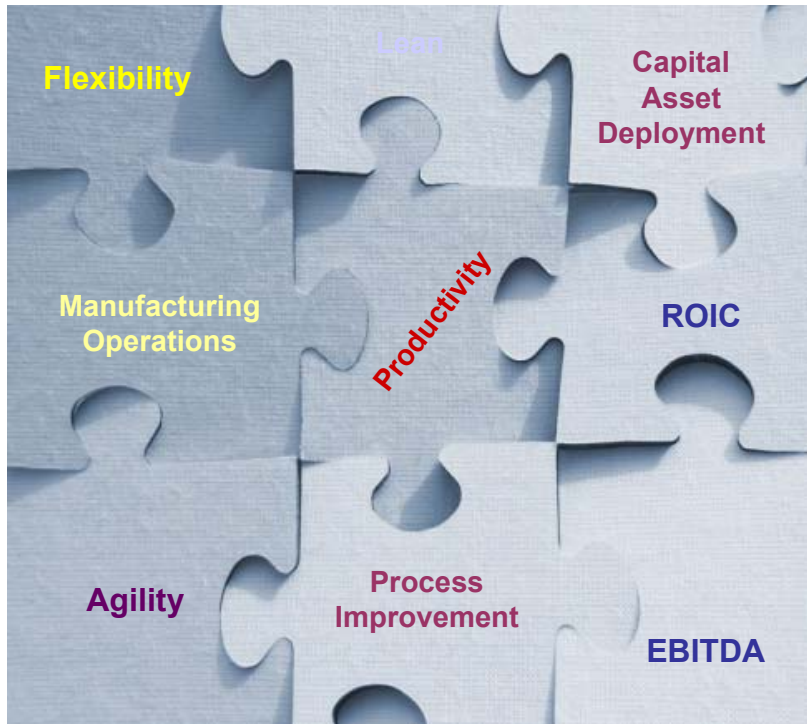




# *Lean Manufacturing, and Process Improvement*

## **Consulting Services**





## It Is All About Creating Value In Manufacturing

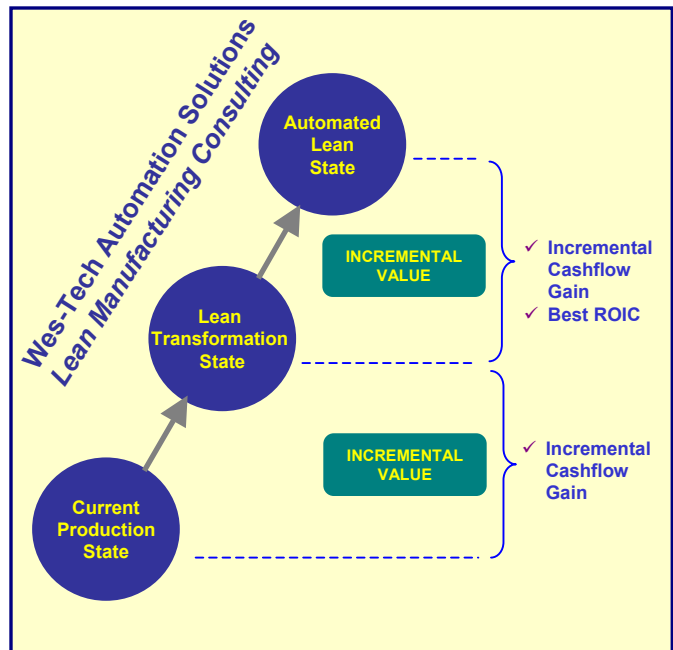


If you are trying to figure out how to put all the pieces of the puzzle work for you and your company, just read on.



Wes-Tech Automation Solutions will show you the best way to achieve:

- ✓ Best Return on Invested Capital
- ✓ Record Time-To-Market While Managing Project and Supply Chain Risk
- ✓ Lowest Total Ownership Cost
- ✓ Delivery of Integrated Solutions





## Introduction: Wes-Tech Lean Manufacturing Consulting



Wes-Tech Automation Solutions (WTAS) focuses its factory automation services and expertise across a wide range of manufacturing and assembly solutions for discrete parts, components and sub-assemblies.

WTAS has 30 years experience in applications where refinements to techniques and improvements to manufacturing and assembly processes have created an expertise that can be considered the benchmark for “Best-in-Class.”

