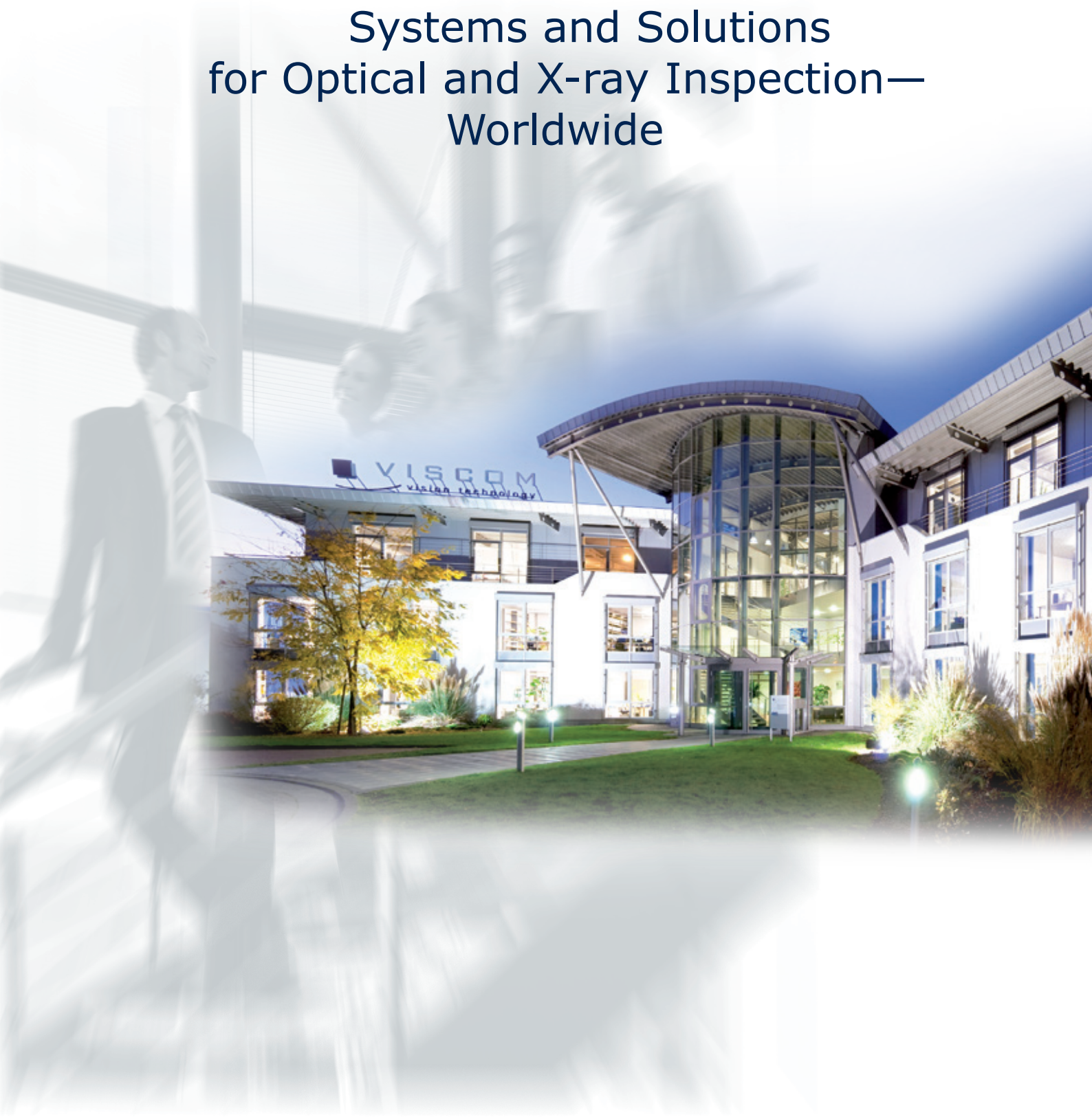


Company Profile

Systems and Solutions
for Optical and X-ray Inspection—
Worldwide



Focus on Quality

History

1984

Dr. Martin Heuser
and Volker Pape found
Viscom

1985

Development of customer-
specific image processing
systems

1986

Start of series production—
systems for CD inspection

1988

First Viscom position
inspection in use

1989

Several large orders for
PCB inspection systems
are received

1992

Move to present
headquarters in
Hanover-Badenstedt

S6031—first solder joint
inspection system is
developed

Viscom—your partner
for all inspection tasks

**Satisfied customers are
our most important corporate goal**

**Constant innovation through close
customer contact and continuous research
and development**

**High manufacturing penetration
guarantees flexibility**

**Internal hardware and
software development**

Highly qualified team of engineers

**Highly motivated employees who believe
in Viscom's mission and purpose**

First-class service and support worldwide

**Close working relationship
between employees and costumers**





Viscom company profile

Viscom has successfully marketed its inspection solutions since 1984 and has grown from a pioneer in the field of industrial image processing to a leader employing a staff of several hundred employees today. The focus is high quality inspection systems for the electronics industry, especially automatic optical inspection systems (AOI), for solder paste inspection (SPI) and placement and solder joint inspection, as well as X-ray inspection (AXI). In this sector, the company has become one of the leading suppliers worldwide and market leader in Europe.

With the core competence electronic assembly inspection, Viscom is specialist for quality assurance in electronics production. In addition to series systems, customer-specific inspection solutions are also offered. Viscom systems are technologically cutting-edge products and have been successfully applied by well known companies in the most widely varying branches around the world.

