



CENTER FOR INNOVATION

FACILITY PROFILE

L3810





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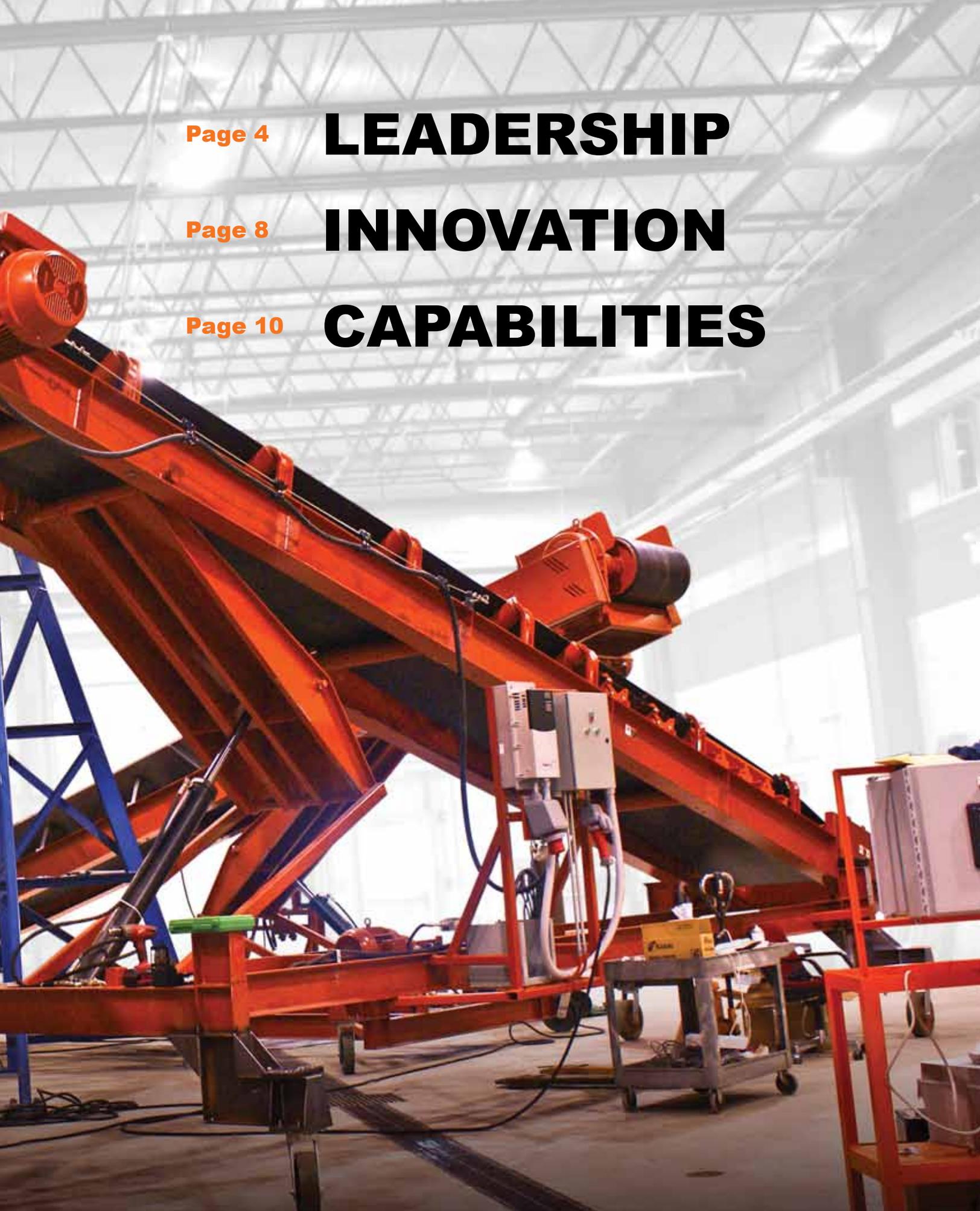
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LEADERSHIP

Established in 1944, Martin Engineering is the worldwide leader in developing, manufacturing and supplier of innovations to make bulk materials handling cleaner, safer and more productive.

Over the years, Martin has maintained its position as the market leader through a practical, hands-on, problem-solving approach. Evidence of our innovation is seen in the company's list of patents from around the world. The most notable innovations from Martin are listed below.



BALL, ROLLER AND TURBINE VIBRATORS

Invented by Martin in the 1940s and 1950s, these compressed air-driven devices are still among the most popular industrial vibrators.



AIR CANNONS

These compressed air blasting systems are now a world standard.



TRACK-MOUNTED SEALING AND SUPPORT SYSTEMS

Identified costs associated with the escape of fugitive materials from belt conveyors and developed practical, serviceable systems to control this dust.



“CARP” BELT CLEANING BLADES

The patented “CARP” design features a curved blade that maintains an effective cleaning edge throughout blade life.





DH PERFORMANCE-DUTY BELT CLEANERS

The first molded-in-one-piece urethane belt cleaners provide rugged durability. Previously known as Durt Hawg Belt Cleaners.



VIBRATION SYSTEMS AND SOLUTIONS

A new generation of electric, pneumatic and hydraulic vibrators maintains material flow while reducing energy consumption and plant noise.



DUST FILTRATION TECHNOLOGIES

Integrated systems to minimize dust creation, prevent spillage, filter airborne particles.



ABSOLUTELY NO EXCUSES GUARANTEE

All products are covered by Martin's Absolutely No Excuses Guarantee, ensuring Martin's commitment to deliver an effective solution to solve your material handling problem.



“The Center for Innovation represents a major commitment to the industries we serve.”

– Martin Chairman Edwin H. Peterson

To continue this legacy of innovation, Martin opened the Center for Bulk Materials Handling Innovation. CFI is the company’s home for worldwide research and new product development.

