

Temporary

The logo for AcroEdge features a stylized 'A' in red, followed by 'cro' in yellow, green, and blue, and 'Edge' in black. The 'A' is composed of two diagonal lines meeting at a point, with a small square cutout at the bottom left.

AcroEdge

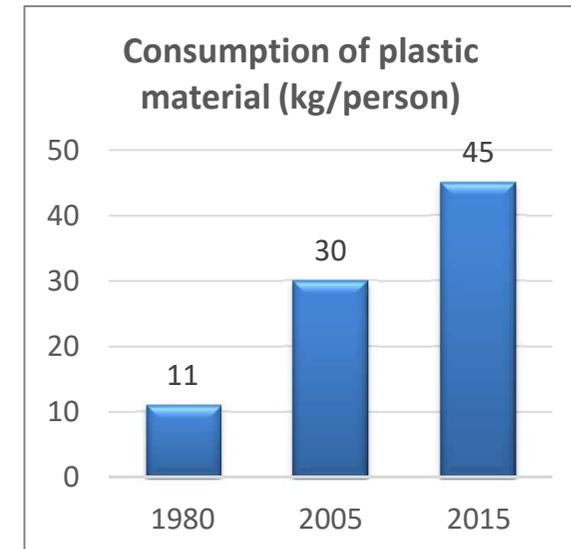
CAISITS INTRODUCTION

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# Introduction

- The use of functional plastic, films, and other polymeric materials has continuously increasing recently.
- In applications such as printing or coating, the good adhesion is required.

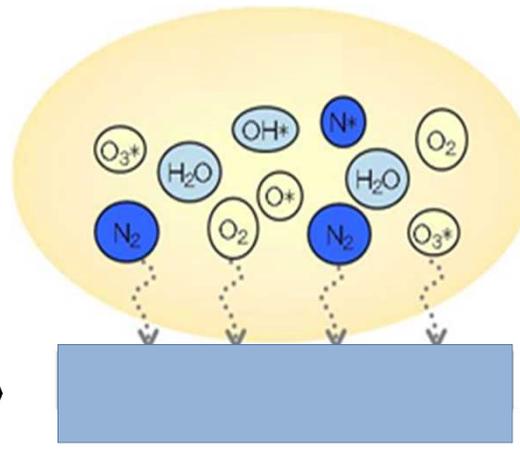


## Original surface

- Long, non-polar molecules
- Chemical inert
- Non-porous surface
- **Low surface energy**
- **Low wettability**

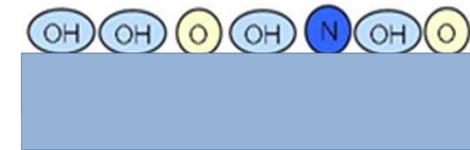


## Surface modification



## Modified surface

- Polar groups increases
- **Surface energy increases**
- **Wettability improvement**



The necessary of checking modification degree for evaluation the effectiveness of treatment process.

# Introduction

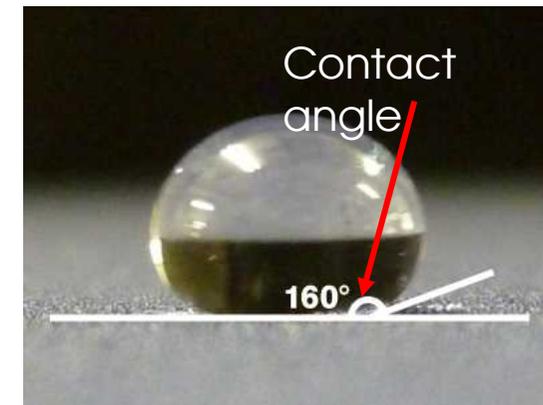
## Current inspection methods



Dyne test pen



Dyne test ink



Contact angle measurement

- ❖ Ink/liquid need to contact with the substrate surface
- ❖ Difficult to apply for in-line inspection, causing the devaluation if yield if defects occur since the continuity of production line while testing is performed.

