



Because people are on the move



- 1933 Company founded - OTTO BERNING & Co., Schwelm.
- 1934 First ROBOT camera patented. New company headquarters in Düsseldorf.
- 1947 Thor Heyerdahl records his journey across the Pacific with his Kon-Tiki using a ROBOT I camera.
- 1953 Using the ROBOT JUNIOR secret camera, the dramatic events of the East Berlin uprising from 17<sup>th</sup> June are recorded.
- 1955 TRAFFIPAX product sector founded – the first police cars are equipped with ROBOT technology and ROBOT becomes one of the pioneers of camera-based traffic monitoring.
- 1960s ROBOT continues to invest in technical and scientific photography: ballistic cameras, oscilloscope camera adapters, reprophotography, optical surveillance.
- 1968 Olympic Games in Mexico: the ROBOT ROYAL takes the pictures of Bob Beamon's legendary long-jump record.
- 1970s ROBOT develops the most advanced equipment for surveillance and for photography for use in police data records.  
Traffic surveillance becomes an increasingly important area: MESTA, TRAFFIPHOT housings, TRAFFIPAX IV and identification photos.
- 1980s The reliable ROBOT MotorRecorder is used in an extremely wide range of traffic surveillance applications: anti-tailgating photography, TraffiPhot II red light cameras, TRAFFIPAX V.
- 1991 ROBOT acquires MULTANOVA AG.
- 1996 As the world's first company in the area of transport safety technology, ROBOT introduces the quality management system as per DIN EN ISO 9001-2000.
- 1999 ROBOT becomes a subsidiary of JENOPTIK AG, in the business area Jenoptik Laser, Optics, Systems (LOS).  
Opening of the TRAFFIPAX INC., Maryland/USA branch.
- 2001 Opening of TRAFFIPAX do Brazil, São Paulo branch.
- 2002 New headquarters of ROBOT Visual Systems GmbH in Monheim am Rhein.
- 2003 Opening of the ROBOT branch in Vienna, Austria.
- 2005 Opening of the ROBOT branch in the Netherlands.
- 2006 Opening of the ROBOT Infraroute branch in Morocco.
- 2007 ROBOT has a presence in more than 60 countries worldwide.
- 2008 The Jenoptik Group is organised into five divisions. The Traffic Solutions division has been set up to incorporate the business areas of Equipment and Traffic Service Providing.  
ROBOT celebrates its 75<sup>th</sup> anniversary.
- 2010 ROBOT Visual Systems GmbH becomes JENOPTIK Robot GmbH

## JENOPTIK | Traffic Solutions

The Jenoptik Traffic Solutions division makes roads safer. Local, city and regional authorities place their trust in our ROBOT technology – proven over 75 years – for speed and red light surveillance. Our product portfolio also includes comprehensive systems and services in all areas of road traffic (for example, surveillance of average speed limit and detecting vehicles wanted by the police), and OEM products.

With its entry into North America with Traffic Service Providing, the Jenoptik Group has, since 2006, provided coverage of the total process chain in road safety technology – from system development, production and installation of the surveillance infrastructure, to sending out penalty notices and collecting fines in its capacity as the operator of the equipment.

The division based in Monheim near Düsseldorf, provides for safe travelling in more than 80 countries and is the world leader by a considerable margin in the field of camera-based traffic surveillance.

Jenoptik is an integrated optoelectronic group and operates also in the divisions of Laser and Materials Processing, Optical Systems, Industrial Measuring Technology and Defence and Civil Systems. Its customers throughout the world include companies in the semiconductor and semiconductor equipment industry, the auto and auto parts supplier industries, medical technology, security and defence technology, and the aerospace industry.

Following the reunification of Germany in 1991, the Jenoptik Group was formed from the earlier East German combine Carl Zeiss Jena. The optoelectronics group, which employs around 3,000 people worldwide, is based in Jena (Thuringia). It has a number of major sites in Germany, is represented in 70 countries and has large production units in the US, France and Switzerland, plus holdings in India, China, Korea and Japan. JENOPTIK AG is listed on the Frankfurt stock exchange and is included in the TecDax index.

