

Accessing UT Resources and Technology

Innovation Valley Resource Showcase

June 18, 2010

Jim Slizewski

Bill Wiley

UTCIS History & Purpose

- The Center for Industrial Services is a part of the University of Tennessee's Institute for Public Service.
- UTCIS was created in 1963 by the Tennessee General Assembly.
- To fulfill the Land Grant mission of the state's flagship university by providing Public Service to the citizens of the State.

The UTCIS Mission

To assist Tennessee manufacturers and businesses in becoming more productive, profitable, and competitive.

General Services

- Productivity
 - Lean Manufacturing
 - Rapid Enterprise Solutions/Transformation
 - Six Sigma
 - Quality (ISO/TS)
 - Energy management
 - Human Performance Technology
- Business Growth Services
- Environmental, Occupational Safety and Health
- Procurement Technical Assistance Center (PTAC)
- University of Tennessee University Center (UTUC)
- Solar Energy Grants
- Faculty - Manufacturing Research and Development Projects

Faculty Projects – Research and Consulting

Access university expertise, research, and assistance.

- **STATISTICAL DATA ANALYSIS** – Company requested evaluation of the capability of their new CNC machine. A Professor from the Industrial Engineering Department with a strong Statistical Process Control background was the investigator.
- **PERMANENT MAGNET ELECTRIC MOTOR ASSISTANCE** – Company needed advice on a new interior permanent magnet synchronous motor for a hybrid prototype. An Electrical Engineering Ph.D. student assisted.
- **ECONOMIC ANALYSIS OF ALTERNATE USES FOR PLYWOOD WASTES** – Plant Manager requested an economic analysis of utilizing their scrap plywood as a heat source rather than landfilling.

Faculty Projects – Research and Consulting

- **ENCLOSURE POTENTIAL CUSTOMER AND NEW MARKETS** - The Enclosure Manager requested assistance in developing potential customers as well as new markets. An MBA Graduate student assisted with the study.
- **MATERIALS REQUIREMENTS PLANNING (MRP) AWARENESS CONSULTING** - The President has requested a session to increase the company's awareness of an MRP system and its relation to Lean Manufacturing before a large capital expenditure. An Industrial Engineering Professor developed a one-day seminar for the company.
- **MODEL FLUID FLOW AND HEAT TRANSFER** – Company requested assistance with the development of numerical simulations that model the fluid flow and heat transfer of one of their thermal sensor devices. A Nuclear Engineering Professor was the investigator.

Faculty Projects – Research and Consulting

- **ADDITIONAL FURNACE CALCULATIONS** -The President requested assistance with calculations involving the addition of two new furnaces/processes from an air permit perspective. A Mechanical Engineering Professor assisted.
- **MICROSOFT ACCESS DATABASE ENHANCEMENT** - The Quality Manager requested assistance improving their existing Microsoft Access database that scheduled their orders. An Industrial Engineering Graduate Student supported the project.

SBIR/STTR Assistance

- Help companies identify University faculty to assist in research and proposals.
- Help award winning companies that are ready for commercialization market to the government.

SBIR/STTR Award Winner

Phenotype Screening Corporation

- Image and Characterize Plant Roots – X-ray



Dr. Max Cheng – Plant Science
Dr. Neal Eash – Soil Science



2007 R&D
100 Award



Dr. Roberto Benson – Material Eng.
Dr. David Page – Elec. & Computing Eng.

Senior Design Project

Accu-Router, Inc.

Manufactures high performance custom CNC routers

Industrial manufacturing customers include:

Upholstered furniture

Boating

Aerospace

Wood moldings



Senior Design Project

Accu-Router, Inc.

