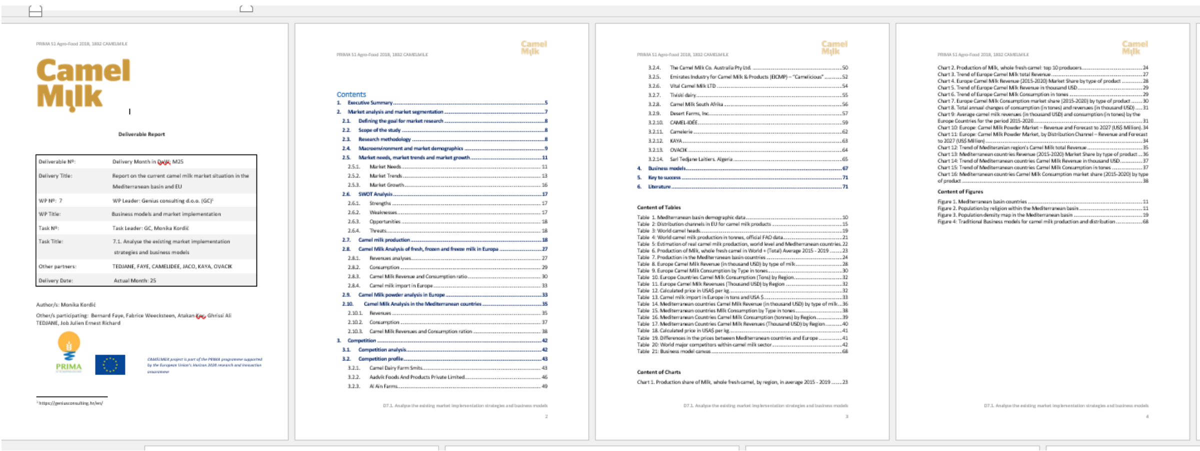

Executive summary of the report on the current camel milk market situation in the Mediterranean basin and EU

One of the CAMELMILK project deliverable done under the working package 7: Business models and market implementation is the ***Report on the current camel milk market situation in the Mediterranean basin and EU*** produced by the Croatian partner Genius Consulting Ltd www.geniusconsulting.hr in 2021. Main author of this Report is the co-owner and CEO of the company Ms. Monika Kordić. Significant contribution was provided by the project partners, experts in camel milk field as Bernard Faye, Fabrice Weecksteen, Atakan Koc, Ghrissi Ali Tedjane and Job Julien Ernest Richard and many other project experts.

The global camel milk products market size was **valued at USD$ 10,2 billion in 2019** and growing at a CAGR of 7.8% during the forecast period 2021-2026. Increasing popularity of camel milk is due to its easy-to-digest property among lactose-intolerant consumers is expected to have a positive impact on the industry as a whole. Aside from this, the camel milk is considered more nutritive as compared to cow milk as it contains higher quantities of copper, iron, sodium, potassium, magnesium, manganese, and vitamin A and C.

According to the FAO statistic the total **number of camels in the world is 37.914.991 heads** in 2019 i.e., increase by 6,3% in comparison with the 2018. Only 3% or 948.509 camels' heads are from the Mediterranean region. The highest share, according to the official statistic, in the world number of camel heads has **Chad (22%), Somalia (19%), Sudan (13%) and Kenya (12%).** The country with the highest number of camel heads from the Mediterranean basin and EU the highest share has Algeria (1,1% or 416.519 heads) and Tunisia (0,6% or 237.516 heads).

According to the **FAO statistics, total world camel fresh milk production in 2019 was 3.128.759 tonnes** i.e., increase of 12% comparing with the previous year 2018 (2.793.290 t) or 5,9% comparing with the production in 2010 (2.952.561 t), or significant increase comparing with the total production in the year 2000 (1.837.412 t). According to the FAO data, countries where is reported production of camel milk thought the Mediterranean basin and EU are only: Algeria, Egypt, Israel, Libya, Syria, Morocco and Tunisia. According to the statistical data, camel milk is not producing in Israel, Egypt and Syria what is not true because in those countries there is a production, but unfortunate there is a significant lack of data. The biggest Mediterranean countries producer of camel milk according to the official statistical data is Algeria with 14.784 tonnes of camel milk in 2019 and has a slow increase in the last 20 years.