Experienced Viscom employees in Hanover and the international branch offices, as well as many international agents, support our customers worldwide. In Service alone, since 2009 a great number of flexible and highly trained employees were consolidated into a separate division. The offering includes routine servicing, troubleshooting, maintenance, calibration service and modernization, among others.



Quality for the Electronics Industry

1994

Start of series production of PCB inspection systems

1995

Initial steps are taken in field of microfocus X-ray inspection

1996

Presentation of world's first systems that combine incident light and X-ray inspection

1998

Start of international orientation—founding of branch offices in US and Singapore

Presentation of first Viscom-made X-ray tube

Construction of two new production buildings

2000

Presentation of the first wire bond inspection system and series production in X-ray inspection

2001

Conversion to a stock corporation

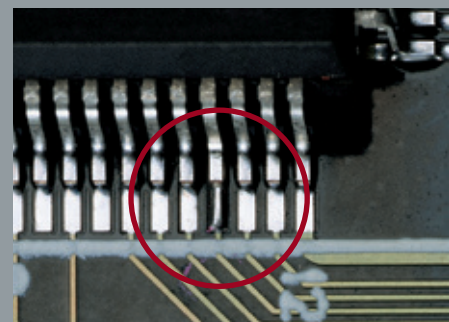
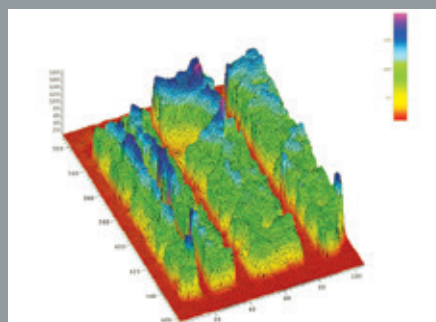
Innovation and know-how made in Germany

Viscom inspection systems are used in nearly all sectors of electronics production—from automotive electronics through aeronautics and aerospace, to industrial electronics. Steadily rising demands for quality and increasing reliance on technology in all areas of life require a 100 % quality assurance with the help of intelligent, automatic inspection systems.

Material weaknesses or production errors result in disastrous consequences for both the manufacturer and the end user. And that's why worldwide companies who demand the highest quality inspection trust in Viscom.

Electronics suppliers for the automotive industry comprise Viscom's largest customer group. Here the most demanding quality requirements apply.

The defects you can't detect with the naked eye ...



