

Labor

Automation

Waste

Profit

**Don't
Automate
Waste**





30
Years

200
Employees

800
Customers

» Engineering
Consulting
Firm

» Chicago
» Québec



Greg Tomek
Manufacturing Projects Director



Our Goal

Improve Manufacturers' Performance



Product Development



Supply Chain



Operational Excellence



Manufacturing Projects



Automation & Robotics



Smart Factory

Over 800 Customers





Great Job!

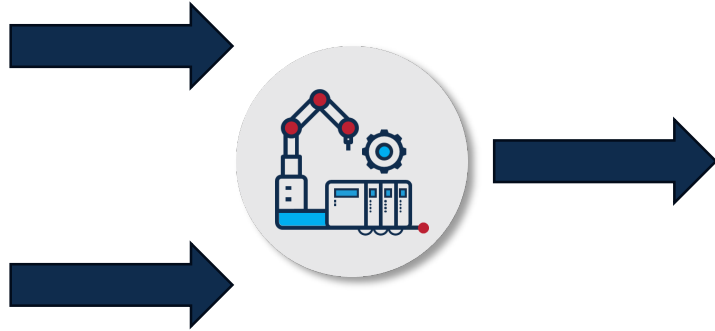
We win!

- Costs saved
- Capacity increased
- Labor shortage solved
- Safety improved
- Efficiency increased

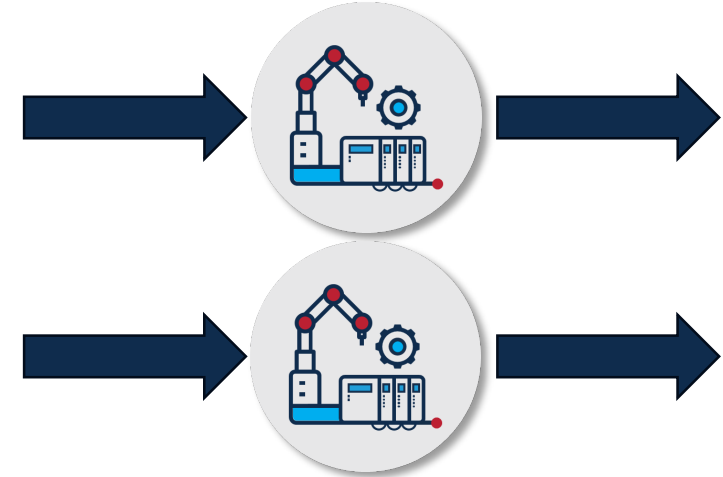
I got this!



➤ Problem:



➤ Customer Solution:



➤ Scientifically Calculated Prediction:



➤ Question for you:



➤ Good

- Real pain point
- Improved pain point
- ROI & other benefits



➤ Best?

- Spend less?
- More positive impact?
- Problem remains?



➤ Better way?



MERKUR.

"The first rule of any technology... is that automation applied to an efficient operation will magnify the efficiency.

The second is that automation applied to an inefficient operation will magnify the inefficiency."

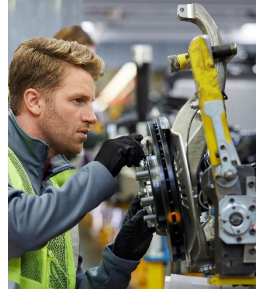
-Bill Gates, Microsoft Founder

➤ Augmentation or replacement of any manual tasks in part or in full



➤ Traditional

- Robots
- Custom Machines
- Equipment



➤ Simple

- Tooling & Jigs
- Storage & Racking
- Signage & Marking



➤ Digital

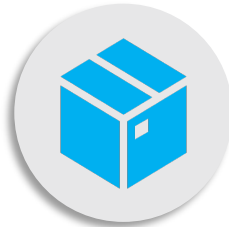
- Supply Chain
- Scheduling
- Tracking & Feedback

