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# Value Based Criteria for Maximizing ROI of Automation Investment

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# What returns can we get from Automation ?

- Improvement in consistency?
- Improvement in quality?
- Increase in output?
- Reduction in material wastage?
- Reduction in direct labour?
- Reduction in manpower?



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# What disadvantages does Automation bring?

- Increase in investment
- Increase in skilled manpower requirement
- Increased dependence on external suppliers
- Reduction in flexibility – small volume, many varieties



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# How to ensure gain advantages while keeping disadvantages away?

- Automate smartly - Use Value Based Criteria :
  - Automate step by step, by:
    - Removing the waste & inconsistencies
    - Strengthening the value adding activities

Autonomation (Jidoka)



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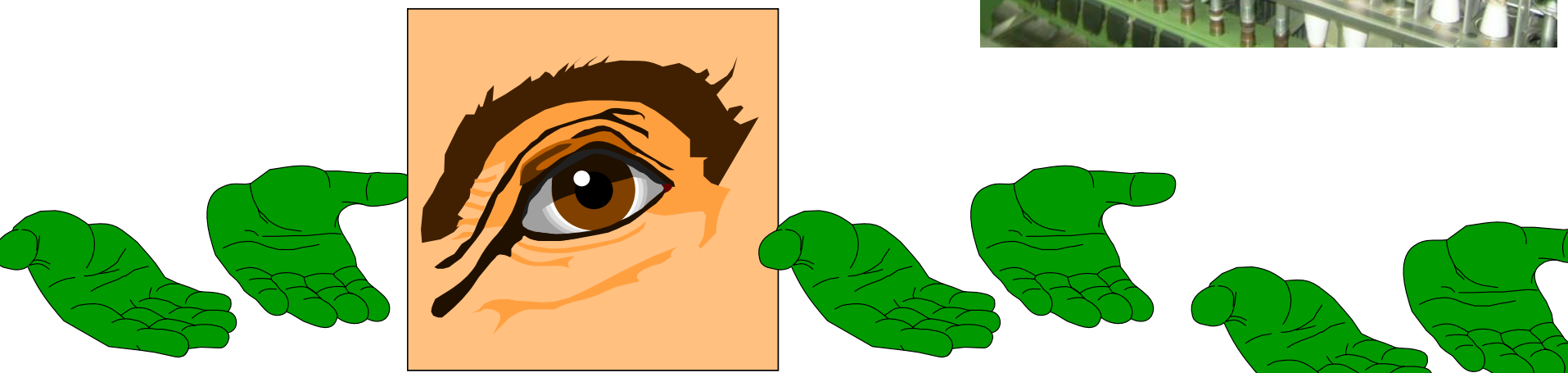
# Work Cycle



Load M/C
Start M/C

Watch M/C

Stop M/C

Unload M/C
Clean M/C

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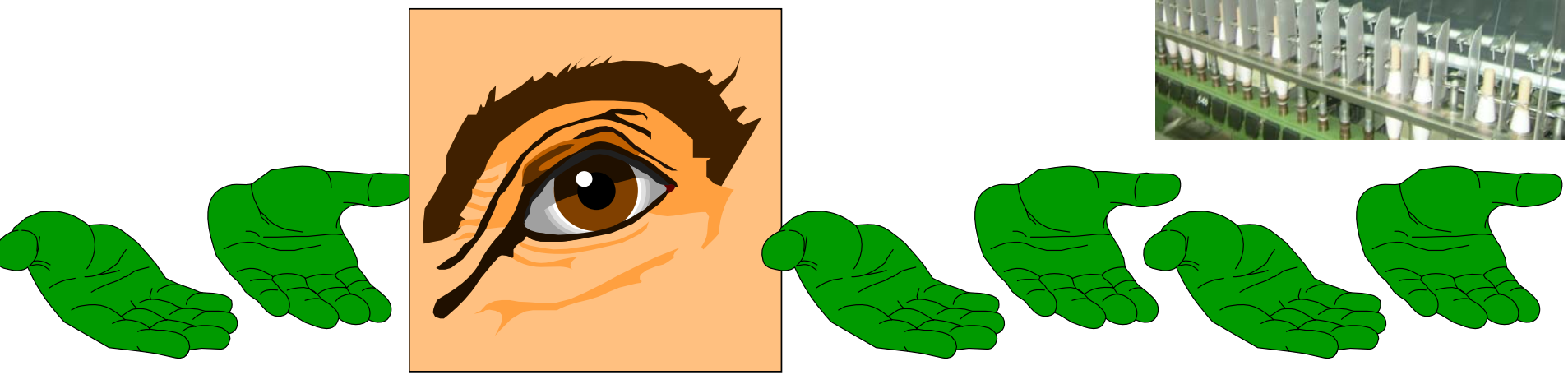
# Work Cycle