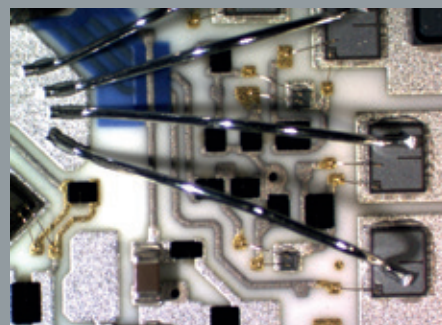
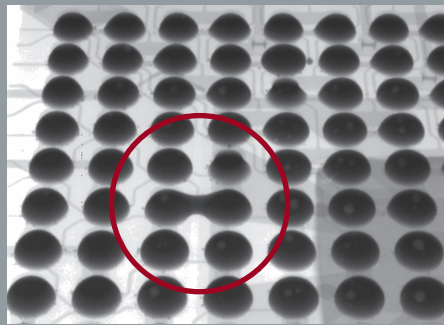
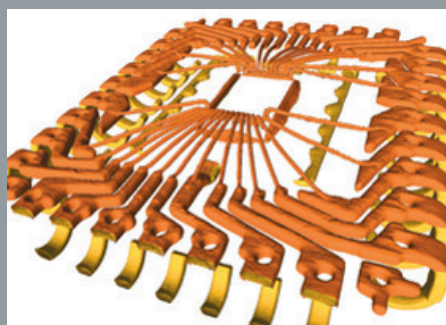


Using intelligent inspection technology—regardless of whether it's optical camera technology, X-ray technology or combined technology—the high-precision high-tech inspection systems from Viscom find all major defects that can occur in the production process.

Automatic X-ray inspection (AXI) and combined processes (AOI/AXI) play an increasingly important role as well. This is because modern electronics production is faced with the challenge of having to process ever smaller, ever more intricate components rapidly and economically. Ceramic assemblies are used in high temperature applications. Here, Viscom offers high performance wire bond inspection to inspect connections and bonds with high speed and precision.

Viscom inspection systems offer a solution for all requirements. In addition to assembly inspection, customer-specific special solutions for optical final inspection are realized. Here, the applications range from robot-supported final inspection to industrial computed tomography.

... are made visible
for you by our systems!



Business Segments

2002

Official opening of new headquarters and third production building

EasyPro—the new user interface of the Viscom inspection systems—is presented

2003

First technology forum with user meeting at headquarters in Hanover, Germany

2004

Dr. Martin Heuser and Volker Pape are voted "Entrepreneurs of the Year" in Hanover

2005

Development of high-performance 3D computed tomography

Commissioning of fourth production building and opening of training center

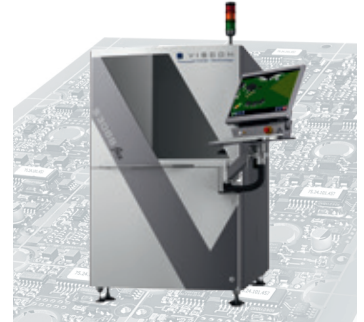
Applications

Systems

SP

Optical and X-ray batch inspection systems

- Solder paste inspection (3D SPI)
- Placement inspection/ solder joint inspection (3D AOI)
- X-ray inspection (3D AXI)



NP

Special X-ray inspection systems

- X-ray inspection
- Non-destructive material inspection
- 3D microfocus computed tomography (μ CT)



Special optical inspection systems

- Wire bond inspection
- Customer-specific inspection tasks



Example uses of successful inspection solutions

Technology

With the automatic optical batch 3D inspection systems, all inspection gates in the electronics production (i.e., paste print, assembly and solder joint) are covered. Precise camera technology, inclined inspection, OnDemandHR and color evaluation—those are the keywords that indicate the performance advantage of Viscom. This guarantees the greatest inspection depth and the reliable detection of critical defects.

Modern components, which don't show a visible solder joint, such as μ BGA or QFN's can easily be inspected with Viscom AXI systems or combination systems that combine optical inspection and X-ray inspection.

Viscom's product line ranges from microfocus X-ray tubes, OEM products and off-line inspection islands to fully automated systems with a μ CT option. The high-performance microfocus and nanofocus X-ray tubes produced in-house at Viscom enable non-destructive testing of a broad range of different objects and materials. The applications range from PCBs and electronic components to tasks of the non-destructive testing (NDT), e.g., from light bulbs, cast parts etc.

Microfocus computed tomography supplies insights into internal structures. Using slice images, 3D images are created which, for example, are used for prototype qualification and reverse engineering or in process tests.