According to Martin Chairman Edwin H. Peterson, “The Center for Innovation represents a major commitment to the industries we serve. Our research partners will benefit from a better understanding of the characteristics of the bulk materials they use and how they should be handled. This will lead to new technologies that make materials handling cleaner, safer and more productive.”

The purpose of CFI is to facilitate the global development of products designed to improve the existing product portfolio, while combining innovative ideas with technological expertise to provide creative and insightful solutions to customer problems.

Having developed from the industry leader, we have the experience, knowledge and leadership to provide these solutions. Innovation has always been an integral part of our company philosophy and is what has made us the leader in bulk material handling.

PROBLEM

A large South American customer required a belt cleaner that would meet a 6% reduction in cost and labor year after year while not requiring the use of hammers in order to reduce hand injuries.

SOLUTION

Martin developed a new belt cleaner featuring a long-lasting urethane base in which worn urethane tips could be replaced without the use of tools, reducing cost in required urethane and eliminating the need for tools.



CFI VISION

To become the recognized global leader in the development of bulk material handling solutions.

CFI MISSION

The Center for Bulk Materials Handling Innovation fosters partnerships to pioneer unique solutions and technological advancements for the bulk materials handling industry.

Problem Solved™





INNOVATION

The Center for Innovation provides industry-leading capabilities for the analysis of bulk materials and the practical, full-scale testing of system and component performance.

CFI is dedicated to helping industry make the handling of bulk materials cleaner, safer and more productive. Work is concentrated on solutions to reduce or control dust and spillage from belt conveyors and on flow aid technologies to enhance the flow of materials from storage and through processes.

Projects at the CFI include basic research, industry education, new product development, the analysis of bulk material properties and the testing of material handling systems and components under simulated operating conditions.

The facility provides opportunities to collaborate with customers, associations, universities and other groups from around the world to develop a better understanding of bulk materials and the problems encountered in industrial processing.

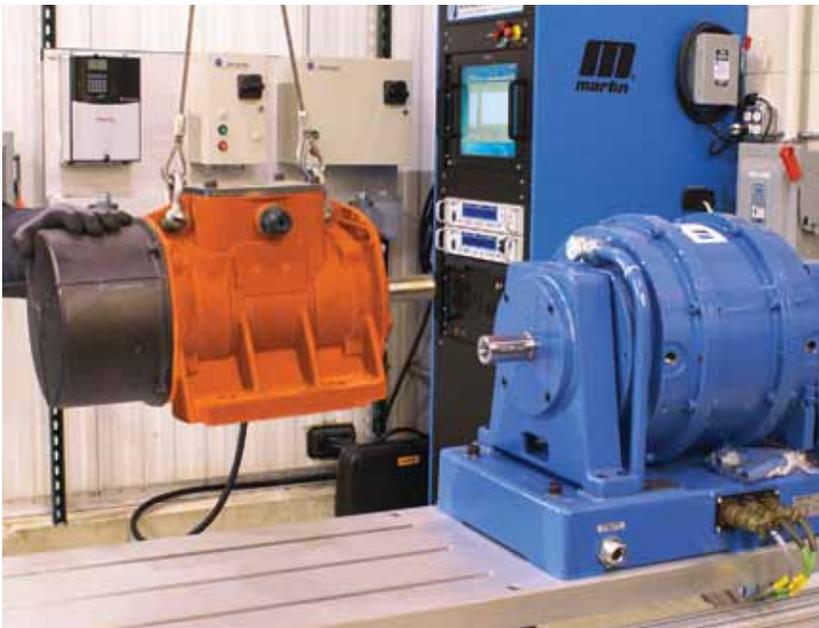
PROBLEM

Traditional air cannon nozzles were not effective in preventing build-up in the center of a cement industry customer's preheater wall due to the distance of adjacent walls on which to mount nozzles.

SOLUTION

Martin developed a new air cannon nozzle capable of delivering 360° blasts to clean the flat wall on which it is mounted. The nozzle is able to insert and retract itself in and out of the vessel and withstand heat and chemical attack while providing an extended service life. The new retractable nozzle can be quickly and easily removed and replaced for simple service.





▲ Product testing in the process simulation room. *Opposite, top:* Training center.



CAPABILITIES

CFI incorporates four laboratories to perform sophisticated testing and analysis of customer bulk materials, systems and components.

BULK MATERIALS LABORATORY

Material samples are analyzed to determine particle size distribution, moisture content, particle density and flow behavior over a range of conditions and environments.

POLYMERS LABORATORY

These materials include polyurethane, rubber, plastics, polymers and other elastomers. Analysis of hardness, modulus, flexure, compression, tensile strength and fracture strength are conducted. New formulations of materials can be processed in trial-size batches.

SIMULATION ROOM

CFI also houses full-sized material handling equipment for the testing of material properties and equipment performance under “real life” conditions.

ENVIRONMENTAL LABORATORY

Material samples are tested under conditions from -73° to 190° C (-100° to 375° F) and 10% to 98% humidity.

METALS LABORATORY

The materials studied include tungsten carbide, ceramics, steels, composites and various alloys. Factors evaluated include wear life, impact resistance, corrosion resistance and load-bearing performance, through tests including hardness, flexure, impact resistance and two- and three-body abrasion.

CFI holds the promise of improved productivity and profitability in these industrial operations, where clean, efficient handling of bulk material is essential.





▲ Clockwise from top: Metals Lab, Environmental Lab, Polymers Lab, Bulk Materials Lab. *Opposite, top:* Process Simulation Room.



GLOBAL LOCATIONS

 UNITED STATES

 AUSTRALIA

 BRAZIL

 CHINA

 FRANCE

 GERMANY

 INDIA

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