WTAS Consulting Services aim at providing assistance to customers by developing and implementing manufacturing process improvements and best practices that are focused on:

- ✓ Material Flow
- ✓ Lean Manufacturing
- ✓ Pull Systems

Our consulting services have been our response to systematic industry issues related to capital automation projects. Specifically our experience has shown us that:

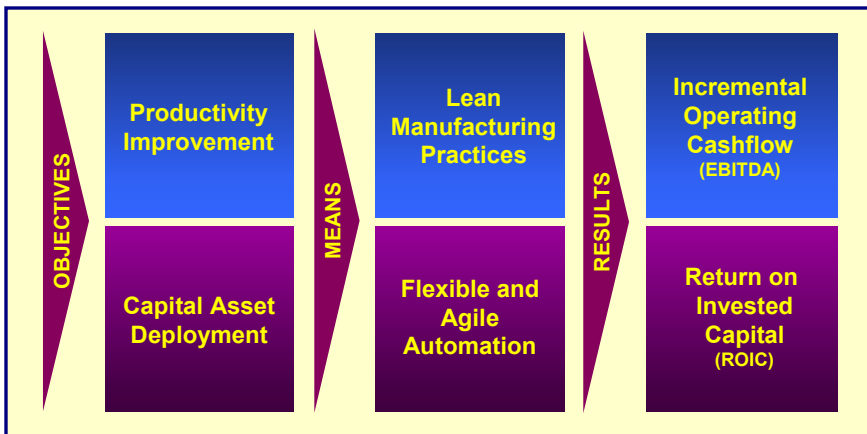
- ❑ Manufacturing companies are under increased pressure to develop and implement automated processes within shorter time frames, yet
- ❑ The application of Concurrent Engineering is frequently not extended to the design of an automated production process, thus failing to achieve short implementation lead times.
- ❑ 40% of capital projects with preliminary budgets are not funded because they fail to meet the critical ROI threshold. Lack of adequate economic justification upfront results in wasted activity.
- ❑ The prevalence of automating a poor or sub-optimal process results in costs and issues that waste resources during the project life-cycle and erode the original ROI.
- ❑ Most capital projects fail to meet the original objectives due to lack of adequate planning and preparation “upstream,” and weak top management sponsorship.
- ❑ Requirements definition and specifications that are developed in a vacuum lead the automation integrators to give the customer “what he asked for, not what he needed.”



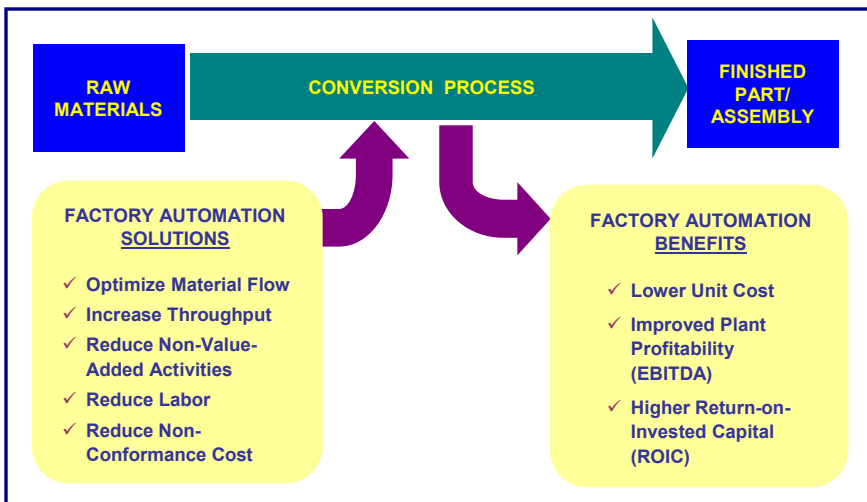
## The Goal: Improving Operational Performance While Maximizing Capital Asset Return

Improving operational performance while achieving optimal capital deployment first requires the integration of lean manufacturing best practices and flexible/agile automation. Specifically, we believe that the best cost-to-value solution requires two critical success factors:

- ❑ First, the design or improvement of the existing manufacturing process by identifying the related improvement opportunities that result in incremental cashflow.
- ❑ Second, the automation of the improved process by utilizing technologies and equipment that deliver manufacturing flexibility and agility which maximize the return-on-invested-capital.



