

Led to a half million dollars of completed / potential technology projects

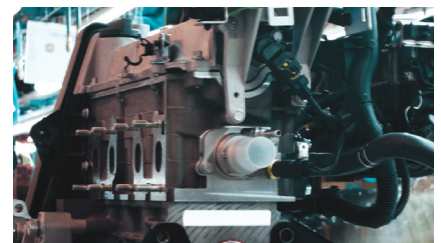
Technology Scouting is a component of NIST MEP's Technology Acceleration strategy. Unlike traditional "push" based-technology transfer, pull-based Technology Scouting is intended to search outside normal channels to find solutions for a small manufacturing client's unmet technology need. Over the past two years, NIST MEP has been researching potential Technology Scouting tools and services that help manufacturers access and pull technologies from government laboratories, universities, and private sector sources.

Through December 2010, 18 Technology Scouting pilots have been completed in partnership with RTI International, with additional pilots already underway or planned for 2011. These Technology Scouting pilots have included participation from over a dozen MEP centers and their manufacturing clients (see Client Examples below). The pilots focused on partnering with MEP Centers to apply to small manufacturing companies RTI's proven process of technology scouting for large companies. The pilots exercised and modified RTI's rigorous approach to conduct proactive searches for solutions against specific criteria; focus on the ability to find non-obvious solutions; bring new insight and awareness from outside core industries; and explore areas not easily accessible by clients directly.

Thus far, eight two-day Technology Scouting workshops (GS410) have been held in Georgia, Illinois, Montana, Nevada, New York, North Carolina, Pennsylvania and Texas. This practitioner training is intended to provide MEP Center staff with the training necessary for their MEP Centers to deliver Technology Scouting as a Growth Service offering to manufacturing clients. Additional workshops are being planned for 2011, including a three-day event that combines Technology Scouting and its companion service offering, Technology Driven Market Intelligence.

For more information, contact:

Ben Vickery
Manager, Technology Scouting Office
NIST MEP
ben.vickery@nist.gov
301.975.2954



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Identified new market worth \$5 million

Lehighton Electronics Inc.

Lehighton Electronics (LEI) is a global supplier of non-destructive metrology equipment used in the compound semi-conductor, solar photovoltaic, and flat panel display markets. Lehighton's instruments are world renowned and measure sheet resistance and mobility of the epitaxial layers.

Problem:

New growth opportunities for LEI that have been identified utilize conductive substrates in the wafer and panel designs. Advanced discrimination techniques are needed to measure performance as the incumbent method is unable to recognize the conductive layer. The ability to discriminate and measure conductive substrates in wafer constructions represents a potential multi-million dollar market opportunity.

Solution:

Once the need was defined, RTI, MRC (the local MEP Center in Bethlehem, PA), and LEI followed the Technology Scouting methodology to map a broad range of possible technology solutions and conducted secondary research to determine the viability of these potential solutions. After presenting these findings to LEI, focus was then refined down to primary research on more specific technology solutions. Primary research conducted among potential technology providers included contact and conversations with private-sector vendors as well as NIST staff at both the Gaithersburg and Boulder facilities. This culminated in a presentation to LEI of target technology descriptions, value to the client, and organization contact information. As a result, LEI is currently working with one of the identified technology vendors on a licensing or a possible joint venture arrangement.

"This is great. We would have never uncovered these technologies without MRC's and RTI's good help."

Lehigh Valley Plastics

Lehigh Valley Plastics (LVP) is a machining company specializing in high strength, highly engineered plastics. LVP currently operates capabilities and equipment for CNC machining, injection molding, cutting, and assembly. LVP produces high performing plastic parts for the electronic, medical, agriculture, and energy industries.

Picked up 50% capacity to generate new revenue

Problem:

LVP has a chance to increase its revenue if it can gain capacity in its machining capabilities. The raw materials used by LVP have very low malleability. Therefore, when machined, the removed plastic does not chip like metal, but rather forms a ribbon as it is machined. These ribbons tangle around the part, the machine chuck, and the tooling, potentially causing significant damage to the machine, the part, or both. LVP's CNC lathes must be shutdown every 2-3 minutes to clear the ribbons from the work area. Cooling fluid is also used to ensure the operator has enough time to stop the machine before damage occurs.

Solution:

MRC and RTI worked with LVP to render the firm's technology needs into the following Technology Needs Statement: "LVP needs a method/machine that will remove/convey/dispose of wet and/or dry plastic stringers and trims from their main turning work centers." Once this need was defined, the Technology Scouting methodology was followed to map a broad range of possible technology solutions — including electrical, mechanical, optical, tooling, sound, embrittlement, and pneumatics — and the viability of these possible technology solutions was assessed. As a result, LVP is currently working with one of the identified technology vendors, Air Products, on an embrittlement technology for LVP's CNC centers. LVP is also working with another technology provider, Illinois Carbide, on a new tool design.

"We knew that embrittlement may be the answer but we just couldn't find the technology. With your help we have found a potentially viable solution"