

## Rapid Quality Control & Taste Profiling empowered by A.I. Food Fingerprinting Technology

ProfilePrint™

## Introduction

ProfilePrint<sup>™</sup> is a rapid and non-destructive food analyser based on A.I. food fingerprinting technology, which can rapidly authenticate, identify adulteration and predict characteristics such as taste profiles.

ProfilePrint<sup>™</sup> analyses at molecular level and can be used seamlessly by stakeholders in the supply chain, retrieving real-time results from anywhere.



### Application

## How it works

With about 5g of a sample from a food product – e.g. tea, coffee, herbs, spices – ProfilePrint<sup>™</sup> makes it possible to swiftly identify the quality, adulteration, geographic origins, and even taste profile in just a few seconds. Without the need to prepare the sample, our portable food scanner – with its patented metabolomic fingerprint technology and machine-learning algorithms – analyses the food product in a non-destructive manner. With scientific efficiency and accuracy, ProfilePrint<sup>™</sup> ensures consistency much more cost-effectively as compared to the high cost and turn-around time of 3rd party lab testing.



CAPTURE

Proprietory portable device captures metabolomic signatures





Proprietory algorithm developed based on a combination of chemometrics and A.I.



MATCH

Encrypted cloud-based database of ProfilePrint<sup>™</sup>



## ProfilePrint<sup>™</sup> Key Advantages

#### Speed and Accuracy:

ProfilePrint<sup>™</sup> takes a few seconds to ascertain quality without the need of human-tasting

#### Knowledge Management:

Experience is retained in the A.I. model learnt from the experts

### Portability:

Web-based software with a device easily handcarried in a travel bag



Advanced Chemometrics





Big Data A.I. Modelling

Sensor Technology



#### ProfilePrint



Real-time: 3 seconds Repeatability & Accuracy: Variety, Quality, Taste, Provenance, etc.

## Applications Supply Chain Stages

Ensuring Quality Check and Product Consistency at each supply chain stages

#### 1. Procurement

Digitally matches required quality instead of physical samples

#### 2. Acceptance Check

Verification by supplier before shipping Verification by buyer upon arrival of shipment

*3. Ingredient Check* Buyer conducts quality check prior to production

### 4. Blend Optimisation

Recommend blends to achieve target profiles

#### 5. End-product Check

Conducts quality check prior to shipment



ProfilePrint









Farm

Local Processor

Wholesaler

Manufacturer

## Applications Rapid Quality Control

Authentication of Product

ProfilePrint<sup>™</sup> technology was developed to address the fragmented food ingredient industry's challenges of rampant adulteration, quality inconsistencies and taste inaccuracies.

*Verticals:* Our technology is applicable for dried food products; including Tea, Coffee, Grains, Herbs, Spices, Cacao, as well as liquids and non-organic materials.



## Applications Rapid Quality Control

Authentication of Product

## Case Study 1

Food product:	Coffee
Objective:	Determination of origin
Results:	ProfilePrint <sup>™</sup> was able to match
	and detect all the origins of raw
	beans accurately

### Coffee Origin Authentication

Samples	Bener Meriah	Gunung Halu	Luwak
Coffee 1	97%	39%	15%
Coffee 2	39%	99%	63%
Coffee 3	15%	63%	98%

## Applications Consistency Assurance

Maintaining a Gold Standard

## Case Study 2

Cacao flavouring Cacao grading and quality control • Speed and Accuracy
Instead of visually inspecting, which is inaccurate, or tasting,
which requires time to prepare, ProfilePrint <sup>™</sup> only requires a few
seconds to ascertain its quality
<ul><li>accurately</li><li>Knowledge Management</li></ul>
Even if the QC manager leaves
the company, the knowledge
generated with the training data from the QC manager

## Cacao Flavouring Quality Check

Samples	Pass/Fail	Quality Rate	Pass Standard
Cacao 1	X	77%	98%
Cacao 2	Ο	99%	98%
Cacao 3	Х	70%	98%

## Applications Taste Profiling

Blending Best-Match Ingredients

## Case Study 3

Food product:	Теа
Objective:	Taste profiling and lowest cost
	optimisation
Results:	Rapidly predicts taste profiles
	and help blending to achieve
	closest match
	• More accurate and cost-
	effective than using human
	tasters
	• Significant cost savings for
	producers



ProfilePrint<sup>™</sup>'s

## Clients and Partners



# As featured









Mitsui Chemical Research Award 2019 Techplanter (ASEAN)



Top 20 Microsoft for Start-up 2019 (Singapore)



Top 10 Global Table Seeds and Chips 2019



Enterprise Singapore SGTECH grant 2019 awardee



Top 25 Global Startup-O ' Fasttrack' Season 10



Top 20 Future Food Asia 2019

## Contact us for a free trial

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