

BEER PRODUCTION - INTRODUCTION



Beer is the world's most widely consumed and probably the oldest of alcoholic beverages; it is the third most popular drink overall, after water and tea. It is produced by the brewing and fermentation of starches, mainly derived from cereal grains—most commonly malted barley, although wheat, maize (corn), and rice are widely used. Most beer is flavoured with hops, which add bitterness and act as a natural preservative, though other flavourings such as herbs or fruit may occasionally be included. Some of humanity's earliest

known writings refer to the production and distribution of beer: the Code of Hammurabi included laws regulating beer and beer parlours, and "The Hymn to Ninkasi", a prayer to the Mesopotamian goddess of beer, served as both a prayer and as a method of remembering the recipe for beer in a culture with few literate people. Today, the brewing industry is a global business, consisting of several dominant multinational companies and many thousands of smaller producers ranging from brewpubs to regional breweries. The strength of beer is usually around 4% to 6% alcohol by volume (abv) though may range from less than 1% abv, to over 20% abv in rare cases. Beer forms part of the culture of beer-drinking nations and is associated with social traditions.



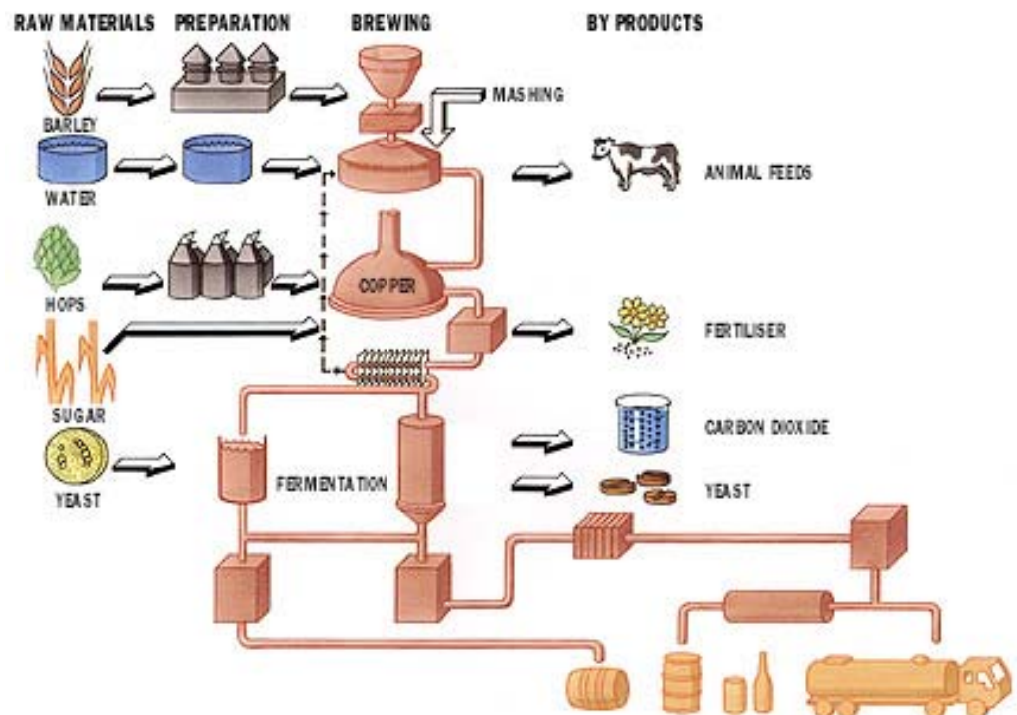
BEER MARKET

GLOBAL BEER MARKET SHARE OF PRODUCTION BY CONTINENT (r) 2003 – 2008

Continents	2003	2004	2005	2006	2007	2008
Europe	34.9%	34.1%	34.1%	33.4%	33.1%	32.2%
Asia/Middle East	26.9%	28.5%	28.5%	30.0%	31.2%	31.7%
North America	22.2%	21.4%	20.9%	20.0%	19.4%	19.0%
South America	10.2%	10.2%	10.7%	10.6%	10.5%	11.0%
Africa	4.4%	4.4%	4.5%	4.6%	4.7%	5.0%
Australia/Oceania	1.4%	1.3%	1.3%	1.3%	1.2%	1.2%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

While consumers in emerging markets tend to drink like Europeans, Western Europe itself is of relative less importance to the producers compared to the opportunities in Eastern Europe, Russia and Asia and other emerging markets. Market analysts predict solid global growth in the coming three year period in spite of financial crises. Innovations to watch are trends in packaging/size/labeling and in health. Most alcoholic drinks producers performed well over the last years. In Western Europe some companies continue to see stagnation and decrease in sales. Company strategies are therefore mainly to focus on emerging markets – in particular in Asia and Russia but also Eastern Europe – and not least on innovation and new products. According to Business Insights the three key drivers of growth are 1) the expansion of the world's young adult population, 2) the emergence and growth of the middle class with disposable income, and, to a lesser extent, 3) consumer's desire to trade-up to more premium products.