CAISITS have been developed to cover all above limitations!

# What is Caisits?

Advanced measurement device for measuring the surface modification degree of polymeric materials.

- ✓ Non-destructive, non-contact measurement
- ✓ Real-time measurement (response time 0.1 sec)

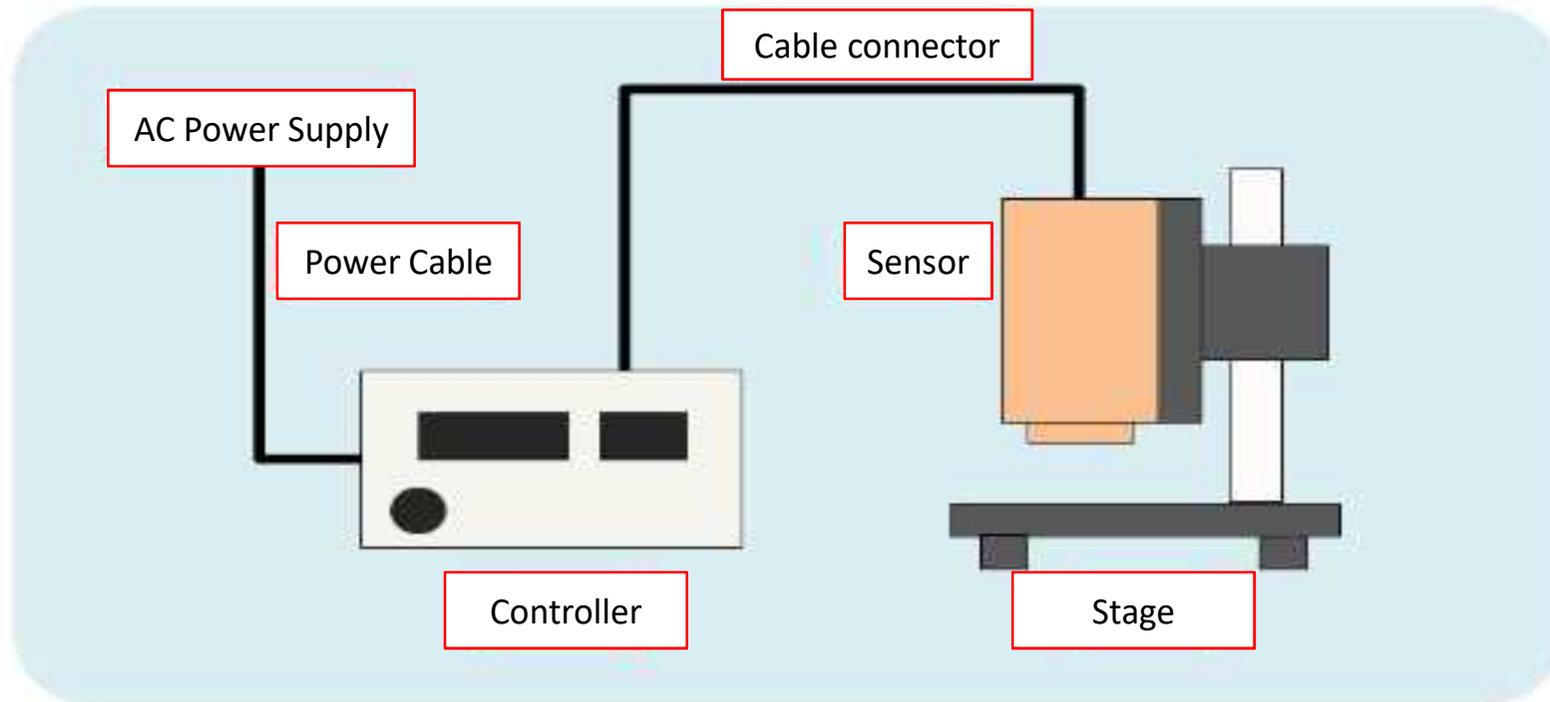


AcroEdge original technology,  
Patent No. 5818125)

# Measurement principle

The surface modification degree is evaluated by quantitatively measuring the emission intensity of fluorescence emitted from the polymeric material surface while irradiating by a weak ultraviolet light source.

