

Inspecting wheels at full speed.

ZEISS BOSELLO WRE thunder



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2D X-ray technology



WHY

With 2D X-ray technology you get **insights** about the quality of your parts.

HOW

By capturing your part, you can inspect defects beneath the surface. This reliable quality assurance can reduce costs by **detecting flaws**.

WHAT

With ZEISS BOSELLO WRE thunder you get **advanced 2D X-ray technology** for the **inline inspection of light alloy wheels**.

Fields of applications

ZEISS BOSELLO WRE thunder



Automotive

Aluminum alloy car wheels:

- 4J x 13" - 11J x 22"
- 4J x 14" - 11J x 26"



ZEISS BOSELLO WRE thunder

Key characteristics



FAST INSPECTION

For high throughput

The pass-through concept of the system allows fast exchange of wheels in only 2.5 seconds. In this way, idle time is kept at a minimum.



SAVE SPACE

Thanks to a small footprint

With ZEISS BOSELLO WRE thunder having a footprint of only 5.8 m², you save a lot of valuable space!



ROBUST AND RELIABLE SYSTEM

For continuous use in the harsh production environment

Its strong and robust construction make ZEISS BOSELLO WRE thunder the perfect fit for the continuous use in the harsh production environment – 24/7.



SAFE INSPECTION OF WHEELS

Reliably inspect wheels at full speed

Secure grip, perfect alignment of source and detector as well as safe handling of various types of wheels ensure a safe and reliable inspection of your wheels.



AUTOMATIC INSPECTION

For reliable quality control

The in-house developed ADR (Automatic Defects Recognition) software reliably detects defects on the inside of wheels and automatically rejects defected wheels.



BEST SERVICE

Thanks to worldwide service and 24/7 support

Native speaking service technicians and trainers are available close to you – 24/7 to keep downtime at a minimum level.

#1

Fast inspection

#1 Fast inspection

For high throughput



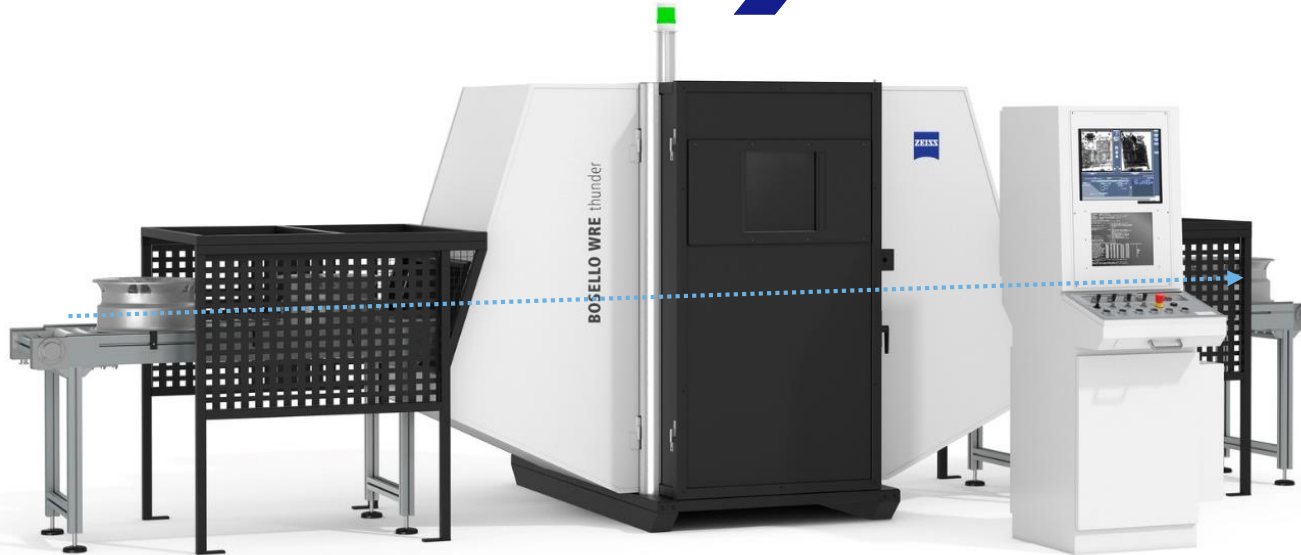
Technical explanation and example

- The pass-through concept of the system allows fast exchange of the wheels in less than 2.5 seconds. In this way, idle time is kept at a minimum.
- Idle time is not affected, even if different sizes of wheels are processed.



