A roll of new material arrives and is inspected for surface particulates, scratches or other imperfections.

The material is cleaned.

The roll is inspected again to verify the cleaning process.

The roll goes to the General Vacuum tool for metallization. The machine precleans (or “wets”) the surface just before coating to improve the adhesion of the metal.

In the resist-apply phase, a photoresist material is applied with a spray system or through a slot-die wet coating. (This step is the only one performed off site.)

Now there’s an ultraviolet-sensitive roll of material ready to be exposed, much like a roll of film. The material goes through a projection lithography system, which can expose up to 24 linear inches per minute of web.

The material goes through a developer and is rinsed and dried.

The material is etched, removing the exposed metal that’s not needed.

A stripping process removes the remaining photoresist material.

The metal-patterned roll of material is ready. Possible applications include smart fabrics, sensors and medical devices as well as consumer electronics.