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Integrated solutions for greater road safety

Children and adolescents take centre stage of Jenoptik's social engagements. We support projects in schooling, apprenticeships and in extracurricular activities. We cultivate the compatibility of family and career and this has been the case long before the introduction of the socio-political debate about the support and promotion of young talents. With our own, self-initiated projects we have a share in the early stages of the self-development and self-worthiness of young people.



# For people today and tomorrow

Technologies and services for better road safety.

According to the latest predictions from the WHO Global Road Safety Report 2009, the growing number of road traffic accident victims gives cause for concern. In a listing of the 20 most common causes of death worldwide, road accidents currently lie in 9th place with 2.2 %. This figure will have risen to 3.5 % by 2030, when "death by road traffic accident" will be the fifth most common cause of death.



People are on the move all over the world, and this leads to more and more accidents in our road systems. The tragic result of this is that, somewhere in the world, someone dies in a road accident every 30 seconds. In other words, an estimated 1.3 million people die in road accidents every year, and this is set to rise to 2.4 million by 2030.

The number of people injured is even higher: between 20 and 50 million people are injured in accidents each year, some of them seriously. About 85 per cent of accidents occur in developing and newly industrialised countries, where the rate is rising.

The cost to the economy of rising accident figures is also huge. The annual cost of people hurt in traffic accidents is around 520 million dollars worldwide (WHO). In some developing countries, this equates to between 2.5 and 3.5 per cent of their gross domestic product every year.

## Awareness of the causes makes our mission clear.

More than 80 per cent of traffic accidents are caused by human error, the most common causes being excessive speed, ignoring traffic regulations and poor road discipline. These are factors that can be reduced successfully by the correct use of traffic safety systems and traffic surveillance.

Because of increased car usage worldwide and global accident statistics, the need for improved traffic infrastructure becomes an increasingly urgent priority. Public authorities have a responsibility to reduce accidents by taking appropriate measures, thereby improving road safety.

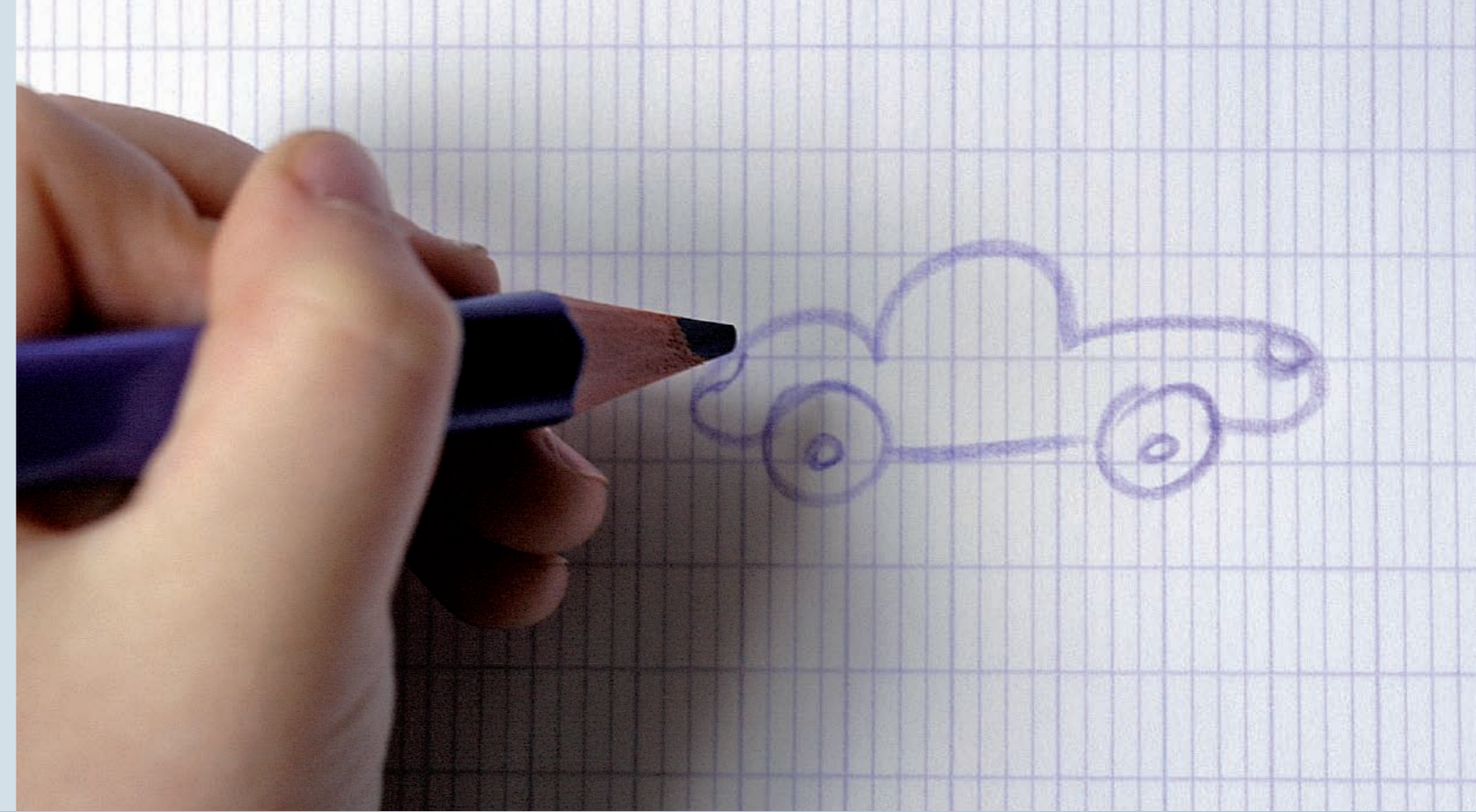
It is our core competence to put these objectives into action, effectively and sustainably. We are the market leader in road safety systems and develop technologies and services that contribute towards a demonstrable reduction in road accidents.

