Knithawk

Real-Time Defect Detection in Knitted Fabrics

Technology developed by

opdi-tex

for OEM Partnerships

Knithawk Technology – Features & Benefits

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Proven Industrial Design

- Developed together with Mayer & Cie with simple integration in industrial standards
- Works with circular knitting machines from all brands, also, in retro-fit applications

Real Time Defect Detection with AI

- Identifies defects at the knitting point, before they continue in the fabric during the knitting process
- Works with single-jersey and double-jersey, jacquard in development

Smart Hardware Design

- Compact infrared camera unit – no interference with machine workflow
- Designed for the harsh environment of textile manufacturing, dustproof and easy to clean

Automated Machine Control

- Works without delay, stops the machine instantly for severe or repeated defects
- Logs every defect for quality reporting, root cause analysis, and process optimization

Knithawk Technology – Features & Benefits

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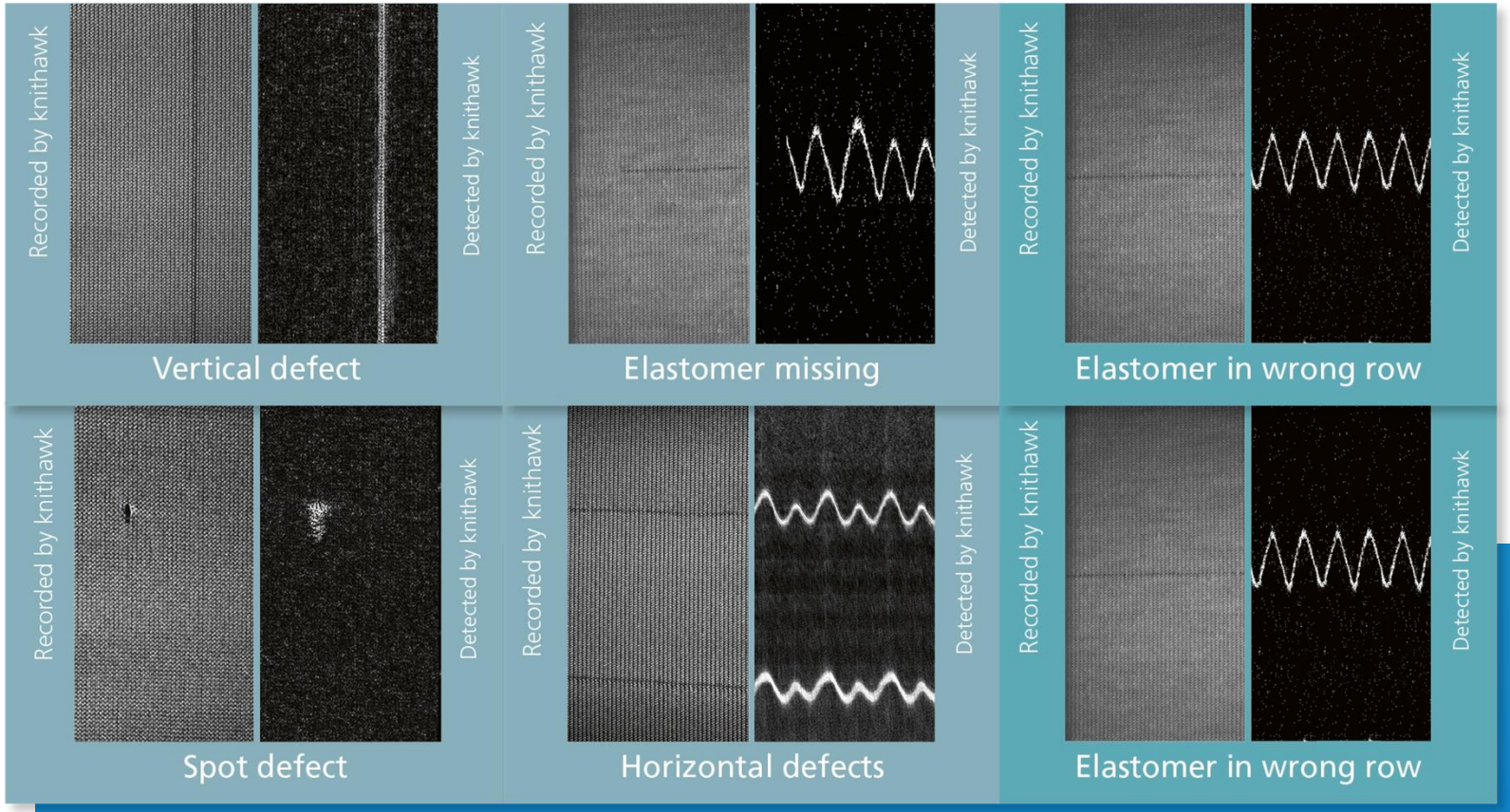
- Detects even defects not visible to the human eye.
- Inspection right at the knitting point.
- Machine stops immediately after detection of a defect.
- All defects recorded in error log.
- Very low installation effort.
- Compatible with circular knitting machines from all brands.
- No contact with knitted fabric required.



The Knithawk Advantages Summarized

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- Detects even **small, hard-to-see defects** immediately
- Reduces waste, raw material usage, and energy consumption
- Lowers CO_2 footprint and rework costs
- Easy to install, stand-alone operation, **no mandatory cloud connection**
- Proven in real production environments in Europe and India
- Supports sustainability and resource efficiency

Business Case: Amortization in 12-15 Months*

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ROI calculation for **24/7** production of **single-jersey** on a **circular knitting** machine with **38" diameter** and **10 cm length per revolution.**

Defect Metrics for ROI Calculation

Defect Type	Point	Vertical	Horizontal
Caused by	Dropped stitch	Broken or defect needle	Yarn or lycra defect
Manual detection time	Less important, removed during fabric inspection	10 minutes	20 minutes (harder to spot than vertical defects)
Financial loss	0.50 EUR	5 EUR	10 EUR
Occurence rate	Once per hour	Once every 3 days	Once every 3 days

Real-time detection of defective textile significantly reduces your financial losses.
Based on a **conservative estimate** using the **above metrics**,
the **Knithawk ROI is 12-15 months** (excluding worst-case production scenarios like a full night of defective fabric).

* Conservative estimate based on N=5 test customers over a two-year period. | ROI: Return on Investment

Next-Level Quality Control Starts Here

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opdi-tex GmbH

Your innovation partner in machine vision and industrial automation

- Your partner for **industrial imaging systems** for quality control, positioning, and process automation
- In-house **development and manufacturing** of hardware and software, from the **image sensor** to **AI algorithms**
- Expertise in **custom solutions** with high durability across industries (textile, automotive, packaging, e-mobility, etc.)
- Founded 25 years ago with a product for **on-loom inspection**
- Worldwide **over 3.500 systems** in use
- **14 patents** in machine vision
- **Private company** located in Bavaria, Germany

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