➤ Unneeded or non-valued items or activities, from a Customer Perspective

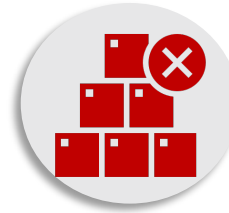
Defects



Inventory



Over-Production



Transportation



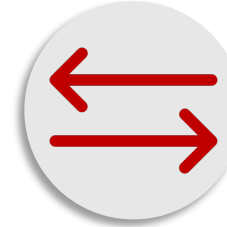
Waiting



Extra-Processing

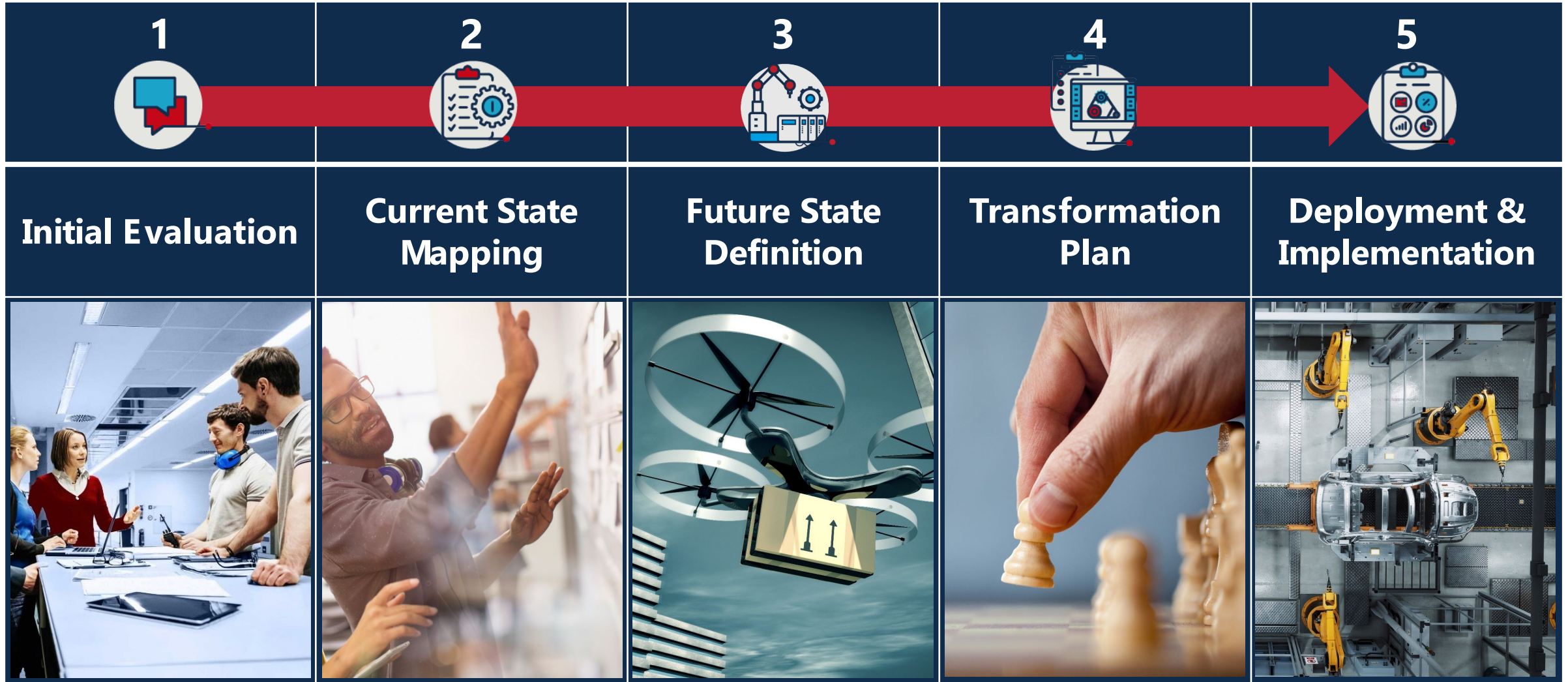


Motion



Non-Utilized Talent





1



Initial Evaluation



➤ Full Scope Development

Tips:

- A Must Do Exercise
- Clear Business Objectives/Goals
- Breadth & Depth
 - A few steps outwards
 - Full process flows
- Be careful!