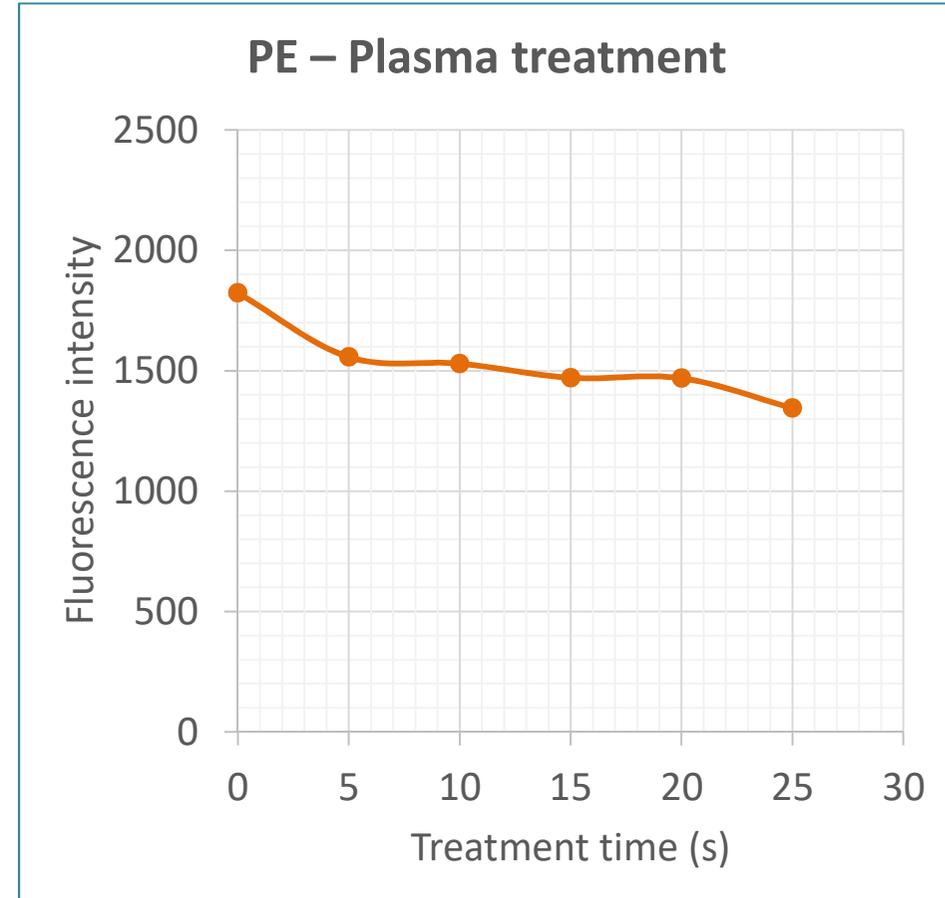
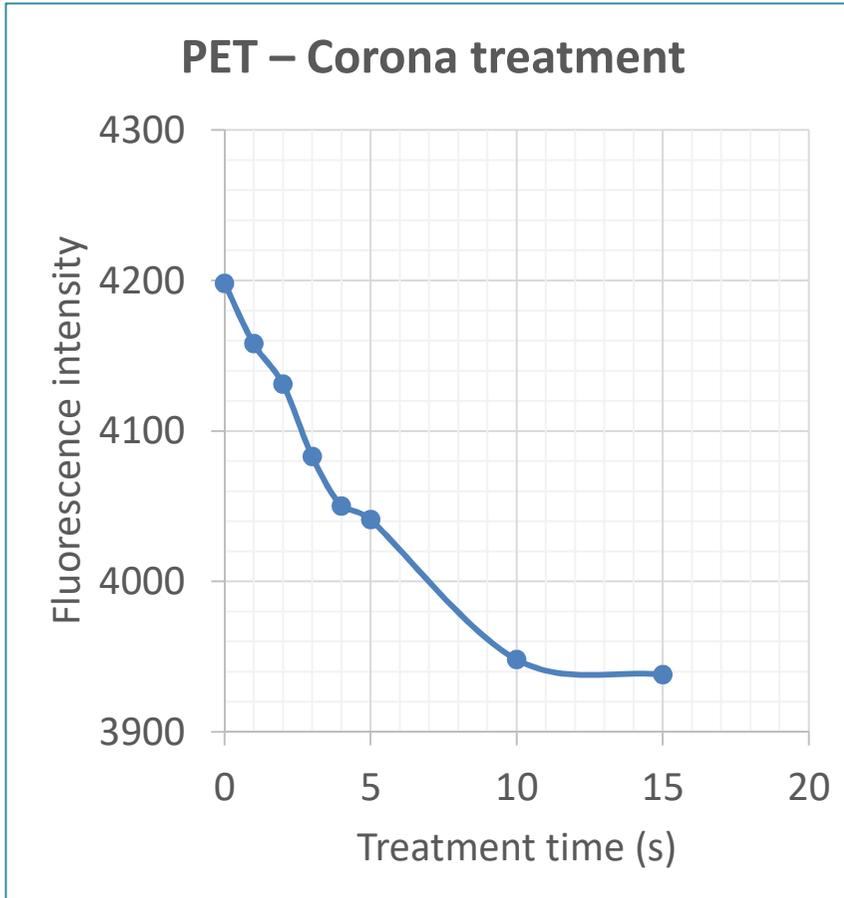
# Device Configuration



