

FREY&LAU 

explore your senses

Flavour Walk

Agent Meeting 2023



Flavour Walk

AGENDA

Flavour Technical Team

Application Capabilities

Flavour Workshop

Project Workflow

Take Aways

Flavourist Team



Cosimo Figliuzzi
Chief Flavourist

Thomas Dittner
Senior Flavourist

Jens Osmy
Junior Flavourist

Nafiye Kuhn
Senior Flavourist

Christina Ponomarow
Flavourist

Their creative expertise brings delicious flavours to life

Process Engineering Team

Their technical experience transfers creative ideas into innovative flavour technologies



Stefan Hillebrand
Process Engineering Specialist



Laboratory Team



Laboratory Team

Development and Sampling Support

Their know-how provides samples to your hands

Application Team



Philipp Offenborn
Application Technologist Flavours



Ava Schröder
Application Technologist Flavours

They transfer flavours into delicious applications and tasteful final products



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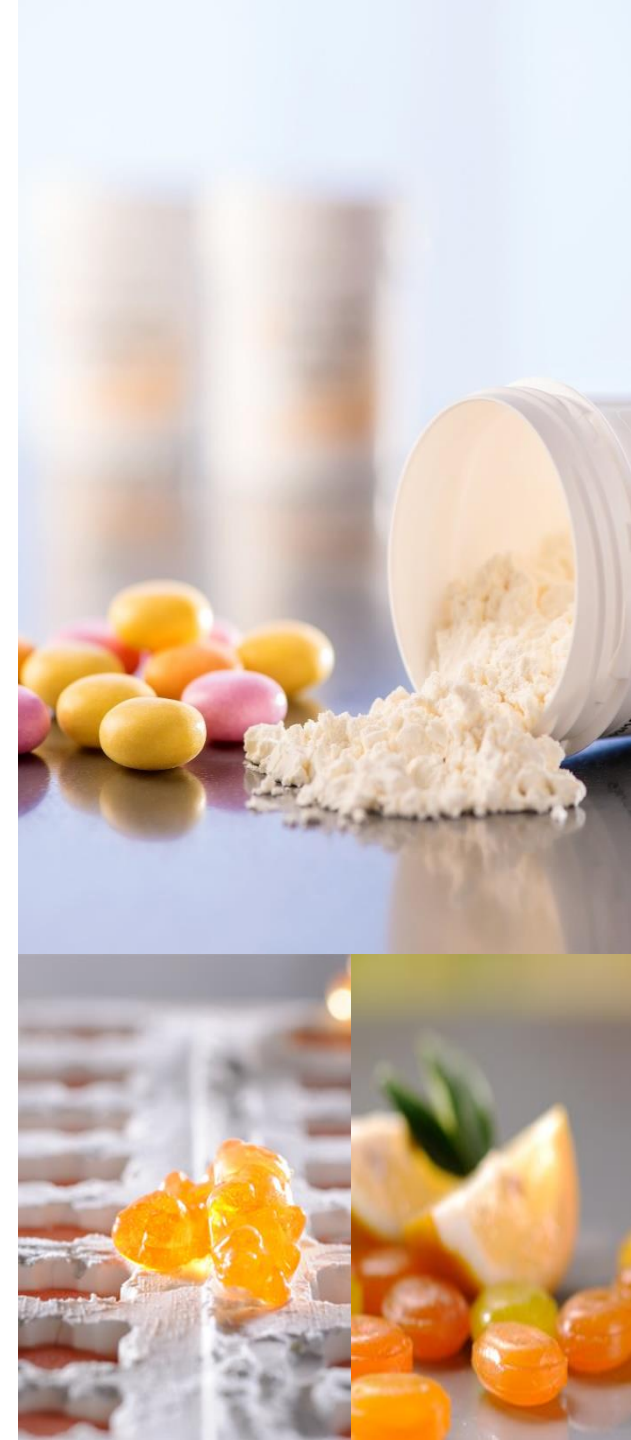
Project Workflow