How you benefit

- High throughput.
- Perfect integration into your production line.



#1 Fast inspection

For high throughput



Technical explanation and example

- With the clever coordination of the four doors – two on the inside and two on the outside – the X-ray source can run continuously. This allows to start inspecting immediately.
- Unlimited number of inspection programs for different types of wheels.
- Up to 50 positions per program can be defined.
- 145 wheels/hour can be inspected with an average inspection time of less than 25 seconds (e.g. 15" wheels).



How you benefit

- High throughput.
- Flexible solution for different wheels.



#2

Save space

#2 Save space

Thanks to a small footprint



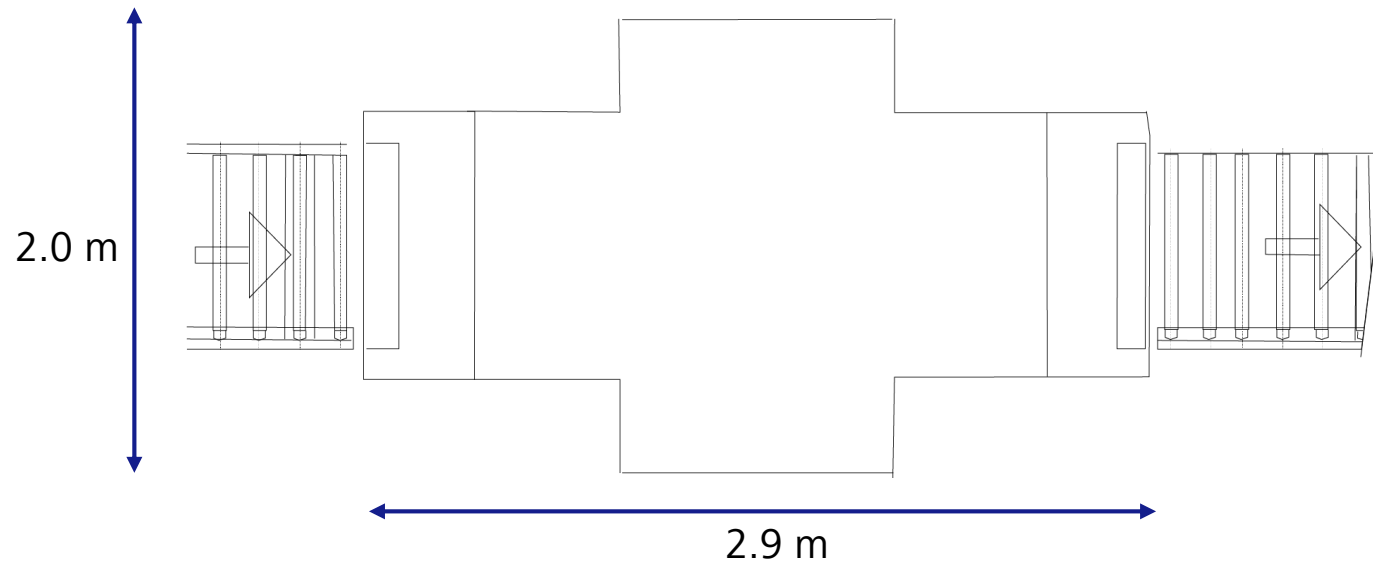
Technical explanation and example

- Small footprint: With ZEISS BOSELLO WRE thunder having a footprint of only 5.8 m², you save a lot of valuable space!



How you benefit

- Only small space in your production is needed..
- Cost of ownership is kept at a minimum.
- Easy installation and positioning.



#3

**Robust and reliable
system**

#3 Robust and reliable system

For continuous use in the harsh production environment



Technical explanation and example

- Strong and robust mechanical structure.
- The reliable system ensures an automated 100% inline inspection for multi-shift operation in your production.



How you benefit

- Long and continuous use in a heavy industrial environment – 24/7.
- Keep downtime at a minimum.