Load yarn & empty bobbins

Watch out for yarn breaks

Decide when to Doff

Doff



Load M/C
Start M/C

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Unload M/C
Clean M/C

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# Work Cycle

Eliminating which one will give ROI?

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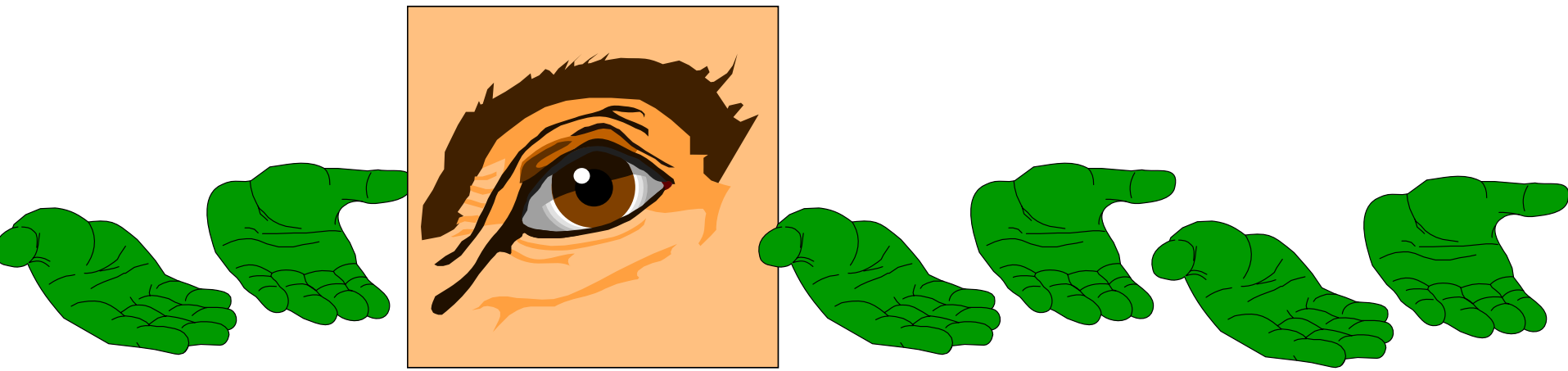
Load yarn & empty bobbins

Watch out for yarn breaks

Decide when to Doff

Doff



Load M/C
Start M/C

Watch M/C

Stop M/C

Unload M/C
Clean M/C

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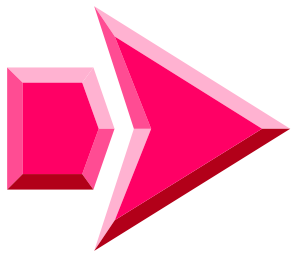
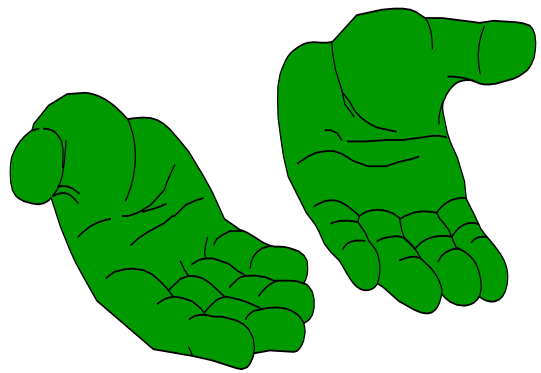
# Watching is not work





