



A colourful transformation

In an ever-changing economic climate, companies need to be able to adapt their technologies to develop more profitable lines and ensure long-term security.

Kenneth P Manning, chairman, president and CEO, Sensient

Sensient Technologies Corporation has radically changed the direction of its business since Kenneth Manning became the new CEO in 1996. The company was previously a food-based business (known before 2000 as Universal Foods), with interests in yeast, frozen potatoes, a winery, cheese and snacks. The company also had two smaller businesses in its portfolio – fragrances and flavours, and food colour. Kenneth Manning decided that the company's future lay in these areas. He changed the company from a purely food-orientated business into a fully fledged technology company with additional interests in inkjet colour technology, photographic dyes, and pharmaceutical colours and coatings.

Although the company changed its name and divested itself of most of the older businesses such as yeast production, frozen potatoes, and wine and cheese, it still has strong interests in the food industry. These interests are primarily in colours and flavours: these expanding businesses are worth \$1bn per year in combined sales. In its previous guise as Universal Foods, 95 per cent of the company's business was based in the USA. Kenneth Manning says, 'Today over half of our business is overseas and only a third of our employees are US citizens...It has been a long haul, but we have a lot of exciting things going on.'

Edible inks

Sensient has combined its expertise in inkjet inks with its knowledge of the food industry to produce a new technology that will enable customers to print coloured inks directly onto foods such as biscuits, crisps and candy bars. Sensient anticipates that one of the first brand owners to use this technology is likely to be a manufacturer of snack foods, where it could be used to print variable text and images directly onto the food. This product has already entered an extensive test marketing phase.

Sensient has developed a number of new food technologies in its flavour and colour divisions over the past few years. These technologies have included:

- ❖ New extraction technology to manufacture botanical extracts that are two to three times more concentrated than

traditional extracts, and have a more natural taste (for example vanilla, coffee and cocoa flavours).

- ❖ High-strength, spray-dried flavours with a 50–60 per cent load of flavouring oils that are three times stronger than before, offering long-term stability and economy.
- ❖ Chiral flavour compounds for tropical fruit and savoury flavours. These provide flavours tailored for specific taste receptors. Sulphur flavour compounds provide a range of fruit and other natural flavours, but have a very low odour threshold.
- ❖ Encapsulated flavours: a method whereby capsules of flavour are spray-dried to produce a powder. These are used in the baking and confectionery areas, since they are heat stable.

Healthy options

Sensient has upgraded many of its plants to conform to these new technologies and will continue to invest in its production processes and innovative product range. Kenneth Manning says, 'We are looking for the best process technology, so that we can be cost effective.'

Futuristic technology involves the development of food technologies to either enhance the absorption of nutrients, such as vitamins and minerals, or conversely to block the absorption of fats and cholesterol in the digestive system. 'In the long term, these will be very important for health and nutrition,' says Manning.

Sensient operates from 30 countries across the world, having 77 sites in countries such as Spain, France, UK, Brazil, Mexico, Argentina, South Africa and Poland. These are not just sales offices, but research, development and manufacturing sites which are integral to the business as a whole. The company have formulas for over 1000 different colours, and for more than 30,000 different flavours. Many of the flavours are natural flavourings and are extracted from fruits and a wide range of other natural materials; this is true for many of the colours as well. In order for these systems to be stable, they need a complex emulsification system.

Price point

Despite the high prices associated with these natural colour and flavour systems, they are the most popular products in Eastern European markets. Kenneth Manning comments, 'The system for



Producing flavour extracts in the Sensient laboratory (left), and a selection of coloured powders for beverages (right)

natural flavours and colourings is fairly sophisticated and expensive, but is incorporated into a reasonably expensive product. The Eastern European market has surprised us. We are selling natural flavours and colours in Romania, Serbia, Czech Republic, Hungary and Poland, and they seem to have a preference for the higher-priced natural colour and flavour products. These are robust markets, not large, but definitely established. As you cross the Atlantic, the preference in the US and Asian markets is for lower-priced synthetic colour and flavour systems. However, these are much larger markets.'

Sensient has just opened two flavour manufacturing sites in China (an important developing market) along with a research facility, and will soon add a domestic colour manufacturing facility. 'The Chinese market is a very strong for flavours and colour,' says Manning. 'One of the next big areas to expand into will be South America.'

In the food colour sector, the development of technology tends towards more sophisticated colours, new pigments and dispersions or blends. These new products will have to be protected, so Sensient has filed over 30 patent applications in the USA during 2004 (more than ever before).

Low-carb flavour

The increasing popularity of low-carbohydrate foods has had a positive effect on the flavours business. 'At least 20 per cent of new flavours requested are for the low-carbohydrate area, and all of these require fresh formulations,'

says Manning. 'I don't know how long it will last, but it is good for business while it does. It is a case of technology being driven forward by health issues.'

The future for the company as a whole is likely to focus on continued geographical expansion into areas such as South America, Eastern Europe and the Far East. This expansion will predominantly be shown in the technology areas that Sensient is developing, such as flat panel displays, OLEDs, photographic chemicals using food grade colour and further advances in inkjet technology.

Sensient's new product development strategy is based on an informed and in-depth knowledge of customer requirements. This will encourage growth in both the traditional food and beverage markets, and in the new non-food markets in the long term. Sensient is a company in touch with its past, recognising its strengths and developing them with great success. It is now a market leader in specialist food additives such as colour, flavour and fragrance, as well as expanding into new technological areas. ●

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