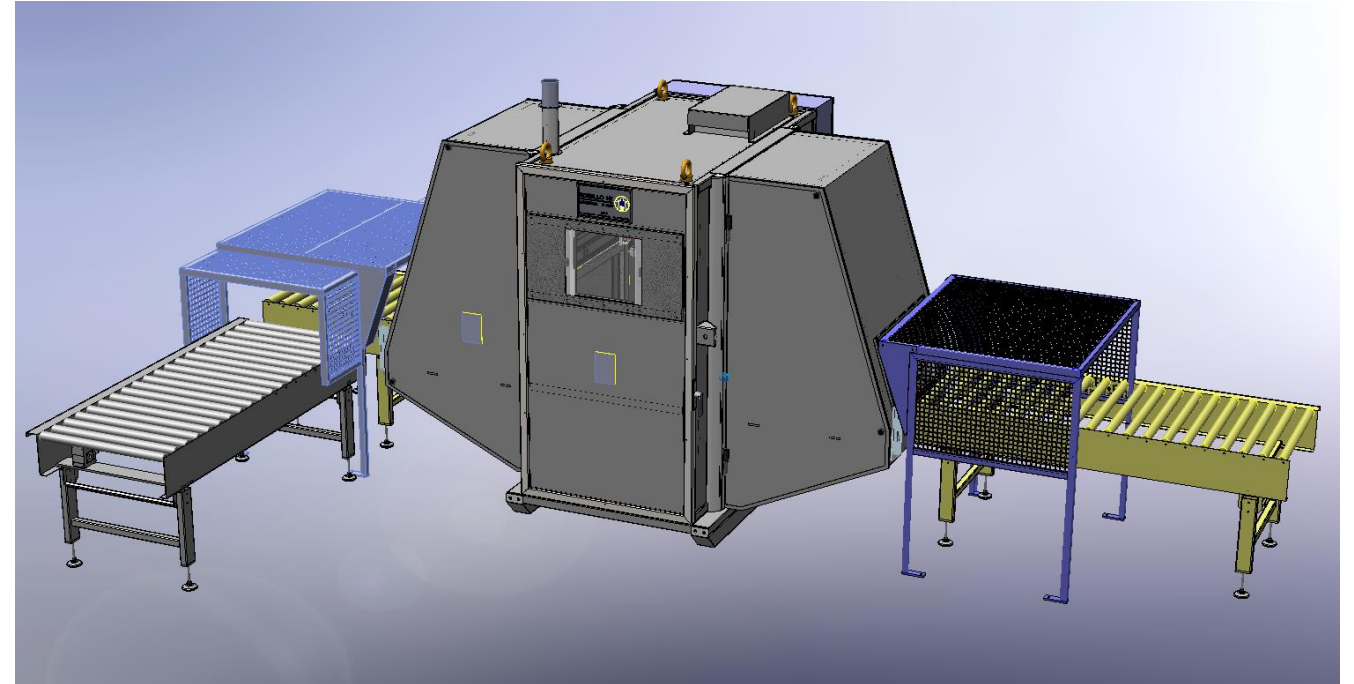


#3 Robust and reliable system

Customizable solutions



- The system can provide interface signals to connect with customer's conveyor line.
- External conveyors can be supplied on request.
- A rejection unit specific to customer's requirements is also available.



#4

Safe inspection
of wheels

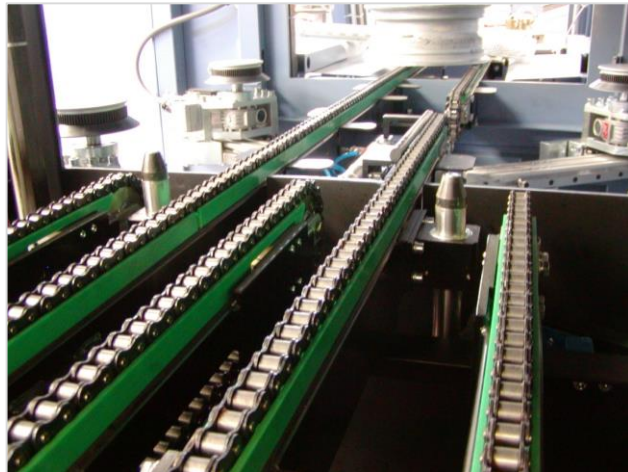
#4 Safe inspection of wheels

Secure transportation



Technical explanation and example

- The internal conveyor system of ZEISS BOSELLO WRE thunder is provided with extremely robust multiple chains to guarantee safe transportation of heavy wheels up to 26" and 50 kg.
- Pneumatic stopper and centering mechanism for wheel alignment.



How you benefit

- Even heavy and large wheels can be safely inspected and transported.
- High positional accuracy without any misalignment even with untreated casted wheels.