Take Aways

Application Capabilities

Application Engineering attends the development process in terms of:

- Technical workability in food or beverage
- Sensory properties in food or beverage
- Test stability of flavours during and after process
- New food or beverage product developments
- Own industrial standard recipes
- Customer specific applications



Application Capabilities

Main Product categories / applications:

- Tea and coffee
- Sugar confectionary
- Chocolate confectionary
- Bakery products
- Fillings and toppings
- Ice Cream and Milk Products
- Nutrition supplements
- Shisha products and E-Liquids
- Cereal products
- Chewing gums



Tea and Coffee

- Tea (leaves, fruit-, herbal infusion)
- Coffee (coffee powder, coffee beans, capsules)

flavour Recommendations:

- Liquid flavour to spray on tea leaves or coffee beans or powder
- CAPSOPEARL® or CAPSOFLAKE® for fine- and medium-cut tea
- CAPSOSTICK® for Rooibos tea or pyramid tea bags
- CAPSOLEAF® for coarse- and medium cut black-, fruit-, green tea
- CAPSOPEARL® or powder flavour for coffee capsules



Sugar Confectionary

- Hard- and soft candies
- Chewing gums
- Jellies and fruit gums
- Marshmallows
- Compacted tablets

flavour Recommendations:

- Liquid or powder flavour (compacted tablets)
- Oil- or water-soluble
- Stable against heat and acidity



Batch cooker for sugar confectionary

Chocolate Confectionary

- Filled chocolate (fat based fillings, fondant...)
- Plain chocolate (white, milk, dark – flavoured)
- Pralines and bars
- Chocolate- or fat based coatings

flavour Recommendations:

- Liquid flavour
- Oil soluble / Triacetin, MCT oil or plant oil as carrier
- PG is not soluble in oil and increases the viscosity of chocolate- and fat masses



Continous chocolate fountain



Bakery Products

- Cookies
- Cakes
- Biscuits
- Fillings
- Muffins

flavour Recommendations:

- Liquid flavour
- Oil soluble / Triacetin, PG, MCT oil or plant oil as carrier
- Heat resistant



Cookie dough forming machine



Fillings & Toppings

FOR BAKERIES AND ICE CREAM

- Fat based or water-soluble fillings for muffins, cakes, wafers and cookies
- Fat based toppings and coatings

flavour Recommendations:

- Liquid flavour
- Oil- or water-soluble
- Stable against heat and/or deep freezing

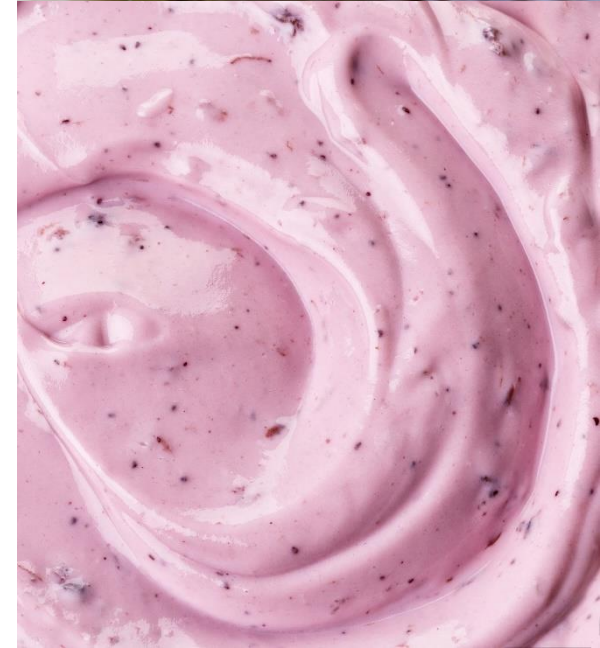


Ice Cream & Dairy Products

- Water Ice
- Ice Cream
- Dairy Drinks
- Frozen Yoghurts
- Pudding
- Sorbet

flavour Recommendations:

- Liquid flavours based on PG, alcohol or Triacetin
- Water-soluble flavours
- Stable against heat and/or deep freezing



Nutritional Supplements

- Instant Drink Powders
- Protein Shakes
- Bars
- Compacted Tablets
- Dishes

flavour Recommendations:

- Able to mask off-notes from ingredients (e.g. bitter notes from extracts, caffeine, etc.)
- Liquid or powder flavour
- Water-soluble



Shisha Products and E-Liquids

- Flavouring of molasses for shisha (e.g. Sugar cane syrup, glycerin)
- E-liquid bases (PG, Triacetin, demin. water)

flavour Recommendations:

- Liquid flavours based on PG, Glycerin or Triacetin
- Water-soluble flavours preferred
- Average Dosage in Shisha is 5,0 – 8,0 %



Tasting Session



Apple
Flavour

P0660555



Capsospray®
Vanilla Pudding
Flavour

P0633778



Capsogran®
Lemon Flavour,
Juicy Type

P0642777

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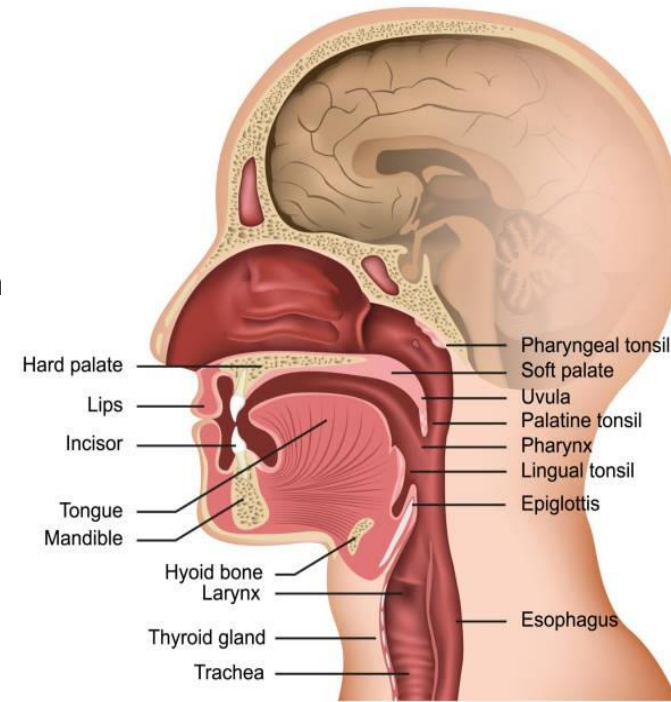
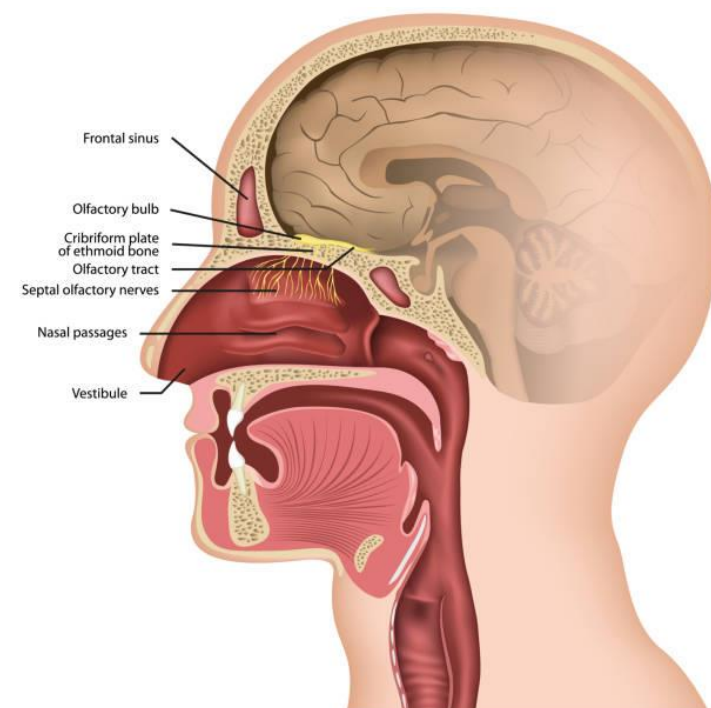
Flavour Workshop

WHAT IS FLAVOUR OR TASTE FOR THE HUMAN ?