The best ROIC is achieved by the combination of lean manufacturing and flexible/agile automation.



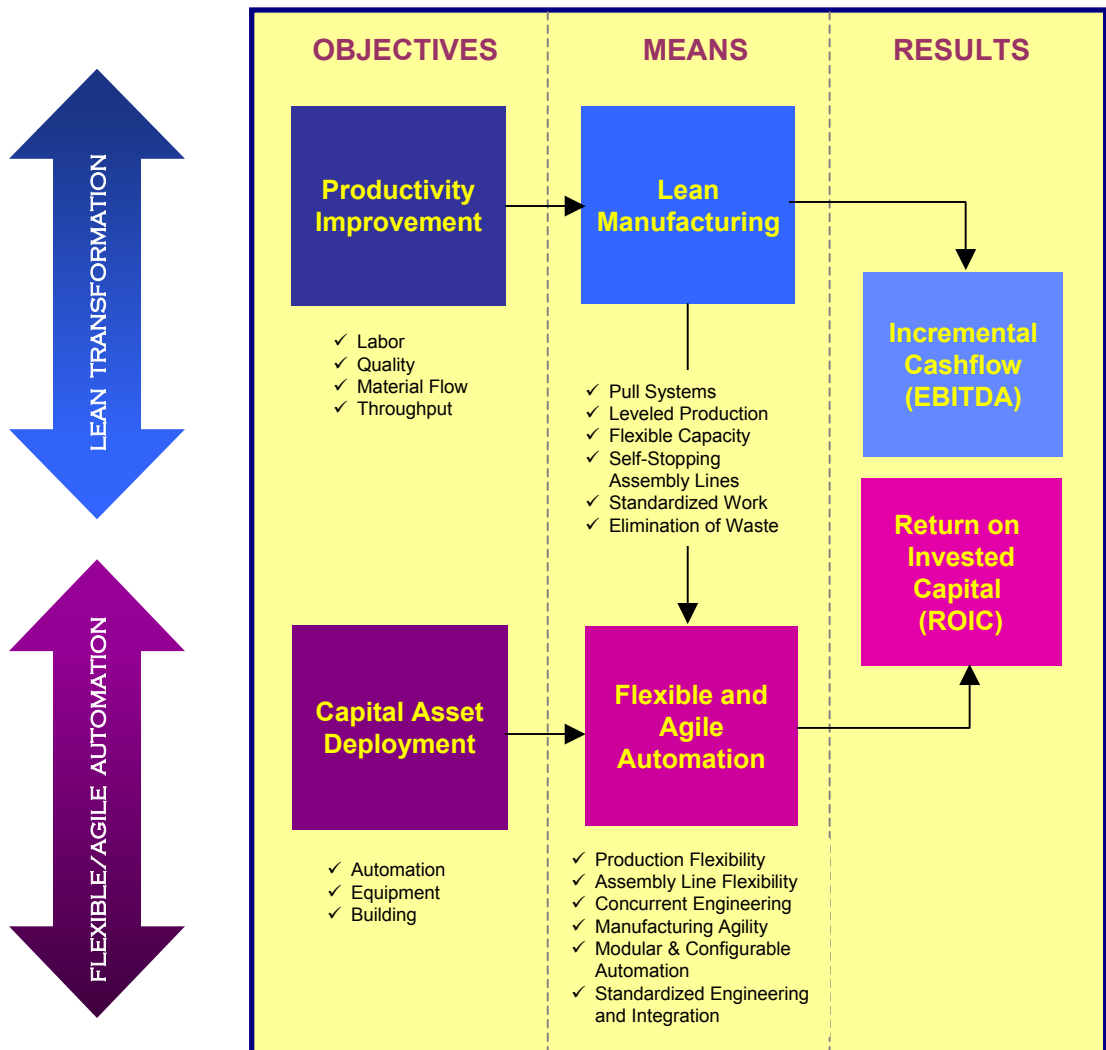
By combining its operational expertise and automation experience, WTAS is positioned to deliver maximum value for our discrete manufacturing customers.



