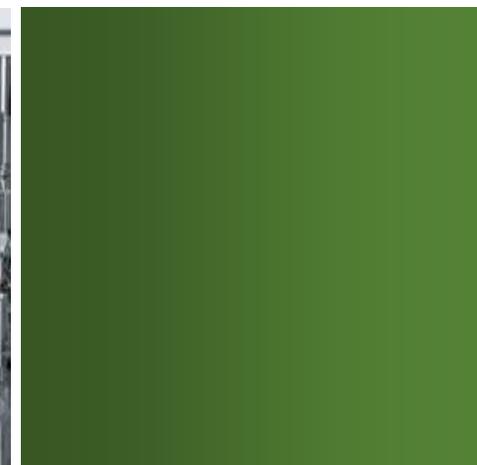


Water, Soft Drinks & Juice Production Line

Ensymm abstract for water, soft drinks and juice bottling line for different bottle size with moulding with BFS technology and modern European Turnkey bottle filling/ sealing/ labelling for sparkly and still water



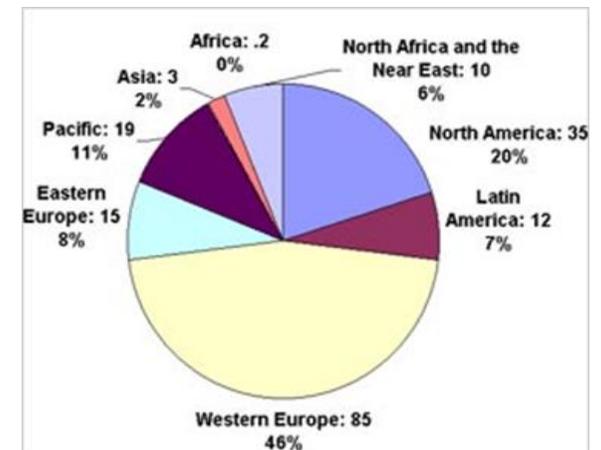
INTRODUCTION

In general, the global bottled water industry has become very profitable in the past ten years. Huge multinational companies currently make billions of dollars on water they simply extract from the ground, slap a label on and sell at competitive prices. Examples of these companies include: Aquafina (Pepsi), Dasani (Coke), Perrier (Nestle), Evian, and Fiji Water among hundreds of others. Bottled water consumption has grown exponentially over the past ten to fifteen years. This growth has taken place globally, but particularly in Europe and North America. The bottled water industry has literally created its own water culture. For example, when one enters a gas station, grocery store or a restaurant in any country of the world, one is

bound to find at least a few different brands of bottled water. Bottled water is somewhat less likely to be found in developing countries, where public water is least safe to drink. Many government programs regularly disperse bottled water for various reasons. Distributing small bottles of water is much easier than distributing large bulk storages of water. Also contamination from large water storage containers is much more likely than from single 12-20 ounce bottles of water. Many countries have become very oriented toward bottled water. According to a 2001 World Wildlife Fund survey, individuals around the globe consume some 89 billion liters of bottled water annually,

worth roughly \$22 million. Citizens of the U.S. alone consume about 13 billion liters of bottled water.

Below is a graph of 1999 Bottled Water Consumption in liters per person, courtesy of Splash's Freshwater Newsletter.

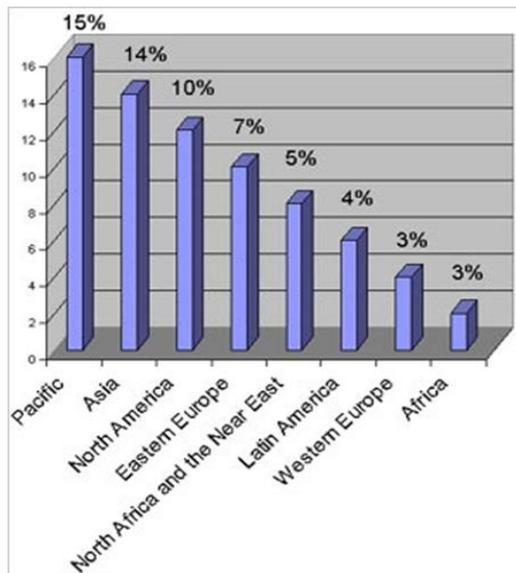


Surprisingly, Western Europe consumes almost 50% of the world's bottled water. Many claim

INTRODUCTION

that this is due to European culture, since the continent has had much polluted waters due to agriculture and industry dating back to the Industrial Revolution.

