

# ***Fact: Robots=Jobs***

Sponsored by:



Presented by:

**Jeff Burnstein, RIA  
President**

**John Hayes, Seegrid  
National Account Manager**



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# Seminar Speakers

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John Hayes, National Account Manager, Seegrid

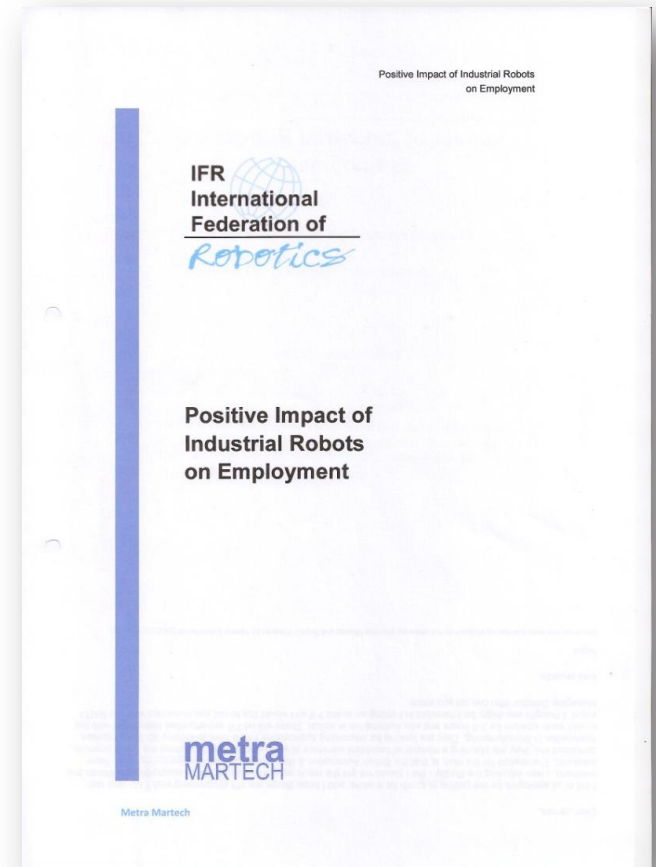
- 20 years of experience in material handling
- Expert in robotic automation

Jeff Burnstein, President, Robotic Industries Association

- 30 years with the Robotic Industries Association

# Introduction

- Study background & methodology
- Factors affecting robot use
- Employment in manufacturing
- Effect of robots on employment
- Future
- Results of study



# Background

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- Sponsored by International Federation of Robotics
- Conducted by Metra Martech
  - Specialist market research company
  - Established for over 50 years
  - Extensive industrial experience
  - Significant international experience

# Scope of Study

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- Impact of robots on employment in manufacturing
  - Automotive
  - Electrical & Electronics
  - Food & Beverage
  - Rubber & Plastics
  - Chemical Products
  - Metalworking & Foundries
- Six country focus
  - USA, Brazil
  - Japan, Korea, China
  - Germany

# Methods

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- Initial analysis
  - Economic data
  - IFR robot data
- Validity of assumptions tested
  - 18 experts identified via IFR
- More detailed analysis
  - Selected experts via questionnaire & interview

