

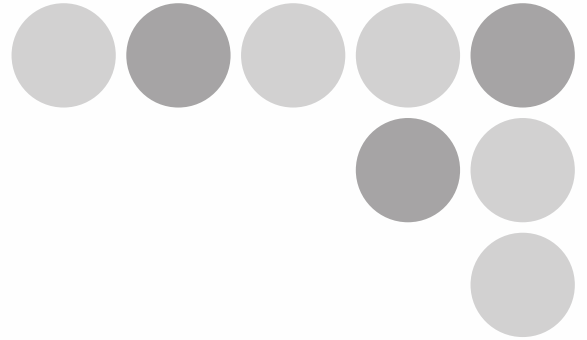
NEW

Inline PCB inspection system
VT-S500

OMRON

Best Quality at the Minimum Q Cost!

VT-S500



realizing



Market environment Various needs surrounding the surface mount industry

Globalized issues in the surface mounting industry

Demands from the market

Intensified cost competition

Super mass-production

Diversification of mount components

OMRON presents the quality you require at the minimum cost.
The inspection system meeting the market demands.



Vertical startup of inspection

High-speed/stable inspection

Quality improvement support

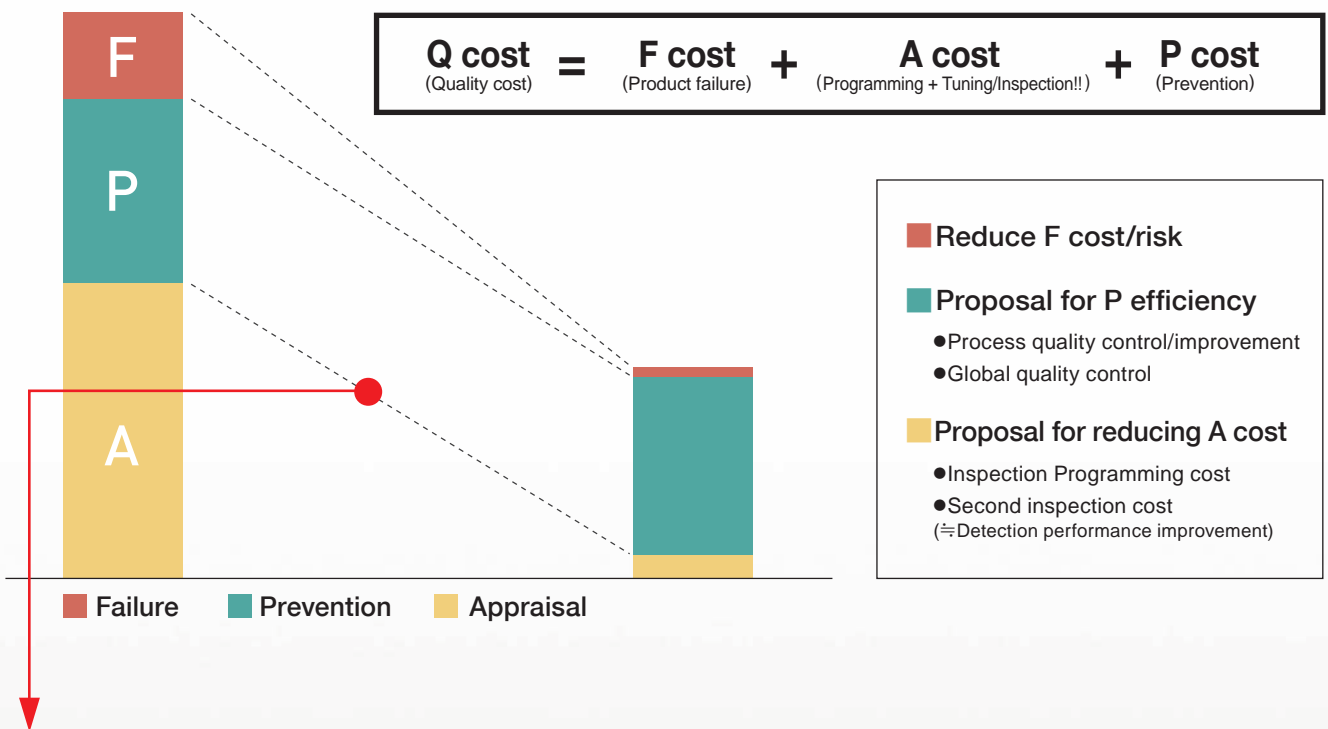
Best Quality at the Minimum Q Cost

VT-S500

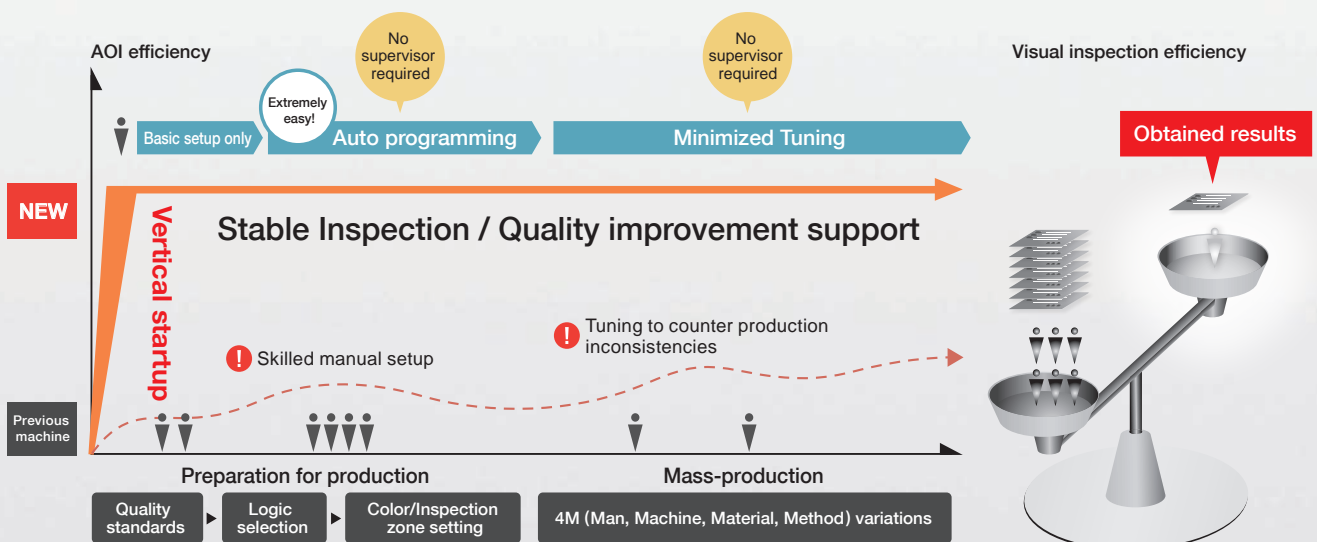
The VT-S500 is a new concept in AOI for "optimization of customer's quality cost".

The system uses innovative technologies to greatly reduce "inspection costs," which has been a major issue in conventional AOI technologies.