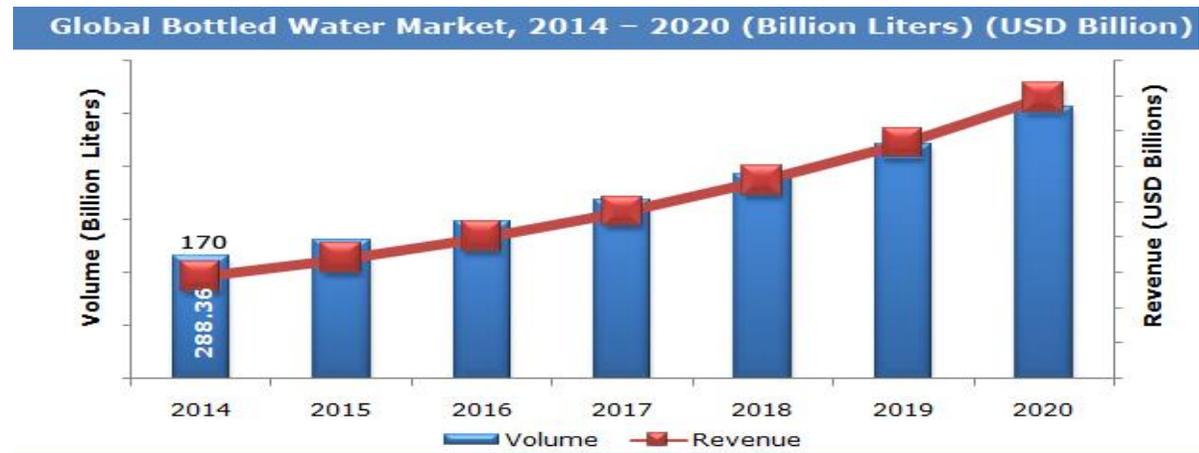
Roughly 59% of bottled water that is consumed is purified, while the 41% is spring or mineral water.



Most bottled water (about 75%) originates from protected sources such as underground aquifers and springs.

An increase in bottled water consumption is also a major issue. The presented graph explores the increase from 1999-2001 for eight different regions globally.

According to the Zion report, the global bottled water market was valued at approximately USD 170.0 billion in 2014 and is expected to reach approximately USD 280.0 billion by 2020, growing at a CAGR of around 8.5% between 2015 and 2020. In terms of volume, global bottled water market stood at around 290.0 billion liters in 2014.



Source: Zion Research Analysis 2015

GRAPH COMPLIMENTS OF WOLRD WILDLIFE SURVEY

The bottled water culture's recent explosion in the last decade is due to many corporations' advertising efforts to promote the need to drink "healthy" bottled water rather than tap water. Multinational companies across the globe are racking in billions of dollars with very little effort. The taking of "free" water and making huge sums of money is a response to very loose restrictions on water withdrawal. In areas with few or no restrictions companies are able to sink high-capacity withdrawal wells and later implement bottled water plants wherever they please. In 2001 according to Jeffrey Hammon, bottled water industry revenues in the U.S. alone grew by over 13%. According to research and

consulting done by the Beverage Marketing Corporation, the global bottled water industry has exploded to over \$35 billion. Americans alone paid \$7.7 billion for bottled water in 2002. In 2001, for example globally bottled water companies produced over 130,000 million liters of water. This produced roughly 35,000 million dollars in revenue for the world's thousands of bottled water companies in 2001 worldwide there are thousands of companies bottling water for profit. Many of these corporations have grown exponentially. Almost all of these corporations make phenomenal amounts of money on a resource they pay very little for. We believe it is a shame that we have quantified

water in so many areas of the world. One only has to look at industry leaders such as Thames Water, Perrier, Vivendi, Suez, Pepsi and Coca-Cola to see how their profit margins have been on a steady increase over the last decade in their bottled water divisions. Bottled water companies fight not only concerned citizens within local areas, but also fights each other in hopes of being the first to establish their own bottling plants. German energy conglomerate RWE and French transnational Vivendi currently are the two largest water corporations globally. These giants control almost 40% of the existing water market shares as they are ranked 51st and 53rd among Fortune's Global 500 List. Vivendi alone operates in over 100 countries