At a world level, according to the statistical data, camel milk has very small share, less than 1% of the consumed milk but this proportion is underestimated due to the lack of official data for some countries. On the other hand, if we consider that 16% of the total officially reported camel heads according FAO data are lactating animals and every camel head on average is producing 1.200 l/camel milk the total **estimated camel milk production is 7,3 million tonnes in 2019** on a world level, or 182.114 tonnes within the Mediterranean countries[1].

In the report a camel milk market analysis is done for the world in general, Mediterranean basin and EU.

Countries that are part of the Mediterranean basin are distributed in 3 continents Europa, Asia and Africa and in total it's in total 516.678.824 or 6,62% of the total world population. In Africa's Mediterranean region is living 201,78 million inhabitants (is in average population is 29 years old), in Asia's Mediterranean region is living 117,3 million inhabitants (is in average population is 32 years old) and in Europe's Mediterranean region is living 197,5 million inhabitants (is in average population is 42 years old).

Report is also presenting the analysis of few camel milk products, its revenues, consumption, import value in the countries from Europe and Mediterranean region and it's presented the COVID 19 impact.

Mediterranean region is not following the same world and Europe's positive trend of increase of camel milk production of the camel milk revenues. The highest increase was achieved in 2016 (+7% comparing with 2016), after which there is recorded an increase but with lower numbers. 2019 was a good year but due to the COVID 19 2020 show small decline of 1% comparing with 2019 what is significantly better comparing the numbers recorded in Europe. According to the analysis made on the country level the top 3 Mediterranean countries that are having the highest share in the total revenues and consumption are Algeria (year 2020 - revenues: 19,9 mil. USA$; consumption: 13.236 t), Morocco (year 2020 - revenues: 10,8 mil. USA$; consumption: 8.018t) and Egypt (year 2020 – revenues: 13,3 mil. UES$; consumption: 7.690 t).

Increase of the camel milk production in Europe also could be further confirmed with the positive trend of the increase of revenues. The highest increase was achieved in 2019 (+12% comparing with 2018), while due to the COVID 19 in 2020 opposite trend is recorded (-9% comparing with 2019). According to the analysis made on the country level the top six European countries with the highest share in the total Europa's consumption and revenues are Netherland, Italy, France, UK, Germany, and Spain. Their share in the total Europe share is in average 90% both in revenues and consumption.

Market needs, trends and market growth are mainly coming from the fact that demand for camel milk is increasing, and it is expected that camel milk is going to become the new superfood due to its high nutritional value, lower level of lactose, easy digestibility (suitable for people with lactose intolerance) and low share of fat. Price of camel milk is almost 10 times higher compared to other animal milk, what is the only obstacle to the introduction of this food in everyday eating habits equally for all world population[2]. Main trends in Europa for higher consumption of camel milk are coming from the high level of lactose intolerance, chronical diseases, increased awareness of healthy living benefits and increased demand for alternative food options or individual preferences.

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[1] Camel heads and camel milk production is not reported in the offical data in EU and Turky, even CAMEL MILK project's partners in Spain (OASIS), in France (JACO), Turky (KAYA) has camel farms, and across the EU there are also other camel farms.

[2] Brezovački, A., Camel milk and milk products, available at: https://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=203026

Competition analysis is made for the world leading producers and traders of camel milk and its products ant its presented in the table below. In addition, analysis contain the company profile for the competitions from the Mediterranean basin.

World major competitors within camel milk sector

Major competitors					Others important Company
Players in the market	**Vendors**	**Processed camel milk**	**Beverage**	**Ice Cream**	
Lokhit Pashu Palak Sansthan (LPPS)	Aadvik Foods	Al Ain Farms	Al Ain Dairy	Al Ain Dairy	Camel Dairy Farm Smits
Aadvik Foods and Products Pvt. Ltd.	Al Ain Dairy	Al Nassma	Camelicious	Beyti Company	Camel Milk Co Australia
Emirates Industry for Camel Milk & Products (EICMP)	Camel Dairy Farm Smits	Amul	Desert Farms Inc.	Tiviski dairy	Camel Milk South Africa
Qcamel	Camel Milk	Camelicious	VITAL CAMEL MILK	VITAL camel milk	Camilk Dairy
The Camel Milk Co. Australia Pty Ltd.	Camel Milk Victoria	Camilk			
Desert Farms Inc.	Camelicious	Desert Farms Inc.			
	Desert Farms Inc.	Nuug Camel			
	QCamel	Tiviski dairy			
	Tiviski Dairy	VITAL CAMEL MILK			
	UK Camel Milk				
	VITAL CAMEL MILK				
	Wangyuan Camel Milk				
	Xinjiang Wangyuan Camel Milk				

Sources: Genius consulting LTD Croatia analysis

In Europe, camel milk sector development is in its early stage and below are presented some of the important camel milk farmers / dairy.

