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Takt Time Grouping: implementing kanban-flow manufacturing in an unbalanced, high variation cycle-time process with moving constraints

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Grouping (TTG) for implementing kanban-flow manufacturing, when one-piece flow or DBR do not provide good results. TTG combines one-piece flow manufacturing, transfer-batch sizing and DBR concepts through the use of a constraints-based transfer-batch sizing formula. Using a discrete event simulation model, it is shown that TTG increases throughput rate as compared to one-piece flow, CONWIP and DBR approaches, with much lower WIP inventory and faster flowtime than CONWIP and DBR.

Keywords: [flow manufacturing](#) [kanban](#) [theory of constraints](#) [drum-buffer-rope](#) [cycle time variation](#) [mixed model](#) [transfer-batch sizing](#) [CONWIP](#)

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