WATER FILLING PROCESSING

while the third largest bottling water giant, Suez, operates in more than 130 countries. Suez and Vivendi combined annual revenues push \$70 billion.

Water Filling Processing

The main key to our success is the capability to offer customers a complete tailor-made solution according to specific technical requirements, starting from the initial budgetary proposal to the final project plan designed to fit within the space availability but also to fit the required budget, always keeping in mind the importance of looking after the product to be packaged. Primary objective is in fact to care about "THE PRODUCT", making sure that its original characteristics are not

altered throughout the bottling and packaging process. Decades of experience in the beverage and packaging industry as well as prompt feedback and enthusiasm have matured in our supplier network gaining a good reputation from customers worldwide, trusting us as a reliable supplier of turn-key plants, from project planning, manufacturing, installation, and start up and commissioning.



Staff training and after sales service is also extremely important, and this is why we have built a network of appointed representatives in several countries worldwide, who are constantly trained in order to provide fast and effective on-site support.

Complete lines for PET bottles starting from blow moulding, neck handling systems, filling with counter-pressure, gravity or inductive flow meter system (non contact filling), with various options available to ensure the maximum product safety and "Ultra Clean" environment such as Laminar flow Helps filtration, empty bottle sterilization, Ultra-Violet sterilization of the caps and bottle necks. Alternative bottle feeding systems such as unscrambling and PET de-palletizing are provided

WATER FILLING PROCESSING

depending on the requirements and line speed. Different line designs are supplied to suit water bottling into Glass bottles or combine both glass and PET bottle processing by the same production line. Complete solutions include also auxiliary equipment, for example CIP plants, water treatment, flavor dosing equipment, etc.

Low vacuum-gravity filling systems are recommended for still, non-dense products such as for example still water, wine, alcoholic beverages (vodka, whiskey, brandy, etc), chemical products and generically any kind of flat non viscous liquids. In this case the opening of the filling valves is given by the neck finish of the containers, lifted by the mechanical plates of

the filler. Various models of filling valves are available within this category, specifically designed to cater for the filling level requirements, bottle shape, neck shape and product. Several optional features are available such as the "millimetric adjustment of the filling level" controlled directly from the user interface panel, air return outside the filling tank (to avoid the air from the bottles contaminating the product in the filler bowl), centralized level regulation and more.

Electronic mass flow meter filling system can supply a proportional signal directly in weight measurement units. These systems assure maximum dosing precision and do not require any maintenance

thanks to the extremely small number of functional elements, the filling machine can be sanitized very easily and the Electronic Volumetric filling allows optimized bottling under a microbiological profile. The system works without pressure in the bottle and with a light positive pressure inside the filler bowl, allowing processing both high density and liquid products in containers of different materials. The filling is controlled by the PLC that gives the go-ahead to start the filling when the sensor detects the presence of the bottles. The electronic dosing devices with mass or magnetic flow meters show that the preset filling volume has been reached and control the closing of the valve, allowing a dosing precision of

WATER FILLING PROCESSING

0,2%. The main advantages are precise volumetric filling and microbiological safety.

Available outputs are from 100 to 60.000 and up BPH (bottles per hour).

The roughly presented technique above is just an example for a sophisticated filling procedure. Ensymm is capable to adjust the main parameters (capacity standard, process type) according to the individual project frame.



ensymm is a German based premier project consulting company for Life Sciences, serving biotech companies, pharmaceutical industry and food ingredient companies. We provide clients with a variety of business and technology consulting services as well as with specialized teams in various areas of our competence.



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