# Labour Cost Comparison

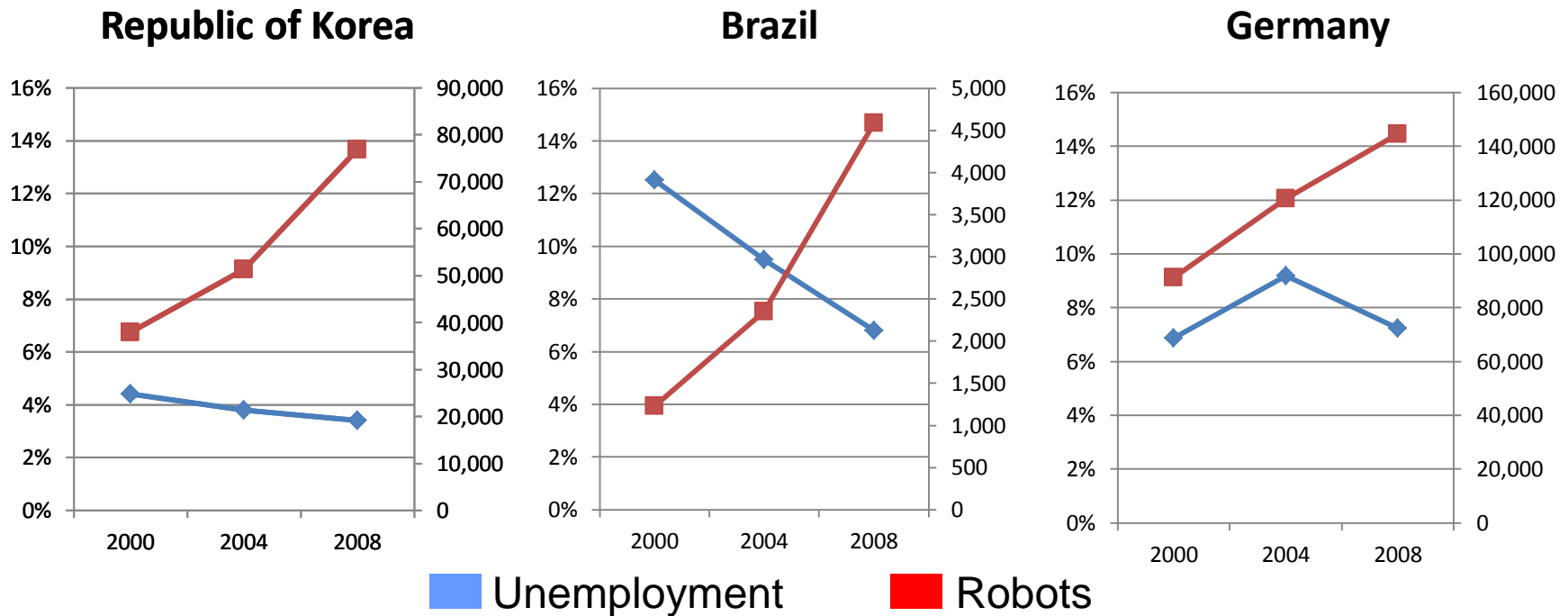
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Country	Labour cost index [2008]	Robots per 10,000 employed in manufacturing
Brazil	26	5
China	10	9
Germany	149	236
Japan	86	361
Rep of Korea	50	214
USA	100	110

# Robot Use & Employment

In 5 of the 6 countries studied, use of robotics increased between 2000 and 2008, in Japan there was a small reduction.

Overall unemployment fell in 5 of the 6 countries, USA experienced a slight increase.

