

Orfoncé inc.

Q **future Gilded Vision**

Bio-Printing Materials

Quebec City, Canada



1. Introduction

1.1. Leadership Team



Farima A. Mamoudan

Ph.D. in Electrical Engineering

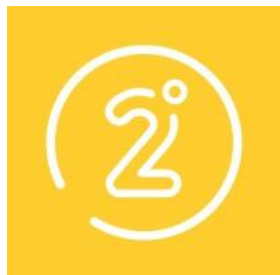
Responsible of Business
Relations



Alireza Sadeghi Chahardeh

Ph.D. in Material Engineering and
Mechanical Engineering

Responsible of Technology and
Financial Development



Incubated by 2 degrés

Cleantech Incubator



Location: Quebec City, Canada

Website: www.orfonce.com



1. Introduction

1.2. Mission and Objectives of the Company

- Orfoncé inc. excels in finding innovative solutions to address industrial challenges, with a focus on environmental sustainability through the introduction of environmentally friendly products.



The photo of the entrance door of our apartment where they send postal packages, Québec, Canada.



2. The Problem

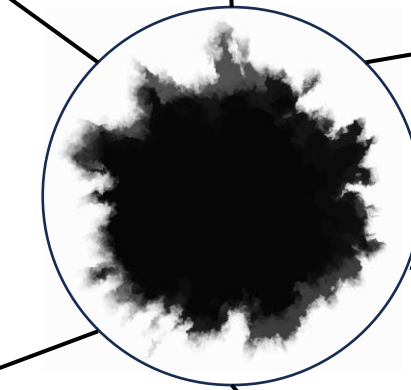
2.1. Problems with Traditional Printing Materials



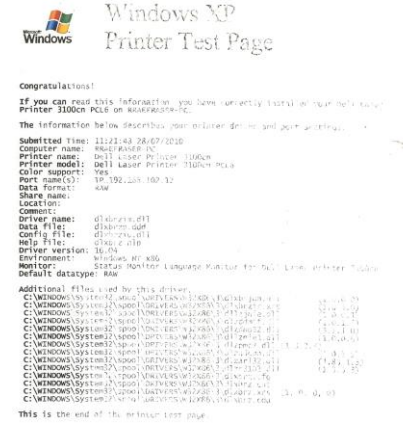
Greenhouse gas emissions
3.264 kg CO2-eq