The project "Las Rondas" near Barcelona/Spain: the installation of traffic surveillance equipment saw accidents fall by 35 per cent over a period of two years.



# Knowledge and expertise are a good foundation

We put our know-how to work for the mobility of people and goods. Worldwide.



Jenoptik Traffic Solutions is the leading provider of advanced technologies and services for road safety on an international basis, with our companies in Austria, the Netherlands, the US and Switzerland and our distributors in more than 60 countries. With more than 13,000 systems installed, our expertise is already helping to improve road safety – across the globe.

Jenoptik Traffic Solutions develops, manufactures and sells components and systems in the following areas:

- speed and red light cameras
- traffic service providing
- special applications

Our stationary and mobile speed and red light surveillance systems – operated by ourselves if required to do so by our clients – make a noticeable contribution towards a reduction in road accidents.

Our service portfolio also includes components for handling the surveillance of average speed limit and services across the entire traffic sector – such as detecting vehicles wanted by the police – and products for integration into third-party systems.

## A one-stop shop to optimise the full product chain

In 2006 Jenoptik Traffic Solutions entered the traffic service providing sector and since then has covered the full product chain in traffic safety technology. Our comprehensive service portfolio makes use of the full spectrum of technical resources, and on this basis we are able to design each separate step of the process for our clients – simply, economically and safely. Following the successful introduction of this business area into the US, our expertise in hardware, software and service is now available worldwide.