### Our Approach: Integrating *Lean* with the appropriate level of *Automation*

Our consulting approach establishes the incremental value from the current production state to:

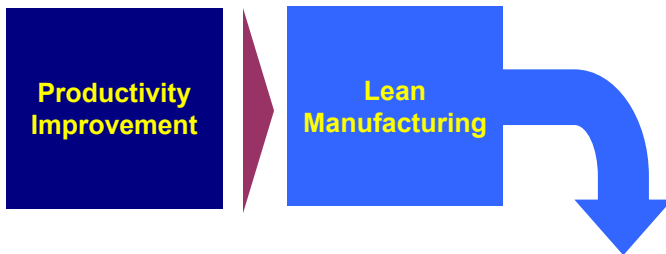
- ❑ The Lean Manufacturing state that delivers operational benefits and drives the automation requirements.
- ❑ The Flexible/Agile Automation solution that makes the best deployment of invested capital.





## Lean Manufacturing

Lean Manufacturing is the means to improving productivity. The application of Lean allows more production output with fewer resources. The benefits of Lean are further enhanced with automation technology. The synergies between the two deliver higher incremental value.



### LEAN MANUFACTURING PRINCIPLES

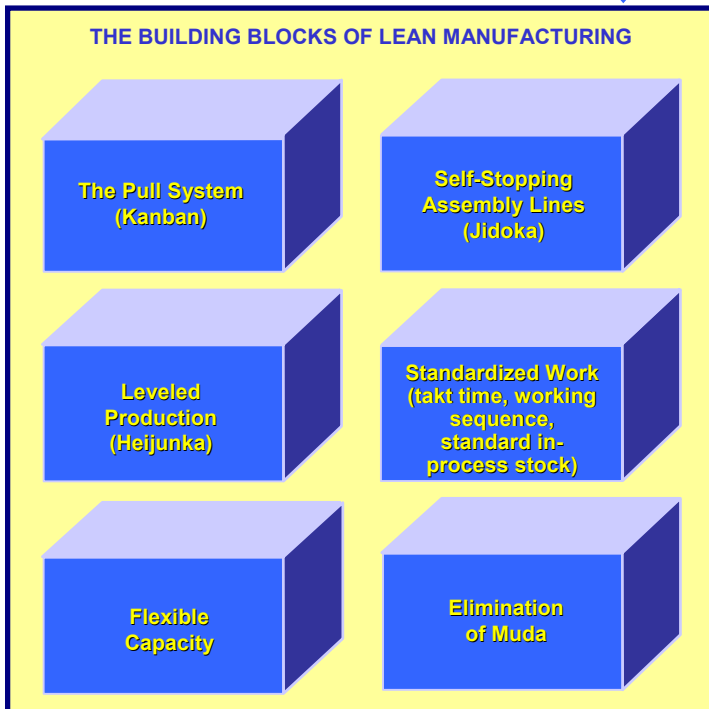
**THE PULL SYSTEM.** A Kanban is a visual cue passed from a process or location requiring a part to the process or location supplying it. Parts are produced and supplied only when Kanbans are received.

**LEVELED PRODUCTION.** Heijunka is a necessary pre-condition in order to effectively operate a lean manufacturing system.

**FLEXIBLE CAPACITY.** Lean manufacturing systems work well within a bandwidth of flexible capacity. Typical systems can handle +/- 10 to 15% variation (1 standard deviation) in independent demand items (finished goods).

**SELF-STOPPING ASSEMBLY LINES.** Jidoka is translated to mean automation.

**STANDARDIZED WORK.** Standardized work becomes the most important element in the implementation of Kaizen or continuous improvement. The three primary elements are takt time, working sequence, and standardized work in process stock.



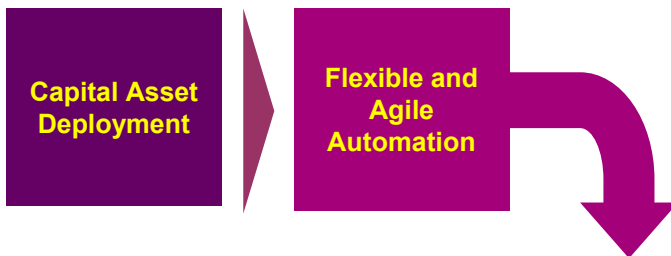
**ELIMINATION OF MUDA.** Muda is broadly described as waste. The objective of lean manufacturing is to eliminate all waste. There are seven types of waste: Over Production, Waiting, Conveyance, Processing, Inventory, Motion, and Correction