2



Current State Mapping



Key Items:

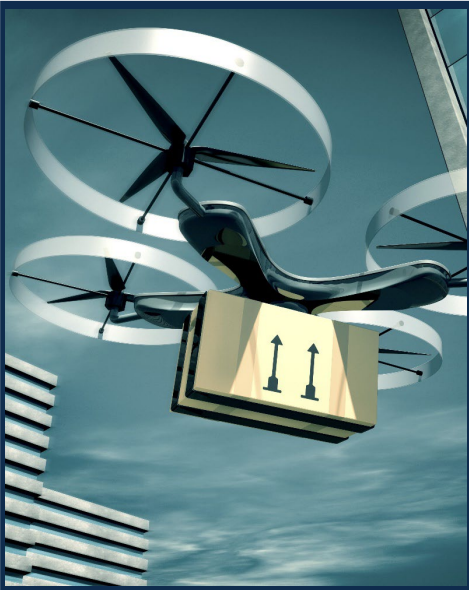
- 1 - Target problem statement
- 2 - Likely mapping of:
 - Material entry to final product
 - Production, Warehousing, & Information
- 3 - Document
 - Bottlenecks
 - Waste
 - Pains/Weakness
 - Strengths
- 4 - Don't fix too early!



3.1



Process Future State

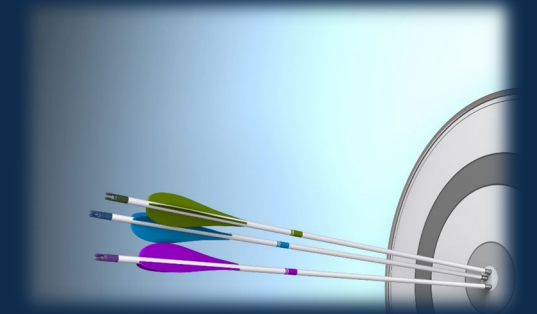


Focus Areas:

- Target: Business Objectives/Goals
- Process Flow: Reduce Waste/Bottlenecks
 - Pure process before layouts & other
 - Customer Demand (Takt Time)

Two Potential Outcomes:

- 1. No Automation Needed**
- 2. True Automation Opportunities**



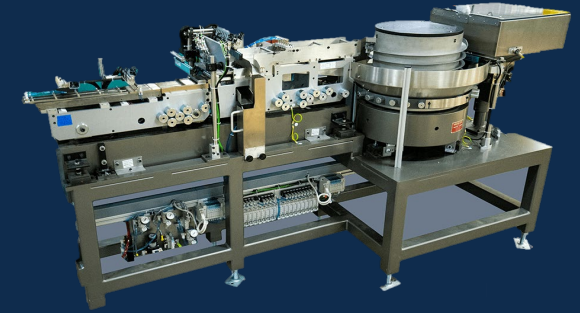
3.2

Automation Future State



Automation Priorities

- Bottlenecks (constant or at risk)
 - Not meet Takt time
 - Simple Operations
 - Aging or poor performing equipment
 - Ergonomics/safety
 - Repetitive/mundane
 - Information flow
- Essential Waste
- Non-Essential Waste (Pure Waste)



4 & 5



Plan & Implementation



➤ Typical Process:

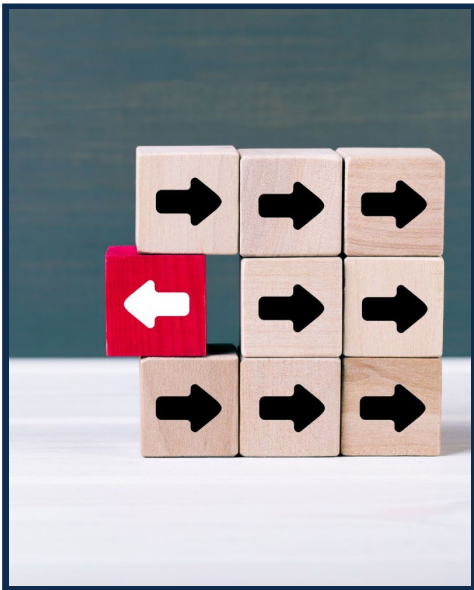
- Plan (at start and throughout)
- Study, alternatives, & final solution
- Applying solution
- Start up & tweak



