



THE RETURN ON INVESTMENT OF A ROLLER ALIGNMENT SURVEY

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IMPORTANCE OF ROLLER ALIGNMENT

Core of
Predictive
Maintenance:

Better product
Quality

Lower downtime

Increased
Equipment Life

Low Running
Costs

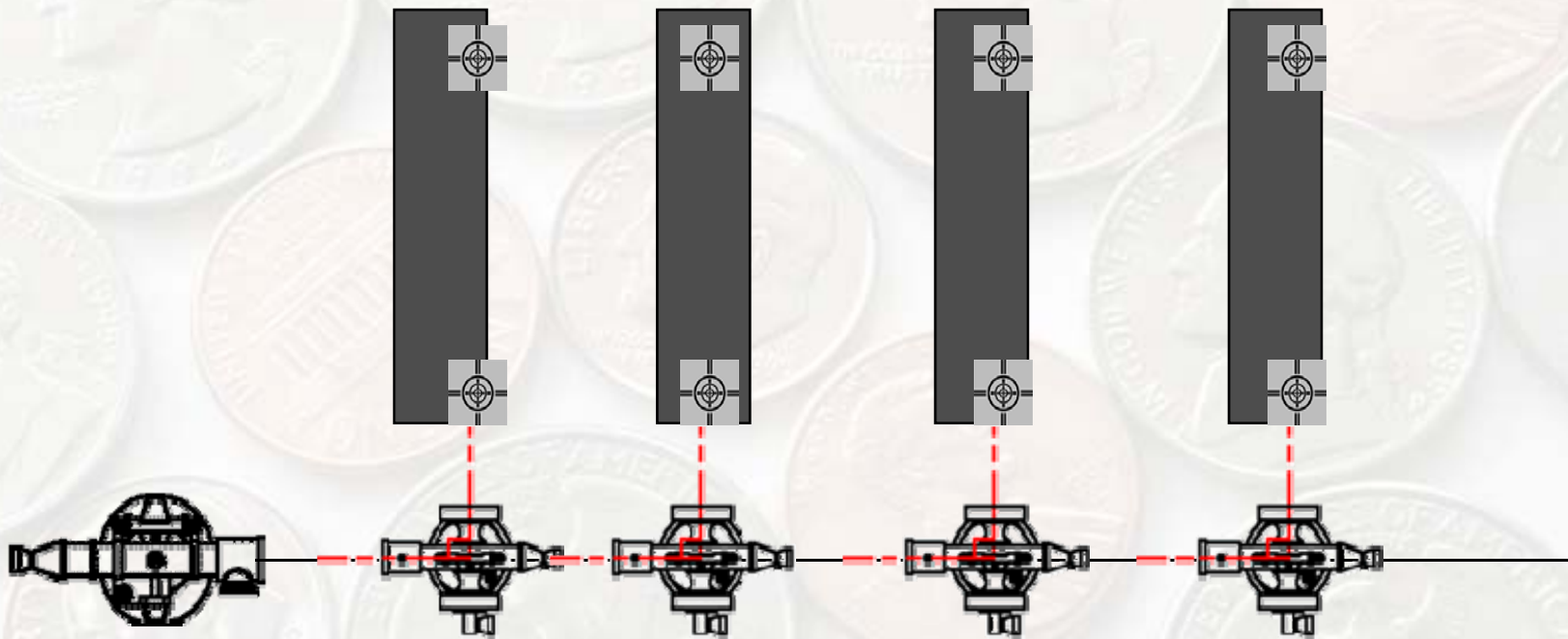


Traditional / Optical Measurement

The quality of the measurement depends largely on the experience of the specialist in charge of the job.

Operator must be able to see the ends of the roll.

For each roller, the systems needs to be re-adjusted.



Inertial Technology

No Line of Sight.

