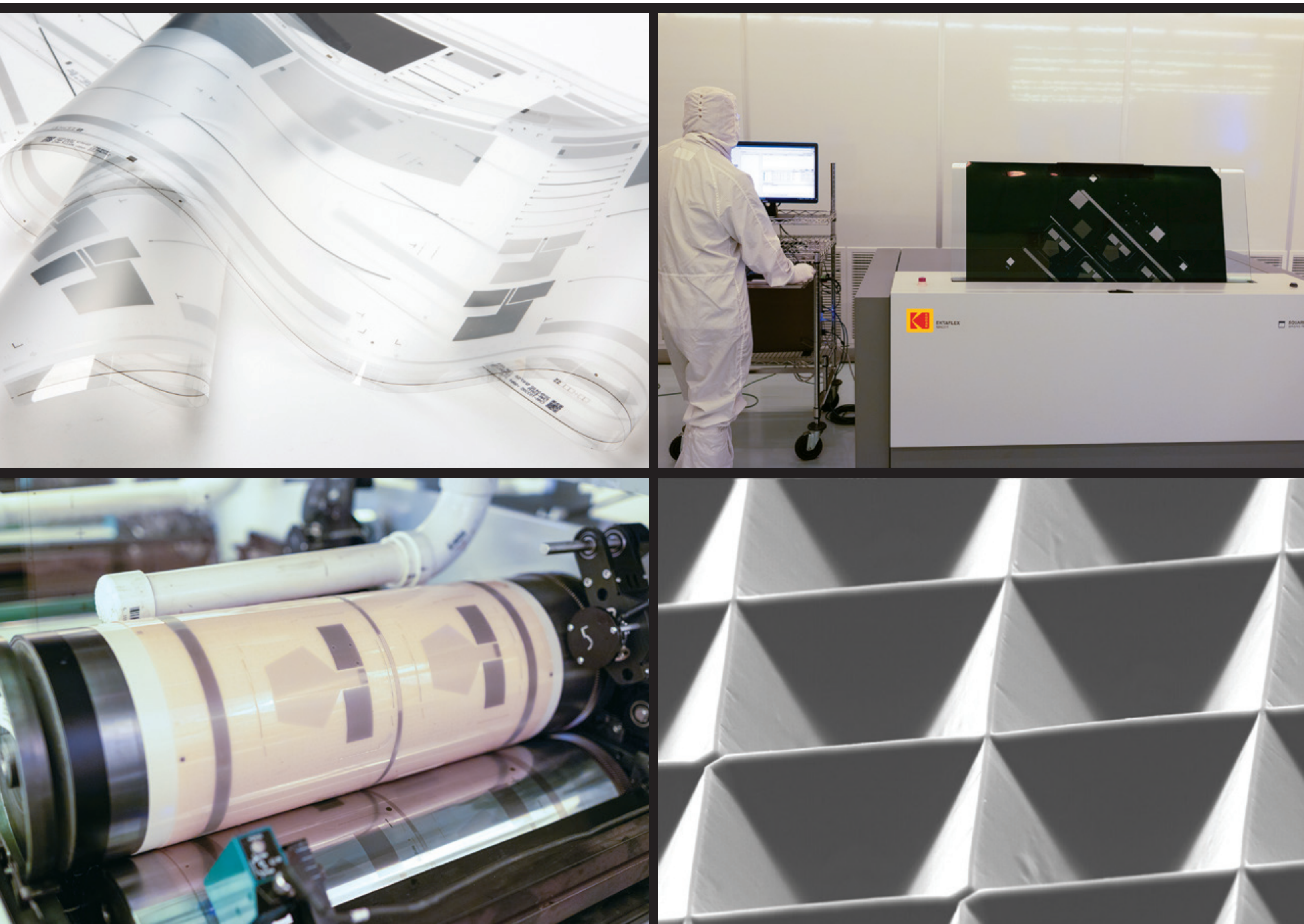
A Revolution in Resolution:

KODAK Functional Printing Solutions for unrivaled detail in your next product



MAKING YOUR VISION REAL

With world class expertise in materials science, Kodak can help you create the next generation of flexible, high-resolution electronic products.

