

Food processing through high pressure processing (HPP) – a snapshot

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High pressure processing

- Non-thermal processing technology
- First commercialised in Japan in the early 1990s for pasteurisation of acid foods for chilled storage
- High pressure treated foodstuffs have been marketed in Japan since 1990, in Europe and the United States since 1996 & Australia since 2001
- Rapid commercialisation since 2000

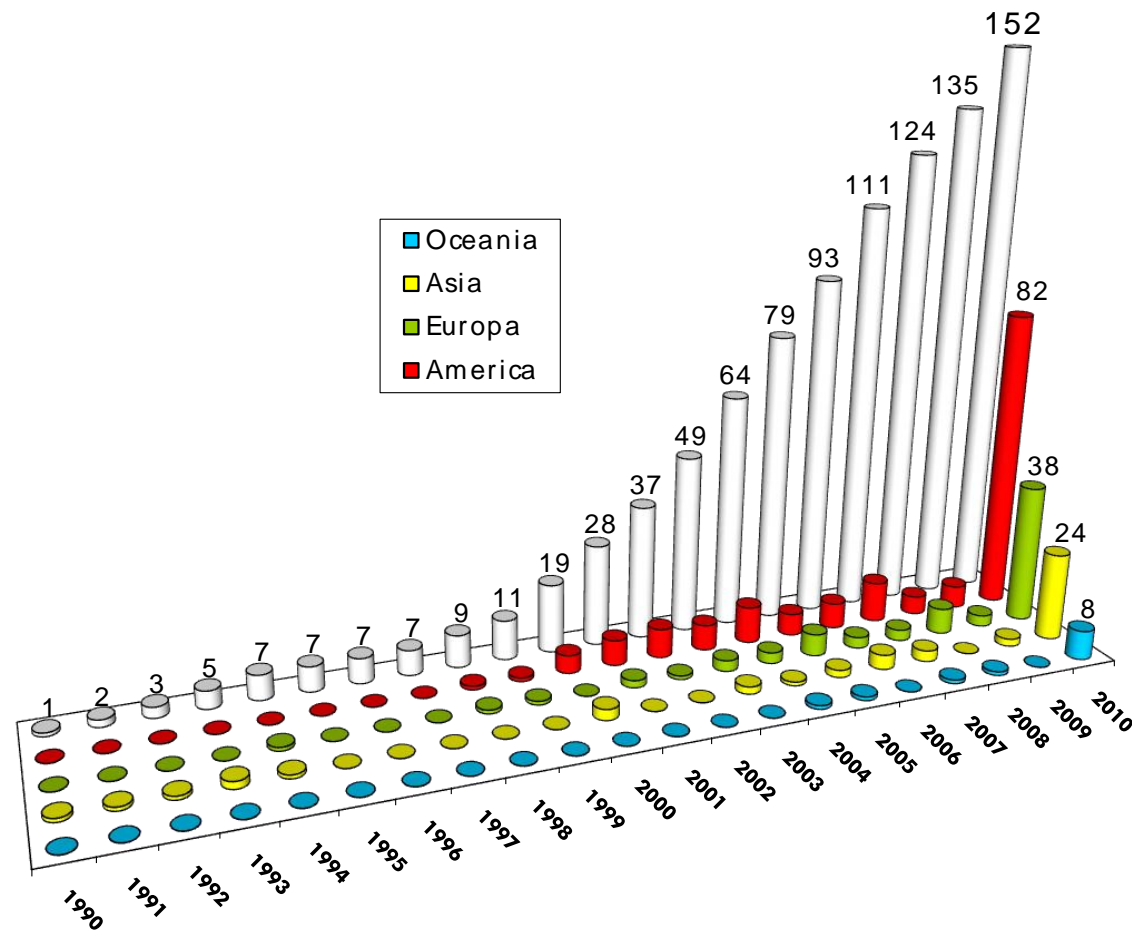
HPP machine

Processed product out

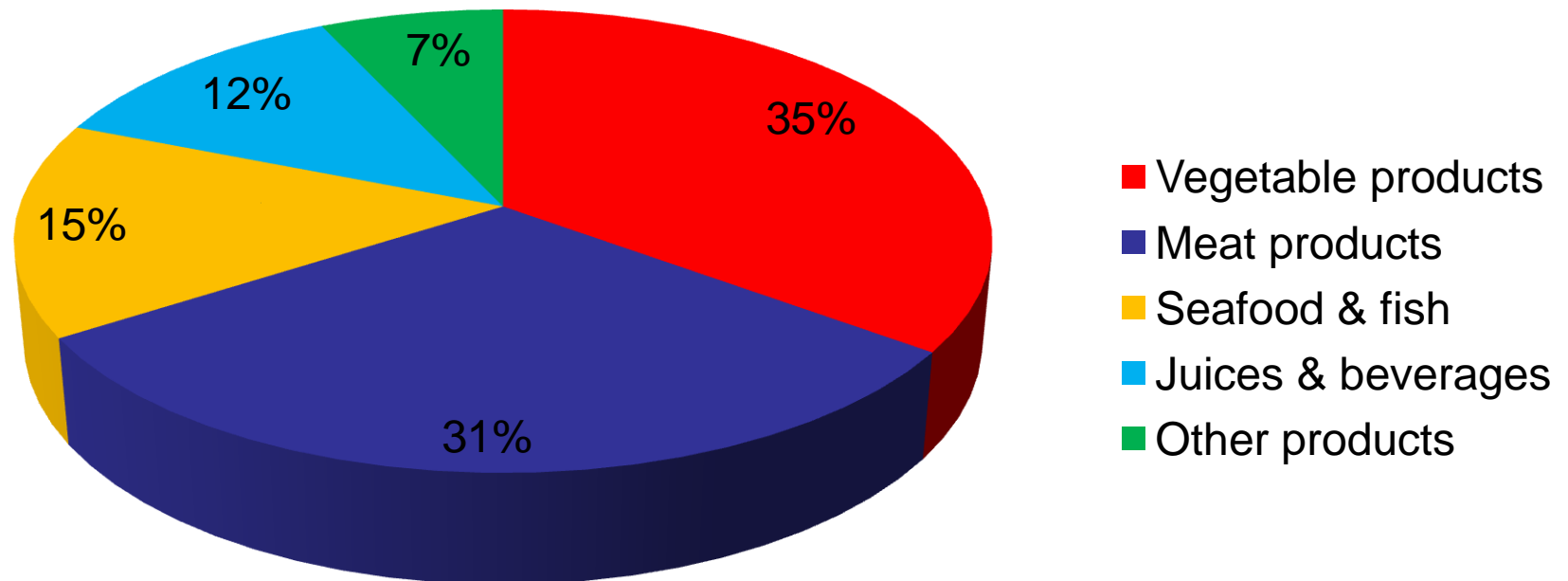
Unprocessed product in



No. Of HPP machine installation around the world - 2010



Product-wise HPP application



HPP product examples

Meat & seafood



Ready meals



Juice & smoothie



Sauces & spreads



HPP - Advantages

- Attractive for consumers - meets demand for **freshness and minimal processing** as it require **no chemical additives** or **no high temperatures**
 - **No consumer negativity** *e.g.* irradiation and GM
 - **Extended shelf life** - wider product distribution and results in fewer product returns
 - **Uses less energy** (hence greenhouse gases) than other technologies and has the highest processing efficiency for pumpable foods
 - Processing can be done in final packaging which **avoids post-processing contamination and tempering**
 - Required processing times are also reduced and there are **no by-products**
 - Permits the **inactivation of microorganisms** and enzymes at low temperatures, while valuable low molecular constituents, such as **bioactives, vitamins, colours and flavourings, remain largely unaffected**
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