

# EXPLORING THE Flexible Manufacturing TOOLBOX



In many industries, **adoption of advanced robots** will boost productivity up to 30%.

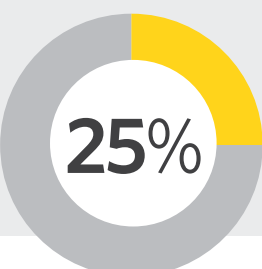


**Automation** will lower total labor costs by

**18%**

**By 2025:**

**Computer, electrical, transportation, and machinery industries** will buy about **75%** of robots



**25%** of manufacturing functions will be **automated** up from the current 10%.

## A Look Inside The Toolbox: What Manufacturers Can Use to Improve Productivity & Increase Competitiveness

### Design & Simulation



**Study multiple scenarios before committing "any metal" with robot cell simulation**

Simulate and validate an entire robotic cell in a 3D environment while verifying robot's reach and access as well as configuration of complementary tooling and equipment

**Gain significant positive impacts on quality, cost and cycle time with discrete event simulation**

Use computer-based modeling to provide an intuitive and flexible approach to manufacturing system design, development and implementation

### Robotics



**Reach new levels of efficiency, that neither humans nor robots can obtain alone, with collaborative robots (cobots)**

Integrate next generation robotics within a defined collaborative workspace to assist human operators and technicians

**Single arm:**  
Universal



**Dual arm:**  
Motoman



### Tackle your toughest application challenges

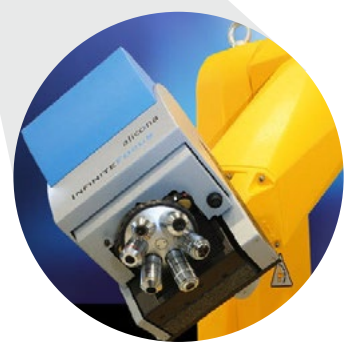
Leverage advances in vision systems as well as high-performance force and tactile sensors to create truly flexible manufacturing systems



### Controls & Sensing

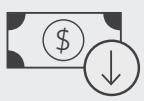
### Improve overall product quality and reduce manufacturing costs with automated inspection and NDE systems

Deploy automated inspection systems that can be programmed to verify dozens of features, inspect 100% of parts or achieve non-contact micron-level accuracy



### Automated Inspection & Nondestructive Evaluation

## Five Advantages of Flexible Manufacturing



1. Reduced manufacturing and labor costs



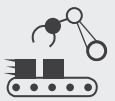
2. Shorter lead times



3. Improved product quality



4. Increased system reliability



5. The ability to meet emerging demands

Buffalo Manufacturing Works can develop, simulate, prototype, and validate agile automation and controls solutions to increase quality and processing speed while reducing manufacturing costs.

# BUFFALO MANUFACTURING WORKS

Operated by **EWI**

World class technical capabilities that help companies manufacture products better, faster and more competitively.

Sources:  
<sup>1</sup> <http://www.reuters.com/article/2015/02/13/idUSnMKW55WzCa+1ca+MKW20150213>  
<sup>2</sup> <http://www.usatoday.com/story/money/2015/02/09/bcg-report-on-factory-robots/23143259/>  
<sup>3</sup> <http://www.slideshare.net/TheBostonConsultingGroup/robotics-in-manufacturing>