# Label & Narrow Web

Industry Application

## Overview

The Narrow Web market is focused on label printing (flexo/digital) and converting. Space is the defining constraint. Roll-2-Roll delivers high-performance guiding that fits where others can't, offering a **lower initial cost** by integrating light source, optics, and camera into a single package. This **compact, one-sided solution** solves the industry's toughest material challenges like clear-on-clear detection with **no calibration required**.

## The Engineering Challenge

Label converters face physical and material constraints that limit productivity.

- **Extreme Space Constraints:** There is often no room for standard web guides. Controllers must be mounted remotely, and large sensor frames obstruct the operator's view and hand access.
- **Matrix Removal Issues:** Guiding the fragile waste skeleton after die-cutting is difficult; breaks stop the press.
- **Clear-on-Clear Labels:** Detecting a clear label on a clear liner to trigger a dispenser or check for missing labels is a known industry "Holy Grail" challenge.

## The Roll-2-Roll Technical Advantage

We engineered our solutions to disappear into the machine while providing superior visibility.

- **Compact and One-Sided:** Our sensors act as **line scan cameras** but fit in tight spaces, mounting 15-25 mm from the web (standard working distance). The controller is located outside the guard door, saving valuable space inside the press.
- **Integrated Architecture:** The all-in-one sensor design removes the need for bulky gantries, allowing installation in tight gaps between print stations without separate light sources or frame grabbers.
- **Material-Independent:** Works on paper, clear film, and metallic labels without recalibration.

## Key Applications

### 1. Low Profile Web Guiding

Install guides in tight spaces without compromising accessibility. Our compact actuators and remote electronics allow for seamless integration into crowded label presses.

### 2. Die-Cut Feature Tracking

The sensor can detect the edge of a die-cut label relative to the release liner, measuring the gap or "matrix" width. This ensures the waste matrix is stable and prevents breaks that stop the press.

### 3. Release Liner Slitting

Ensures the precise width of the release liner in label stock production. The sensor acts as a high-speed line camera to monitor slit widths, ensuring all lanes are present and within tolerance.

## Supported Web Guiding Solutions

Compact and precise solutions for the narrow web market.

- **Edge Guiding:** The workhorse of the label industry. Keeps the web aligned into the printing press or die station. Roll-2-Roll's low-profile guides fit where others can't.
- **Line & Contrast Guiding:** Guides the web based on a printed line or a contrast edge (like the edge of a label matrix) rather than the physical material edge. Critical for multi-pass printing or die-cutting registration.
- **Rewind Guiding:** Ensures finished label rolls are wound perfectly straight ("flat disk" winding) for high-speed application lines.

## Technical Comparison

**The "Scanner vs. Laser Pointer" Analogy:** Comparing an Roll-2-Roll Sensor to a standard photo-eye is like comparing a flatbed scanner to a laser pointer. A standard photo-eye (laser pointer) only tells you if something is blocking a specific spot. The Roll-2-Roll sensor (scanner) images the entire edge profile, creating a clear picture of where the label starts and stops.

- **Space Claim:** Competitors use bulky frames. Roll-2-Roll offers **Low Profile / Remote Electronics**.
- **Installation:** Retrofitting is difficult with C-frames. Roll-2-Roll's **One-Sided Mount** simplifies upgrades.
- **Flexibility:** Standard sensors do one thing. Roll-2-Roll sensors are **Multifunctional**.