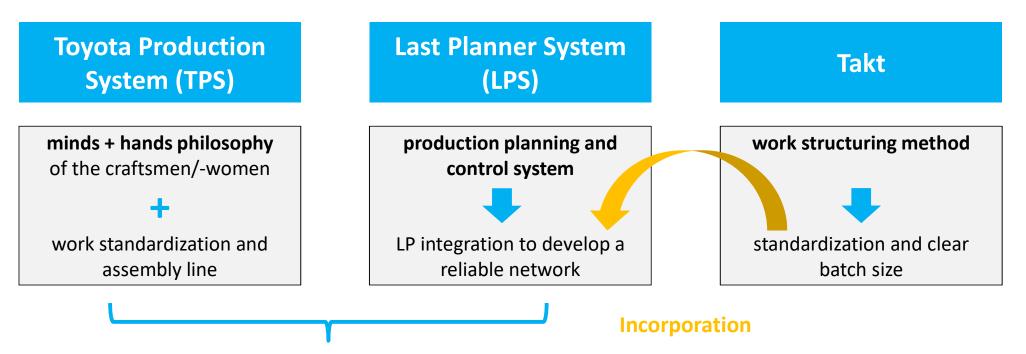


The Beauty of a Phase-overlapping Last Planner System with incorporated Takt

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BACKGROUND BASED ON LITERATURE



Commitment, Teamwork, Empowerment & Training



RESEARCH QUESTIONS AND METHOD

- How does LPS function as a production system across the whole project and which role does takt play in the LPS?
- 2. How to design a production system for all project phases?

Action research during the project

- Discussions
- Meeting and plus delta evaluation
- Observations

Case study research after the support

• 21 interviews

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 Lean close-out workshop for reflection

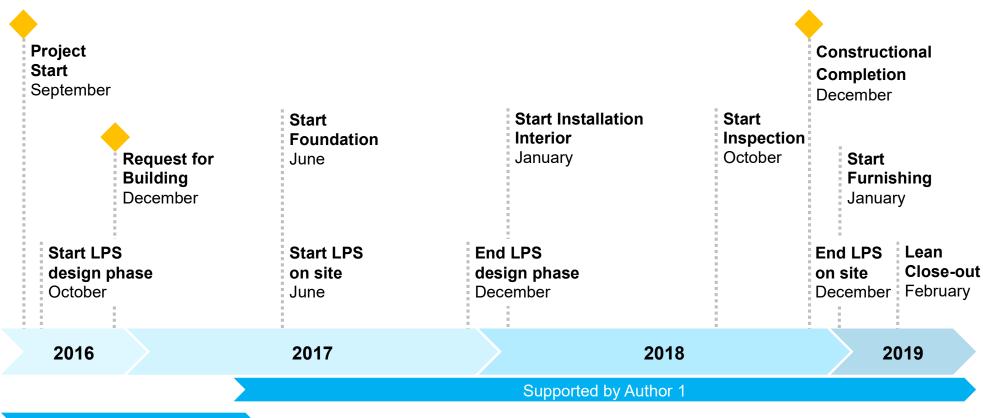




(PORR Design & Engineering GmbH)



PROJECT OVERVIEW



Supported by Author 2

IGLC ST INTERNATIONAL GROUP FOR LEAN CONSTRUCTION DUBLIN | IRELAND | 1ST - 7TH JULY 2019 **Overall Process Analysis** (common understanding) Shell ٠ Interior office space 1. - 3. floor . Interior core area 1. – 3. floor Exterior (partly) Milestone & Phase Plan Inspection 1. – 3. floor (weekly basis) Ground floor . Basement . Roof ***** . Outside facilities Commissioning Takt for repeatable Specific arears with no sequence repetition areas 6 Week Lookahead Weekly Workplan (daily basis) (daily basis) Learning (improve)

Only applied during construction and inspection



VIENNA Design Phase

S. B.B.B.

Pull





REASONS TO ADJUST THE TAKT

- No error-free and no on-time delivery of construction documents
- Limited availability of resources in the market
- Lack of timely involvement of trades
- Shortage of subcontractor availability
- Shortage of labour
- Variable performance by the different work crews of a trade
- No availability or late delivery of material
- Late change orders by the client
- Delayed decision-making by the client

How often do you think this happens?



CONSIDER THE HUMAN FACTOR One team consisting of...

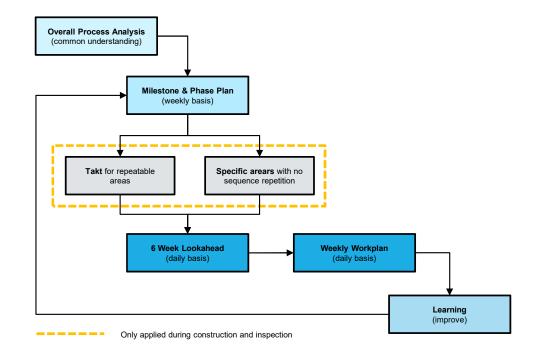
- 1. Different personalities
- 2. Different attitudes and behaviours
- 3. Different languages
- 4. Different experience
- 5. Different learning speeds
- 6. Different expectations





PRODUCTION SYSTEM Major outcomes

- LPS triggers minds + hands thinking
- LPS is a driver for productive conversation
- Takt is a good tool for repeatable areas
- Keep takt flexible for improvements





CONCLUSION Design a production system that...

- Easily engages people to collaborate
- Span from design till handover
- Serves as marketplace for information, planning, re-planning and communication
- Integrate knowledge of the Last Planners
- That gives the team flexibility
- And where Team members feel free to voice their concerns



Adjust based on the teams needs and product request



Supported by the different organizations