**reddot design award**  
winner 2006

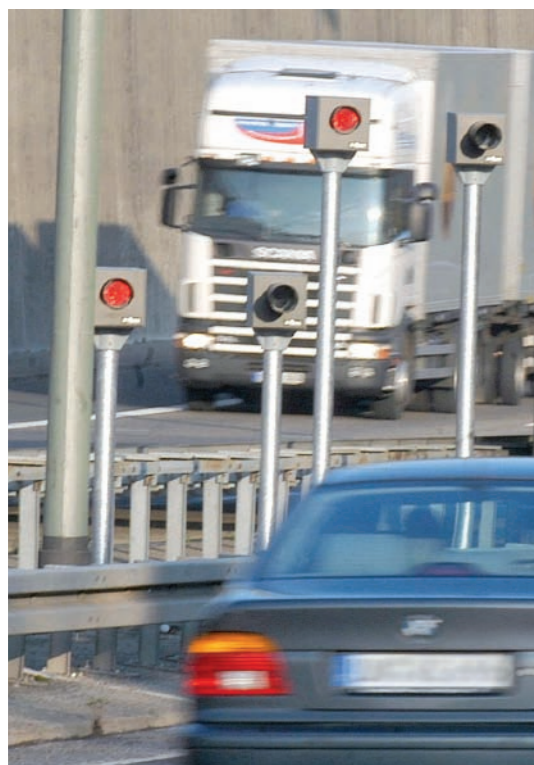
The TraffiTower is synonymous for the new dimension of stationary traffic surveillance.

It is compatible with all existing and future system and structural components.



# Committed to lead the world

Jenoptik Traffic Solutions is the world's most powerful provider in the area of traffic law enforcement. Our stated goal is to continue expanding our advanced technology in order to improve safety.



Jenoptik Traffic Solutions is the global market leader in the field of camera-based traffic surveillance systems, and the most technologically advanced company for digital cameras in online operation. We develop, install and operate the latest and most sophisticated stationary and mobile surveillance systems for speed measurement. We are able to look back over more than 75 years of experience – and look to the future with an unstinting desire to innovate.

## Stationary speed measurement

The principal aim of our speed measurement sites is quite clear: to achieve a radical reduction in accidents at blackspot areas. The success of these measures is of verifiable proportions. The annual fall in the number of accidents confirms the effectiveness of this method. It has been shown that speeds have fallen and driver discipline has improved in areas with stationary surveillance.

## Technology that meets our customers' needs

When we develop and manufacture new product ranges for stationary measuring systems, the conditions in their eventual areas of application are taken into account from the outset. These include the needs of individual customers and national and international requirements.

Systems and components that are unaffected by climate and weather conditions ensure reliable results even in the most challenging situations. The use of high-resolution digital photo technology provides unambiguous driver and number plate recognition by both day and night, even under extreme weather conditions.

Benefits at a glance:

- fully automatic electronic operation
- wireless transmission of data
- modular design; several units can be operated with a single measuring device
- secure and indisputable three-way measuring with piezoelectric sensors
- high-resolution digital camera technology, developed and manufactured by ourselves
- microprocessor analysis
- universal application for rear or front view



# Fast and infinitely flexible

Fast reaction whenever and wherever it is needed. Change the viewing angle. Being flexible. The solution: mobile speed surveillance.



With more than 250 employees and a presence in more than 60 countries, the Jenoptik Traffic Solutions of today goes back to OTTO BERNING & Co., founded in 1933, which later became ROBOT Visual Systems GmbH, which is named as JENOPTIK Robot GmbH today. We have come a long way since 1955, when the first police car was equipped with ROBOT technology, to the flexible options offered today by our mobile speed surveillance systems. However, we know no standstill. Our rapidly expanding business is developing complex solutions for the entire enforcement process. Initial concept, design, production, maintenance and servicing functions and the commitment and creativity of our specialist team is extensive.

## Mobile speed surveillance

Studies have shown that danger areas can develop spontaneously on the roads. They can be unexpected and can appear in a variety of areas. It is extremely important here to have a rapid and flexible response: mobile speed surveillance. This provides an accurate measurement of approaching and/or departing vehicles.

Mobile systems can be used with great flexibility: on a tripod, or installed in a vehicle or container, they can easily be brought into operation virtually anywhere. Regardless of their location, digital technology ensures the quality of the results and the reliability of their evaluations.





# Safety – thinking ahead

Sophisticated methods that make use of the full range of technology available. For people. For the future.

In addition to mobile and stationary surveillance systems, Jenoptik Traffic Solutions offers its customers a wide range of components and systems to improve road safety even in sensitive situations. Measuring on dangerous sections of road, surveillance of up to four traffic lanes, rapid changes of location – our advanced service portfolio can handle it.