CONTROLLER	
Size (WxDxH)	160x230x88 mm
Power supply	85-264V <sub>AC</sub>
Digital display	4 digits
	Negative display LED
Analog output	±5V

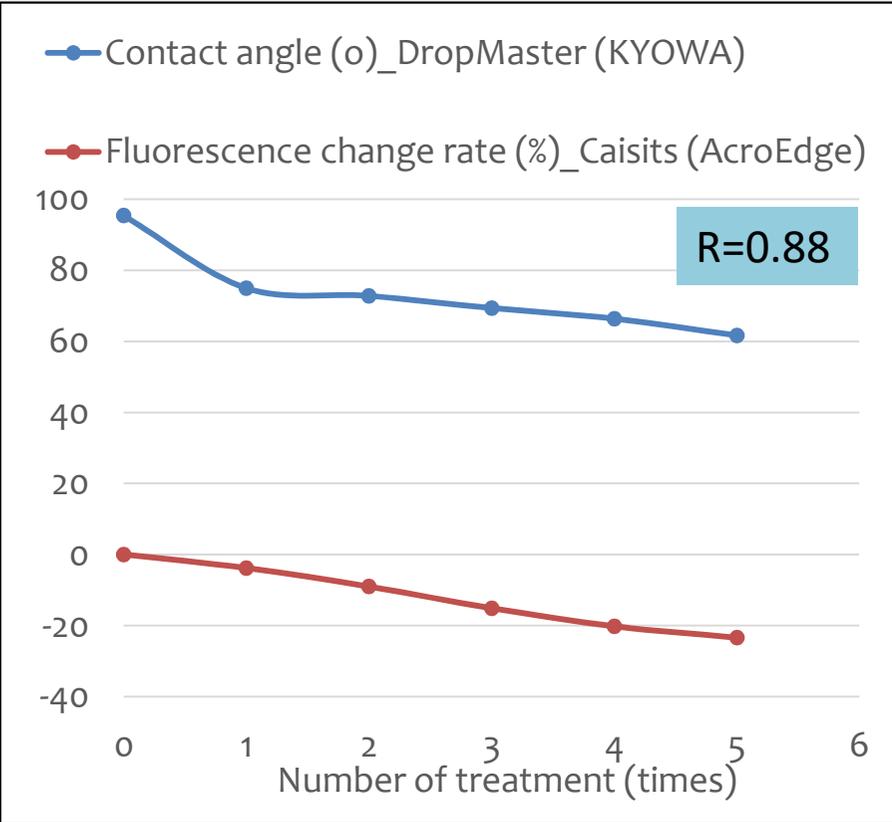
SENSOR PART	
Size (WxDxH)	72x104x126 mm
Cable length	2m