Moreover, while harnessing quality improvement systems, it facilitates efficient "defect prevention" to contribute to the reduction of "the end customer failure costs."



Minimization of A cost = "Challenge for 'true' auto inspection"



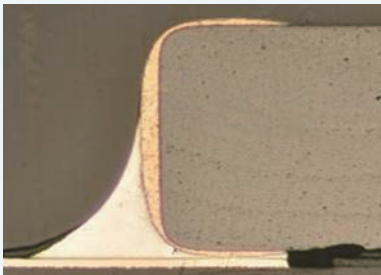
VT-S500 for realizing vertical s

Vertical startup of inspection

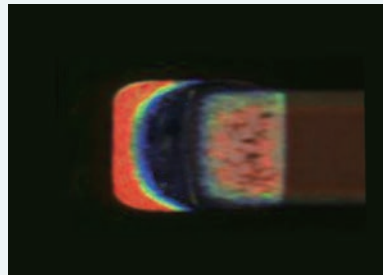
High-speed/stable inspection

Equipped with Color Highlight™ 3D

Core Technology



Actual image



Captured Image

Automatic extraction of "fillet features"

"The VT-S500 uses new image processing technology to automatically extract fillet features, which are quantified in numerical values and used for inspection."

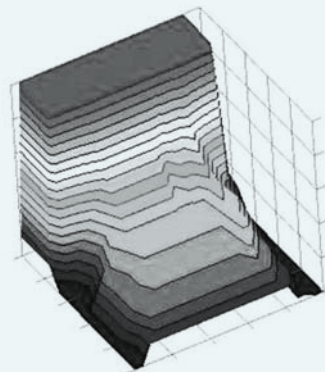
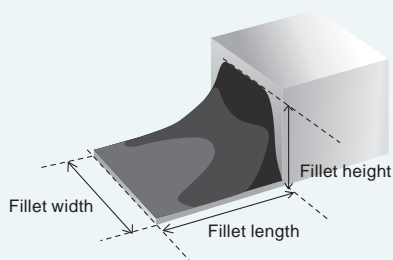


Image after internal processing

Direct input of quality standards. High-speed startup with automatic programming.