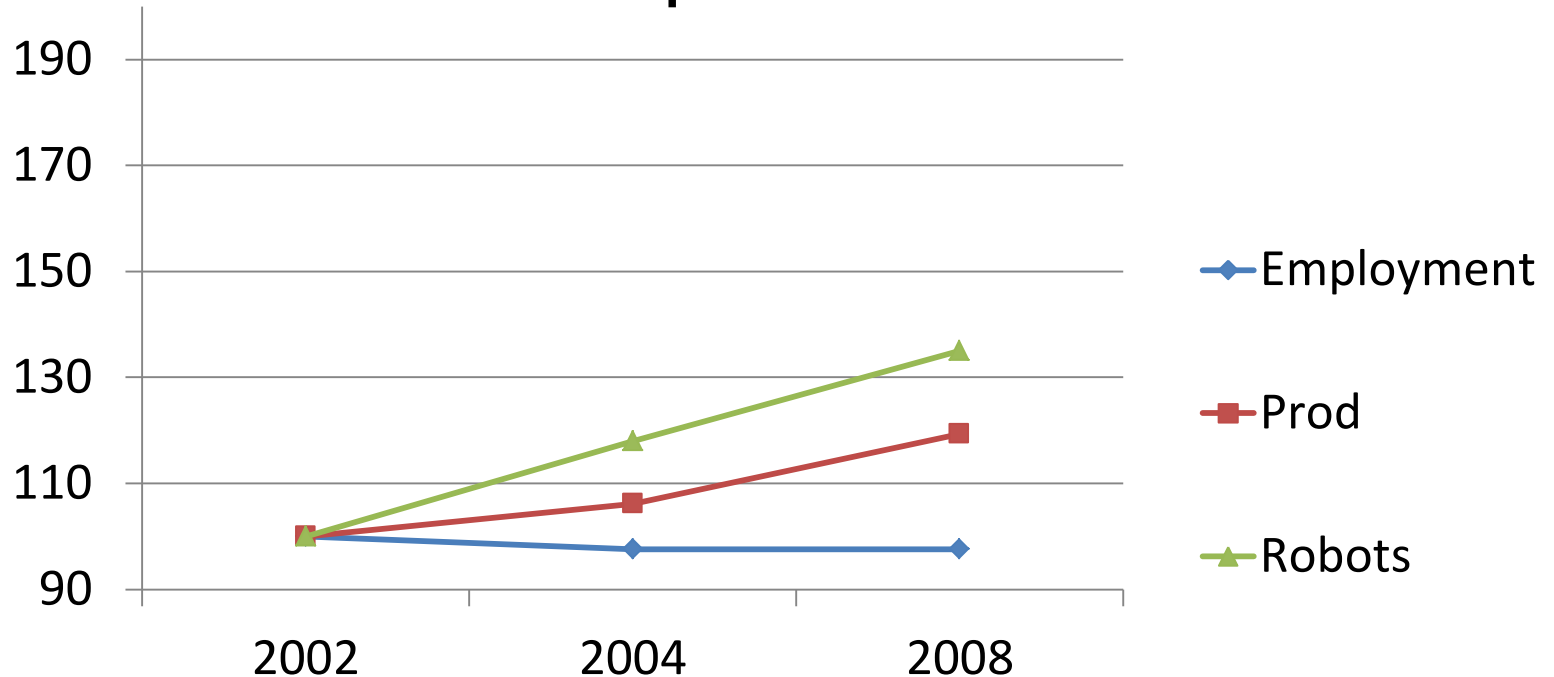




# Employment in Manufacturing

In the *industrialized* countries employment has decreased, but output has gone up.

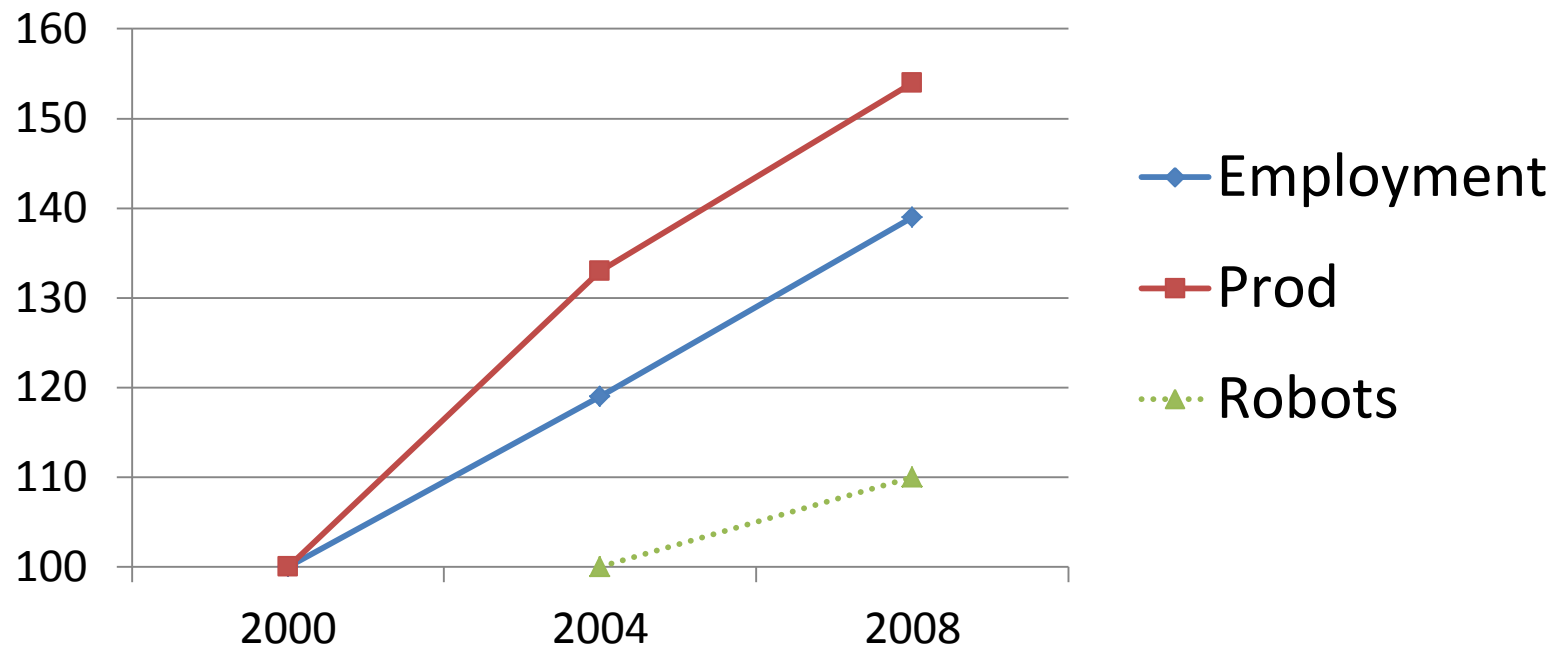
**USA Food and Drink is an example:**



# Employment in Manufacturing

In the **industrializing** countries employment has increased, *and* output has gone up too.