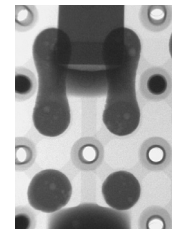
With intelligent inspection cells for versatile applications, Viscom offers customized solutions for the electronics industry. Here, Viscom developments include customer-specific complete solutions for characterization tasks, assembly control or nonstandard solder joint control. Wire bond inspection takes another important position. Viscom leads worldwide in this area and guarantees reliable defect detection for thin and thick wire connections.

Defect detection

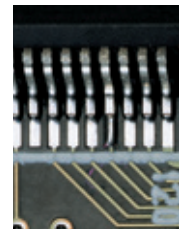
Paste



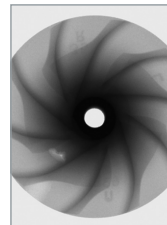
Assembly



Solder joint



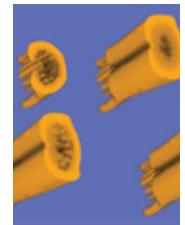
Turbine rotor 2D X-ray image



THT solder joint



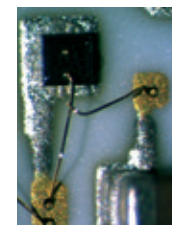
Crimped connection (μ CT)



Wire bond (Curling)



Thin wire



Wire bond (Wedge characteristic)



Cooperation as Partners

2006

Viscom Inc., US subsidiary, moves into its enlarged headquarters in Duluth/Atlanta, Georgia

Presentation of first AOI desktop system

Viscom goes public

S6056 high-end system with parallel inspection is developed

2007

New generation of camera modules with OnDemandHR function

World's first optical inspection with simultaneous 3D X-ray inspection with X7056

2008

Viscom wins SMT VISION Award in China and the USA with S3088-II and X7056

2010

S2088-II: high-end wire bond AOI on a desktop system

The revolution in AOI operation: Viscom introduces vVision

Commitment, creativity
and service
for our customers

**Short reaction times,
flexibility and individuality**

**Development of innovative
solutions in accordance with our
customers' requirements**

**Comprehensive, individual
support in all project phases**

**User-friendly inspection systems for
smooth integration in production
and process optimization**





Highly qualified engineers develop application-oriented inspection solutions in close cooperation with our customers. Comprehensive know-how in the fields of camera technology, analysis and evaluation software, parts handling and process control enables optimum solutions—hand in hand with technical development in industrial production.

Our customers' satisfaction is the most important goal. That's the reason we take time for the specific needs of our customers. And it enables us to develop inspection concepts that take the rapid changes in industrial production into account and ensure top quality.



DELPHI

HUAWEI

SIEMENS

JOHNSON
CONTROLS

Continental[®] zollner



BOSCH

Panasonic



ALSTOM

VOGT
-electronic

FLEXTRONICS

TRW Automotive

SENNHEISER

Outstanding Worldwide Service and S

2011

Viscom extends the product family for wire bond inspection with the system S6056BO

Viscom S3088 *flex* replaces the series III of the S3088 family as successor model

2012

S6056 MID inspection system for 3D electronic assemblies

Viscom Quality Uplink for highest process security and product quality

2013

Viscom presents new XM camera module for extreme cycle times and highest inspection depth

2014

S3088 *ultra*: high-speed 3D AOI

X8068: the universal X-ray inspection system

Fast reaction times due to our global presence

Worldwide, expert service locally, by hotline and via remote maintenance

Customer support area on the Viscom website



We stand by our customers with advice and support—regardless of whether it's a matter of technical configuration, questions on system integration, application or comprehensive process optimization.

The company is represented around the world with sales, applications and service. In contrast, production takes place exclusively at our site in Hanover, Germany—all products are made in Germany. From consultation through system integration and up to after sales service, everything runs hand in hand. All major core competencies are present in-house. This keeps communication active, flexibility high and reaction times short.

**Individual support packages
from maintenance to application**

**Comprehensive range of training courses
at all Viscom locations and on-site at
the customer's plant**

**Annual technology forum
with user meeting and
workshops**



Viscom inspection systems are brand-name products. The constantly advancing development of existing inspection processes and development of new innovative systems guarantee the highest level of quality assurance.

With branch offices in Europe, Asia and the US, as well as local agents, Viscom is present around the globe. As a result, the Viscom systems are available to our customers at all times for extensive tests and benchmarks.



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