#4 Safe inspection of wheels

Secure grip



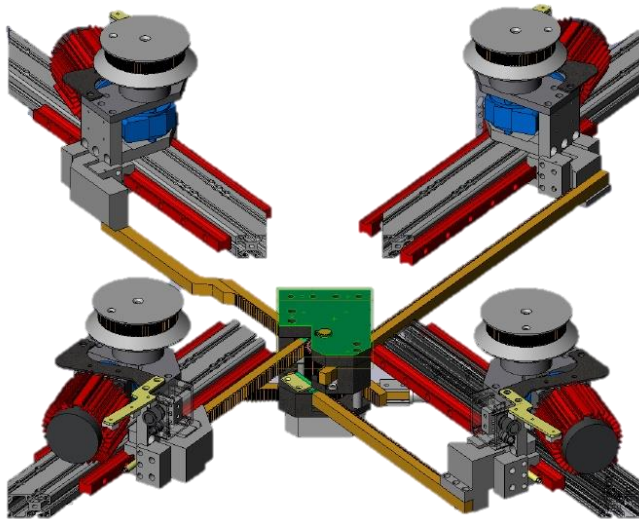
Technical explanation and example

- Individually driven and motor-controlled rollers ensure a strong and secure hold as well as high speed and accuracy for 360° inspection.
- Extremely robust multiple chain conveyor.
- Automatic gripping of the wheel without any lifter.



How you benefit

- Different types of wheels can be safely inspected.
- No skidding of wheels.
- High positional accuracy without any misalignment even with untreated cast wheels.



#4 Safe inspection of wheels

Software-controlled coordination of source and detector



Technical explanation and example

- No mechanical connection between source and detector (C-arm).
- Software-controlled coordination and alignment between source and detector.
- Ensures perfect alignment and reduces vibrations for higher accuracy.



How you benefit

- Wheels can be inspected from different angles and positions.
- Faster scans.
- Increased handling and positioning speed.
- Reliable scanning results.



#5

Automatic inspection

#5 Automatic inspection

With the ADR software



Technical explanation and example

- Automatic classification and inspection of wheels.
- Automatic centering of the wheel in the X-ray beam.
- Suitable to detect unconformities according to most of the foundry automotive specifications.
- The in-house developed ADR software reliably detects defects on the inside of wheels and automatically rejects non-conform wheels.



How you benefit

- Reliable quality assurance for best quality of your wheels.



#6

Guaranteed stability

#6 **Guaranteed stability**

State-of-the-art generators developed in-house



Technical explanation and example

- Our proprietary high-voltage generators are advanced products for diverse applications.
- High kV stability is guaranteed through an electronic control system that compensates possible fluctuations and micro-interruptions on the main supply line in real time.
- Two built-in automatic X-ray tubes warm-up programs are available: management and protection functions implemented in our generators' control electronics ensure proper X-ray tube operation, as well as an extended operation life.



How you benefit

- Solution out of one hand guarantees a stable operation of the system.
- Long operating life of the generator keep costs low.
- Know-how inhouse for fast support in case of breakdown.

