



SOLAR PHOTOVOLTAIC INDUSTRY

CUSTOM EQUIPMENT FOR CIGS MANUFACTURING PROCESS

The Situation

A leading thin film solar startup had just commissioned their fully automated manufacturing line when it became clear that one of the custom systems that they had developed in house was going to be a severe bottleneck in the process. Unless it could be fixed immediately, they would not meet their manufacturing ramp objectives.

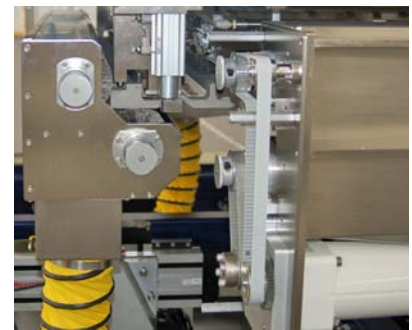
The Challenge

Virtually all thin film CIGS processes are implemented with custom

designed proprietary equipment. Even though all precautions are taken, sometimes the initial equipment design does not meet requirements. Because the failure only became apparent during manufacturing line integration, the costs due to delay were tremendous. The manufacturing line output would be crippled while the system was redesigned and deployed. Facing such a situation, timeliness was critical to resolving the problem.

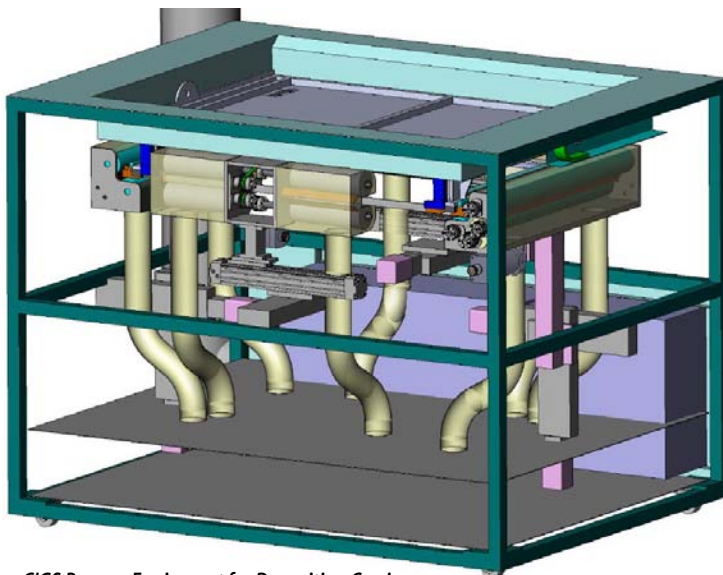
The Solution

Owens Design worked collaboratively with the client to analyze the elements of the existing design that were not working. Due to the extensive problems, the fastest fix was to develop an entirely new system. A new concept was developed which



*Redesigned Carrier Cleaning Mechanism
Dramatically Improved Uptime*

dramatically reduced the size and complexity of the system. Multiple mechanism designs were rapidly created to process the carrier. The controller architecture was chosen to simplify the interface with the line, significantly reducing the software development effort. Owens Design delivered the system in less than 8 weeks - remarkably fast for a complex tool. The system was immediately put into the client's manufacturing line resulting in a dramatic improvement in uptime and throughput.



CIGS Process Equipment for Deposition Carrier