**Brazil Food and Drink is an example:**



# Robots Create or Keep Jobs, Where:

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## **Manufacturing:**

- Robots can produce to satisfactory precision and consistency standards at an affordable cost.
- Work conditions are unsatisfactory, but where a robot will operate.
- Manufacturing in a high labour costs country is threatened by a low labour cost area.

**Jobs are also created by the robot industry itself.**

## **The third and largest job creator is:**

- Downstream distribution, marketing, selling and servicing the robot manufactured products.

# Preserving Industry

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Opportunity for protecting local manufacturing employment in situations where:

- Total cost of producing locally can be kept equal to or below the lower cost overseas manufacture (+ transport cost).
- Benefits of having local service and support almost outweigh the lower cost overseas manufacture (+ transport cost) but would be a clear advantage if cost could be lowered.
- A company cannot get enough production in the local market to be viable, but with robotics could increase production at lower cost and export.

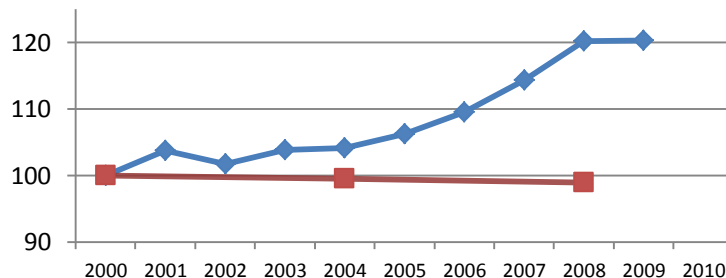
**Each 1% of manufacturing industry gained or saved in USA is equivalent to 1.45 million employees.**

*Note: Also protects jobs in local service industries*

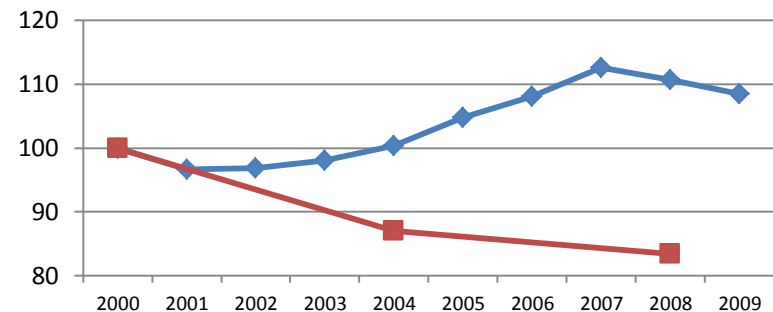
# More Robots, Fewer Jobs Lost

- German and US use of robots has doubled, but Germany has twice as many per employee.
- German job loss in manufacturing is much less than the US job loss.