Whether it’s antennas, heaters, sensors, or the cutting-edge concept that’s still on your drawing board, we have the global capabilities, clean room facilities, and proprietary technology to be the perfect partner for mass-production roll-to-roll print products – enabling your manufacturing line, manufacturing your products, or working with you on your prototypes to discover what’s possible.

3 ways to partner

KODAK EKTAFLEX Prepress Solutions, printed electronics contract manufacturing & transparent copper micro-wire products.

100s of years

Combined experience in functional printing

12,800dpi

KODAK EKTAFLEX Imagers pattern at ultra-high resolution

<1,000 particles

Class 1,000 / ISO 6 clean room manufacturing

1000s SQM

Manufacturing-scale plant capacity

17”

Maximum width of substrate for contract manufactured and copper micro-wire products

< 1Ohm/□

Less than 1 Ohm/□ at >80% visual light transmission with copper micro-wire products

6μm

Achievable printed line width

Pushing flexo to print the impossible

Our KODAK EKTAFLEX Technology takes flexography in a whole new direction: using it to deliver ultra-high-resolution, high-speed functional printing. We can produce features that simply aren’t possible with screen or inkjet printing to deliver your designs with high fidelity in full production quantities.

READY TO ROLL

We can use our roll-to-roll additive manufacturing process to deliver printed conductive films or multi-layer electronic components. These components will be of the highest quality and ready to be integrated into your products — whether you require rolls of material or die-cut parts.

TRANSPARENT ADVANTAGE

We can deliver products with superior conductivity and optical transparency through the use of our proprietary process for copper micro-wire formation. By using a high-resolution printed catalyst with electroless plated copper, we have independent control of the micro-wire pattern and the copper thickness.

CLEAN ROOM MANUFACTURING

Our manufacturing operations are 100% clean room from prepress through packaging. High-quality patterned flexographic plates and films with fine features require tight control over the manufacturing environment.

CLOSE CONSULTANCY

Our seasoned specialists will remain by your side throughout the process, giving you the confidence to integrate your functional print innovations, seize new opportunities, and make even your most future-facing ideas a reality — fast. From flexo plates to prototypes to production, we can work with you to optimize your manufacturing – in your facility or ours.