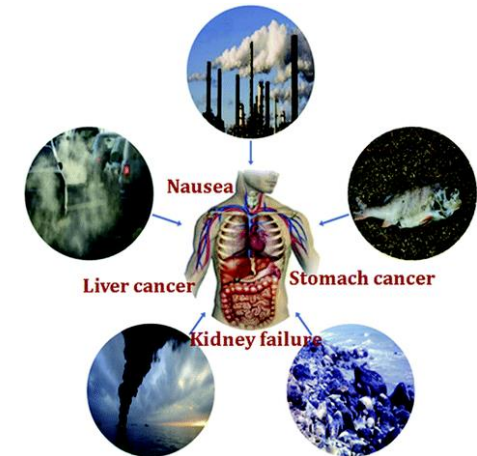
Petroleum-based products



Recycling



Oxidation and UV effect on the resolution of printed papers



PAHs and heavy metals



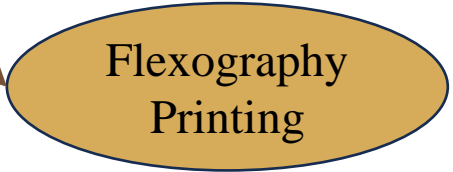
3. Our Solution

3.1. Bio-Ink & Bio-Toner

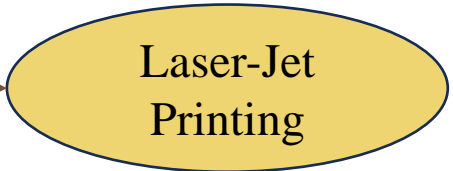
Wood Waste



Bio-Ink



Bio-Toner





3. Our Solution

3.2. Our Innovation

Our Bio-Ink



Wood waste extraction
+ Organic Solvents

Others Bio-Ink

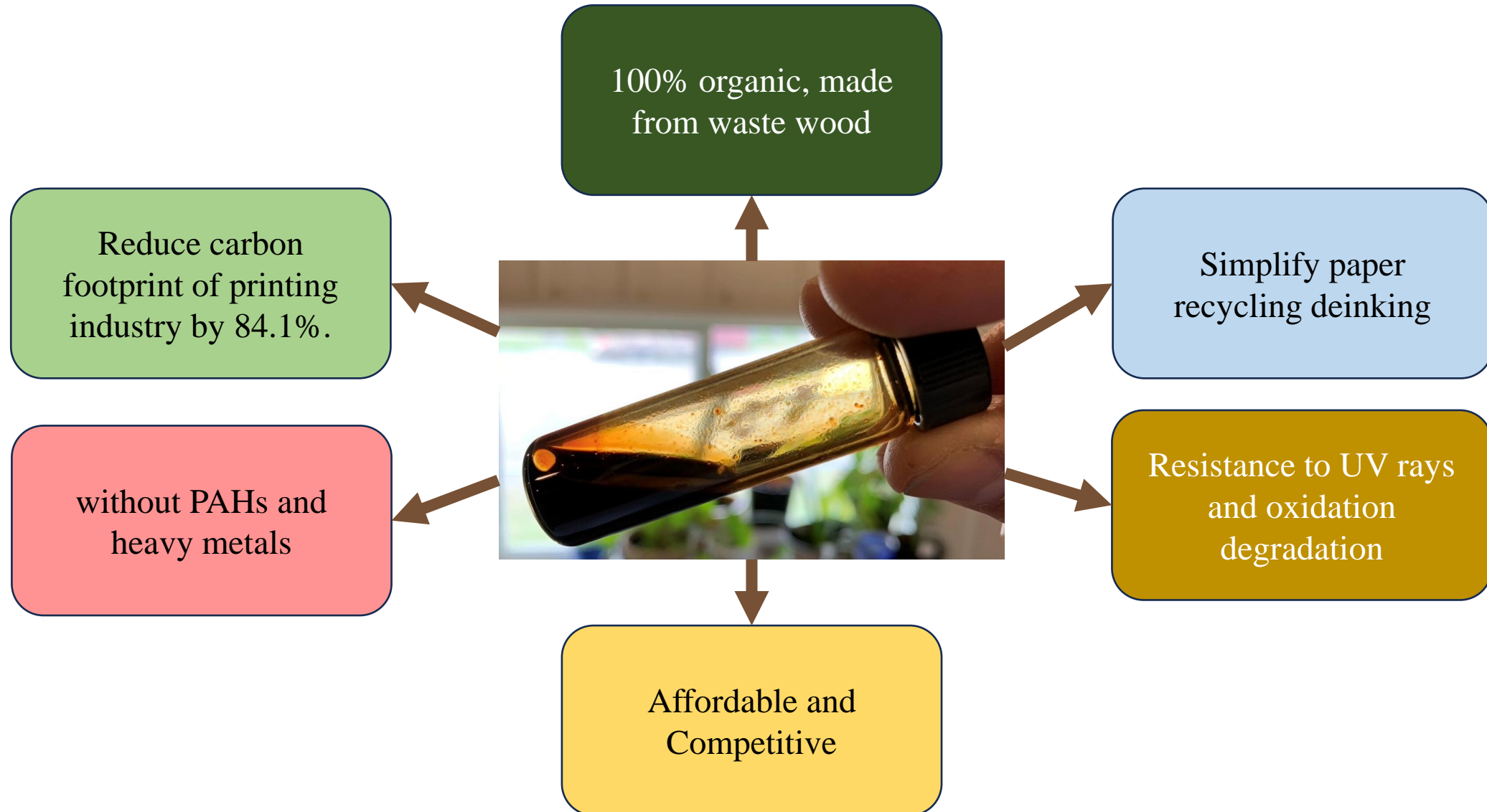


Black powder (could be organic)
+ Petroleum based polymer
+ Petroleum based additives
+ Solvents (could be organic)



4. Our Advantage

4.1. Addressing Existing Printing Material Challenges with Bio-Printing





4. Our Advantage

4.2. Case Study: Carbon footprint associated to waste printed papers in the offices in Canada

Orfoncé



541 tones
CO₂-eq per year

Waste printed paper in 2021: 937,245 tones/year



84% reduction



Other Printing Material
(HP, Canon, Epson, etc.)



3,399 tones
CO₂-eq per year

[1] <https://cfs.nrcan.gc.ca/statsprofile/consumption>



5. Research and Development

5.1. Prototyping

Bio-Ink for Digital Inkjet Printing (New Formulation Ink)

