



ynvisible

Printed E-paper Displays

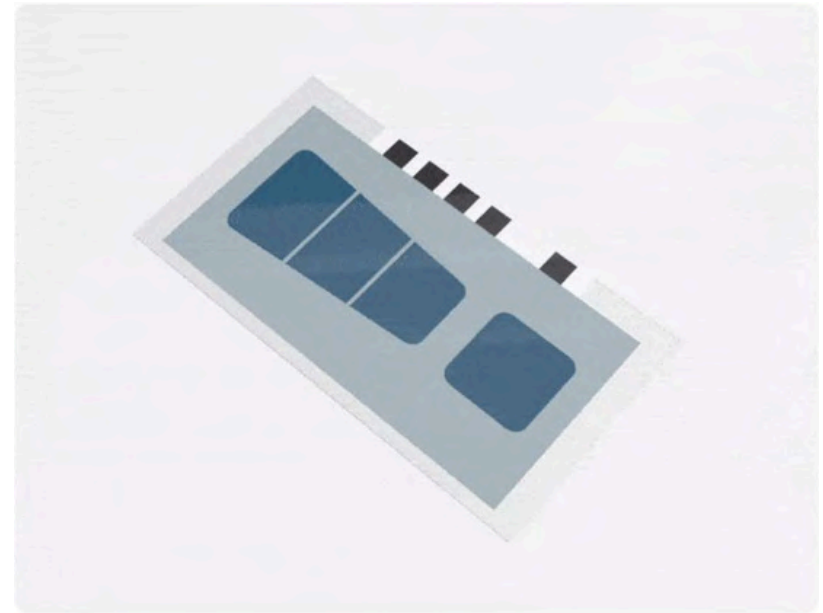
Innovation and Applications Revolutionizing Display Technology



| Printed e-paper displays
Printed Electronics Technology

We produce ultra-low-power printed e-paper displays tailored to your needs.

Experts in printed electronics and manufacturers of customized displays based on innovative electrochromic technology.



Printed e-paper displays

Low-Power Technology



Most energy-efficient printed displays on the market

Ideal display for battery-driven or battery-less IoT devices.



Low-Power

$< 1 \mu\text{W}/\text{cm}^2$

Ideal for battery-driven or battery-less IoT devices. It's the nanowatt era.



Bistable

Image Memory

Doesn't require constant power to keep the display on.



Low Voltage

1.5V – 3V

Operated at lower voltages. Ideal for power sensitive applications.

Printed e-paper displays

Thin & Flexible Technology

Thin & flexible with endless design freedom

Experiment with different shapes, forms, and colors.



Thin

< 300µm

Micron thin displays fit for a wide range of wearables and other products.



Flexible

10 mm radius

Highly flexible displays fit for a wide range of applications.



Customizable

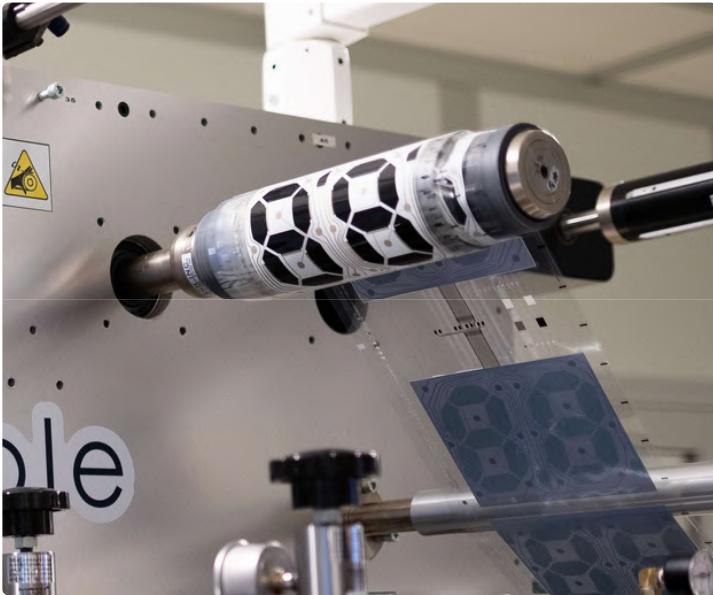
Colours & shapes

Letters, symbols, numbers, and graphic elements are all possible.



