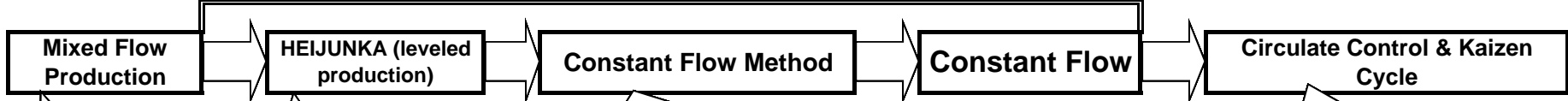


Only what is Needed (good quality product), **Only the quantity Needed** (Best is one piece),
When it is Needed (just in time), **With minimum cost**

<Just in Time & Autonomation>



Build one by one product as needed with the least number of lines, that is reflecting the sales directly.

As prerequisite condition for constant flow, make part consumption rate as consistent as possible.. Pull all suppliers with TAKT.

How to work with TAKT time of products

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- Set up the sub line next to the main line in line with relevant process in main line. (Unit/module concept)
- Transport sets using a water spider (a set as one unit) (Separate assembly from sorting & transportation work)
- Bypassing within processes using a dedicated stage in main line
- Set up small dedicated lines.
- Separate machine work from man's work and utilize various tools as a production gear.

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- Equipment layout according to process sequence (Establish process flow & constant flow)
- Adopt same takt time with various products in one big cell concept for lines that share the same TAKT time(one set production)
- CHAKU-CHAKU operations following TAKT time (Separate machine work from man's work)
- Make as much as possible external set-up change by using dedicated set-up change operator and make internal set-up change in sequence within TAKT time
- One piece flow inside of the process line
- Improve processes that exceed TAKT time (Bottleneck process)
- At least one production of all variety of product per day
- Maintenance system by maintenance specialist.

Man	•Kaizen based on Standard Work (Standard Work Sheet & Operation Loading Chart)
Work Piece	• Move the information with corresponding product together. • DFA
Equipment	• Forced moving line • Fixed Location Stop • ANDON
Man	• Kaizen based on Standard Work (Standard Work Sheet, Standard Work Combination Sheet)
Work Piece	• One Piece Flow • KANBAN (Pull System) • DFM
Equipment	• Inexpensive Autonomation (CHAKU-CHAKU) • Set-up time reduction • Pace Maker • ANDON • POKAYOKE • Availability Rate (TPM etc.)