## Red light surveillance

Our Red light surveillance units are designed specifically to meet the needs of today's traffic monitoring systems, being fully automatically operated and controlled and monitored by microprocessors, and their ability to provide simultaneous speed surveillance. They can be used for rear-view and front-view applications to monitor a number of lanes at the same time, with different signal phases and acceleration times away from red lights.

Other features:

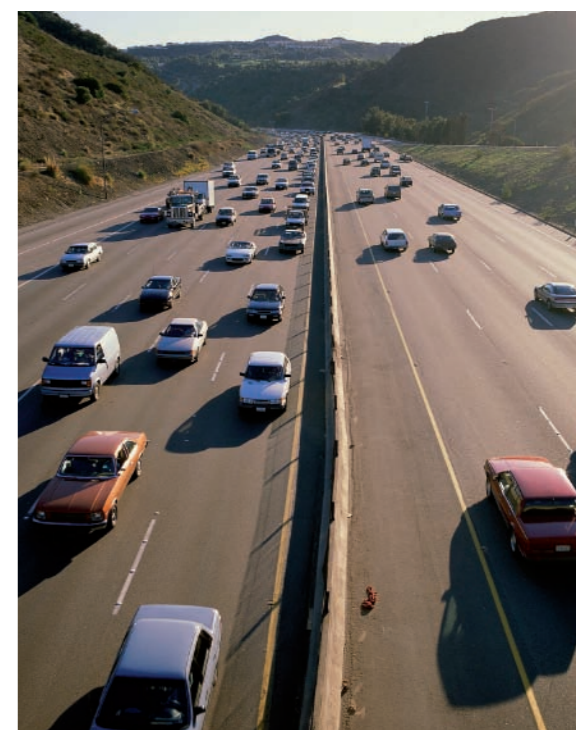
- plug-in technology for quick and easy unit replacement
- digital technology up to 11 MP allows surveillance of up to four lanes
- decentralised unit remote-controlled via the Internet

## Average speed calculation

TraffiSection was developed to improve safety on dangerous roads, e.g. motorways or tunnels. The purpose of TraffiSection is to detect drivers whose average speed within a specified section of road is higher than the legal maximum.

Other benefits:

- facial recognition
- limits can be varied for different vehicle classes
- link-up to variable message signs





# Full coverage

Getting a clear view of the picture, the right solution can be found in the detail. This is the basis on which Jenoptik Traffic Solutions develops its specialist systems for improving road safety.

In 1990 there were about 680 million vehicles around the world, a figure set to rise to the one billion mark by 2010. The wide variation in the types of vehicles and the behaviour of drivers from one country to another means that the requirements for road safety improvement systems are similarly diverse. When developing new systems we therefore focus on our customers needs.

The result? The latest measuring technology solutions for worldwide use.



## Number plate recognition systems

The automatic identification of vehicle number plates in digital images, taken with any digital camera, substantially speeds up processes in terms of traffic data recording and administrative procedures. In addition to the areas of traffic enforcement, number plate recognition systems from Jenoptik Traffic Solutions can also be used for surveillance over a number of traffic lanes, and for the purpose of issuing fines.



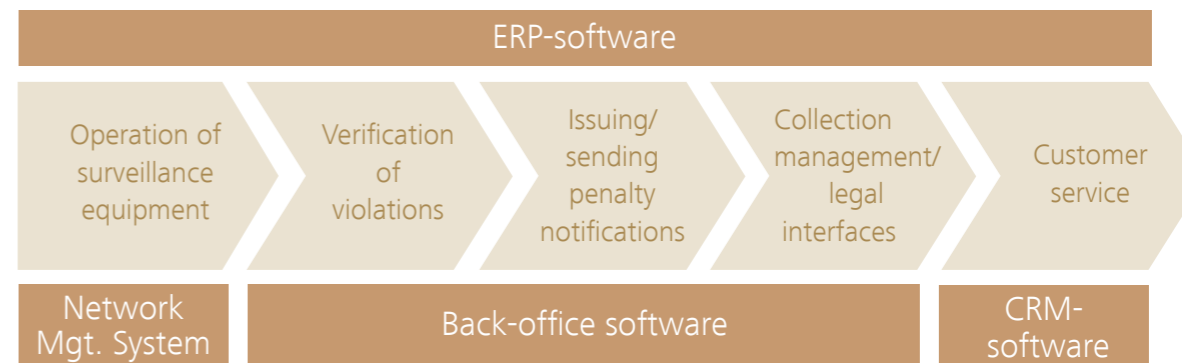
## Data processing for traffic surveillance systems

