Feldman's simplicity approach: addressing global skill gaps through autonomous system design

As workforce shortages affect global manufacturing, Feldman Systems and Technologies focuses on autonomous system design to simplify operations and reduce reliance on specialized personnel.



In today's industrial manufacturing landscape, the increasing speed, automation, and interconnectivity of production systems highlight a growing challenge: the human workforce often cannot keep pace with technological development. While machinery and infrastructure advance rapidly, operator training and skill availability struggle to match these changes, creating a widening gap between system capabilities and day-to-day operations.

This issue is amplified by the declining availability of skilled technical personnel. Factors such as demographic change, limited access to training, high turnover, and system complexity contribute to this shortage. However, production demands continue to grow, and downtime caused by human error or insufficient expertise can result in significant operational and financial impacts. In this context, technology must be able to operate reliably even in the absence of specialized personnel.

Systems are now expected to guide operators, regardless of their experience level, while also adapting in real time to process variations. The ability to maintain quality and performance with minimal operator input is becoming a fundamental requirement rather than an optional enhancement.

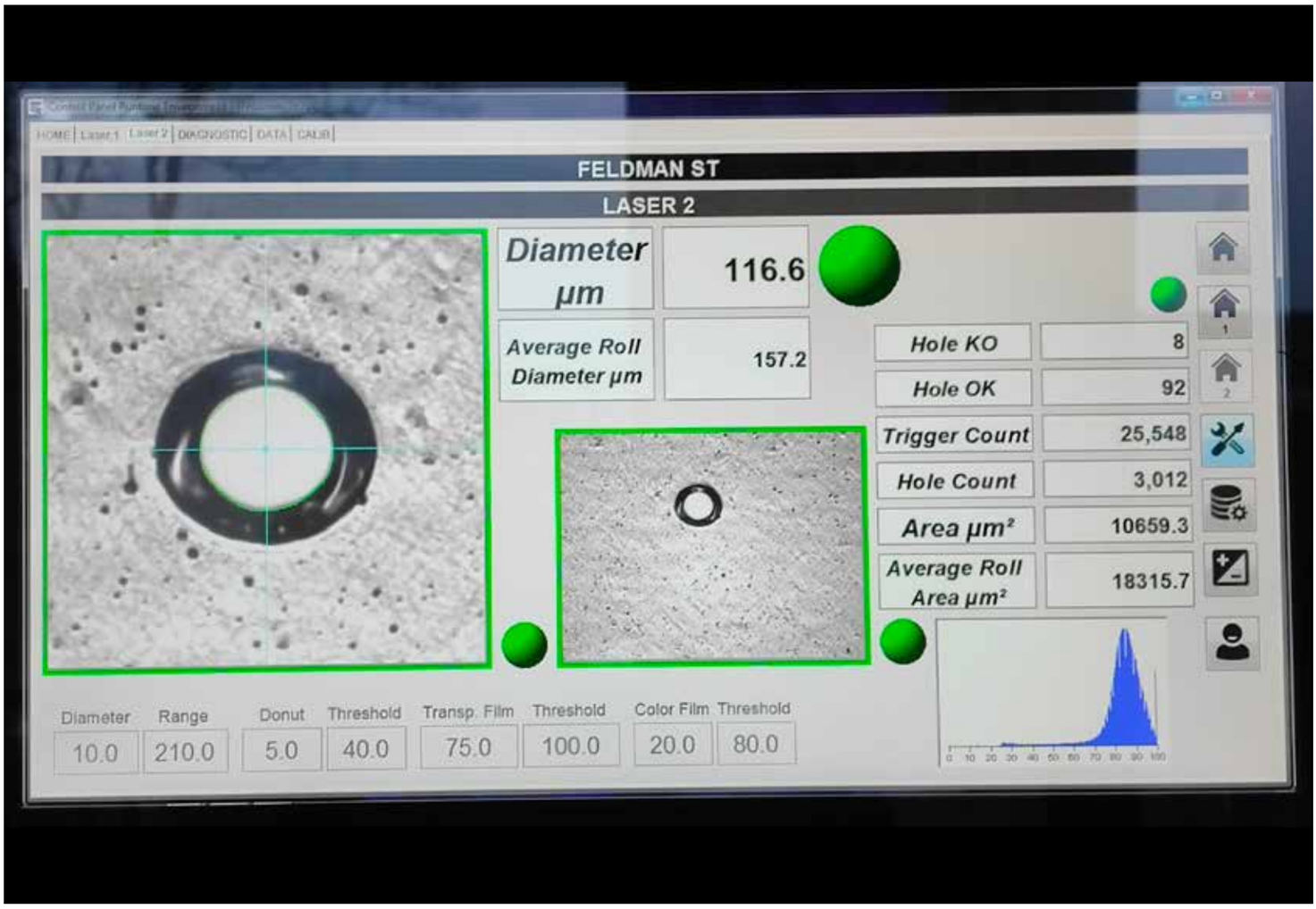
This is a concern faced by manufacturers across all regions. Requests received by Feldman Systems and Technologies reflect a consistent demand: how to operate high-performance equipment effectively with limited and often inconsistent human resources. The issue affects both developed regions, where the industrial workforce is aging, and emerging economies, where access to formal technical education remains limited.

In response to this widespread need, Feldman has focused on developing systems that reduce the reliance on specialized operators. The company's current development emphasizes simplified machine management, with a particular focus on intelligent automation, process verification, and accessible user interfaces. These systems are designed to assist operators in real-world conditions, ensuring reliable performance regardless of individual experience or training level.

Rather than aiming to replace human input, the design strategy supports a broader range of operator backgrounds. Whether in large-scale, high-speed production lines or in new facilities with developing staff, the goal is to ensure consistency, safety, and ease of use. The technology being developed is intended to handle complexity internally while presenting clear, straightforward guidance to the operator.

Over the past few years, Feldman has been engaged in a long-term development effort focused on significantly reducing the operational burden on users. This has involved rethinking how industrial systems communicate, how they adapt to changing conditions, and how they can help avoid operator errors by





design. The result is a platform that manages complexity behind the scenes while giving operators the confidence and support to focus on the process rather than system settings.

The new solution, designed to address this challenge directly, will be presented for the first time at K 2025 (Hall 3, stand C90), the international trade fair for plastics and rubber, which will take place in Düsseldorf in October. It has been developed to introduce a new standard for usability and autonomy in industrial system design, particularly in environments where training limitations and high turnover present operational risks.

Feldman Systems and Technologies operates in one of the most industrially advanced regions in northwestern Italy, an area known for its high concentration of expertise in plastics and packaging technologies. The local manufacturing ecosystem has supported continuous innovation through collaboration among equipment producers, designers, and suppliers, contributing directly to the development of this new approach.

The upcoming launch reflects a broader shift in the company's design philosophy, where user support, system adaptability, and operational simplicity are central to new product development. The aim is to offer a reliable solution to manufacturers facing workforce constraints while maintaining high standards of quality and efficiency.

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