Printed e-paper displays

Cost-effective Technology



Cost-effective production and integration

Use Ynvisible's e-paper to reduce system and component cost



Cost Savings

Competitive Pricing

Roll-to-roll screen-printing means ultra-low-cost mass production.



Easy to Drive

No extra Components

Direct drive from the IC to each display contact/segment.



Easy to Integrate

ZIF, ACF or Glue

Versatile technology that provides different possibilities for assembly.

Printed e-paper displays

Sustainable Technology

Eco-friendly & sustainable e-paper display solution

Additive manufacturing process with low carbon footprint.



Less E-Waste

Low metal usage

Low metal consumption compared to other display technologies.



Non-Toxic

No toxic materials

No toxic and rare earth materials used in manufacturing.,



Reusable

Unlike static paper

E-paper suitable for multiple times usage applications.



Printed e-paper displays

Ynvisible Technology



The most sustainable,
energy efficient
and customizable
electronic displays!



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Innovative Technology

From Idea to Mass Production



Manufacturing Process

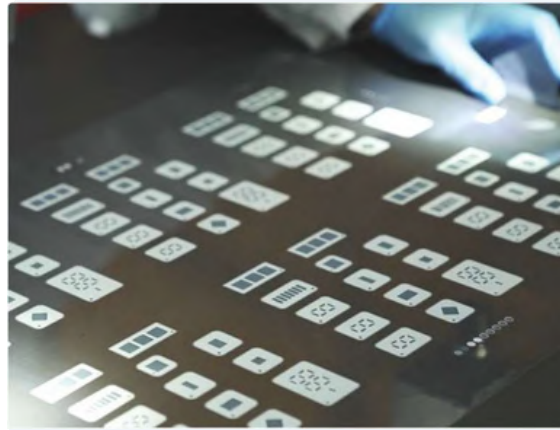
From idea to mass production



Prototyping

Sample Production

Rapid and cost-effective prototype production with your customized display design



Sheet to Sheet

Low Volume Manufacturing

Production suitable for low volumes and pilot runs for verification and validation.



Roll to Roll

High Volume Manufacturing

Mass production of printed displays and contract manufacturing services

Sheet to Sheet Production

Rapid and Cost-effective Displays with Your Design



Prototyping

From sketch to delivery in a few weeks with your specific display design.



Fixed fee of 3.500 EUR for **customized display prototypes**



Low Volume

Suitable to produce low volumes between 1000 and 5000 units.



Design Support

We help you throughout the entire design process



Volume Production

Displays Mass Production & Printed Electronics Manufacturing Services



Printing

Versatile printing and coating equipment.