Flavours are the sensory impressions you experience when consuming foods and beverages.

Detected by the human 3 chemical senses:

- Smell through receptors in the nose, detect more than 2500 flavour components
- Taste through receptors in your tongue and mouth, sweet, salty, sour, bitter, umami
- Through the trigeminal nerves in the face, nociception or pain chili hot, thermoception like hot and cold



Flavour Workshop

WHAT IS FLAVOUR FOR THE INDUSTRY ?

A flavour has a lot of important properties and is used to:

- Enhance
- Compensate process losses
- Characterize
- Individualize
- Mask
- Modify / change
- Make it tasteful
- Reason to rebuy the product



Flavour Workshop

REGULATORY OVERVIEW

More than 10.000 volatile substances are identified in food:

EU FLAVIS list

approx. 2.900 flavourings / extracts



FEMA GRAS list

approx. 2.500



Flavour Workshop

REGULATORY OVERVIEW

Definition of Flavour:

Flavour- product not intended to be consumed as such and added too food in order to impart or modify odor and/or taste.

EU-Flavour Regulation (EC) No 1334/2008

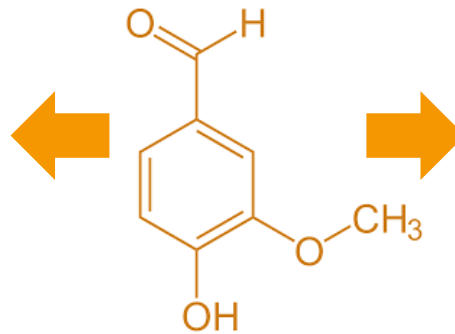
NATURAL	NON NATURAL
„Natural flavouring substances“: essential oils, extracts, absolutes, concentrates, thermal reaction flavours, other natural obtained pure molecules	“Synthetic Flavouring substances“: chemically obtained flavouring molecules through synthesis, found or not in the nature

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REGULATORY OVERVIEW

Natural Flavouring: Vanillin

Starting material of natural origin and only physical or enzymatic methods



Synthetic Flavouring: Vanillin

Chemical synthesis



Flavour Workshop

REGULATORY OVERVIEW, PRICE RELATIONS



Vanillin

Natural Flavourings

→ ~ 260 €/kg

Synthetic Flavourings

→ 10-15 €/kg



Trans-2-hexenal

→ ~ 240 €/kg

→ 21-25 €/kg



Beta-ionone

→ ~ 560 €/kg

→ 15-19 €/kg

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REGULATORY OVERVIEW

Flavourings	Other ingredients
<ul style="list-style-type: none">• Natural flavouring substances• Synthetic flavouring substances• Flavour preparation• Reaction flavours• Smoke flavours• Flavour precursors (sugar, salt...)• Other flavourings	<ul style="list-style-type: none">• Liquid carrier (PG, Triacetine ...)• Powder carrier (Maltodextrine ...)• Preservatives (Sodiumbenzoate ...)• Food colouring agents• Thickening agents (CMC, Xanthan ...)• Antioxidants, emulsifier... (Monoglyc ...)• Other technically necessary additives