Patent Pending



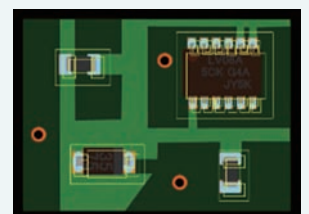
検査項目	設定値	許容値	判定
検出面の長さ			
ランド幅 [mm]	0	48	
電極幅 [mm]	0	48	
フィルタ高さ [mm]	39	100	
フィルタ長さ [mm]	1.0	***	
フィルタ傾斜角			
エッジ検出率 (%)	50	100	
ランド検出率 (%)	80	100	
ランド幅 [mm]	0	30	

Automatic inspection programming is possible simply by setting inspection criteria for fillet features (length, height and width).



PCB position adjustment

Automatically detects the correct position according to the



Before screen adjustment

Inspection accuracy has been improved by automatically detecting the correct position using the new technology, covering the entire screen instead of the conventional

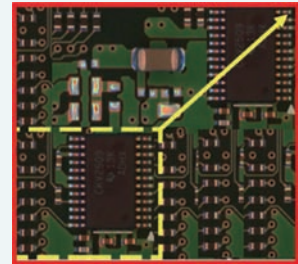
Startup and stable inspection



High-speed/stable inspection

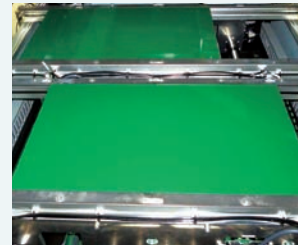
Inspection time improves of 60% compared with conventional models

Higher-speed inspection has become possible to respond to a significant increase in productivity.



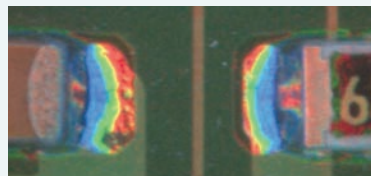
Available in dual lane

Dual lanes for reduced cycle time. Position of lanes can be selected according to the customer's production facility.



Minimize the effect of secondary reflection and shadow

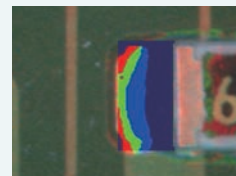
Parameters have been optimally set to pick up gradations unperceived by Human Eye and automatically separate good from bad components.



Example image of secondary reflection



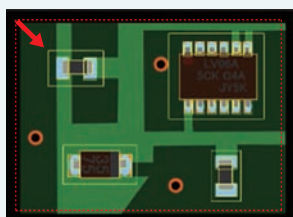
Without Correction



VT-S500 eliminates reflection

Adjustment algorithm

to offset position of components to PCB variation and warpage.



After screen adjustment

ed and it has become possible to inspect position adjustment method based on the land-based adjustment.