Cost effective production for customized display solutions



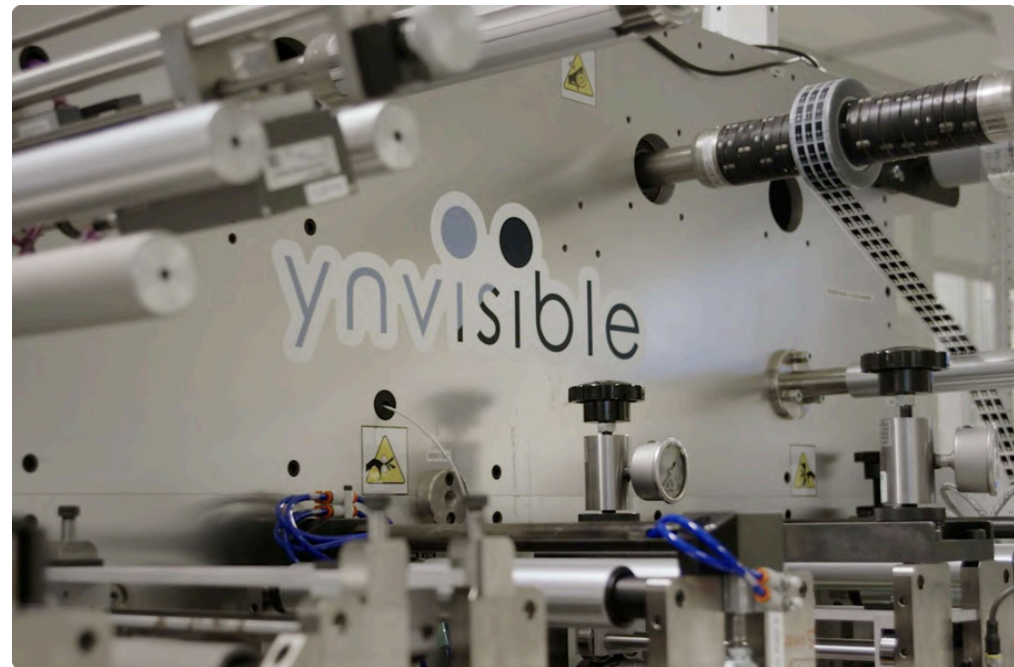
Conversion

Slitting, cutting and lamination capacities.



Quality Assurance

Automated production with electrical and optical testing.





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Industry Applications

Key Case Studies

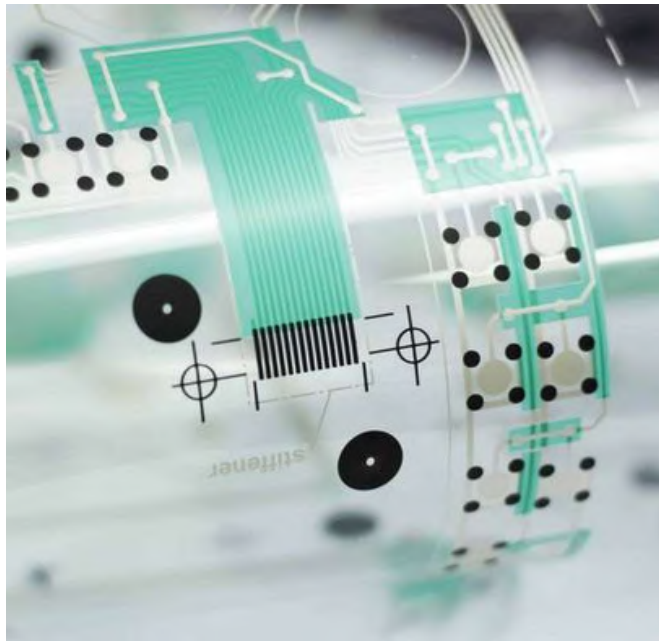


Market Drivers for E-Paper

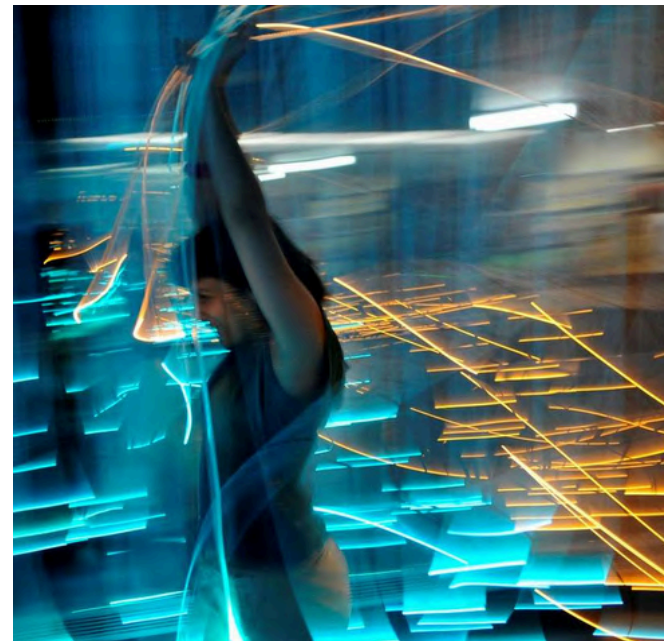
Market Insight and Opportunities Identification