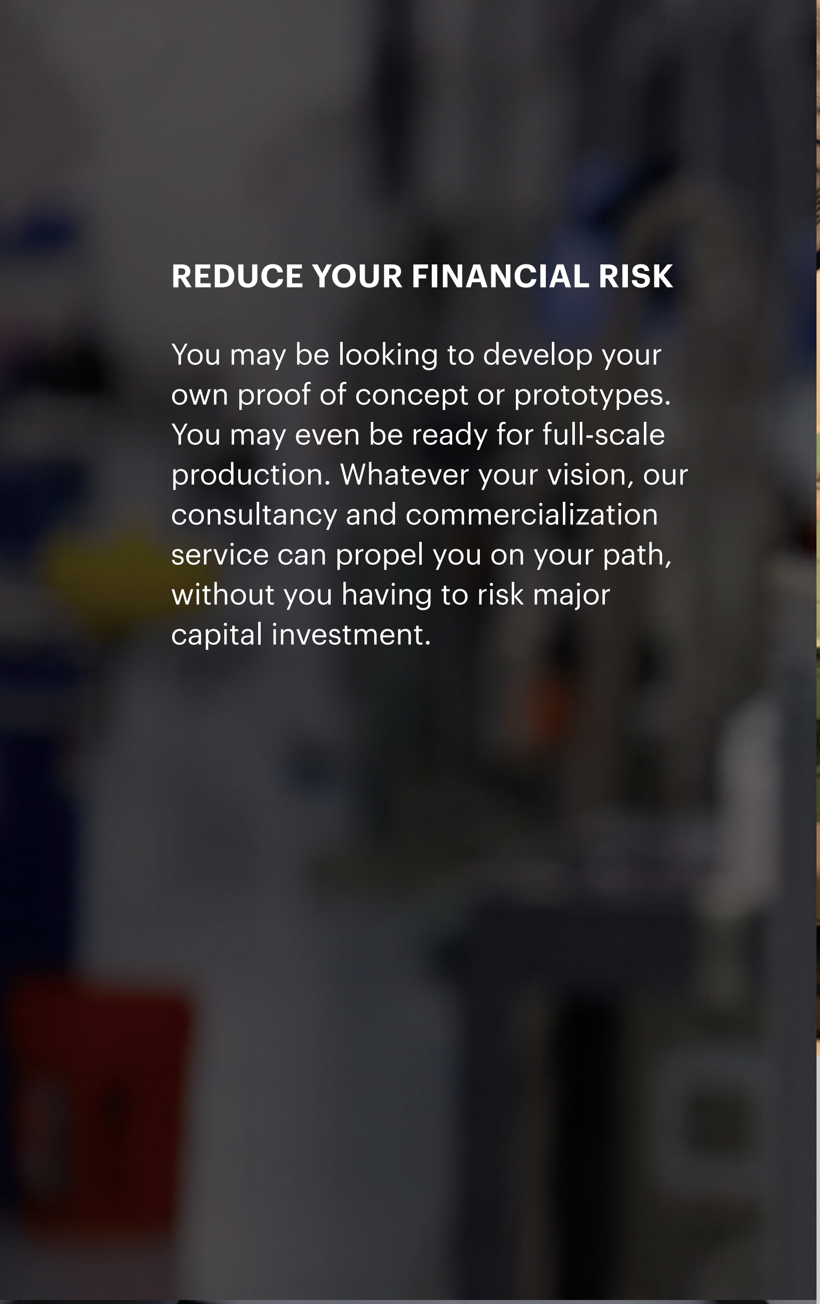
ADVANCING TRANSPARENT CONDUCTIVE PRODUCTS

At Kodak, we've spent years developing our expertise and assets in the design and manufacture of fully additive, transparent, flexible electronic components. If your products can benefit from very low resistivity and high transparency, you're in the right place.

ENABLING HIGH RESOLUTION FLEXOGRAPHIC PRINTING

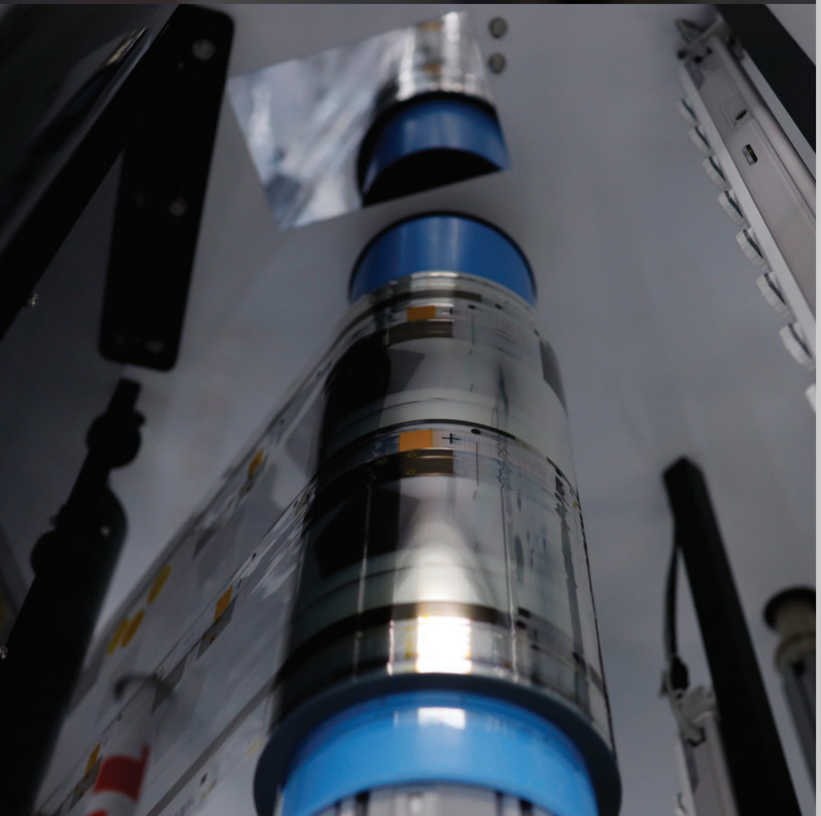
We developed best in-class high-resolution patterning for flexographic plates used in our manufacturing process – and now we're sharing that high-resolution capability with you. From custom patterned plates to prepress equipment, we can partner to decrease the minimum feature size from your manufacturing press.