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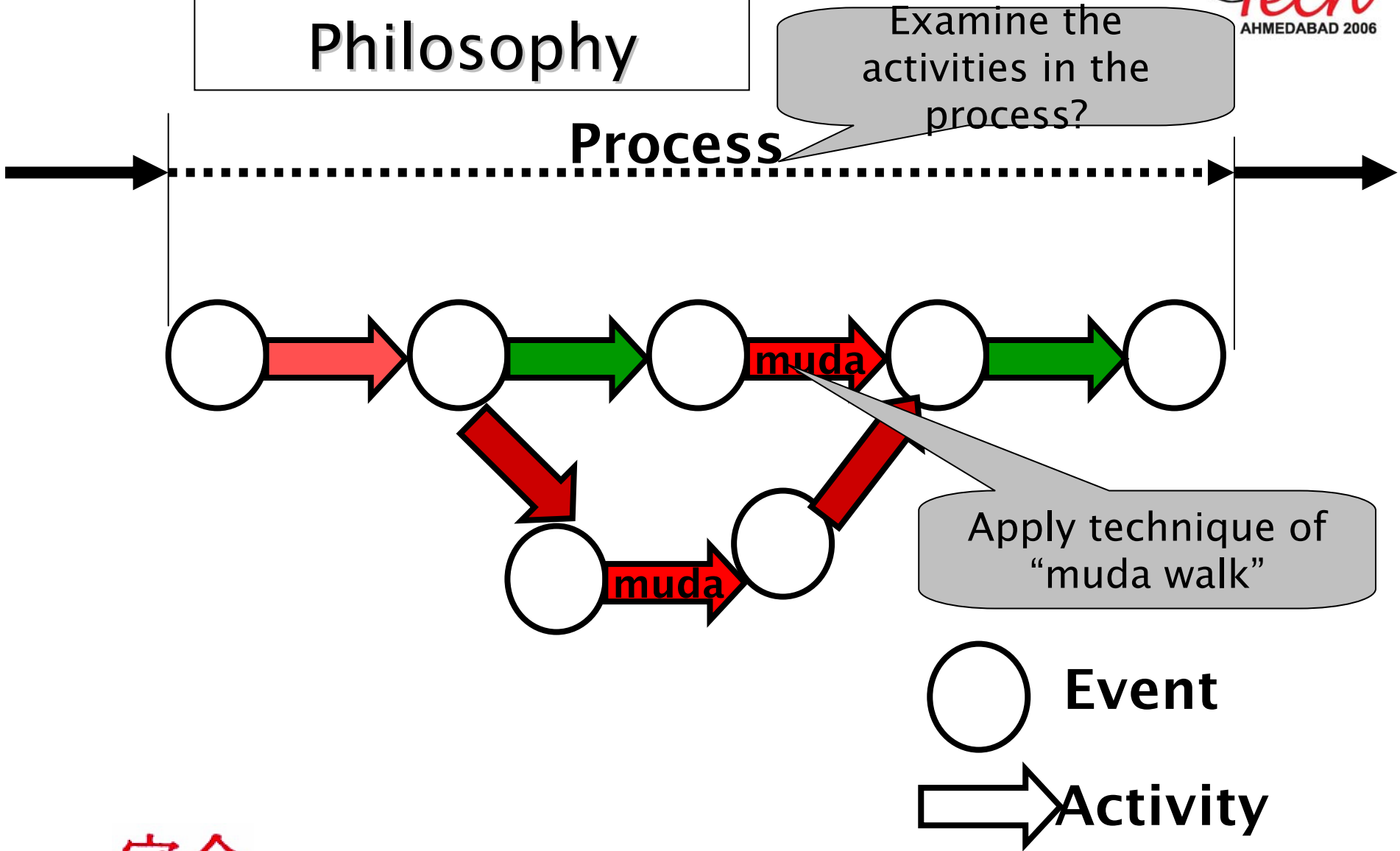
# Kaizen Philosophy

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Activity = Value Adding + Non Value Adding