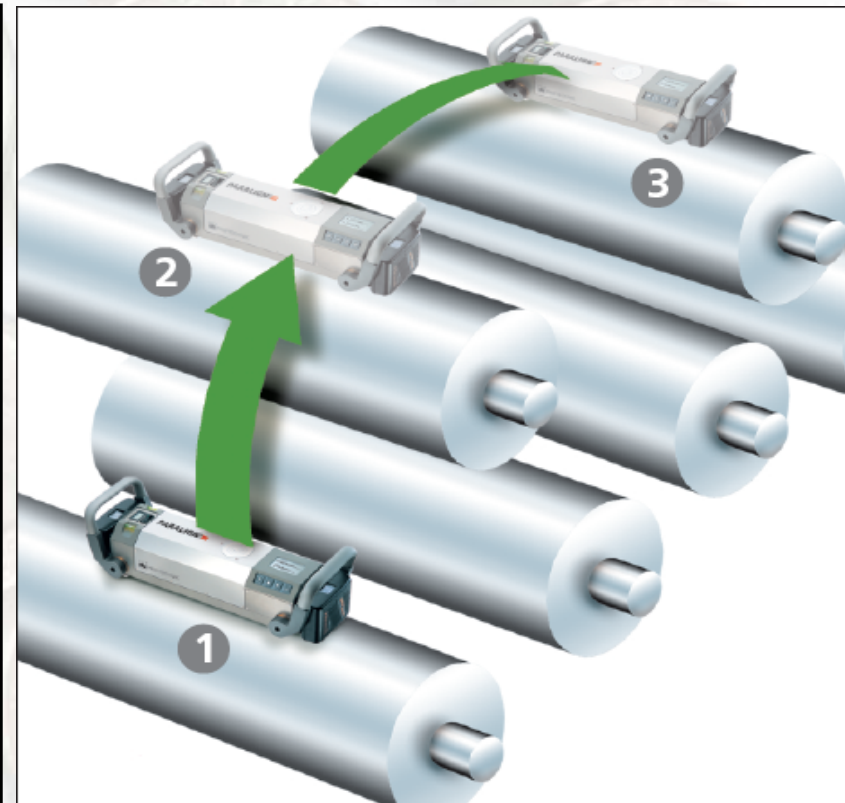
5-10 Times faster.

No Human error.

Instantaneous Results.



Inertial Technology



CASE STUDIES

Film Extrusion Line -
Company ABC



Rotogravure Printing Press-
Company XYZ



⊖ Rotogravure Printing Machine

Film Extrusion Line – Company ABC

Poor Product Quality:

- Gauge Variation
- Wrinkling / Rippling
- Unacceptable levels of scrap
- Errors in Thickness Gauging

Film Extrusion Line – Company ABC

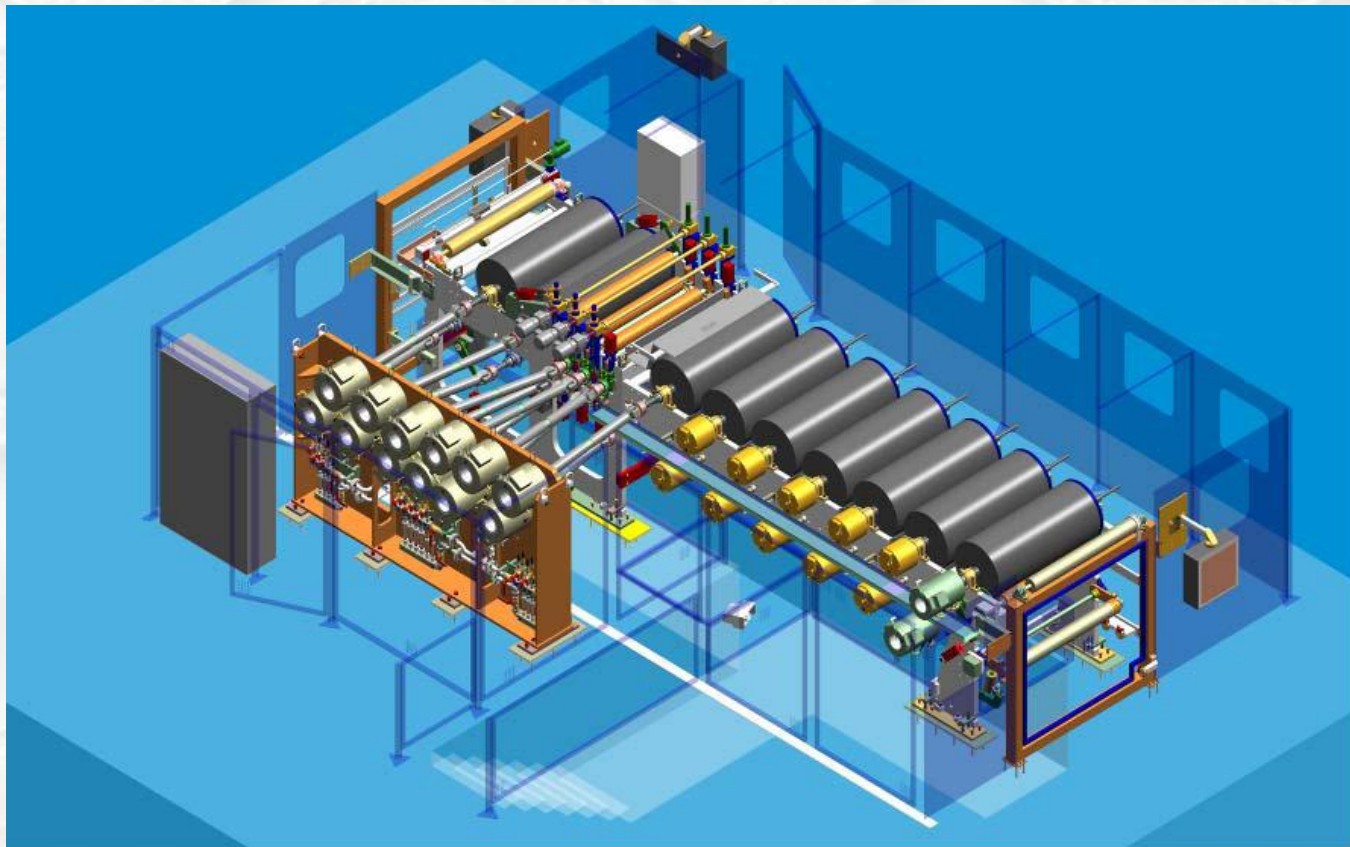
Unplanned Downtime:

- Reduced life of Rollers & bearings
- Frequent readjustments needed

Higher Running Costs:

- Higher Consumption of consumables (Solvents, Adhesives, etc.)

Importance of Roller Alignment in LSM section





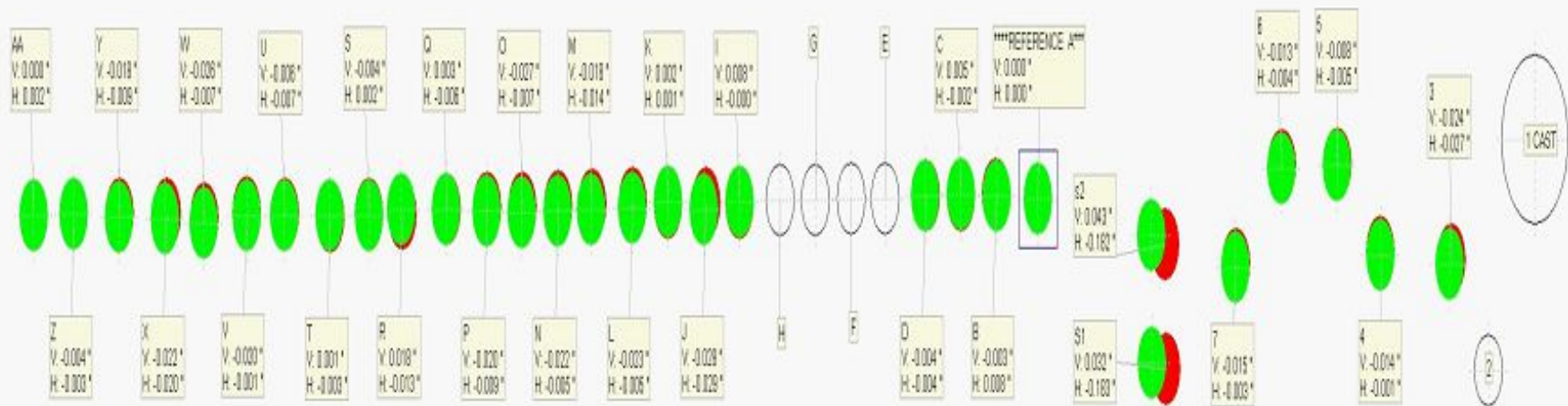
Rollers within the LSM

- The LSM consists of 2-4 sections of chrome, ceramic and rubber rollers.
- Rolls move at different speeds, thus magnifying misalignment.

Measuring rollers within the LSM

- Encased rollers, offering no Line of Sight
- Very high cost per hour of shutdown, due to Market demand.

Result of LSM Measurement



Result of LSM Measurement

- Offsets between rollers seen as high as 0.027" .
- Targeted Tolerance was less than 0.010" .
- Adjustments were subsequently made.

Rotogravure Printing Press – Company XYZ

- 7 Rotogravure presses
- Rollers mostly enclosed
- Problems with print registration
- Greater scrap, consumption of consumables, Doctor blades
- Equipment downtime.

Costs of Misalignment of Rollers at Company XYZ

- Production loss of \$ 2.7 M in 2007
- 53% attributed to web breaks
- Other costs not included:
 1. Lowered Bearing life
 2. Frequent Roller changes
 3. Wastage of ink, solvent, etc.

R.O.I on 1 Machine at Co.XYZ

Table 1 - Percent of R.O.I. for One Machine at Company XYZ

% Decrease in Unplanned Downtime	Capital Requirement for 2 days of PARALIGN Service	Financial Benefit	Percent Return on Investment
5%	\$ 15,000	\$ 16,950	13%
10%	\$ 15,000	\$ 33,900	126%
20%	\$ 15,000	\$ 67,800	352%
30%	\$ 15,000	\$ 101,700	578%
40%	\$ 15,000	\$ 135,600	804%
50%	\$ 15,000	\$ 169,500	1030%

Conclusion

Company ABC & Company XYZ both faced:

- No Line of Sight
- Little time available for Roller survey
- High requirement of Accuracy



Conclusion

A survey using Inertial Technology can:

- Result in significant production cost savings
- Increase equipment life
- Improve Product quality



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