# Measurement example

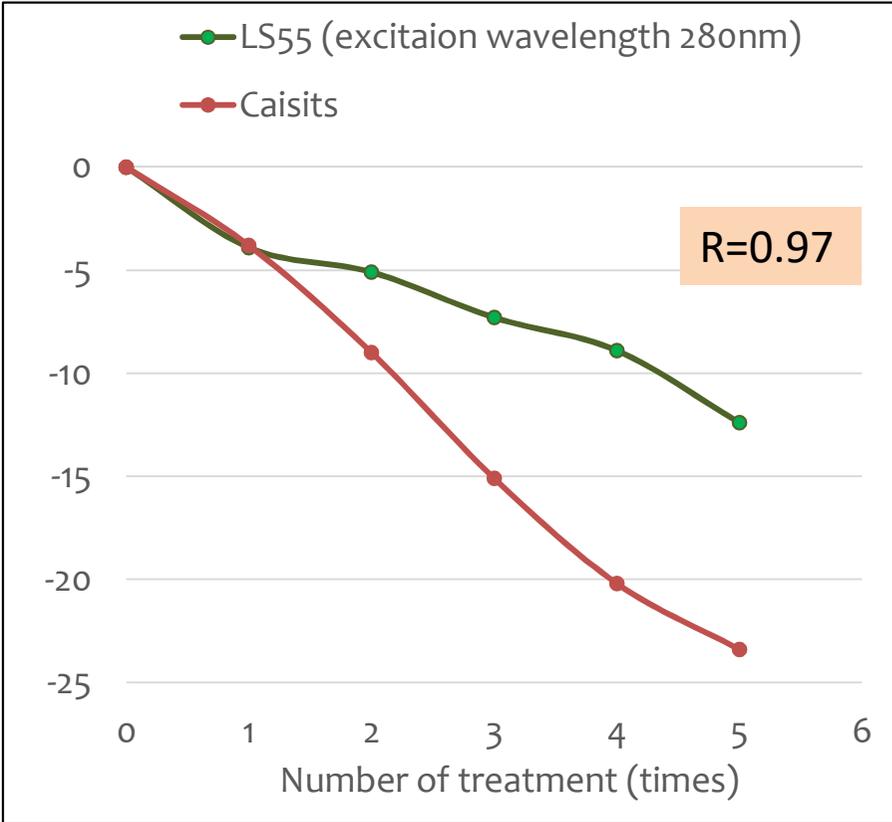


# Correlation between measurement results of Caisits and other methods

Caisits measurement