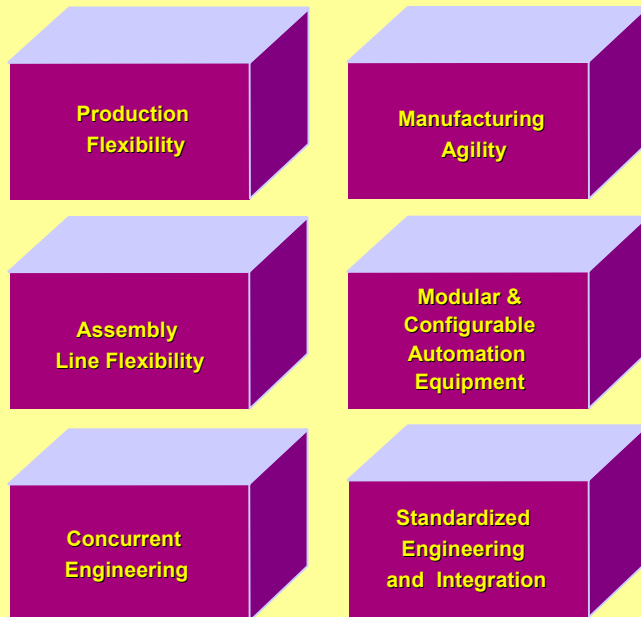
## Flexible and Agile Automation

Flexible and Agile Automation optimizes manufacturing productivity for current as well as evolving production needs. The application of Flexible and Agile Automation delivers more production with fewer capital assets over a longer period of time.

### FLEXIBLE/AGILE AUTOMATION PRINCIPLES



#### THE BUILDING BLOCKS OF FLEXIBLE & AGILE AUTOMATION



**PRODUCTION FLEXIBILITY.** Defined as the ability of a production process to produce a wide variety of parts without affecting process capability.

**ASSEMBLY LINE FLEXIBILITY.** Defined as the ability of an assembly system (as part of a production process) to handle a wide variety of parts in addition to quick line setups, changeovers, or zero-time changeover capability.

**MANUFACTURING AGILITY.** Defined as the ability to re-deploy manufacturing and assembly automation and equipment assets for a different production purpose.

**CONCURRENT ENGINEERING.** Also known as Simultaneous Engineering, it is defined as a best practice and business strategy which replaces the traditional product development process with one in which tasks are done in parallel with early consideration for every aspect of a product's development process.

**MODULAR AND CONFIGURABLE AUTOMATION.** Founded on the premise that automation that leverages standardized engineering components and modules can achieve the same objectives of a customized system at a lower cost. This approach also enables shorter automation deployment times and system modifications beyond the original production objectives.

**STANDARDIZED ENGINEERING AND INTEGRATION.** Defined as the standardization of the work content that is required for the design, fabrication, and integration of disparate automation components through standardized engineering methods, work instructions, programming, etc.



## Lean Manufacturing Consulting Services

### ❑ Lean Assessments

Identifying and scoping the potential economic benefits from the application of Lean Manufacturing and Process Improvement initiatives in the manufacturing environment.

### ❑ Independent Productivity and Process Improvement Assessments

Our experience, methodology and tools allow us to identify improvement opportunities across the entire production process and to establish the direction of the optimal manufacturing strategy for our customers.

### ❑ Implementing Lean Manufacturing Strategies

We work hand-in-hand with the management team to implement lean improvement projects. In this phase, the business begins to realize bottom line savings while its management team learns to implement lean practices alongside the most experienced experts in the industry. We assist management teams implement a business system that will ensure continuous improvement and which will provide sustainable bottom line gains going forward. We help the management team develop a manufacturing strategy and install simple and visual lean operating metrics that are tied to financial metrics.

### ❑ Developing and Implementing Lean Transformation Programs Coupled With Flexible and Agile Manufacturing Automation Solutions

We leverage our combined experience in Lean Manufacturing and Automation to develop solutions that are based on sound Lean practices enhanced by best practices in automation design.

## Our Qualifications

- ✓ Lean Manufacturing and Process Improvement Expertise
- ✓ Automation Solution and Factory Integration Experience
- ✓ Application and Design Engineering Capabilities
- ✓ Proven Project/Risk Management Competence
- ✓ Experience and Demonstrated Track Record
- ✓ Knowledge-Based Application Engineering
- ✓ Flexible Automation Technology Expertise



If you need assistance in figuring out the best way to improve and automate your manufacturing and assembly processes...

... we can shed the light



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