

NTN Transmissions Europe

# NDT is automated on forging lines

NTN Transmissions Europe, a forging specialist, has developed a unique NDT process that automates active infrared thermography on its production lines.



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## OUR CUSTOMER

**Corporate name**  
NTN Transmissions Europe

**Activity**  
NTN's Crézancy plant located in Aisne (France) manufactures 60% of the group's forgings for the European market: tulips and joint housings for motor vehicle transmissions which are then shipped to the Allonnes plant (Sarthe) where the full transmission shafts are manufactured. Its parent company New Technology Network is based in Osaka (Japan) and specialises in bearings and transmission joints.

**Turnover**  
22.5 million euros

**Workforce**  
130 people

**N**TN Transmissions Europe has met the challenge of inspecting forgings without human interpretation at a rate of 5 seconds per forging! This unprecedented feat was achieved at its Crézancy plant located in Aisne (France), where it manufactures 60% of the group's forgings for the European market: tulips and joint housings for motor vehicle transmissions. *« These forgings must be free of laps, defects caused by metal flow during the hot forging process. Currently, the inspection is carried out manually by an operator who examines each forging individually. This is a*

*tedious task which may lead to false diagnoses. Consequently, the visual inspection must be replaced with a reliable and automatic device »,* explained Antoine Selse, Site Manager.

## A multi-phase study

This project began with a study by Cetim's professional forging commission, combining sector representatives, trade associations and experts from the Centre, to replace the manual inspection of parts with an automated non-destructive testing (NDT) device. They were faced with two major challenges: achieving inspection speeds that were identical to the

forging speeds and using an environmentally friendly system. Cetim firstly developed a demonstrator for the active infrared thermography testing of tulips. The next step involved assessing and automating the demonstrator on the NTN site.

## Integration on a line

*« The collective work conducted by the professional commission is now complete. However I decided to adopt this testing technology in my company. We are currently working with Cetim to integrate a robotised testing station to a production line. Eventually, our four forging lines which produce the 70 tulip and joint housing references will be equipped with this system »,* stated Antoine Selse.

## Cetim's asset

Cetim provides industrial manufacturers with support in their development of non-destructive testing devices for materials, products and equipment.