and contact angle measurement

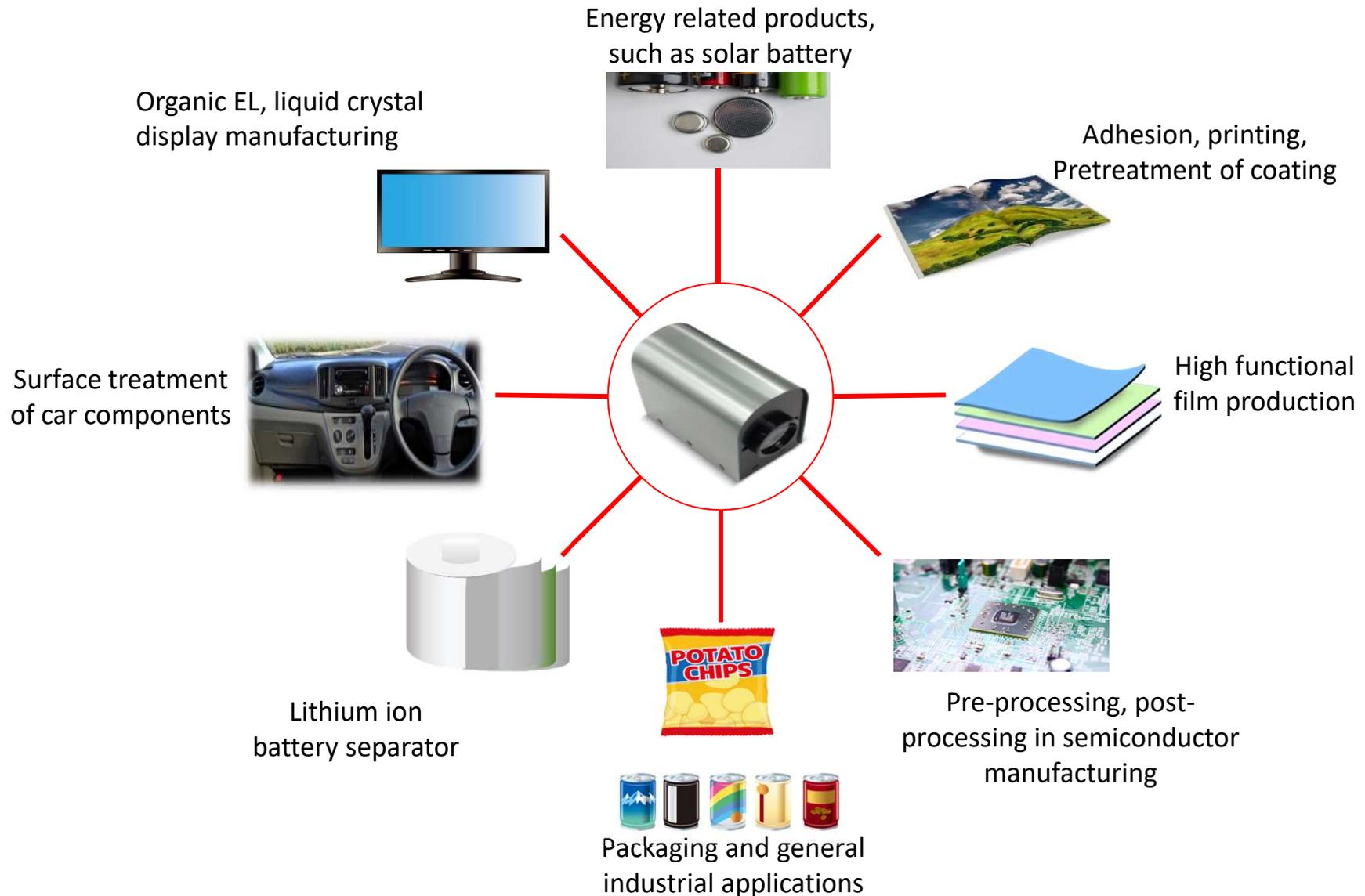


Fluorescence change rate (%) measured by Caisits and Fluorescence Spectrometer LS55

