

# Winnebago

CASE  
SUMMARY

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## WINNEBAGO INDUSTRIES, INC.

Hampton, Iowa  
Franklin County

Intern: Priya Bhirud  
Major: Systems Engineering  
School: Iowa State University



### The Company

Winnebago Industries, headquartered in Forest City, is a leading United States manufacturer of motorhomes and self-contained recreation vehicles used primarily in leisure travel and outdoor recreation activities. Winnebago's fiberglass plant located in Hampton primarily produces fiberglass parts and assemblies for delivery as a finished component to the Forest City main assembly plant. The majority of parts are produced on two lines using "chopped fiberglass" sprayed with gels over plastic molds. Winnebago Industries has a history of pollution prevention and recycling programs at other plants.

### Project Background

Winnebago Industries' environmental goals include the reduction of air emissions, reduction of excess material used and promotion of recycling and reuse of materials. This internship was focused on reducing air emissions by decreasing the amount of gelcoat/resin used to manufacture fiberglass parts. In addition, other pollution prevention opportunities were evaluated.

### Incentives to Change

**Environmental:** The project was aimed at reducing the excess amount of raw material used for manufacturing fiberglass parts and thereby reducing air emissions.

**Economic:** By reducing excess material usage, Winnebago can save expenses on raw materials.

**Waste reduction:** By undertaking various pollution prevention and recycling projects, Winnebago Industries portrays a commitment towards waste reduction.



### Results

#### Excess amount of raw material usage

The amount of raw material used to manufacture parts is often a critical factor in meeting product specifications. Incorrect raw material application can result in excess raw material costs

BUSINESS

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and quality control concerns. The use of a fluid monitoring system will help the operator control the amount of product used to manufacture the fiberglass parts. The cost estimate for the metering system is \$33,000, leading to annual cost savings of \$586,486 in raw material costs. In addition, this fluid metering system will result in an estimated reduction of air emissions of 5 to 10 tons per year.

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