Sustainability
Bringing positive change



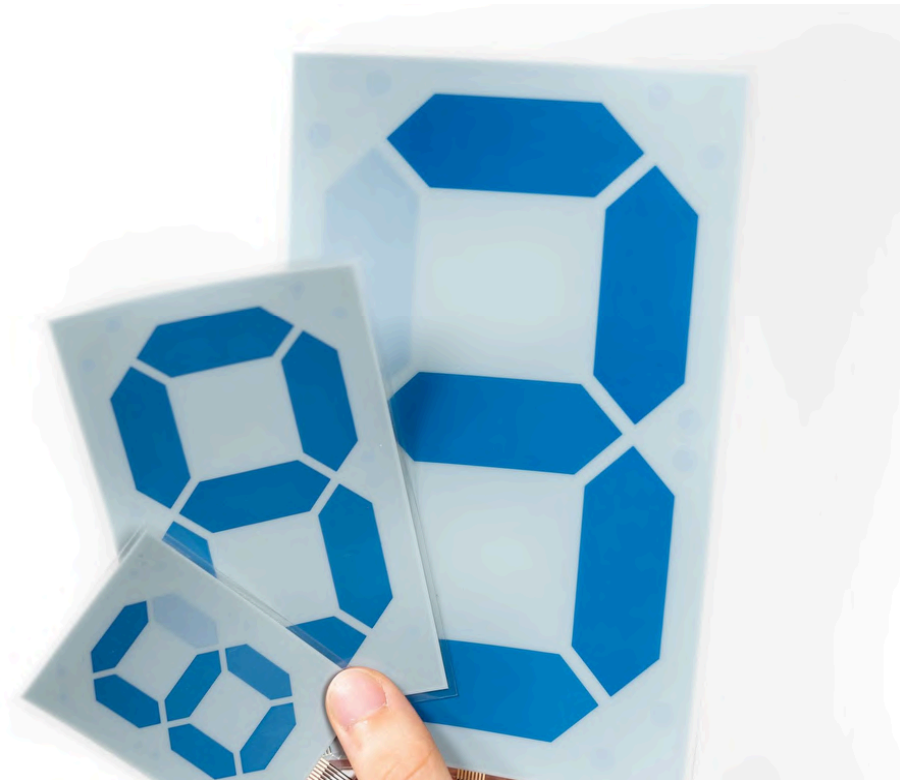
Printed Electronics
Breaking the cost model



Digitization
Bridging the digital and physical worlds

Printed E-paper vs LCD

The Most Sustainable Display Technology



Ynvisible E-
paper Displays
are the Most
Sustainable
Display Option

-200xCO₂
Carbon Footprint

* Preliminary Findings

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Segment Markets for E-Paper

Target Market Segments

Retail



Healthcare



Industrial



Supply Chain & Logistics



Markets that
we currently
serve
with
custom display
solutions!