Working on something else?
Let us know.



REDUCE YOUR FINANCIAL RISK

You may be looking to develop your own proof of concept or prototypes. You may even be ready for full-scale production. Whatever your vision, our consultancy and commercialization service can propel you on your path, without you having to risk major capital investment.



BE FIT FOR THE FUTURE

The future of tech is about being powerful but small, connected but invisible. Whether you want an undetectable antenna or heater, hidden security features, or just more devices per area, Kodak can help you print smaller, at higher resolution and with faster throughput.

HARNESS KODAK'S EXPERTISE

We'd love this to be the first step in an ongoing partnership where we guide you towards smaller, better, faster, more ambitious print, using our history and excellence in roll-to-roll manufacturing.

But it all starts with a conversation. So, tell us: **What are you working on?**

The following specifications are typical for our process.
But if your ideas go in a different direction, don’t hesitate to get in touch.

KODAK EKTAFLEX Plate Patterning (Custom Patterned Plates, Contract Manufacturing & Copper Micro-Wire Products)

Imaging resolution	12,800 dpi imager, 2 µm edge definition
On-plate resolution	2 µm for edge definition of larger areas; 4 µm for isolated features
Plate size	800 x 1067 mm (31.5 x 42.0 in.)
Relief	100 to 400 µm
Ink compatibility	Aqueous, solvent-based, and UV-cured
Imager file type	TIFF @ resolution

Design Services (Custom Patterned Plates, Contract Manufacturing & Copper Micro-Wire Products)

Supported file types	Most vector formats, such as: DXF, PDF, other CAD applications; Preferred multi-layered DWG/DXF; wire-frame, closed polyline for contract manufacturing and copper micro-wire products
Design translation	Optimization for performance and transparency for copper micro-wire products
Screening	Custom KODAK DIGICAP and other NX Screening patterns can be applied for better print quality
Separations	Custom specification of the combination or separation of layers between customer-defined plates

Substrate Specifications (Contract Manufacturing & Copper Micro-Wire Products)

Standard	PET, 50 µm to 125 µm (2-mil to 5-mil)
Alternative substrates	Certification of customer specified substrates from 50 µm to 125 µm (2-mil to 5-mil)
Width	Standard roll width @ 17"
Standard design area	337 mm x 566 mm

Supporting Graphics Content (Contract Manufacturing & Copper Micro-Wire Products)

Inks / colors / etc.	UV curable preferred; black and yellow graphics inks standard
Logos, labels, etc.	Customer defined process color possible
Camouflage	Pattern and color matched to copper micro-wire patterns for improved covert integration
Marks for downstream processing	Customer defined marks and fiducials for downstream integration (black ink standard)
Serialization	Unique 2D data matrix barcode & human readable text inkjet printed on each part (black)

Functional Patterns (Contract Manufacturing Products)

Functional inks	Conductive Ag inks available
Customer supplied/defined inks	Standard process for ink certification for contract manufactured products

Functional Patterns (Copper Micro-Wire Products)

Copper thickness	Cu thickness from .5 µm to 1.5 µm
Passivation	Standard option for environmental stability and color neutralization
Copper minimum feature size	10 µm standard; below 7-10 µm available depending on design

Delivered Product Specifications (Contract Manufacturing & Copper Micro-Wire Products)

Release testing	Electrical, optical and/or dimensional testing available
Finished format	Roll, sheet, or die cut
Protective liner	Optional on one or both sides

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Produced using KODAK Technology.