

## IPG Problem Statement

Art: What I wanted to look at this morning are some of the inquiries we've had lately about laser cleaning. As you know, our lasers can be used to clean everything from fine art to industrial metals.

Darlene: Have there been specific customer requests we should be focusing on?

Art: Yes. In fact a potential customer called on Friday and asked about cleaning aluminum in an automotive application to prepare it for welding. Aluminum from the mill is usually coated with oil and other contaminants. It can't be welded unless the surface is cleaned first. If the surface is dirty the welds will be porous and fail in the field. This company is looking for an alternative to their current cleaning procedure which uses an acetone and alcohol wash system. It's expensive and produces hazardous waste that's difficult to dispose of.

Vijay: We're seeing a lot of these applications so I'm sure we can develop something for this customer. I assume this will be part of an inline system, that is, laser cleaning will be followed immediately by laser welding. What is the geometry and size of the parts?

Darlene: And is there a throughput target speed?

Art: The pieces are flat and the target speed is 30 cm<sup>2</sup>/second. No surface damage. They sent us a few samples to work with.

Darlene: We'll need to be able to measure the cleanliness of the result as well so we can convince them our system is better than what they have now.

Vijay: We can design a delivery system for the laser beam and devise a testing protocol to be sure we are meeting the customer's standard for cleanliness. We can try it out on these samples. When do you need to get back to the customer?

Art: I told her we'd have something for her to look at in two weeks.