➤ Prioritize & Categorize

1. Quick Wins: ok benefit; low effort/cost
2. Medium Term: good benefit; medium effort/cost
3. Long Term: excellent benefit; long effort/cost

OUTSIDE THE BOX

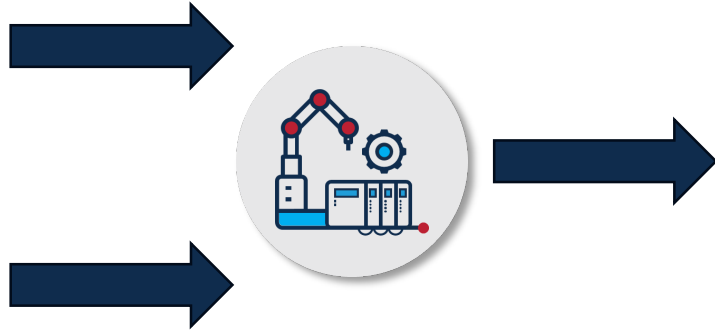


- Automate at Appropriate Level
- Plan for Ripple Effects
- Product Redesign?
- Avoid General Project Failure Modes

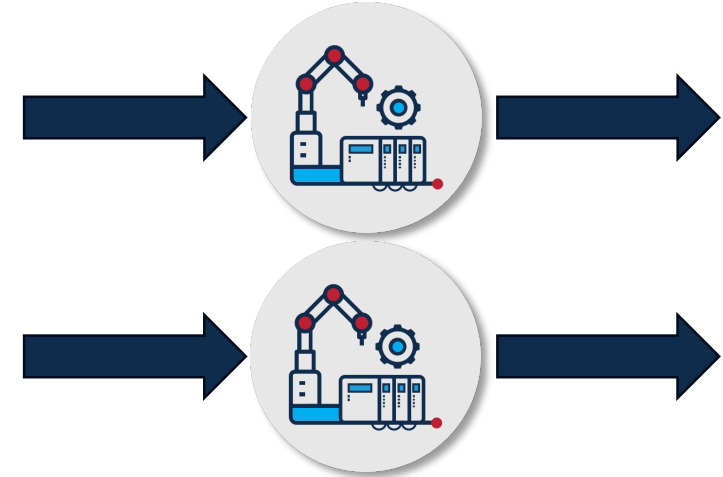




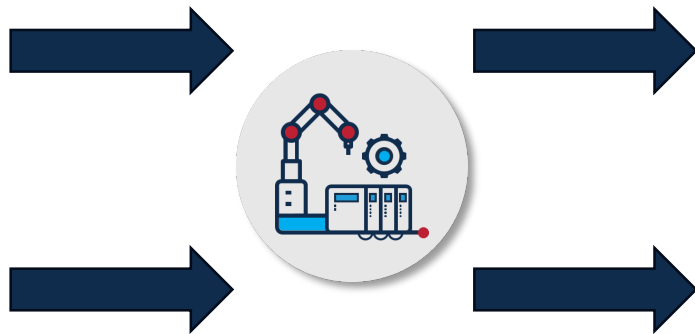
➤ Problem:



➤ Original Customer Solution:



➤ The Merkur Approach:



➤ The Merkur Approach Results:



- Lower Investment
- Higher ROI
- Less Floorspace



- Less Engineering Time
- Shorter Implementation Time
- Improved Customer Value

**Don't
Automate
Waste**





» Engineering Consulting Firm

» Chicago
» Québec

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Years

200
Employees

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Customers



See us at booth
#1647
(near the restaurants)