Battery Powered Digital Signs

Dynamic Daily Prices



Home Medical Test Indicators

Visual feedback of test results



Indicators for Hygiene Solutions

Intuitive feedback on battery life and sanitizer readiness and use



Industrial Maintenance Indicators

Visual indication of equipment's maintenance needs and timings

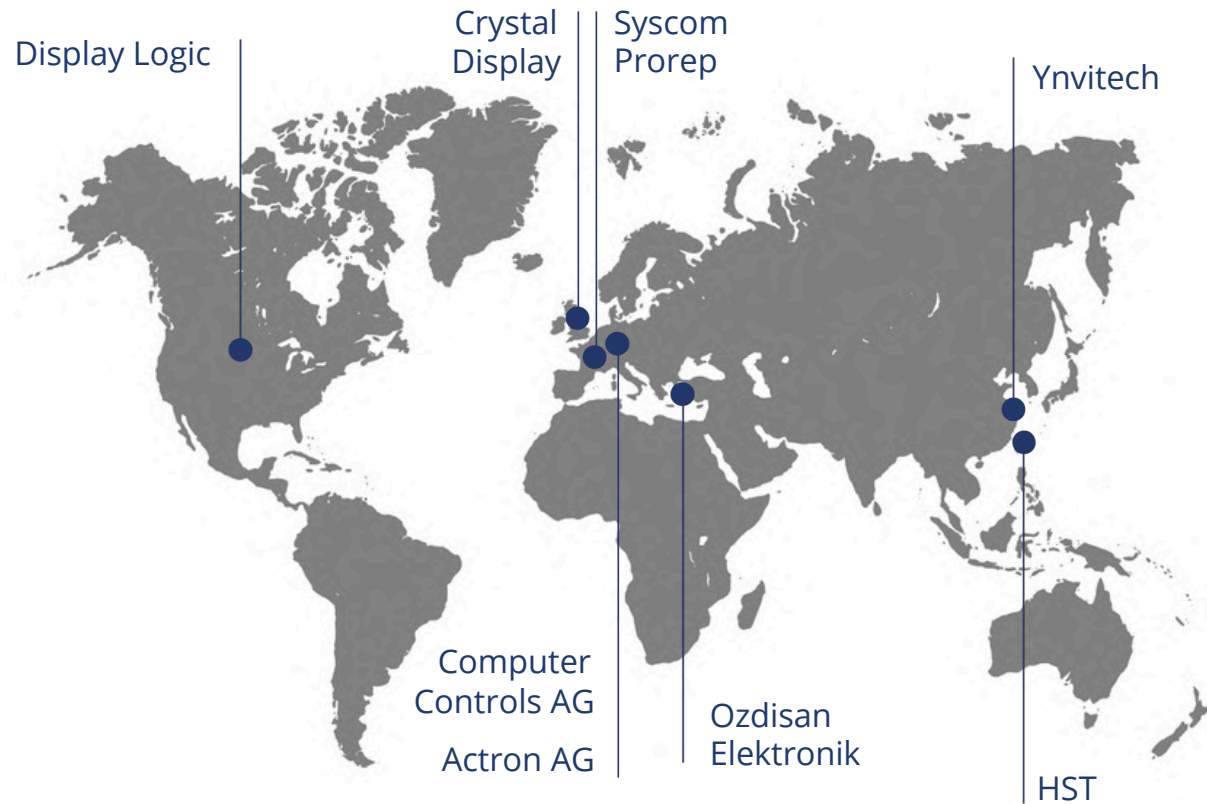


Pharma Supply Chain Labels

Visual feedback for temperature alarms and product status

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Distribution Network and Market Reach