*muda*

Expenditure = Cost + Waste



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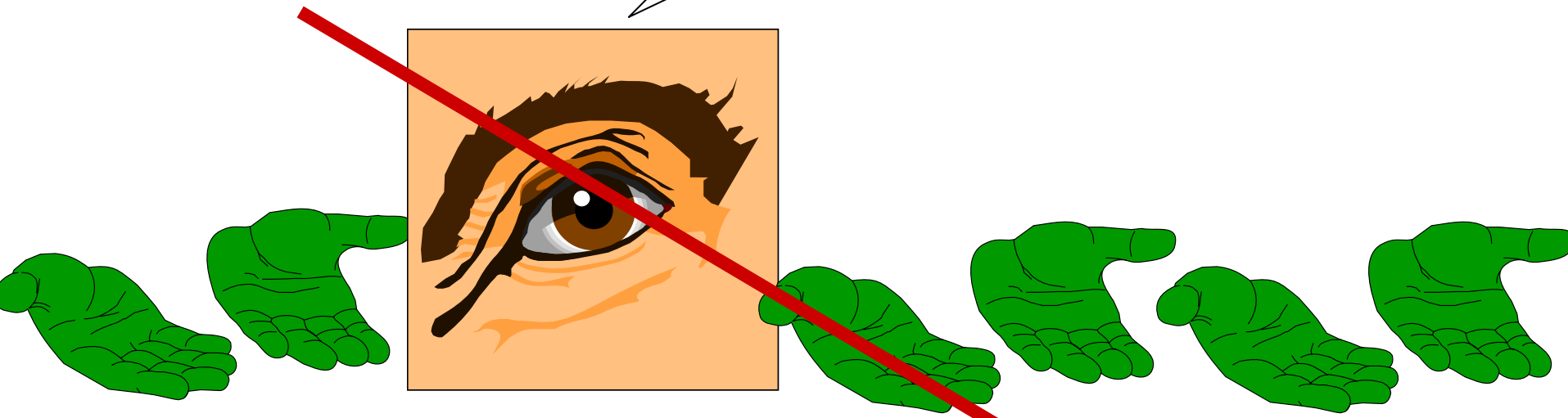
# Stepwise Automation

Automation step 1



Start Machine
Load Machine

Watch Machine

Stop Machine

Unload
Machine

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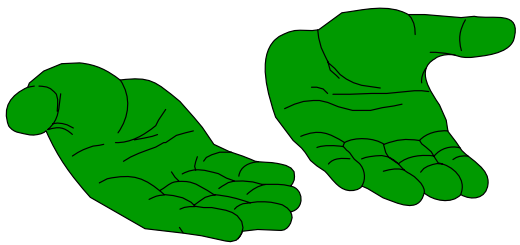
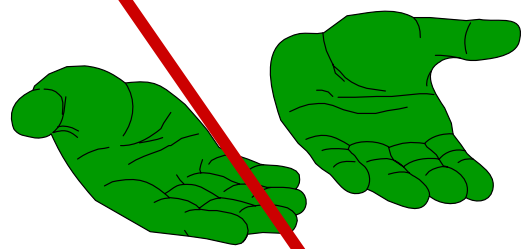
# Stepwise Automation