BEERBREWING PROCESS



Production option

According to the favored beer different production steps can be chosen by small changes

As you can see on the illustration above, several steps have to be executed during the brewing process. To explain every step in detail would go beyond the scope of this abstract. We will refer to the process in detail within our project study/consulting service. In general this process will take place for every kind of Beer. According to the favoured end product just small changes have to be done within the production process. That means for example that only the temperature or the storing duration have to be adjusted besides the used raw materials. Therefore a flexible production of different beer types according to a changing demand is possible. Besides that advantage the production waste can be used or sold as fertilizer or animal feed.



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BEER BREWING-ENSYMM SERVICE

Ensymm can help you to plan and realize your brewery project. Referring to this look at the ensymm profile, ensymm benefits and ensymm project roadmap as follows.

Profile:

Ensymm is a consulting company based in Duesseldorf/Germany. Our company offers Technology Transfer, Project Management and Consulting for private investors, companies, governmental organization and universities. We have a strong network of more than 35 suppliers in the EU, Middle East, South America and Asia and 15 cooperation offices worldwide. Beside our expertise for managing your project puzzle, we are specialist for Turnkey Plants (Transfer of Technology and Equipment) and Outsourcing. The transfer of technology contains the areas:

- Biotech processing
- Pharmaceutical processing
- Chemical processing
- Food processing

So we have the pleasure to provide you with new and fresh ideas for preparing your company for future challenges and developing its marketing and sales strategy for the global competition.



Preliminary consulting

Within the frame of a project study or a preliminary consulting, ensymm provides a clear picture of the project and evaluates the feasibility of the investment.

Network

Based on our international network ensymm is able to provide you with a custom tailored turnkey production line in consideration of to the budget , capacity and other restrictions.

Project execution

Ensymm will organize and supervise the entire project execution.



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BEER BREWING-ENSYMM SERVICE

Benefit of Ensymm Project Management:

Experience

Besides our own experience you can benefit from our network which offers different competences and different standards according to your requirements

Multiple competences

Based on the different core competences of our employees and partners we are able to serve you beyond the project execution – for example with the distribution of your products.

- Client designed offer
- Local support
- State of art Technology
- Feasible production capacity
- Offers designed for the budget of investors
- Competence team for:
 1. Business and scientific issues
 2. Supervising for engineering, installation and production
 3. Inspection and guarantee for used plants
 4. Coordination of the Project from A-Z
 5. Quality control
 6. Advisory related to the project
 7. After sales services
- Project coordination from A-Z
- Support for raw material and technical services



BEER BREWING-ENSYMM SERVICE

Beer related Ensyymm project management:

Ensyymm provides you with a Beer brewing specified service to realize your project on turnkey or part key base. We have a manufacturers from Europe which is responsible for the brewery and filling section (bottle and can) (Worldwide reference projects are available for your visit). Further ensyymm has integrated a supplier within the network which provides the formulation, brand name and brewery consulting. Therefore we can select the perfect team for every kind of capacity and quality standard (e.g. HACCP-Hazard Analysis Critical Control Point) as required by the target market.

As an additional option (recommended by ensyymm) a technical engineering team can be involved. It will check all equipments/processes in the first phase and during the project execution to give the client the highest security.

Meetings with our manufacturers and also an onsite visit at a brewery will be arranged by ensyymm.

Beyond the project execution the client can also benefit from our after sales services. Beside the line we are also able to provide complete components for the production of beer (e.g. raw materials) through our network of suppliers. Further ensyymm would be glad to support you regarding the marketing and distributing of your beer.



Several Benefits

By providing a bunch of benefits you are able to enhance the chances of a successful project execution and a higher profitability



Structured approach

As you can see beside, ensymm follows a structured approach to the client and the project itself

BEER BREWING-ENSYMM SERVICE

Roadmap up to project execution

1. Our email with a short introduction along with an abstract and general budget plan
2. Signing a MOU
3. Delivery of a detailed proposal with list of equipment, machinery, raw material, general feasibility calculation and references.
4. Meeting between the client and our supplying/technology team
5. Further decisions for signing a project contract
6. Signing the supplier's contract