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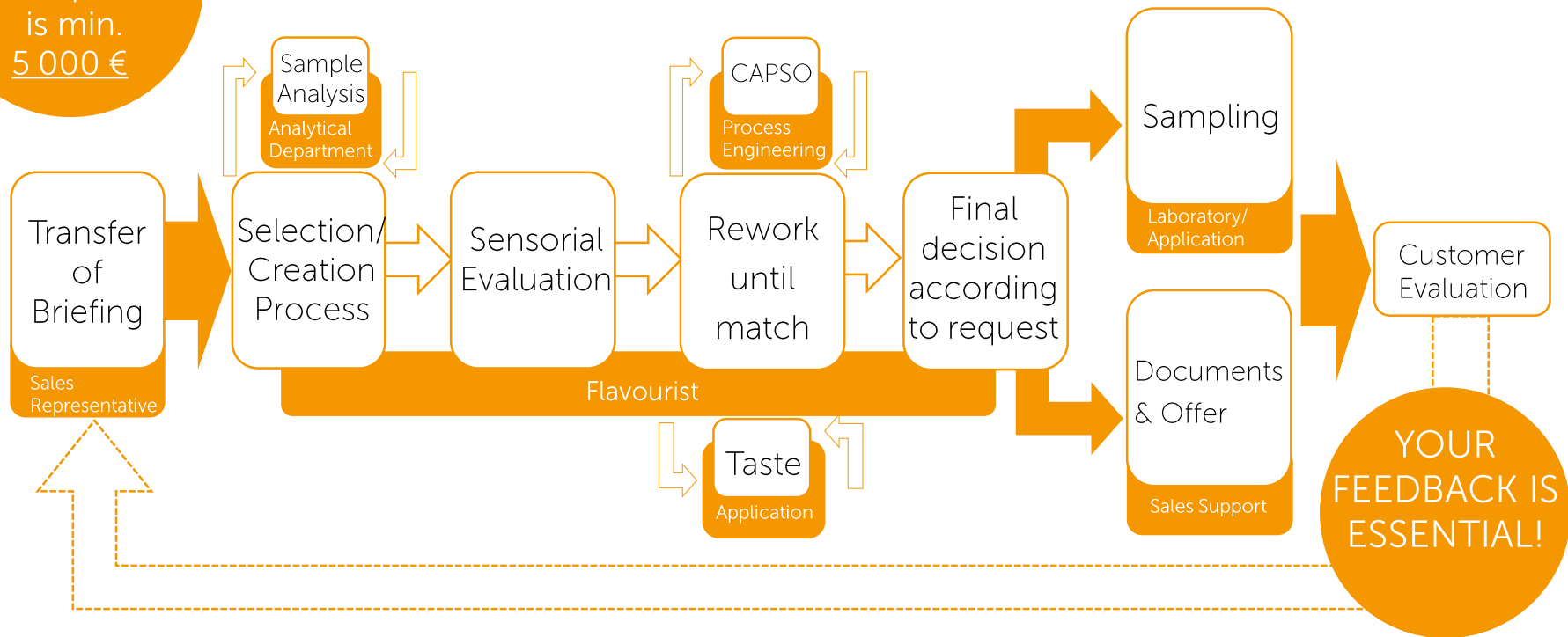
NEEDS TO START THE PROJECT

- Target Price
- Quantity / Volume
- Legal declaration: type of natural or synthetic or other
- Regulatory aspects
- Consistency: powder, granule, liquid
- Limitations from the market/customer: no palm oil, organic, vegan, vegetarian, allergen-free, GMO-free
- Application and process: confectionery, bakery, dairy, beverages
- Necessity to cover off-notes from the base
- Support in new developments, recipe rework, raw materials or others



Project Workflow

The cost of a new flavour development is min. 5 000 €



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Take Aways


Take Aways

- F&L new knowledge and expertise in important business segments
- F&L new flavour collections with different profiles, price ranges and legislation needs
- F&L keep constantly selecting, doing compilation and developing more flavours for different food and beverage segments
- F&L keep constantly investing in the development team, flavourists, application team and new know how
- IMPORTANT : Please send us your feedback from the flavours, news from the market, new wins, new launches to taste !





*explore
your
senses*

FREY&LAU 
explore your senses

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