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For immediate release

Moritex's unique, already innovative IR inspection system gets even faster and more enhanced

- New and upgraded IRise Macro Micro IR Vision System now can evaluate leading-edge MEMS devices and silicon wafers up to 2.6x faster than its conventional model -

Tokyo - Moritex Corporation (CEO and President: Noboru Matsuoka, TSE: 7714), a leading manufacturer of machine vision and digital imaging products, announced that the upgraded version of "IRise" infrared transmission inspection system for MEMS^{*1} and semiconductor devices will be launched in August 2011. Moritex aims to advance overseas MEMS and semiconductor markets with this advanced IRise, and showcases it in VISION 2011 on November in Stuttgart, Germany.

IRise utilizes the infrared transmission characteristics of silicon to see through wafers and is capable of capturing macro and micro images in a single-shot evaluation of up to 8 inch wafers. The product has been sold nationwide by leading semiconductor makers and a renowned industry-academic-government institute on front-line national MEMS R&D projects.

"We anticipate a considerable up-tick for machine vision inspection systems in the production of MEMS and semiconductors" says Junya Inoue, the sales manager in Moritex who is in charge of the inspection system. As a successor of the highly reputable existing model, the upgraded version of IRise has faster working speed and enhanced software with an optional automated visual inspection feature that supports C to C^{*2} system.

With the recent global trend of tightening car safety regulations, such as obligatory side airbags and TPMS (Tire Pressure Monitoring System), as well as demand surge of power devices^{*3} (SOI^{*4}, SiC^{*5} etc.) for hybrid cars, the relevant MEMS sensor and device markets are expected to blossom very soon. A survey done by Fuji Chimera Research Institute (2011 MEMS related market total research) says that the size of the MEMS market in 2020 is forecasted to reach one trillion yen level that is more than double the current size. Needless to add that its potentiality in the semiconductor field with TSV technology in 3D packages. Moritex has great confidence that the new 2.6x faster and more enhanced IRise can cater to the growing demand for relevant inspection applications worldwide.

- *1 MEMS (device): Micro-electro-mechanical systems. MEMS are usually made up of components in few micron sizes and are fabricated on one substrate. MEMS can be used for ultra-miniature sensors or actuators.
- *2 C to C: Cassette to cassette system. A semiconductor processing system that handles semiconductor wafers in cassette units so as to eliminate manual wafer handling.
- *3 Power devices: Semiconductor devices often used in air-conditioners or cars for electronic power control.
- *4 SOI: Silicon on insulator. High driving speed/low power consumption technology in semiconductor manufacturing that uses substrate with mono-crystal silicon formed on an insulating surface.
- *5 SiC: Silicon carbide. Semiconductor material in the spotlight with its superb physical and chemical characteristics after Silicon.

■ Product picture



■ Specifications

Product name	IRise
Applications	1) Hermetic bonding interface evaluation and inspection <ul style="list-style-type: none"> i .Si – Si (Silicon to silicon) Direct binding*6**6 ii .Si – LN (Lithium niobate) Direct binding iii .Si – TL (Lithium tantalate) Direct binding iv .Si – Resin – Si Polymer binding v .Si – Au – Si Eutectic binding vi .Si – Glass – Si Glass frit binding vii. Si – Glass Anodic bonding 2) 3D package evaluation and inspection 3) Low-k (Low-dielectric) constant film post grooving evaluation 4) WLCS (Wafer level chip size package), SiP (System in package) Internal faulty analysis in devices 5) Chipping detection after dicing 6) Sacrificial oxide layer etching non-destructive measurement 7) Analysis and inspection of power device substrates e.g. SOI • SOS (Silicon on sapphire) • GaN (Gallium nitride) 8) Bare wafer evaluation tests 9) Measurement of shift length of bonding 10) SOI active layer thickness measurement

*6 Direct binding: Binding technology that uses the activated surfaces of bonding materials at low temperature without using adhesives

Optics	PC controlled motorized zoom lens	
Magnification	Low mag	33x ~ 198x *7
	High mag	330x ~ 1760x *7
	Low mag	8.53×6.4mm ~ 1.42×1.06mm
Field of view	High mag	0.71×0.95mm ~ 0.13mm×0.17mm
Lighting	High/Low mag	NIR: Coaxial and backlighting (Oblique optional) VIS and UV lighting available on request
X-Y-Z stages	Motorized stages (Arbitrary control via PC)	
Stroke length	X stage	200mm
	Y stage	200mm
	Z stage	100mm
Control	PC integrated control: Magnification control, Low-mag / High-mag lens change, Illumination change and X-Y-Z stage control	
Software	Image pre-processing (Image enhancement), Image synthesis (High resolution image scanning and synthesizing, processible up to 8 inch D)	
	Simplified measurement: Distance between 2 points, Area of circles and squares	
	*Other functions may be available on request	
Dimension (W×D×H) mm	625 ×707 ×730	
Weight	85kg	

*7 Relative magnification at 27 inch wide monitor

About Moritex Corporation

Moritex started its business in 1973 in the import, export and domestic distribution of fiber optics and a variety of other special materials and equipment. Today, the company manufactures and engages in businesses related to applied optical equipment and functional materials. Moritex is a global leader in machine vision and industrial business. The company employs its optical and lighting technologies, the core technologies of the company since its foundation, to develop, manufacture and distribute machine vision equipment by combining lenses and lighting systems, primarily for customers developing semiconductor production, electronics component mounting and FPD manufacturing equipment. Sales in the fiscal year which ended in September 2010 were 6.5 billion yen. Listed on the first section of the Tokyo Stock Exchange. (Securities code: 7714)

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