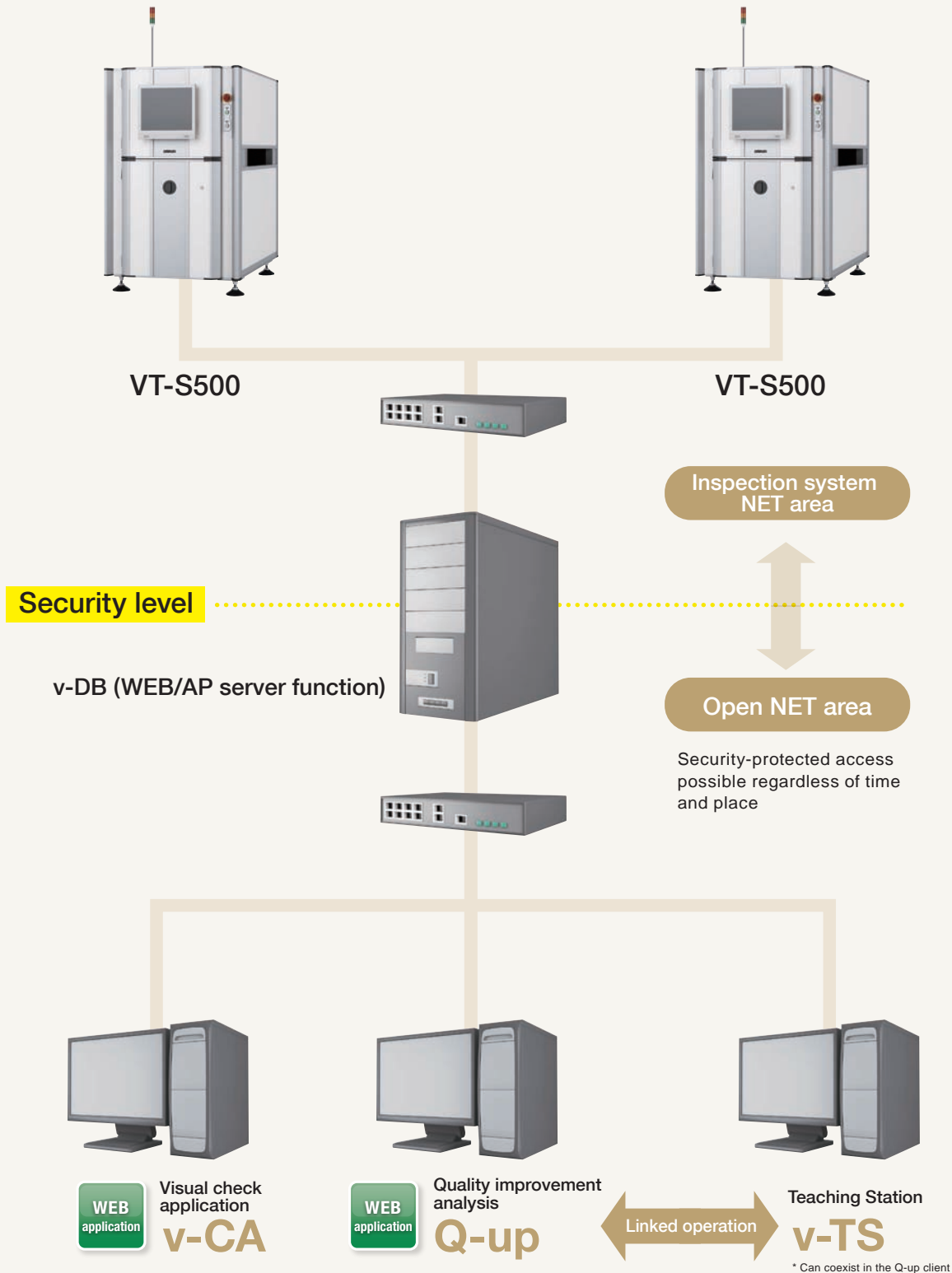
Auto parameter calculation to counteract the variation of components



In order to cope with component inconsistencies, parameters can be automatically calculated - simply by registering required components.

Quality improvement support

Different security levels can be assigned to the inspection system and its peripheral devices. The peripheral devices are connectable via an open network for location-free networking.



Flexible access to the tools by Web application.

solution

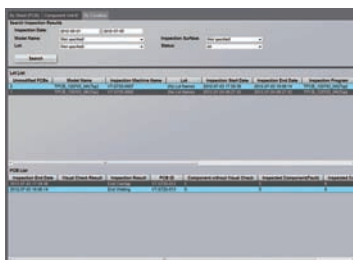
WEB application

v-CA



Visual check application **NEW Inline Check**

Inspection result can be obtained using production conditions such as PCB-ID and lot number as key words, facilitating visual check of defective locations.



Listing by production condition



Inspection result check screen

WEB application

Q-up Navi



Monitoring of production status and quantification of defect causes/ tendencies enable the acceleration of process improvement and process control cost reduction, while enhancing quality improvement support.

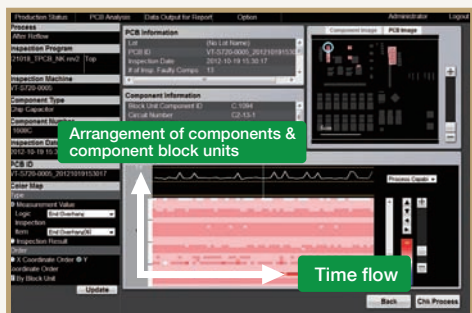


Production status display

Monitor

Real time status monitor (pass rate and defect rate) enables immediate measures to be taken in the event of sudden defect.

- 1 Production shift
- 2 Can select calculation units of inspection programmes from single and multiple production lines
- 3 Can check abnormal production conditions using preset warnings parameters
- 4 Can check for production anomaly using preset warning value
- 5 Can check in real time the production conditions such as first pass yield and real defect rate



Process stability check

Check

New feature: Color map

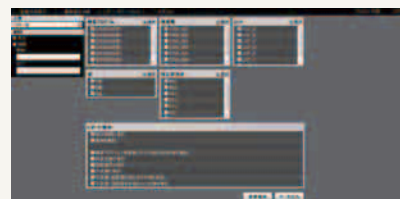
A Unique Fast and Easy visual method, identifying trends in process control, without the need for special skill and analysis time.



Monitoring of the impact from product inconsistencies



Monitoring of process threshold adequacy



Report function

Prevention of defects