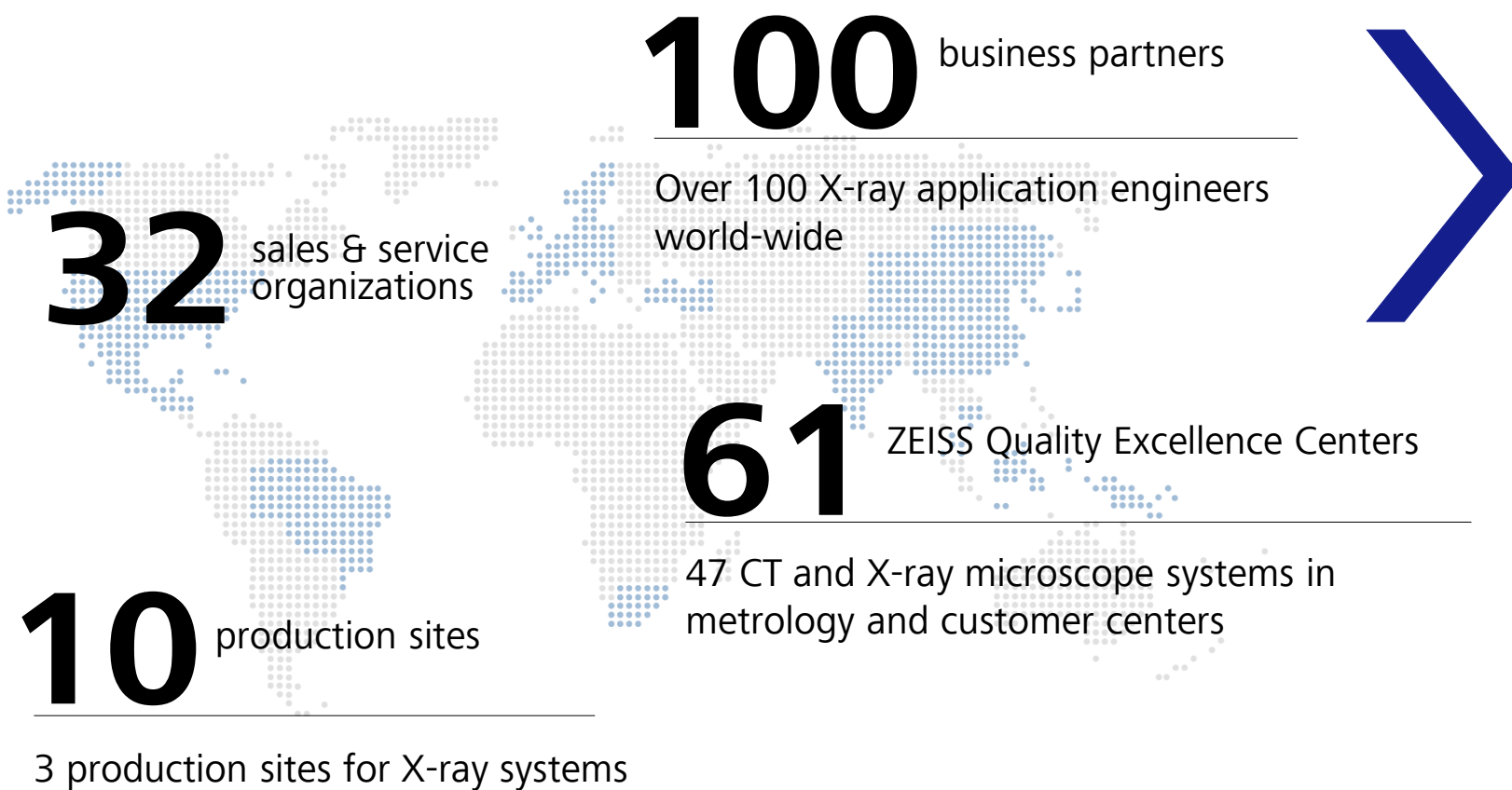


#7

Best service

#7 Best service

Thanks to worldwide service and 24/7 support



How you benefit

- ZEISS know-how & application technicians available globally.
- Service & support very close to the customer means fast reaction times.
- Less downtime and more security.
- All spare parts on stock for fast support
- With our global ZEISS service we guarantee fast and reliable support to meet your up-time requirements.

#8

**One-stop
solutions provider**

#8 One-stop solutions provider

We provide you the optimum solution for your needs



Technical explanation and example

- Not only a system but a solution will be provided, including software, accessories, and services.
- ZEISS offers a full package of software for image acquisition, reconstruction, visualization / evaluation and data management out of one hand - for a smooth workflow.



How you benefit

- One contact can help in case of problems
- All tools are aligned with each other
- Customer gets customized solution based on their requirements and application
- With the full software package the customer gets full control over the entire production and quality assurance process

#8 One-stop solutions provider

ZEISS X-Ray Series



SYSTEMS



2D radiography
Computed tomography
X-ray microscopy

SOFTWARE



Image Acquisition
Image Evaluation
Data Management & Industry 4.0

ZEISS X-Ray Series
Make the Invisible Visible

APPLICATIONS



Additive manufacturing
Alu casting
Battery
Blade
Electronics
Oil & Gas

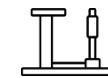
Plastic parts
Composites
Multi-material parts
Assemblies
Material research
Life sciences

SERVICES



On-site trainings
Classroom seminars
eLearning

ACCESSORIES



Sample holders
Set-up table

Retrofit solutions
Automization solutions

#9

**Configuration
standards**

#9 Configuration standards

ZEISS BOSELLO WRE thunder



ZEISS BOSELLO WER thunder 3

Wheel size: 4J x 13" - 11J x 22"

ZEISS BOSELLO WER thunder 3/T

Wheel size: 4J x 14" - 11J x 26"

Compatible Software

- BHT IP PLUS
- Visual Faris

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