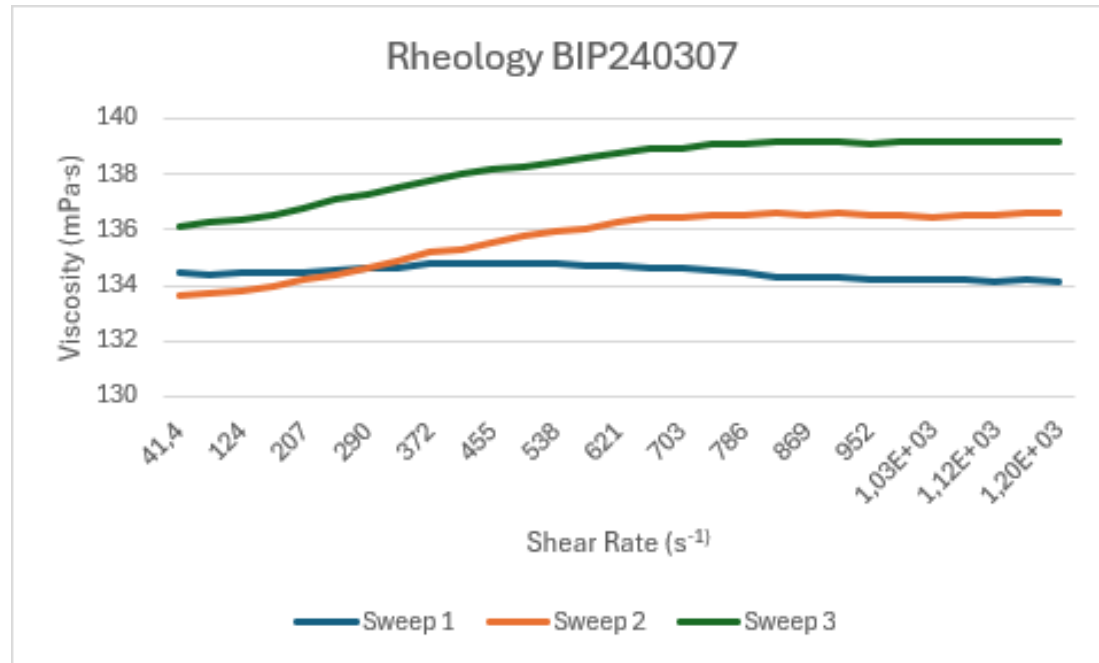




5. Research and Development

5.1. Prototyping

Bio-Ink: Flexography Printing



- Shows a perfect Newtonian fluid curve, this is a new technology for the printing industry.

