



FLIR

APPLICATION STORY



Parcels and suitcases roll unerringly towards the right destination thanks to infrared

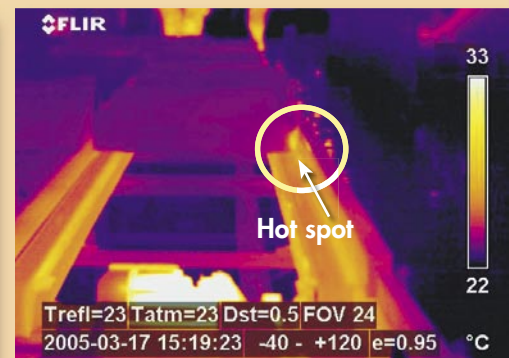


Vanderlande Industries is one of the market leaders in automated transport and distribution systems. The company is constantly investing in the development of new, faster, more intelligent logistics handling and sorting systems for distribution centres, express parcel services and baggage handling at airports. A ThermaCAM™ P65 from FLIR Systems is used in the research and development department.

Ever waited wearily and impatiently for your baggage at Schiphol, Charles de Gaulle or Hong Kong International? Or wondered where that book you ordered online has got to? Or when that important contract, sent by overnight service, is finally going to find its way into your office?

The timely and error-free delivery of these items depends on numerous factors, not least among them being smooth-running conveyor belts and intelligent sorting systems. And that's precisely what Vanderlande Industries near Eindhoven in the Netherlands produces. Increasingly, Vanderlande is positioning itself as a solution and service provider in its three core markets of baggage handling, distribution and express parcel services.

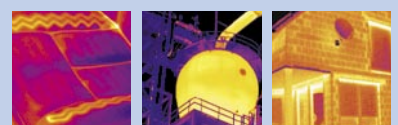
Having started out as a small machinery factory, Vanderlande Industries has developed into a true global player in its sector. Its list of customers reads like a worldwide who's who of airports and logistics heavyweights.

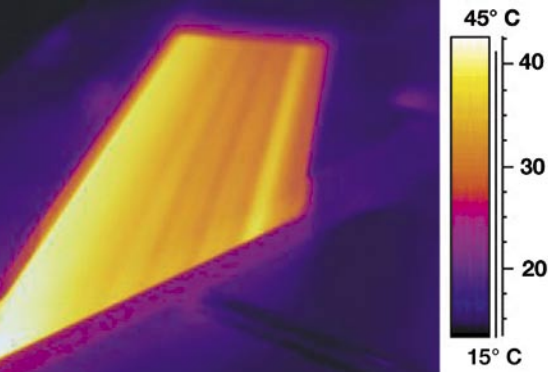


No problem? A visual image of the Tubtrax transport system in the Vanderlande Industries Advanced Design Centre

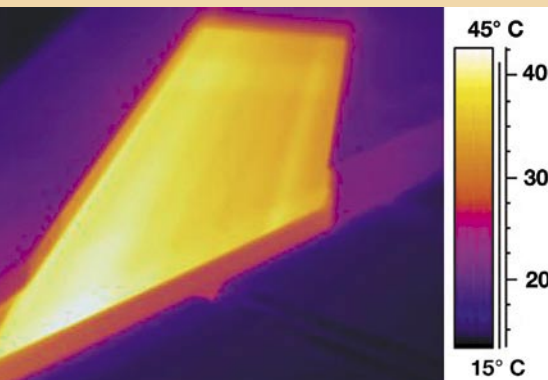
The thermal image: friction at the edge of the conveyor belt between metal and plastic causes the test suitcase transport container to heat up.

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Conveyor belt during start-up



Conveyor belt shortly after start-up

Thanks to the ThermoCAM, the engineers discovered that a new conveyor belt was heating up faster, and was hence more susceptible to wear. "The thermal imaging camera not only helped us locate the problem but also set us on the way to a solution.", says Jean-Pierre van der Zanden.

The company's twelve hundred employees, 750 are based in Veghel near Eindhoven, develop, install and implement the systems worldwide. If requested by the customer, they also take care of the maintenance of the delivered systems. For example at Schiphol, the major airport in the Netherlands, 50 Vanderlande employees maintain the baggage handling system.

Vanderlande: an innovating company

Research and development occupies an important place at Vanderlande. The business demands a high level of creative innovations. Customers are setting ever higher demands in terms of added value, safety, reliability and speed.

With its Innovation Centre, Vanderlande has outstanding facilities for translating those demands into products. In the brand-



Jean-Pierre van der Zanden, Test Engineer and Group Leader at the test centre and Ferry Maasbommel, Development Engineer

new hall, new, highly complex transport and sorting systems are developed, continuously tested for durability and then optimised.

"Vanderlande is producing and installing all the baggage handling systems for the new Terminal 5 at London Heathrow Airport.", says Jean-Pierre van der Zanden, Test Engineer and Group Leader at the Vanderlande Test Centre.

"At one of our meetings with the British Airport Authority (BAA), the enormous possibilities of infrared thermography were described to us. The BAA uses FLIR Systems infrared cameras not just for detecting heat loss in buildings and inspecting technical installations, but also for maintaining baggage handling systems. In particular at Heathrow and Gatwick Airports. We also received very positive reports about the results of using infrared thermography from Louisville, Kentucky, where the biggest hub of express parcel giant UPS is located. Vanderlande installed the complete sorting system there."

Hearing all the positive reports about the cost- and time saving benefits of infrared thermography, Vanderlande started to think about using it themselves. Today thermal imaging technology plays an important role in the optimisation of Vanderlande's products.

Infrared helps to develop new products faster

In the course of durability tests on TUBTRAX®, a conveyor belt system for baggage in crates, friction problems were discovered at one of the switchpoints which channel the sorting process. The rubbing of the plastic conveyor belt on the metal was not ideal. It was causing wear and placing an extra strain on the system. This kind of conveyor belt, which is mainly used at airports, attains a high speed of seven metres per second (approx. 25 km/h).

"Thanks to the ThermoCAM P65, we were able to see clearly that too much heat was being generated. What's more, not only could we locate the problem accurately, but we were also able to monitor the heat generation with respect to time and temperature.", says Ferry Maasbommel, Test Advisor and the thermal imaging camera expert at Vanderlande.

Again, during the setting up in the test centre of the newly developed BAGTRAX® system for rapid baggage conveyance over longer

distances between different terminals, the ThermoCAM P65 kept a good eye on things. BAGTRAX is an innovative system for baggage transport in carts propelled by a linear induction motor, in which successive magnetic fields power the belt.

The bearings in the test centre version overheated too fast. In the end it turned out that the problem lay not with the choice of material, but with an assembly fault, so that the engineers, contrary to what they had expected, had no need for a lengthy search for a different type of plastic in order to make the system completely flawless.

The experiences with thermography acquired at the test centre have been presented internally to the Service Division. The time- and cost-saving potential of the technology was rated very highly there, so that this important pillar of Vanderlande Industries is now also thinking of using infrared thermography for preventive maintenance on its already installed baggage handling systems.

"Here at the test centre we're very enthusiastic about the results obtained by infrared thermography. The Test Centre is making promotion inside the company for wider use of infrared thermography.", says Ferry Maasbommel. "You learn to look at things differently.", adds Jean-Pierre van der Zanden. "You see developments that you would never suspect with a visual camera. And it helps you to make developments operational faster."

The infrared story continues at Vanderlande. The original impulse was provided by the research and development department, and has now been picked up on in Service. So that suitcases, orders and contracts can keep arriving in the right place at the right time.



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