UT Mechanical, Aerospace and Biomedical Engineering
(MABE)

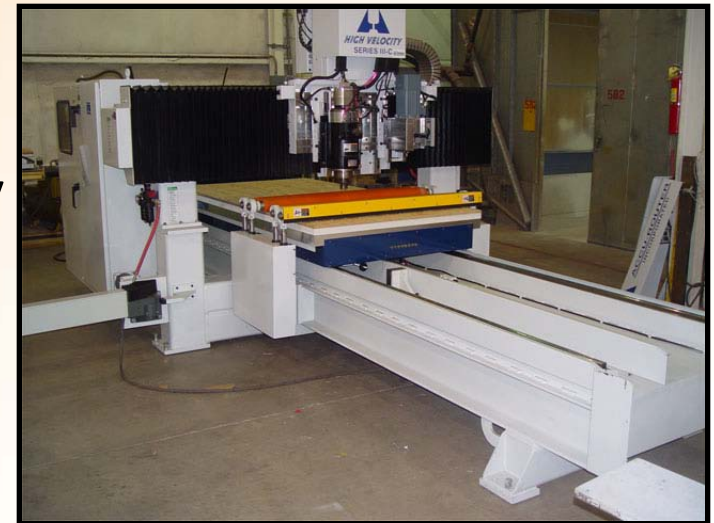
Dr. Don Dareing

Projects:

Improved Vacuum Hold Down Efficiency

Machine Enclosures

Dust and Chip Collection



What is Technology Scouting?

- A pull-based process intended to identify the technology needs of the client and scout potential solutions via multiple models or means.

or

- A service to search outside normal channels to find solutions for an unmet technology need.

What is an Unmet Technology Need?

- Unmet Technology Need Types:
 - To enable a new product development
 - To solve a current product issue
 - To solve a unique process issue
 - To get unique expertise/skills or a specialty resource
- Emphasis is on top-line opportunities
- Technology Scouting – Light and Full

Value of Technology Scouting



Needs Definition



Cross-Sector Review



Access to 1000s
of Data Sources



Business &
Technical
Intelligence



Insights from Experts

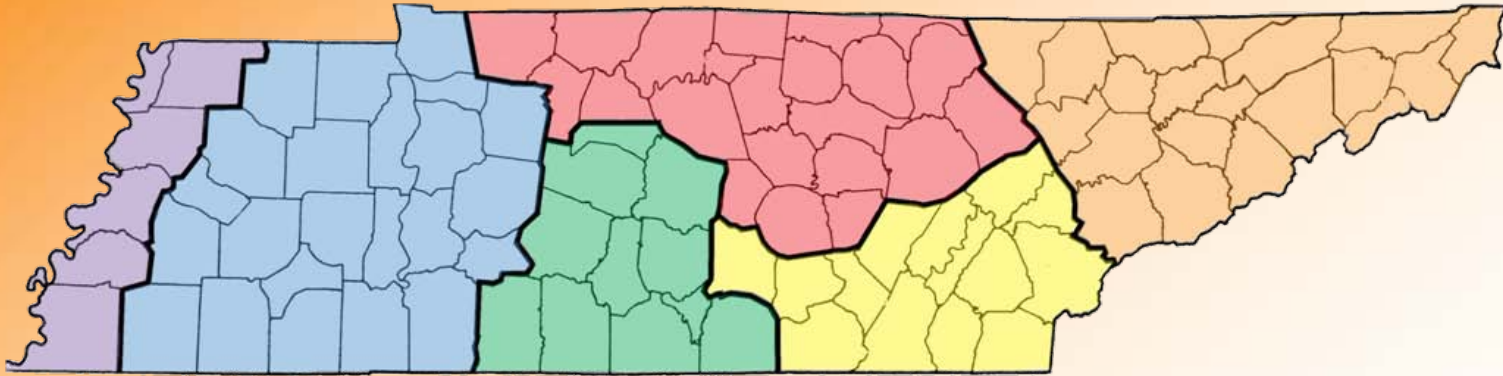


Targeted
Solution Spaces

A Typical Technology Scouting Project

- Small-scale projects last 4–10 weeks and take 60–80 hours
- More complex/large-scale projects can last 12–16 weeks and take 150–200 hours
- Complexity of the Client problem/need, depth and scope of scouting desired, and amount of expert/ search resources required all factor into project scale

Statewide Resources



CIS Offers six regional offices to assist with company needs.

We also have training facilities across the state so clients won't have to travel far to attend CIS sponsored events.

Contact Information

Jim Slizewski
Regional Manager
865.974.2249

jim.slizewski@tennessee.edu

Bill Wiley
Program Manager
865.974.8464

bill.wiley@tennessee.edu

www.cis.tennessee.edu

