



Initiatives by EDI: 2003-2010

EDI specializes in building and reworking flat dies, which are shaping tools used by manufacturers to produce plastic film and sheet or to apply coatings onto various substrates. The company has been based in Chippewa Falls, WI, U.S.A. since it was founded in 1971. In 1998 it was purchased by a Minneapolis-based bank as part of a recapitalization. Five years later, a team of top EDI managers led in purchasing the company from the bank. Since that 2003 management buyout, EDI has undergone double-digit annual growth, and its yearly sales are now more than 125% of those in 2003.

This rapid growth has been the result of major initiatives undertaken by EDI to expand its capabilities to serve customers and extend its market reach:

- ***Worldwide expansion of EDI's sales, service, and marketing capabilities.*** EDI established two wholly-owned subsidiaries, EDI GmbH in Germany and EDI Precision Dies (Shanghai) Co., Ltd. in China, to provide rework, technical support, and spare parts; expanded its network of agents, which now covers all of the world's industrial regions; exhibited regularly in trade shows on five continents; and invested in international marketing communications, including the distribution of all publicity materials in key European and Asian languages. Today EDI sells more than half of its dies in over 50 countries outside the U.S.

- ***Establishment of a Technology Center.*** Located in Chippewa Falls near EDI's world headquarters, the Center is designed for development of new products and supporting customers' product development work. At the Center, the company has developed new businesses, such as building die heads for coextrusion blow molding; done research on producing environmentally friendly foam board and on processing new bioplastics; and established fully equipped process laboratories that companies can rent for trial runs and testing out new products. The laboratories include extensively equipped film, sheet, and coating lines, surpassing any other facilities worldwide in terms of processing capabilities and diversification.

- ***Acquisition of Liberty Coating Systems.*** This company was a builder of slot dies, which are used for applying fluid coatings onto substrates. For years EDI offered one type of slot die, with adjustable lips at the die exit, but after purchasing Liberty's

fixed-lip die business, it has gained access to markets for exceedingly thin or optically clear coatings

- **Acquisition of Quality Machine.** This company reworked blown film dies and built and reworked the chrome-plated rolls used by film makers for cooling or winding film. The purchase has enabled EDI to diversify into these businesses

- **Development of a fundamentally new die design for cast film.** The unique “sculpted” shape of the patented Contour Die™ reduces the downtime for lip adjustment required with each new product run, enhances thickness profiles, and yields a uniform layer structure in coextrusion. Within two years after introducing the Contour Die, EDI made it the standard design for all new cast film dies.

- **Development of a coextrusion feedblock with an innovative adjustment system.** A feedblock combines melt streams from separate extruders into a multi-layer “sandwich” that the extrusion die subsequently distributes to target product width, producing multi-layer film or sheet. Adjustment of a conventional feedblock requires disassembly and interrupts production of saleable film or sheet. EDI’s Ultraflow® V feedblock eliminates the need for adjustment by the operator. The optimum adjustment is determined by the equilibrium pressure of the flow from the extruders. Alternatively, the feedblock can be adjusted manually, but without disassembly.

- **Development of “layer multiplier” technology.** EDI has created die systems which produce film or sheet that is no thicker than conventional products yet has an internal structure consisting of literally dozens of layers. This capability to produce a multiplicity of exceedingly thin micro-layers promises many benefits, among them a substantial increase in barrier to oxygen and water vapor transmission, making possible longer shelf life for packaged foods.

- **Major U.S. defense contracts.** In a series of contracts from the U.S. government, EDI has developed advanced processing systems for “meals-ready-to-eat” military packaging and for lithium-ion batteries to power portable electronics carried by soldiers.

- **Work on new-generation automotive batteries and solar panels.** EDI has perfected techniques for coating “fluidized” electrodes—literally anode and cathode slurries—onto the thin films that make up the electrically active layers in batteries used for electric-drive automobiles and in flexible photovoltaic panels for solar power. The company is working with developers of continuous thin-film solar panels that can be shipped in rolls and installed on rooftops.