Automation step 2



Start Machine
Load Machine

Autonomated Operation



Unload Machine

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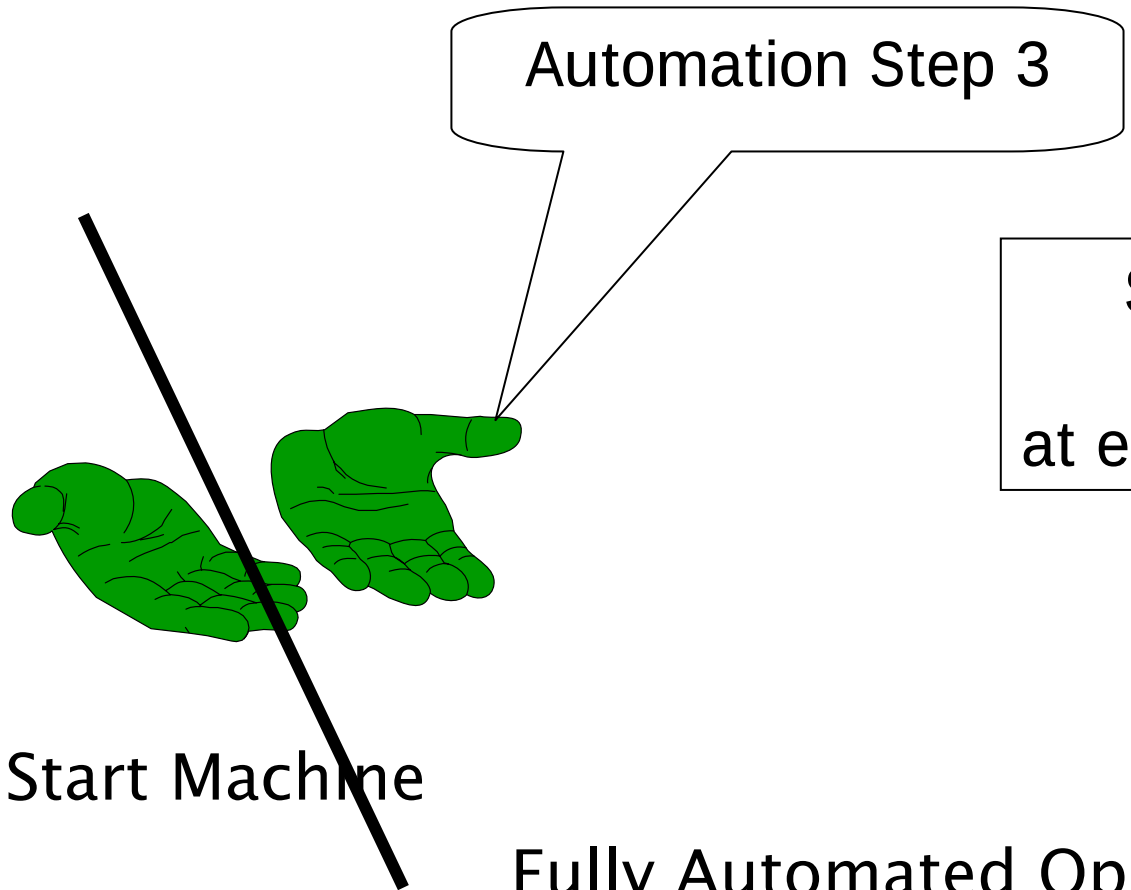
# Stepwise Automation




Stepwise Automation
ensures ROI
at each phase of investment

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Top Dyeing - Manual



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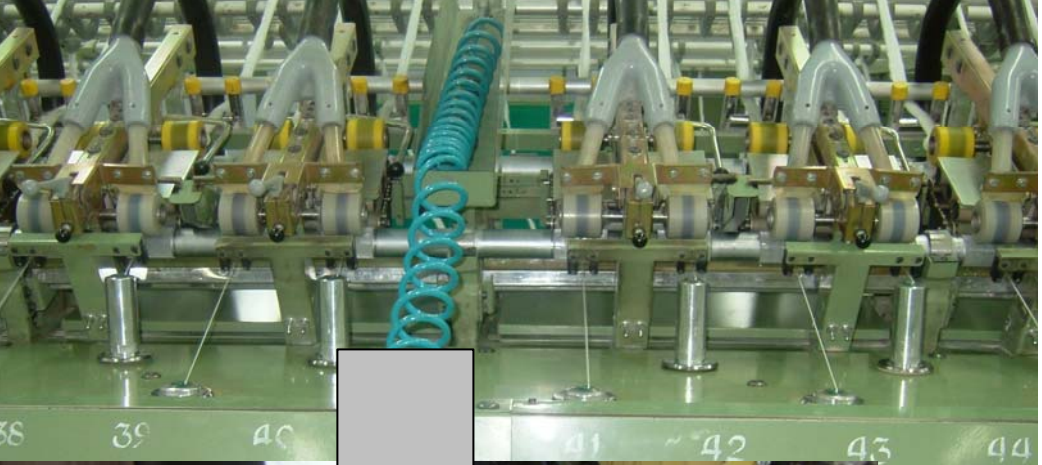

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