- Camel Diary Farm Smits (Dutch) – Netherland https://www.kamelenmelk.nl/en
- La Camelerie - https://www.lacamelerie.fr/
- OASIS – Spain https://oasiswildlifefuerteventura.com/
- Kaya – Turkey http://deveciftligi.net/
- OVACIK – Turkey

Offline distribution channel accounted for more than 80% of the global camel milk products market revenue. Consumers prefer to purchase dairy products in the local stores, supermarkets & hypermarkets but the main obstacle for the fresh and pasteurised camel milk is short shelf life. Among the offline distribution channel, large retailers such as supermarkets & hypermarkets accounted for the major share owing to wide product range and attractive discounts.

On the other hand, the **online distribution channel** is anticipated to expand at the fastest CAGR[3] of 8.6% from 2020 on account of increasing familiarity and dependence of generation X, millennials, and generation Z on the internet and e-commerce. COVID 19 has had a strong impact on the accelerated development of the online platform in 2020 and encouraged the accelerated digitization of both sales and consumption in 2020 and in the years that are in frond.

A **SWOT** analysis identified and business opportunities and should help industrial partners in their strategic planning process and in matching their capabilities and resources to the food sector. In addition, the current and potential competitors regarding camel milk and camel dairy are analysed in a manner that profile of current competitors is provided, and the primary competitors are defined. As final step, a guideline with keys to success and curtail issues are reported to CAMELMILK project industrial partners.

At the end of the report, are presented tradition vs innovative business models used by the camel milk farms and industries and its presented manner for introduction of the innovative business models and key for success. Business model i.e., the base for designing the specific business models is presented below.

<table>
<tr><th>Key partners</th><th>Key activities</th><th>Value proposition</th><th>Customer relationship</th><th>Customer segments</th></tr>
<tr>
<td rowspan="3">· Inputs suppliers
· Camel milk producer
· Processors / dairy
· Distributors
· Retailers and wholesalers
· Cooperatives
· Brand manager
· Consultant
· Financial service providers
·</td>
<td>· Camel milk production
· Processing of camel milk to obtain camel dairy products
· Distribution of these products and make them available and affordable for consumers
· Promotion of final products</td>
<td rowspan="3">Toward the market:
- quality milk supply for modern processing sector
- distribution to the final consumer

Toward to the farm householders:
-Organic fertilisers
-gas and other inputs supply

Production and distribution of camel milk and camel dairy products, an innovative, healthy and sustainable alternative to cow milk.</td>
<td>· Sales representatives
· Retailers
· Wholesalers
· Commission Agents
· Producers
· Cooperatives
· Loyalty programmes
· Training</td>
<td rowspan="3">· Targeted market: local, domestic, international

· Targeted market segment: population allergic to bovine proteins, Diabetic population, People aware of sustainability, Healthy people willing to shift from cow milk, Trendy people in natural foods and exotic cuisine

· Targeted business segment: B2C, B2B</td>
</tr>
<tr><th>Key resources</th><th>Channels</th></tr>
<tr>
<td>· Human capital: knowledge for breeding, production, processing, management and organisation

· Financial capital: own capital, EU funds, bank loans …

· Natural capital: land, milking camels

· Facility and technology: Camel farm and facilities, Camel milk processing facilities, equipment and technology</td>
<td>· Producer organisation
· Cooperatives
· Social media
· Websites
· Advertisement
· Retailers
· Influencers
· Hotels
· Restaurants
· Chef</td>
</tr>
</table>

[3] Compound annual growth rate is a business and investing specific term for the geometric progression ratio that provides a constant rate of return over the time period. The CAGR is a mathematical formula that provides a "smoothed" rate of return. It is really a pro forma number that tells you what an investment yields on an annually compounded basis — indicating to investors what they really have at the end of the investment period.

Cost structure	Revenue Streams
Farm facilities, camels, inputs, milking systems, animal feed, marketing, distribution, human resource	Selling of camel milk and camel dairy products and other complementary products to customers.

Source: PRIMA S1 Agro-Food 2018, 1832 CAMELMILK D7.1. Genius Consulting Ltd, Croatia
www.geniusconslting.hr