Germany



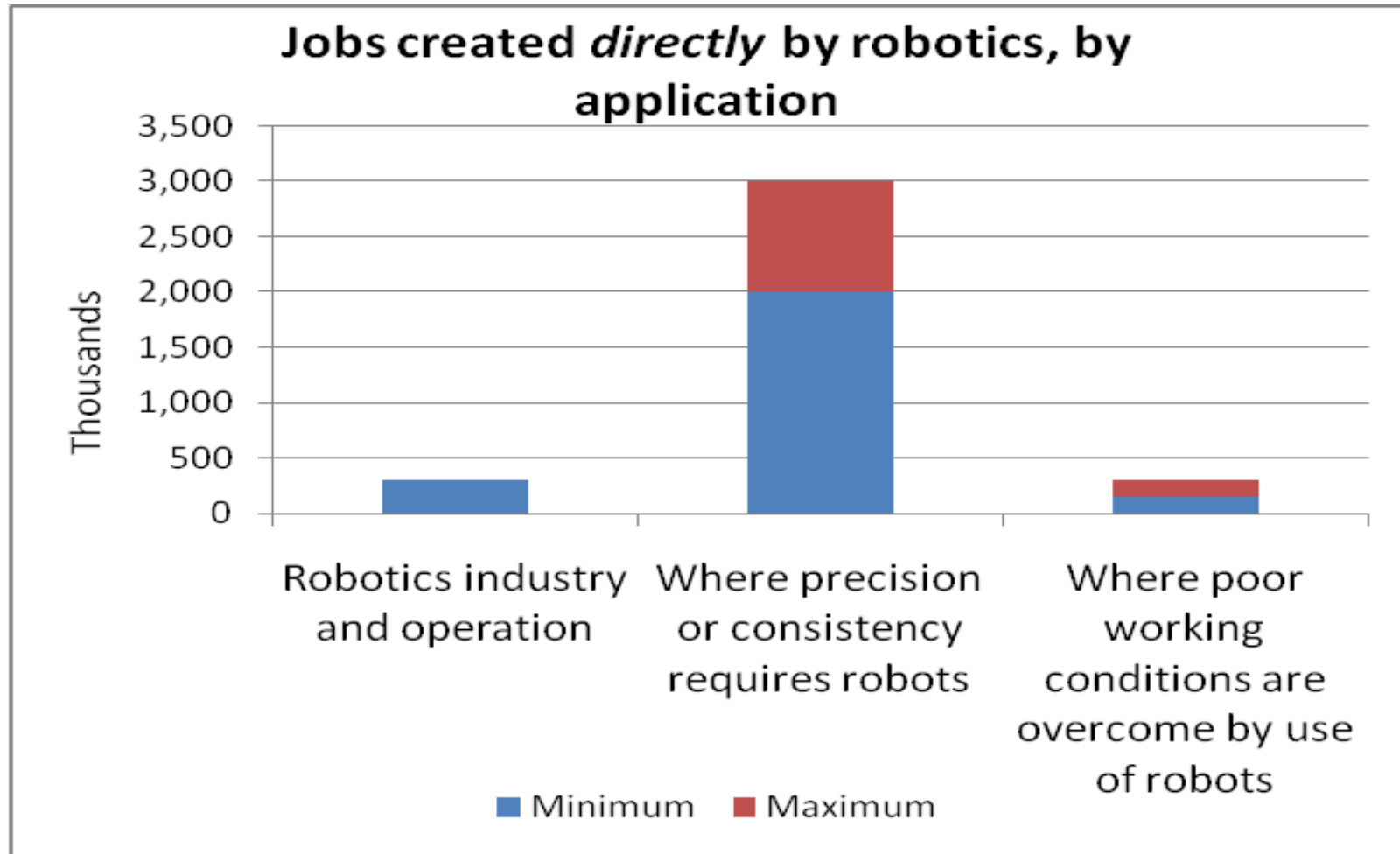
USA



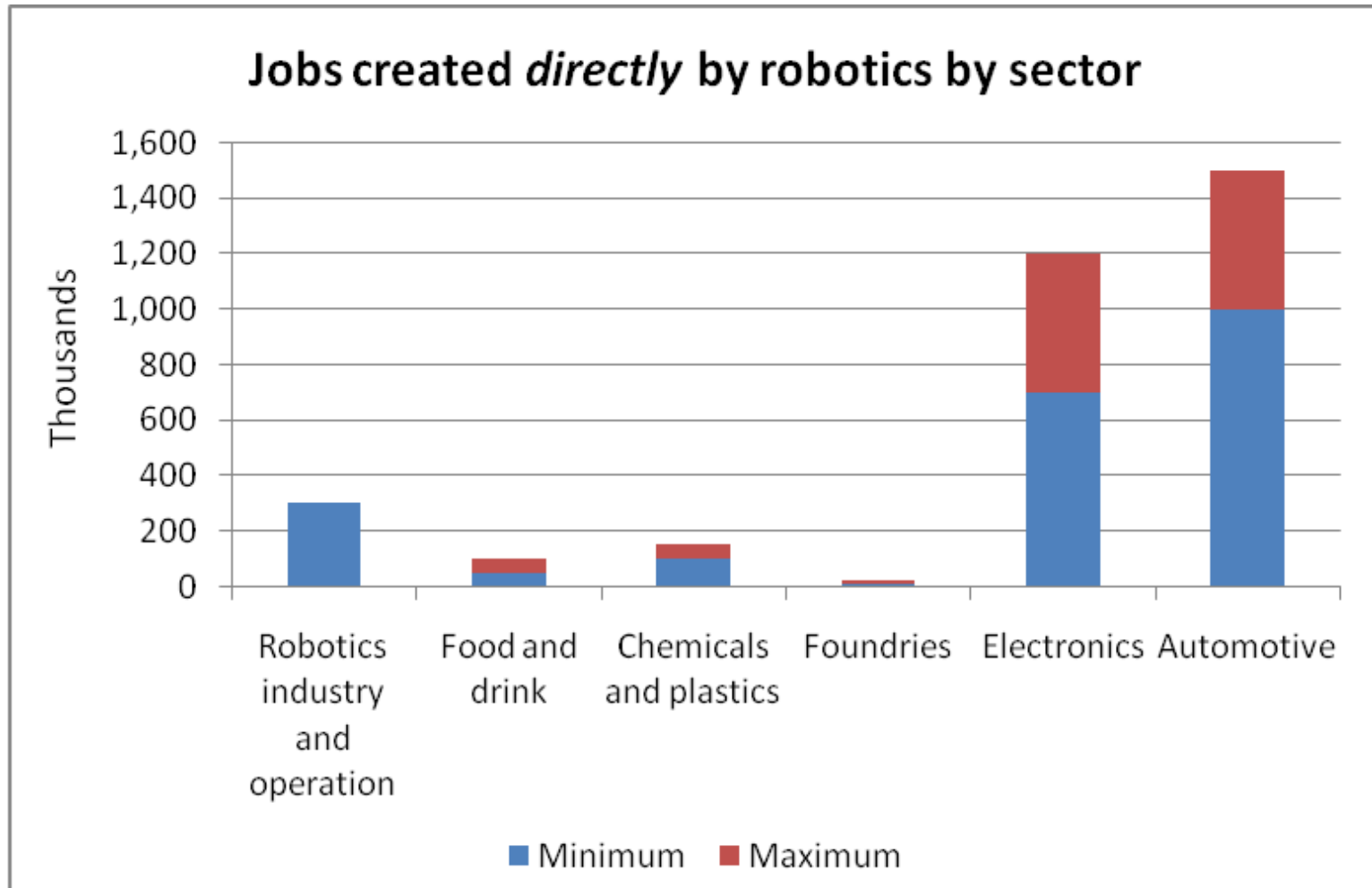
◆ Industrial production

■ Employed in manufacturing

# Jobs Created in Manufacturing



# Jobs Created in Manufacturing



# Total Employment Created by Robotics

Application type	Jobs created by robotics	Areas where the jobs are created
Robotics industry and operation	300,000	Mainly industrialised countries
Where precision or consistency requires robots	2 to 3 million	All countries with these industries
Where poor working conditions are overcome by the use of robots	150,000 to 300,000	Mainly industrialised countries
Where a sector which fails to use robots would be uncompetitive in world terms	2 to 3 million	Mainly industrialized countries
Downstream jobs created by new products and services	3 to 5 million	All countries where these products are sold.

**Total 8 to 10 million**



# New Employment because of Robots

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Will be caused by (up to 2016):

- New products which need robots
  - Food, renewable energy, consumer electronics
- Protecting companies in industrialized countries
- Robot industry including service robots
- Dirty, unpleasant jobs - changes in legislation
- Continued growth of Chinese [and Indian] consumer markets

# Study Findings

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Direct employment due to robotics:  
2 to 3 million jobs created in world manufacturing  
That is 2 to 3 jobs per robot in use.

**Indirect employment downstream of this, more than  
doubles this number.**

**700,000 to 1 million new jobs  
to be created by robots in the next five years.**

**Robots** *create jobs!*

# What We Hear

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- Robots Don't:
  - Take breaks
  - Talk back
  - Talk/Text on cell phones
- Robots offer a great ROI



# What We Need

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## **Business**

Grow, expand and create a profitable business.

## **Individual**

Provide rewarding, safe, good paying jobs.



# The Bad

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## Textile manufacturer

- South Carolina
  - Planned to automate to reduce costs
  - Chose not to automate
  - Business shut down and relocated to Mexico



# The Good

## American Packaging Corporation (Columbus, WI)

- Business
  - No reduction in labor
  - Material handling labor hours = -22%
  - Productivity increase = +4.5%
  - Sales volume = +8.4%
- Individual
  - Job satisfaction
  - Increased skill set
  - Safer work environment
  - Increase in wages





# Good For Everyone



**Grow, expand and create a profitable business.**



**Provide rewarding, safe, good paying jobs**





# Any Questions?

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***For More Information:***

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