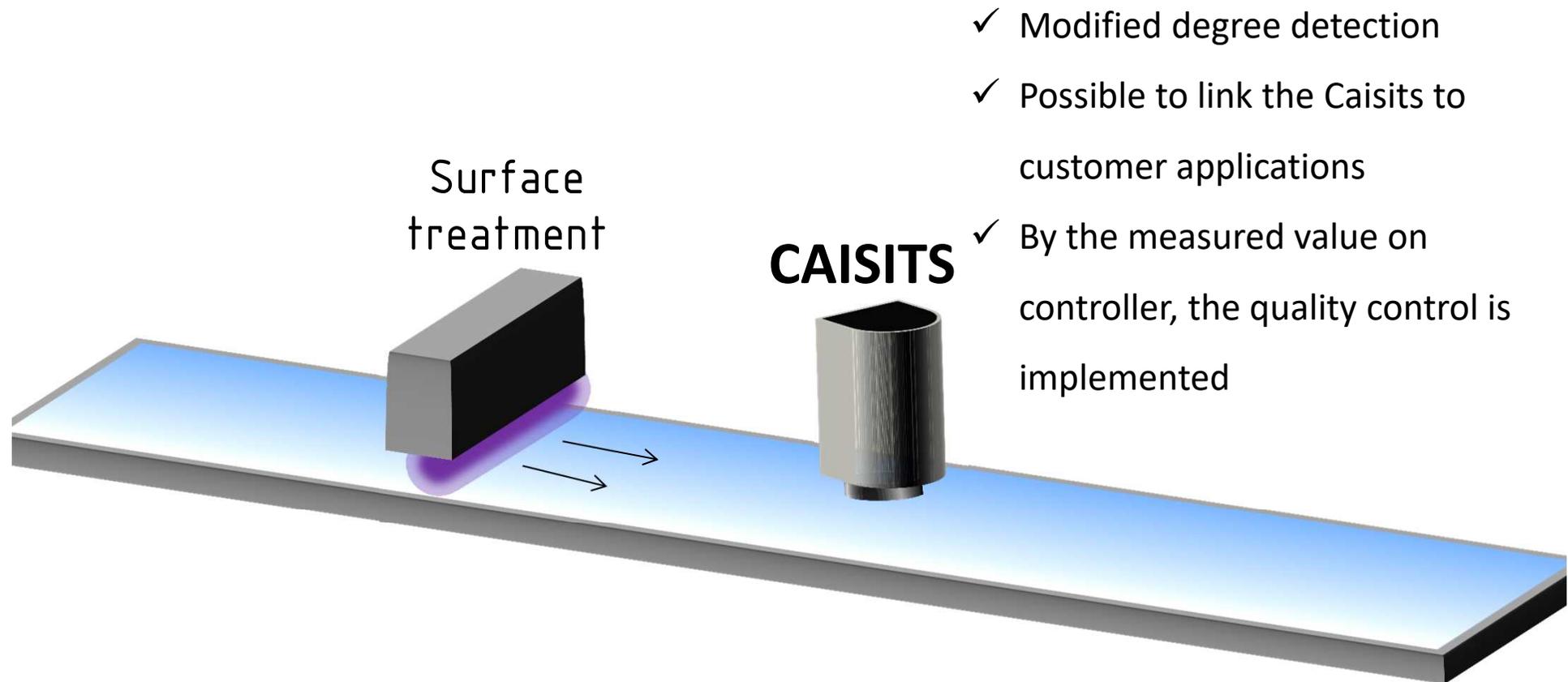


\*Sample: Corona treated PP film (130W)

# Applications of Caisits



# Implementation of Caisits for in-line inspection



# Customer list

1. Canon Inc.
2. JSR Corporation
3. DENSO CORPORATION
4. Dong-A Electronics Co., Ltd.
5. Sumitomo Chemical Co., Ltd.
6. Ogawa Industry Co., Ltd.
7. MGC Phil Sheet Co., Ltd.
8. Rengo Co., Ltd.
9. Murata Manufacturing Co., Ltd.



THANK YOU



AcroEdge

ACROEDGE CO.,LTD.

1-70-1, Nagao Tanimachi, Hirakata-shi, Osaka, 573-0164, Japan

Tel. 072-836-0031

Fax. 072-836-0033

E-mail. [office@acroedge.co.jp](mailto:office@acroedge.co.jp)

<http://www.acroedge.co.jp>