

The background of the slide is a grayscale photograph of industrial equipment. On the left, there is a circular pressure gauge with a white face and black markings, ranging from 0 to 1.0. The needle is pointing towards 0.4. To the right of the gauge, there are various pipes, valves, and mechanical components, including a large vertical pipe and a horizontal pipe with a valve handle. The entire image is overlaid with a semi-transparent white rectangle that contains the text.

Waste Reduction at Beckman Coulter

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UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

Beckman Coulter Diagnostics



- Located in Chaska, MN
- Approximately 1000 employees
- Reagents for clinical chemistry and diagnostic test instruments



Incentives to change

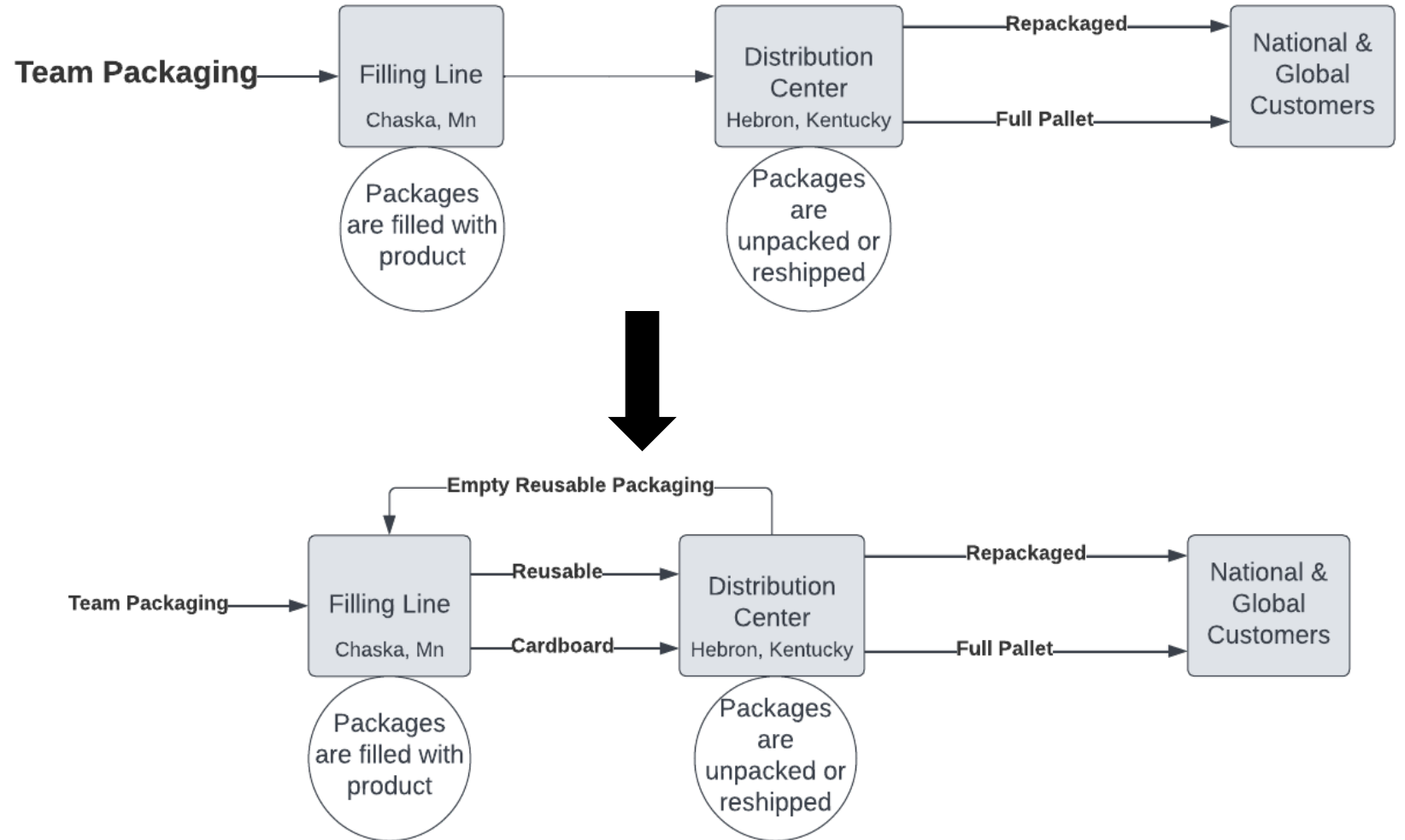
- **Sustainability team created in 2021**
 - Reduce waste by 15% by 2024.
 - Goal to become a zero-waste to landfill facility
- **Intern project goals**
 - Packaging and line filling waste reduction
 - Water conservation
 - Energy efficiency



Primary Project: Reusable Shipping Containers for Substrate Filling Line



Shipping Cycle



Environmental Impact

- **1,500 pallets filled and shipped in an average year**
 - 28,000 pounds of cardboard waste
 - 31,000 pounds of pallet waste

Next Steps

- Coordinate shipping logistics
- Obtain product quotes
- Prototype testing
- International shipping data



Solutions

Recommendation	Annual Reduction	Total Cost	Annual Savings	Payback Period	Status
Implement reusable substrate containers	59,000 lbs	\$100,000	\$85,000	14 months	Recommended
Recycle expanded polystyrene	10,000 lbs	\$0	\$660	Immediate	Implemented
Purchase reusable utensils	6,000 lbs	\$600	\$508	14 months	Recommended
Compost organics	125,000 lbs	\$4,500	\$4,250	13 months	In-Process
Optimize lawn irrigation	909,000 gal	\$1,100	\$8,500	2 months	Implementing
Recycle misc. plastics	10 lbs	\$0	\$1,140	Immediate	Recommended
Install freezer door	8,000 therms	\$500	\$6,000	2 months	Recommended
Reuse roller bottles	6,900 lbs	\$95,000	\$85,000	13 months	Researching

Personal Benefits

- Apply knowledge from science and engineering
- Collaborated with real-world professionals on projects
- Improved research skills
- Experienced project management
- Got comfortable rummaging in trash cans

