CUSTOMISED VENDING

# Novel dispensing systems

sagentia

- Personalised food and beverage products
- Single-serve novel dispensing
- Customised vending at the point of sale

## System-level design of novel single-serve systems

Concept-to-manufacture of consumables, the durable components and overall device

Designed for superior performance and beautiful aesthetics

Strong IP and faster time to market

Developed for compelling user experiences

## Personal choice at the point of dispense

Sagentia are long-standing experts at designing and developing novel dispensing systems. Our science and technology expertise gives us the ability to take on full product development from initial market opportunity assessment to fluidics, thermodynamics, mechanical engineering, electronics, software design and tooling.

## Sagentia's experience

- Heating and cooling challenges
- Hygiene, sanitisation, microbial control
- Mixing & filtration solutions
- Carbonation & protection against de-carbonation
- Vessel sensing & autofill

At Sagentia, we work across the development lifecycle:-

initial need and market analysis → concept generation → technology and product development → transfer to manufacture

## Powder-based food & drink dispenser

At-home device for dispensing powder-based food and drinks from a single-serve pod

Full case study overleaf →

## Mars Drinks (Flavia)

Novel milk foaming system added to dispense system

Full case study overleaf →

## Powder-based food and drink dispenser

At-home device for dispensing powder-based food and drinks from a single-serve pod

### Challenge ¬

Our client wanted to get a good and cost-effective dispense of powder-based food and drink from a simple consumable. The challenges to overcome included:- dispensing to the right concentration; lump & bubble-free; effective at different temperatures.

### Approach ¬

- Sagentia's chemists worked around the principles of dissolution and dispersion. The impact on solubility of factors such as surface fat; powder age; salt ion content; residual moisture and the manufacturing process were investigated
- The team explored options to avoid clumping, discounting any options that involved dead-spots within the portion pack as well as the use of stirring which generated spinning clumps

### Benefit ¬

- We delivered a novel dispensing appliance for effectively dispensing powder-based food and drinks to a consistently high quality
- Using a unique water injection technique, the device met the requirements for dispensing a lump-free product, using all of the available powder and without risk of blocking

Blending techniques and automatic shaking were excluded due to their need for prohibitively expensive consumables

## Four Square (Mars UK)

Novel milk foaming system developed for vending machines

### Challenge ¬

The client wanted to make genuine cappuccino and milky froth-based drinks by producing a head of dry foam rather than the wet soft foam being used by competitors.


### Approach ¬

We re-engineered the traditional 'live steam' milk heating process.

- Created a radical jet-based alternative to the traditional steam nozzle
- Recreated real barista methods by adding coffee through the foam
- Analysed and optimised milk powders for foaming qualities

### Benefit ¬

The result is a system which produces first-class foam from a sachet of dried milk without the use of additives. The perfect head of firm, dry foam is created within 20 seconds, producing a coffee-shop quality cappuccino. The Flavia S350 incorporates this process and is now sold around the world.

## Contact us

The above are just two recent examples of our work in customised vending and novel dispensing systems.
For more information, please email us at:- info@sagentia.com or visit us at www.sagentia.com/food-and-drink