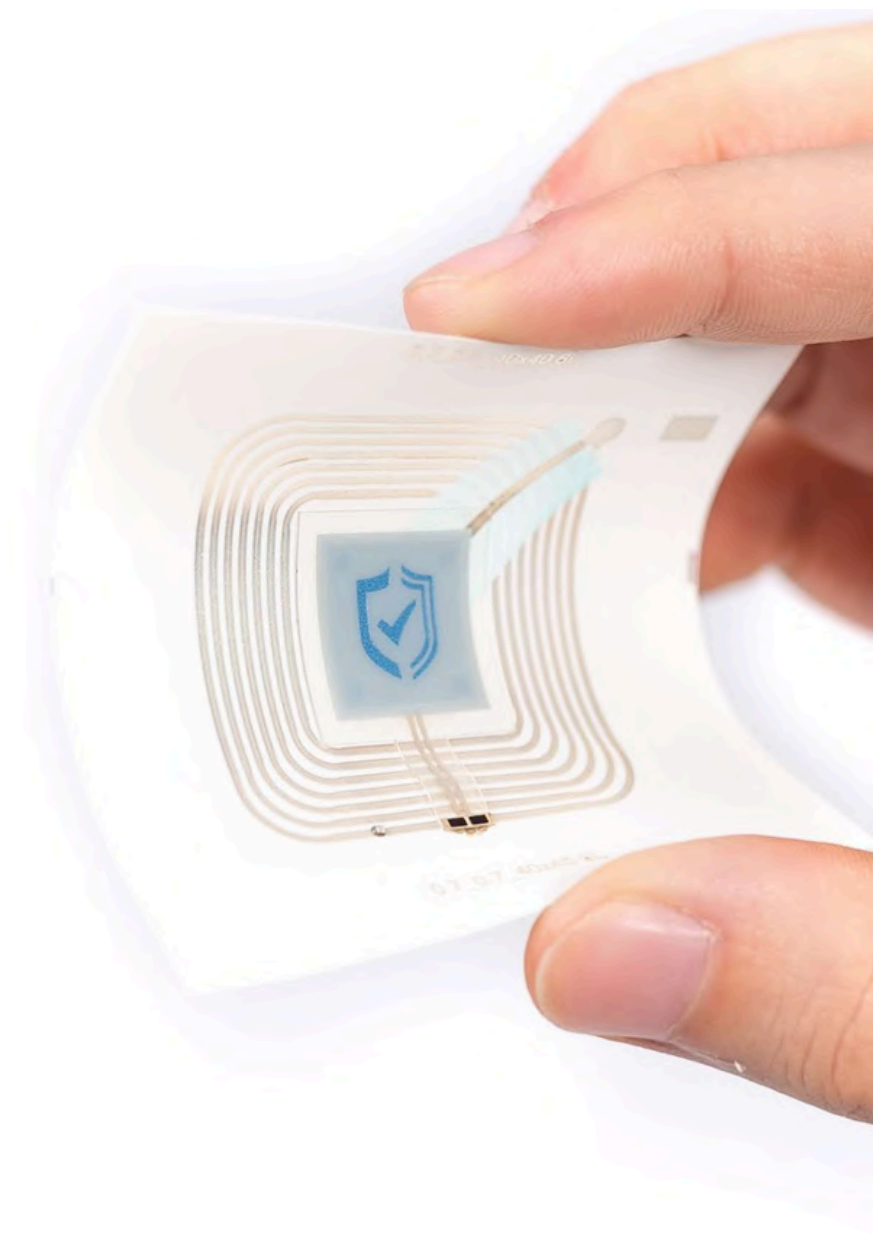
We commercialize
printed e-paper
products using a
global distribution
network!