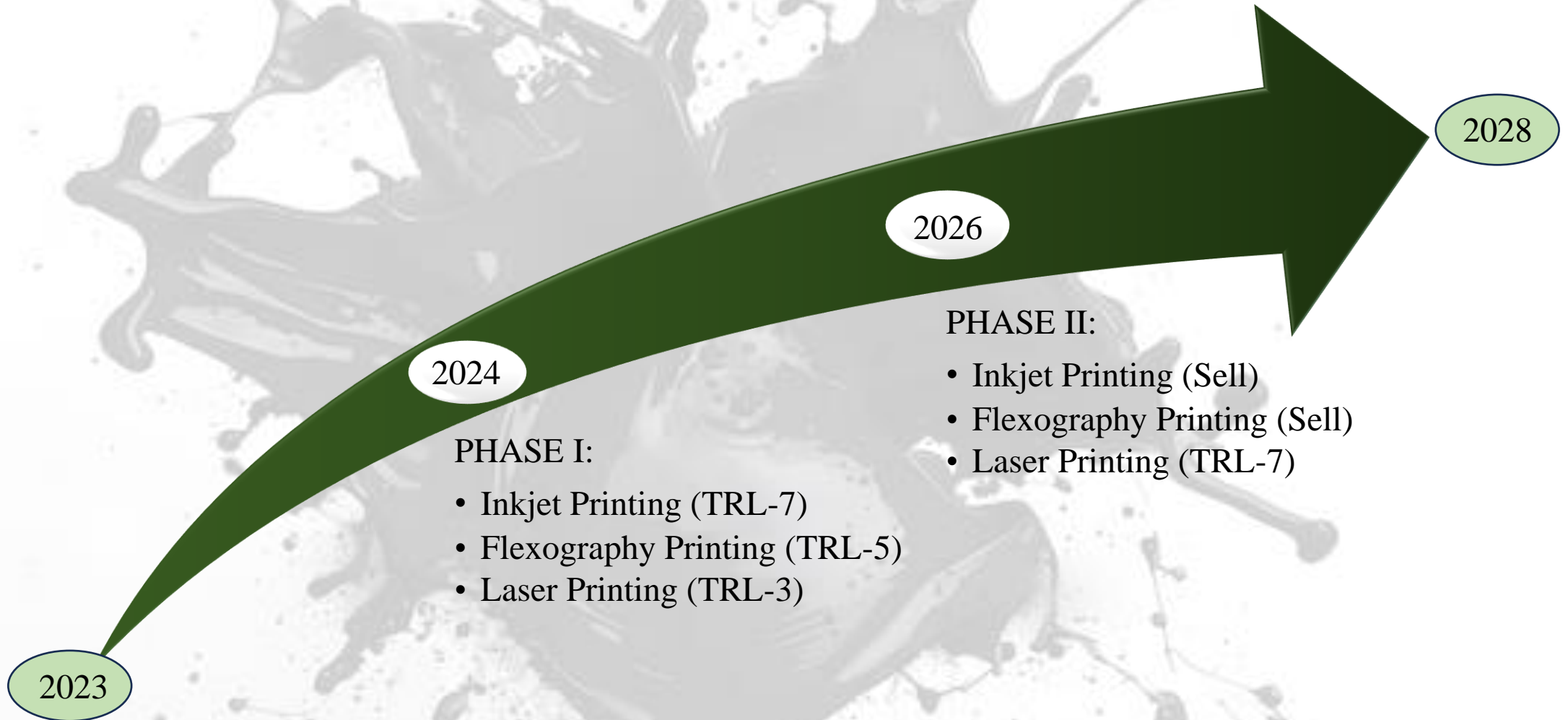


Pilot scale flexographic printer in I-CI



6. Road Map

6.1. Our Plan





7. Future Projects

7.2. Conductive Ink for Electronic
Stage: Literature and Market Analysis.

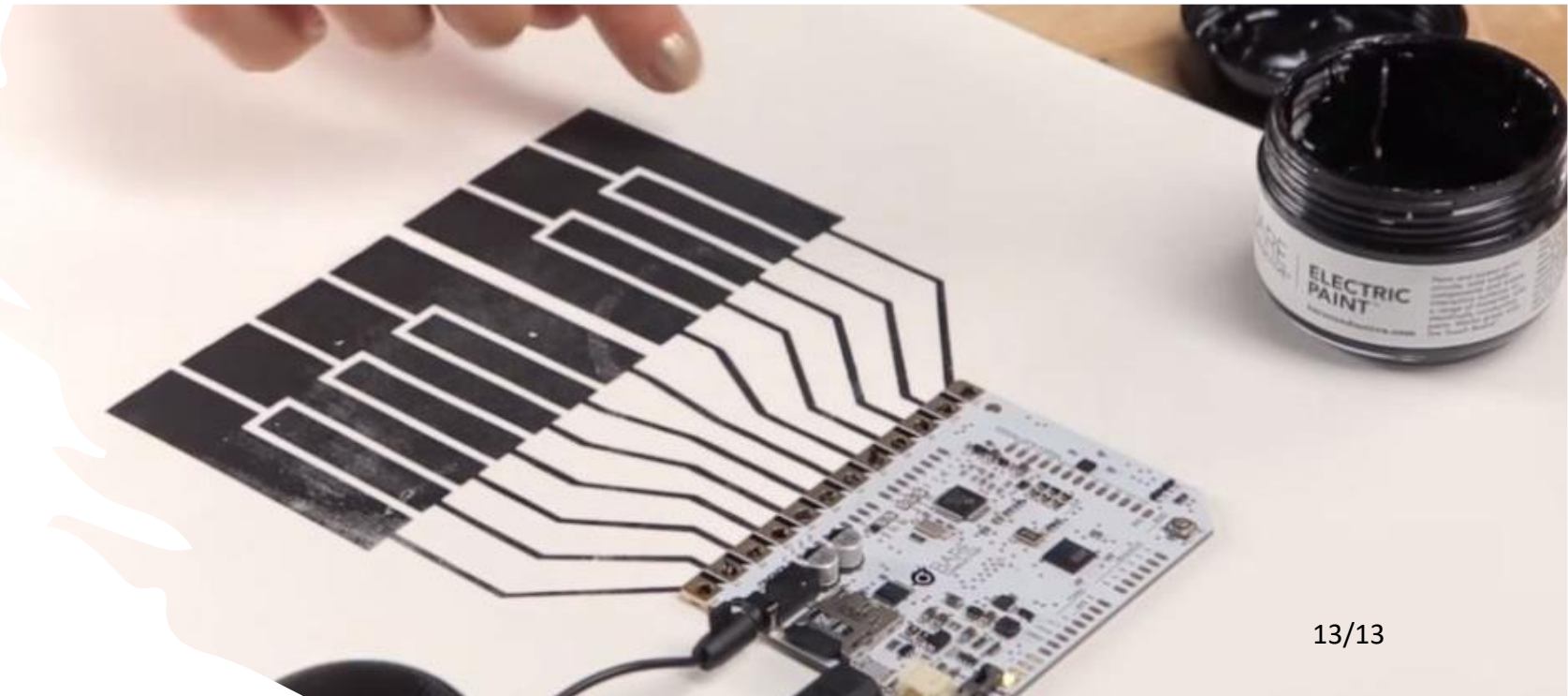
Some key applications are:

- Smart Packaging (collaboration with PULR Technologies inc. for composable RFID for smart food packaging)

INO (Institut national d'optique)

Q quantino

PULRTM
Technologies





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Thank you for your attention!

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