

Elephantech

Making the world sustainable  
with new manufacturing technologies

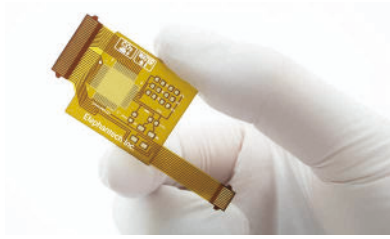


Elephantech Inc. is a startup that provides P-Flex<sup>®</sup>,  
the first flexible printed circuits solution  
with metal inkjet printing and copper plating.

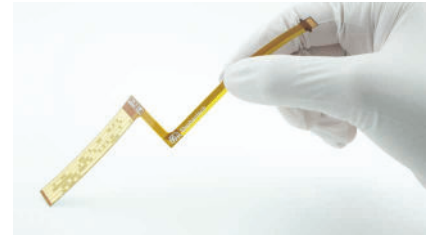
for Japanese version



Elephantech Inc. is a startup that has achieved a significant milestone in the field of PCB manufacturing, by becoming the first company in the world to successfully manufacture PCBs using metal inkjet printing. With the mission of “Making the world sustainable with new manufacturing technologies”, Elephantech provides their innovative inkjet printing solutions to promote their manufacturing method as the new global standard.



P-Flex® Standard sample



P-Flex® Camera application specific sample

## Sustainable PCB Manufacturing

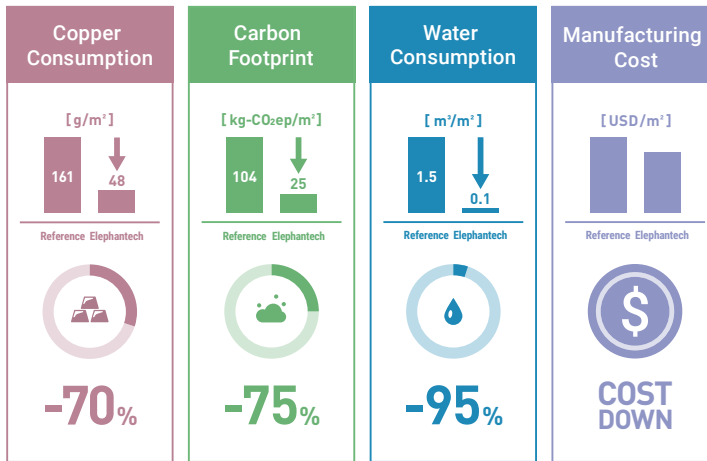
### Elephantech’s Pure Additive™

Compared to conventional manufacturing processes which involve multiple water washing processes, the Pure Additive™ method only needs one water washing for electroless copper plating process. By utilizing this method, the amount of water used and harmful chemical emissions are minimized, leading to a significant reduction in the environmental impact of PCB manufacturing process.



The waste liquid tank installed in the head office

### Extraordinary savings in resources and energy



Calculation assumptions are at <https://info.elephantech.co.jp/en/reduction-of-environmental-impact>

## Sites



Tokyo head office (Chuo-ku, Tokyo)



AMC Nagoya: Mass production plant (Nagoya-shi, Aichi)

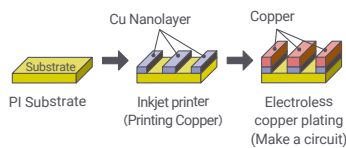


Shinkiba R&D Center (Koto-ku, Tokyo)

## P-Flex® – Print Metal Ink Directly and then Apply Copper Plating

The Pure Additive™ method involves converting metal into nanoparticle ink state, which is then printed on a substrate using an inkjet printer. The metal is then grown by electroless copper plating to form a circuit. This technology requires fewer manufacturing processes compared to conventional methods, resulting in significant reductions in environmental impact and improved cost performance. (\* Patent No. 6300213)

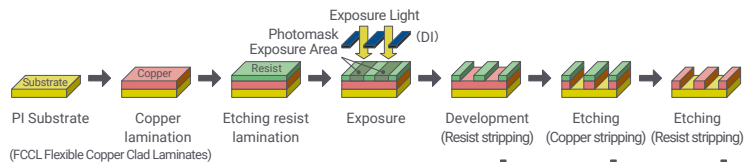
### Pure Additive™ method (Elephantech’s manufacturing process)



### Advantages of Pure Additive™ method

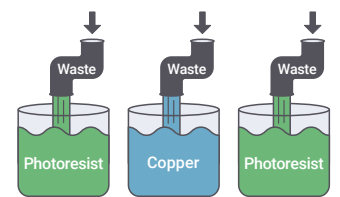
- ✓ Reduced carbon footprint with less copper amount required
- ✓ Short lead-time and high cost-performance with simple manufacturing process

### Subtractive method (conventional manufacturing process)



### Issues of Subtractive method

- ✗ High environmental impact with excess metal use and waste liquid
- ✗ Complicated and long manufacturing process



## P-Flex® Mass production example

EIZO’s FlexScan® EV3895 Ultrawide, Curved Monitor



FlexScan EV3895

FUKUDA’s Air Leak Test System for Packaging Containers MSQ-2000



The pressure sensor module

## Certification

Elephantech Inc. is certified to ISO 9001 (Quality Management) and ISO 14001 (Environmental Management) International Standards.



ISO9001:2015 Certified ISO14001:2015 Certified



# Elephantech

Website



Company name  
Head office  
Business description  
Website

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