Success Story

Powerful shrimp sorting system with IDS camera UI-5240RE

With the continuous exhaustion of fishing grounds, many fish species have become endangered. For this reason, the fishing industry is searching for solutions to ensure an environmentally responsible approach. Two companies from the Netherlands have developed a shrimp sorting machine that returns by catch consisting of crabs and young fish quickly and unharmed back into the sea. The sorting system was implemented with our uEye RE GigE in an automation system from an Austrian supplier.

Why the decision was in favor of the uEye RE GigE?

“It’s used on a ship!” points the CEO of the involved engineering company. Together with a machine building company, that specializes in the shrimp fishing industry, he developed a visual scanning device with two UI-5240RE cameras, the most rugged industrial camera with Gigabit Ethernet interface in the IDS-portfolio. The magnesium housing, lens barrels, and lockable connectors comply with all the requirements of the IP 67 protection classes. The GigE uEye industrial camera is splashproofed and can even be operated in other extremely harsh environments.

The visual inspection system takes pictures of the shrimps directly on bord. Up to 300 kilograms of shrimps per hour can be sorted and thrown back into the water alive - an eco-friendly approach.

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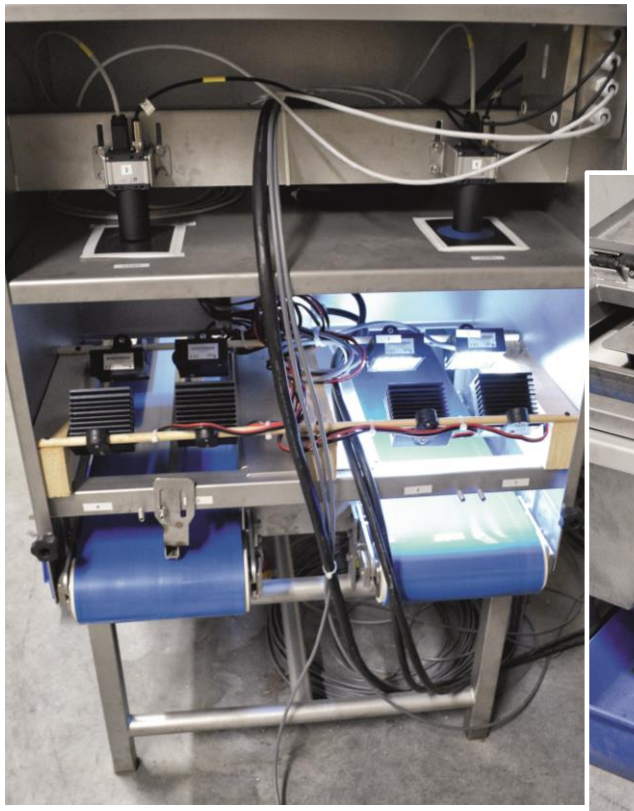
How does the visual scanning system work?

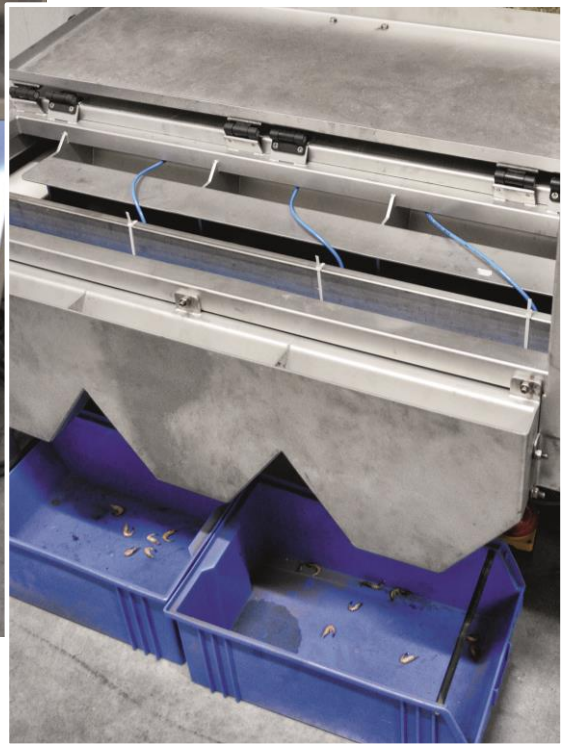
A vacuum system sucks in the catch and distributes it on a conveyor belt. Two IDS GigE cameras, each with resolutions of 1.3 mega pixels, take pictures of the individual objects. The software for the image processing is based on a HALCON script. It identifies shrimps and grades them into three different sizes. This enables 10 to 20 images to be analyzed per second, depending on the speed of the conveyor belt.

A controller receives the relevant image data via an Ethernet connection. Different air nozzles get activated and targeted blasts of air transport the shrimps by size into the appropriate container. Bycatch is ignored by the system and stays on the conveyor belt for less than a minute, which returns it directly back into the sea.



Two IDS cameras take pictures of the catch

Shrimps are sorted by size into the appropriate container



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At a glance

Name	UI-5240RE
Family	RE
Interface	GigE
Sensor type	CMOS
Manufacturer	e2v
Frame rate	50.0 fps
Resolution	1280 x 1024
Shutter	Rolling- /Global- / Global Start Shutter
Opt. class	1/1.8"
Resolution class	1.3 MPixel
IP code	IP 67
HDR	No

Client

Involved are

- an engineering company from the Netherlands that develops technical solutions for agriculture, the food industry, the marine and offshore sector as well as the recycling industry
- a Dutch machine building company that specializes in the shrimp fishing industry
- an Austrian supplier for innovative automation solutions

Application

Visual scanning system

Curious? Contact us!