

Hot machining company gets cool solution



The Problem/Need

Lehigh Valley Plastics (LVP) specializes in machining engineered plastics. The plastic used in one of LVP's key parts forms a ribbon of scrap as it is lathed. This scrap can entangle the cutting lathes and endanger parts, equipment, and people. Clearing the scrap requires costly machine downtime and causes waste handling issues. LVP loses up to a shift per week as a result of this problem. LVP needed new technologies to eliminate their plastic scrap problem.



Project Outcomes

- Mapped a broad range of fundamental technology solutions including electrical, mechanical, optical, acoustic, cryogenic, and pneumatic.
- Narrowed the search focus to cryogenic embrittlement and custom tooling to prevent the ribbons, and pneumatic conveyance to remove the scrap.
- Identified, interviewed, and vetted the providers offering each solution and recommended the best partners for LVP to approach.

Key Requirements

- Method or machine that will remove, convey, or prevent wet and/or dry plastic ribbons and scrap.
- Useable on all of LVP's main lathe/turning work centers.
- Effective on all of the plastics that LVP machine lathes.
- Only commercially proven systems that could be evaluated in advance.
- Must meet all safety and facilities requirements.



Project Impact

- As a result of this project, LVP:
- Engaged a nearby cryogenic machining innovator and system provider.
 - Began working with leading tool company on a new tool design.
 - Identified a solution that has the potential to:
 - Increase capacity by 33% (\$2.5 million)
 - Save \$20,000 in waste material handling costs each year
 - Eliminate a key safety hazard.

"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."

– Walt Rodriguez, Lehigh Valley Plastics