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Future Trends

Next Generation Applications





ESL -Electronic Shelf Labels

Self powered, cost effective, price only shelf labels



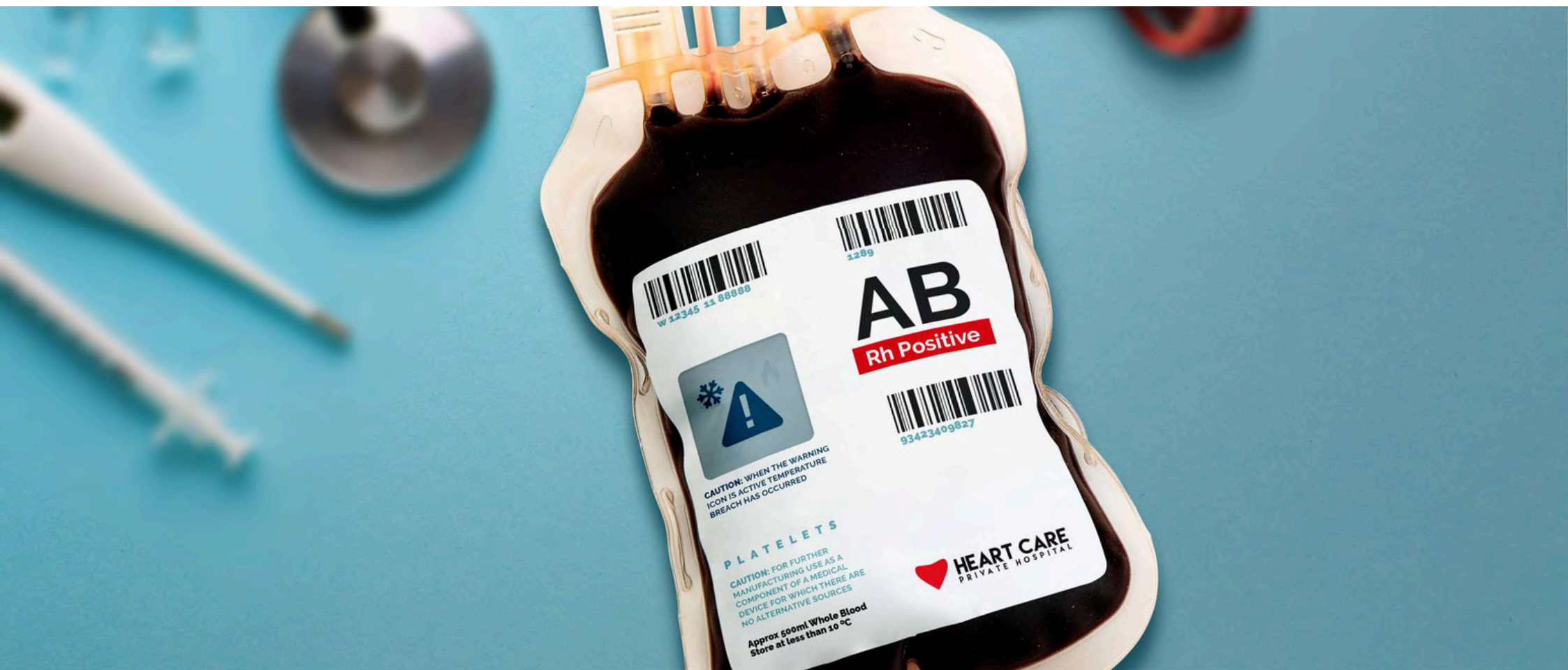
Retail Price Tags

Self powered price tags for apparel



Smart Labels

Dynamic expiration dates for clinical trials



Smart Labels

Visual feedback for temperature alarms and product status



Intelligent Wearable Patches

Visual feedback for wound care management

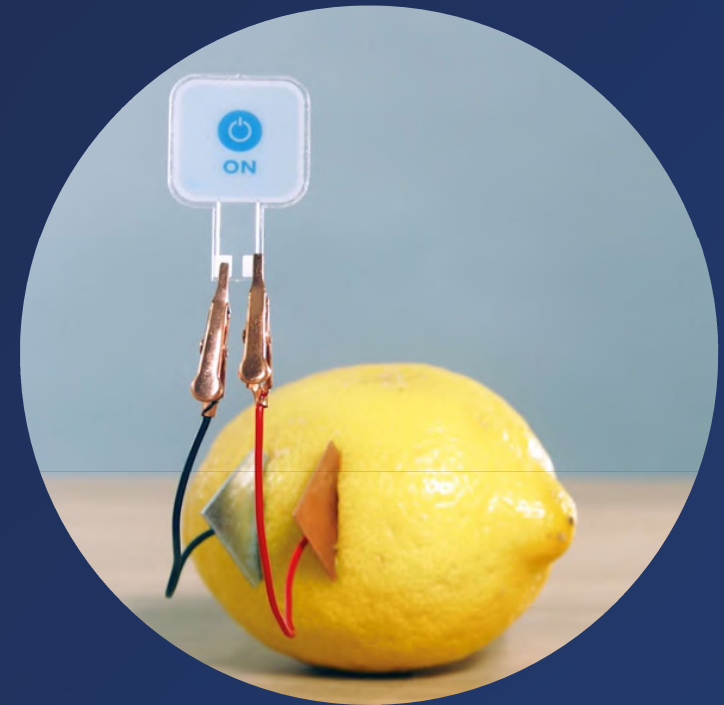
Printed E-paper Displays & Solutions

Contact Us

Crystal Display systems Ltd
Unit 6 M2M Park
Fort Bridgewood
Maidstone Road
Rochester
Kent
ME1 3DQ

+44 (0)1634 791 600
info@crystal-display.com

www.crystal-display.com



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✓ Cost-Effective ✓ Ultra Low Power ✓ Thin & Flexible