

The Tauber institute for Global Operations is an advanced educational program at the University of Michigan. Graduates have a broad understanding of business and engineering and are experts in operations and global manufacturing. A milestone of the Tauber program is a summer project, structured as a team internship supported by two faculty advisors, one from the Stephen M. Ross School of Business and one from the College of Engineering. Projects typically have significant visibility and are often sponsored at the vice-president level. A successful project results in significant return on a company's investment and fosters an introduction to the entire cohort of Tauber Institute students.

TAUBER INSTITUTE DIFFERENTIATORS

+ Careful Admissions Process

Highly intelligent, execution-oriented students.

+ Team-Based Summer projects

*Balanced backgrounds of team members,
with a supporting infrastructure of faculty,
administration, and processes.*

+ Project-Focus

*Specific quantifiable objectives important and
visible to the firm.*

+ Students Trained to Hit the Ground Running

Recommendations typically piloted and implemented.

+ Leaders and Best

*All students educated in personal and team leadership
skills to maximize effectiveness.*

To find out more,

call **734.647.1333**

or visit www.Tauber.umich.edu

INDUSTRY PARTNERS

NORTH AMERICA

3M Company
Advanced Micro Devices
Alcoa Inc.
Amcast
AMETEK
Amoco
AP Parts International
Aramex
A.T. Kearney Inc.
Bayer Corporation
The Boeing Company
Boral Limited
BorgWarner Inc.
Cabot
Cardinal Health
Cargill
Carrier Corporation
Chrysler LLC
Cisco Systems Inc.
Code Alarm
Colfax Corporation
Cordis Corporation
Cotterman
Cummins Inc.
Dell Inc.
Delphi Corporation
Dexter Research Center
Diageo
The Dow Chemical Company
DTE Energy
Eastman Kodak Company
Eaton
Eli Lilly & Company
Emerson
Exide Technologies Inc.
FMC, United Defense
Federal-Mogul
Ford Motor Company
General Cable Corporation
General Electric (including
GE Aviation, GE Healthcare,
and GE Lighting)
General Mills
General Motors Company
Guidant Corporation
Hallmark Cards
Harley-Davidson
Herman Miller
Hewlett-Packard
Honeywell International Inc.
Intel Corporation
Jabil Circuit
John Deere
Johnson Controls
Knoll Inc.
Lockheed Martin Corporation
Masco Corporation

McKinsey & Company
Medtronic Inc.
Merck & Co. Inc.
Meritor
Microsoft Corporation
Midwest Stamping
National Center
for Manufacturing Sciences
National Grid
Navistar
Northern Telecom
OfficeMax
Pall Corporation
PepsiCo
Pfizer Inc.
Raytheon Company
Revlon Consumer Products
Ryder System Inc.
Schlumberger
Seattle Children's Hospital
Siemens
Solectron Corporation
SPX Corporation
SRG Global Inc.
Steelcase Inc.
Sunbeam Products Inc.
Target Corporation
Teva Pharmaceuticals USA
TRW Inc.
United Technologies Corporation
University of Michigan
Medical School
UPS
Venchurs Inc.
Visteon Corporation
Whirlpool Corporation
W.W. Grainger Inc.
Xerox Corporation

INTERNATIONAL

Alcoa (Australia, Japan)
Barden Group (Namibia)
BorgWarner (China, Germany,
Hungary, Portugal, Spain)
Caterpillar (China)
Ford Motor Company
(Europe, South America)
General Motors (China)
Honeywell (China)
Indo-Keramik (Indonesia)
Leybold, A.G. (France, Germany)
National Label (Indonesia)
Pall Corporation (Puerto Rico)
PT Sepatu Mas Idaman
(Indonesia)
Schlumberger (China)



STUDENTS AND TRAINING

Most of the program's first-year activities are geared toward ensuring a successful summer team project; these include taking courses from both the Business and Engineering schools, a broad range of operations-related electives, and a number of workshops focused on team-building and leadership. The last group of activities concentrates on having things done quickly, efficiently, and effectively.

RETURN ON INVESTMENT

While some sponsoring firms initially treat Tauber institute internships as a recruiting tool, most if not all companies come to recognize an immediate high-return on investment. It is fairly typical for a summer project's net benefit to exceed \$1M, in either new revenue or saved costs (33 projects in 2011 had over \$10M in saved costs). While each project starts with an analysis and proceeds to recommendations, we emphasize the immediate implementation of recommendations, a significant portion of which are either executed or piloted during the internship.

JOHN MCGILL
VP | Chief Procurement Officer
BORGWARNER INC.

"These are some of the finest students in graduate school today — having survived a rigorous screening process academically, experientially, and culturally. The Tauber Institute's high-potential students are very competitive, eager to demonstrate their skills, creativity, and ambition. I am extremely satisfied with the high-level of performance shown by the students."

To find out more,
call **734.647.1333**
or visit www.Tauber.umich.edu

SAMPLE RESULTS FROM 2011 PROJECTS

Generated a bottom-up cost model that can be used by a leading global manufacturer to estimate supplier's cost to manufacture for any of their rotor or drum parts. The project culminated with a three-week trip to China to visit local existing and potential suppliers and to negotiate cost reductions using the cost model. By the end of the project, the Tauber team identified over \$3M in net savings, and developed and started implementing a phased action plan that would lead to total savings of over \$4M, including the net annualized savings of \$2.3M and cost avoidance savings of \$1.8M.

Applied a lean process mapping methodology to analyze the label production process, identify areas for improvement, and created a vision for the future state. Instituted a performance based incentive system, standard operation procedures, and a number of waste reduction techniques which increased throughput capacity by 12%. Statistical quality control charts were put in place which resulted in a decrease in rejects by 25%. An inventory reduction plan and 5S implementation at the materials warehouse decreased raw material inventory by 10%. A manual order processing system was replaced with an electronic order processing system that reduced administrative lead time by 35%.

Located in Hungary, the Tauber students were able to lay the foundation for three **kaizen teams focused on capacity optimization** under the Operations Department. The aim of each team was to deliver results in the short term at the machining cell, such as work in process and bottleneck setup time reduction and apply the same lean management across the plant in the long term. Application of SMED principles helped reduce bottleneck setup times by 60%; better flow visualization resulted in material reduction of over 50% without compromising on throughput — all resulting in a practical capacity increase of around 6% for the year 2010. Capital expenditure savings of over \$1 M, material reduction amounting to \$0.7 M and annualized productivity savings of \$0.1 M were achieved within the plant.