We offer systems with total effectiveness for monitoring the function and performance of cameras and for processing infringements, thereby reducing the time between detection and penalty.



# The value-added strategy

Comprehensive expertise in road safety. From helping with finance to system maintenance. Service along the entire process chain: Traffic Service Providing.



The worldwide growth in road traffic makes sustainable safety concepts and solutions essential. However, there are often insufficient funds to implement a comprehensive system of traffic surveillance. Our Traffic Service Providing offers our clients a sophisticated service concept which can be adopted as a complete solution or as a series of individual components. The use of the latest digital camera technology, combined with individual software solutions and in-depth service know-how, provides added value in terms of both administration and finance.

Within the framework of our Service Providing projects, we enable our customers to achieve positive road safety effects with a high number of speed measuring points without any capital investment of their own. If required, in international markets the public authority client can transfer its public service responsibilities to us on the basis of a public private partnership (PPP). By doing so, Jenoptik Traffic Solutions takes over the full capital cost and the installation and operation of the units. Another option that we offer is that of a complete turnkey solution in which operation remains in the hands of the public authority.

### A lower stake, a double win

The results of the Traffic Service Providing System are a reduction in logistic and administrative costs for the client, together with a measurable improvement in road safety and increased revenue from the detection of violations.

### You tell us what you want

The Jenoptik Traffic Service Providing System is available in the form of co-ordinated service modules or as a complete solution.

- traffic analysis to identify accident blackspots
- advice, design and financing
- planning of measuring points and installation of systems
- setting up local operator companies using local staff
- operation and maintenance of installed surveillance equipment
- Back-office administration of traffic violations, including communication of evidence and comparison with driver database, issuing and sending of penalty notices, collection management, customer service
- advice on reinvestment for sustained improvements in road safety





## Focus on the future

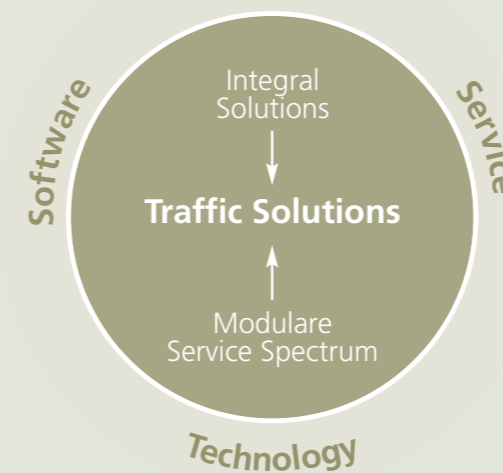
“Arrive safely” – our entire corporate strategy has a clear objective. We, as the world market leader, want to be your first contact of choice for total solutions in improved road safety – now and in the future.

Developing innovative technology and putting it into operation efficiently – we offer our customers the key service spectrum to put their needs into action. Our vision is to make a worldwide full-spectrum contribution towards helping road users to arrive safely.

### Get the full benefit

Our national and international partners benefit from the systematic implementation of our future-oriented solutions

- We offer a flexible, highly innovative modular product portfolio that provides a range of technologies for the camera-based detection of traffic violations, together with the wide-ranging service that goes with them – from design to implementation.
- We set ourselves the highest possible quality standards – and meet them.
- Our specialist teams offer flexibility, reliability and integrity.
- We create value for our customers, setting standards for sustained safety on the roads.







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