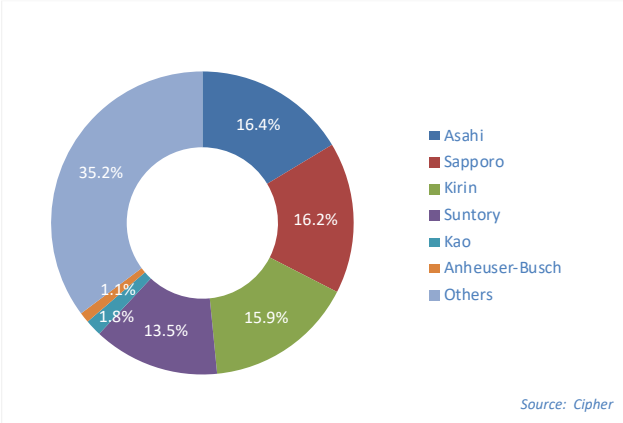
Japan leads innovation in the growing ‘low-to-no’ alcohol drinks category

The shift in consumer behaviour towards healthier options is especially evident in changing drinking habits. Low-alcohol and zero-alcohol drinks are now increasingly in vogue and this is driving innovation in the space by leading beverage companies.

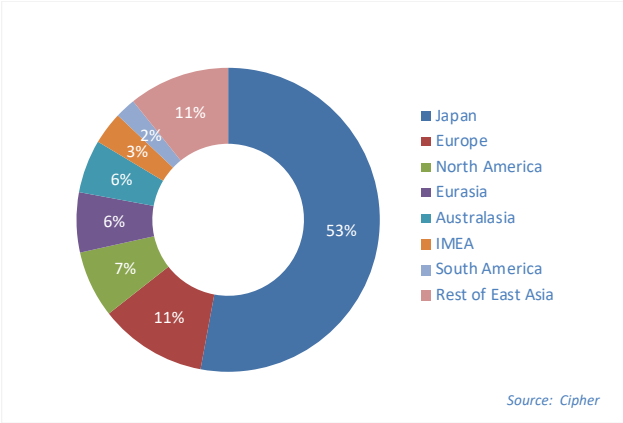
The ‘low-to-no’ drinks category, which includes ultra-low and alcohol-free beers, wines and spirits, represents a growing market opportunity. This month marked the opening of what is claimed as the world’s first alcohol-free beer bar, BrewDog AF Bar, in central London. Similarly, Diageo-backed startup Seedlip is positioning itself as a premium provider of alcohol-free distilled spirits. Other major players, including Pernod Ricard, Molson Coors and Heineken, are adjusting their product lines to cater for demand from this growing drinks category. However, our analysis of global patent data points to the major Japanese beverage companies as leading on innovation and ownership of new technologies in this space. We estimate that Asahi, Sapporo, Kirin and Suntory combined own more than 60% of the active patent families associated with the no-to-low drinks technologies.

No-to-Low Alcohol: Active patent families by owner



Excludes patents filed only in China

No-to-Low Alcohol: Active patent families by geography



Production processes and formulations that boost flavour and mouthfeel are at the core of innovation

An evaluation of recent patents highlights technologies to filtrate and remove ethanol without affecting the flavours and colours of the final product. Low-alcohol beers, for example, are often made by producing full-strength beer and then removing the alcohol by physical processes. This typically results in the evaporation, loss or dilution of fermentation-derived flavour compounds. Newly developed fermentation processes allow production of a drink with the typical organoleptic characteristics of a standard product, but with a lower alcohol content.

The classic brewing yeasts use glucose and maltose (the main sugars in beer wort) to form alcohol and flavour compounds during fermentation. The higher the concentration of wort sugars, the more alcohol and flavour compounds will be produced. To produce less alcohol, one solution is to use a yeast that ferments only glucose and not maltose, producing alcohol only from the glucose. When glucose is present in much lower concentrations than maltose, less alcohol will be produced from the same amount of wort than with a conventional brewing yeast, e.g. Saccharomyces pastorianus or Saccharomyces carlsbergensis.

This technology is exactly what Chr. Hansen, a global bioscience firm, has discovered and patented – a production method that uses a yeast only capable of fermenting the glucose in beer wort, resulting in high concentrations of desirable flavour compounds and very little associated ethanol.

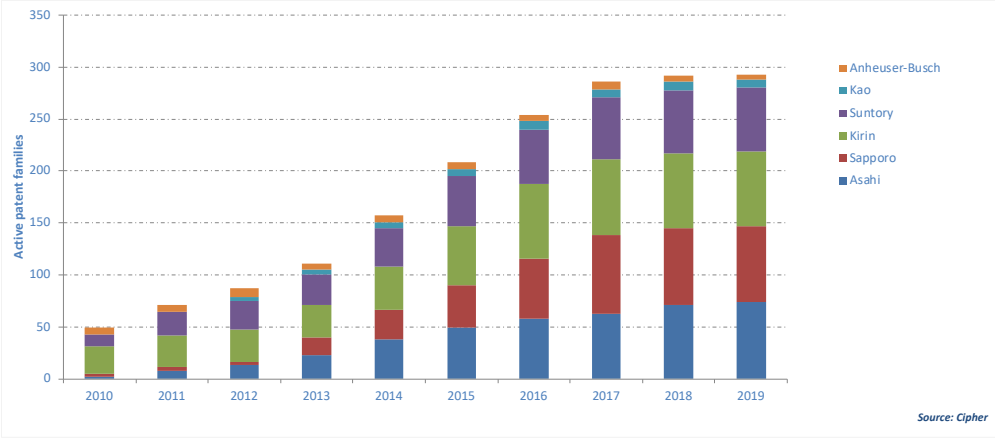
Specific to beers, foam is also an important element. There are new developments to produce foams which have a characteristic colour imparted by added colorants (ranging from yellow to khaki in the case of caramel colours). Suntory has patented a specific formulation using saponins, chemical compounds that are widely present in many plants and, when isolated, create a soap-like foam when shaken in aqueous solutions.

Key companies in the sector have grown their patent portfolios 600% since 2010

The six top owners in terms of active patent families in this sector have increasingly developed their patents portfolios in recent years. In 2010, they had a cumulative number of 49 active patent families, which has increased to a total of 293 in 2019.

Japanese drinks companies are driving the no-to-low alcoholic drinks market. How can they benefit from growing demand by consumers outside their region?

Low-to-No Alcohol: Active patent families by year by the top six owners



Excludes patents filed only in China

For more information on who owns what and where in the Low-to-No Alcohol space, access Cipher via your subscription or if you'd like to understand more about the Food & Drink taxonomy used to run this report in Cipher, contact us directly at www.cipher.ai.

Written by,
Paolo Montone paolo.montone@cipher.ai
Niall McMahon niall.mcmahon@cipher.ai