



UNION **NATION** HOLDINGS LIMITED  
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## 1. EXECUTIVE SUMMARY

**Union Nation Holdings Limited**, (hereafter referred to as either just “Union Nation Holdings”), is a local logistical company delivering high quality services. Union Nation Holdings is proposing to break into the lucrative production of crude avocado oil in the southern highlands of Tanzania, specifically, in Mbeya city. Mbeya is favoured with great infrastructure with both road and air transportation facilities. Mbeya is also adequately supplied with water and electricity, and avocado is well cultivated all around.

Union Nation Holdings has decided to install the best Italian technology from a company called **Amenduni Nicola S.p.A.** This is one of the best manufacturers of avocado oil extractive technologies in the world. Total investment cost for this project is



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**\$1 million**, which includes everything. Machinery/technology alone accounts for \$564,000 of that, and the rest goes to other costs related to the project such as warehousing, electrical installations, plumbing and land. At this level of investment the break-even point will be in **3 years**.

It is known that the factory will be capable of processing 10 tons of avocados per hour. It is assumed that the factory will work 8-hour shifts for 20 days a month and 10 months a year. This means that the factory will consume **16,000 tons of avocados per year**, assuming a 10-month year. At 100% rate of production, 16,000 tons of raw avocados will cost **USD 2,735,042.74** annually at a rate of \$170.21/ton.

16,000 tons of avocados produces **1,000,000 litres** of crude avocado oil yielding a revenue of **USD 6,000,000 annually**. However, for the first (2023), second (2024) and third (2025) years consecutively Union Nation Holdings will consume 9,600 tons, 12,800 tons and finally 16,000 tons of avocados annually. This means that production is not going to begin at 100% capacity, it will staggered to allow room for growth and routine. The pulp that is left over from the production can be used as organic fertilizer or animal feed.

Union Nation Holdings' technology and structural setup is that of a small company with very few staffers. The lean-startup setup will help with cutting down overhead costs, but also to streamline operations by avoiding redundancy.

To Union Nation Holdings this venture comes highly recommended as it is in the confluent zone of opportunity and readiness. Demand for the illusive oil is very high, manufacturers are few and raw materials aplenty.

## **2. DESCRIPTION OF PRODUCTS AND SERVICES**

### **2.1 Introduction**

Union Nation Holdings is considering a move to establish a processing centre and factory for producing crude avocado oil in Mbeya, Tanzania. Until now, avocado oil has been produced by only one other company in Tanzania, Rungwe Avocado Company Ltd. But worldwide demand for the oil is insatiable, Tanzania currently has big enough production of avocado to justifiably warrant an oil production plant. As avocado oil production requires fruits that are over-ripened or rejected from the fresh-fruit market, the proposed venture is never going to have a shortage of raw materials because of



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current post-harvest spoilage trends which are a menace to farmers. Such an investment would also answer the government's long cry for such processing facilities to rescue farmers from post-harvest losses.

Agricultural production of Avocado has a large market as a fresh fruit, besides its use in the oil, cosmetic, soap, and shampoo industry; as well as processed foods derived from it, such as guacamole, frozen products and avocado paste (Téliz, 2000). Avocado was first introduced to Zanzibar in 1892 from Mexico. The fruit then made into into Tanganyika in the early 1900s by private orchardists in the Northern and Southern highlands of what is now Tanzania. Tanzania started exporting avocados effectively in 2009.

Tanzania is the third largest avocado producer in Africa, after South Africa and Kenya. The Tanzania Horticultural Association (TAHA) estimates that the country's avocado exports reached 11,237 tonnes, or 510 containers worth USD 33 million in 2021. This is +12.6% more compared to 2020 sales. Annual avocado production in Tanzania is now estimated at over 39,000 tons in 2022. The biggest constraint in the Tanzanian agricultural markets are the limited amount of traders with enough capital, this leaves the farmers with a weak bargaining power. Furthermore, limited information systems, poor packaging and preservation techniques, poor transportation facilities, high handling costs and an underdeveloped sector are other limiting factors.

Fruits and vegetables are both major food products in their own right and key ingredients in many processed foods (Wim Jongen, 2002)<sup>i</sup>. A basic idea on which all nutritional scientists can agree is that the increased consumption of diets rich in a variety of fruit and vegetables will improve the health of almost any human population, though some of the ways in which these foods enhance health have only become clear in recent decades (Pauline G. Scardina, 2009)<sup>ii</sup>. Avocado like other vegetables and fruits is a perishable agricultural commodity, and has a shorter shelf life in normal temperature. After harvest, micro-organisms, oxidation, enzymes naturally occurring in the avocado and sunlight rapidly change the physico-chemical properties, color, flavor and texture of the avocados which all lead to both quantitative and qualitative losses of avocado.

Avocado processing is one way of preserving the fruit. Therefore, feasibility assessment of the business is hereby done before the physical erection of the processing plant to assess and display the viability of the project. Hence, the overall objective of this report is to study the feasibility of oil production from Avocado in Tanzania. There are no



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proposed changes to ABC's current product offerings as a result of this study. Online sales will include only current products and any changes to this product line must be considered outside of the purpose of this document.

## 2.2 Description of the Project

Commercial production of avocados in Tanzania is dominated by Rungwe Avocado Company Ltd (based in Mbeya) and Africado Ltd (based Kilimanjaro). The rest of the growers are smallholder farmers who own a couple of acres of avocado trees here and there. The popular avocado varieties produced in Tanzania are Hass, Fuerte, Pinkerton and Puebla. Tanzania's prominent avocado-producing areas are in the regions of Mbeya, Njombe, Songwe, and Iringa in the southwest, as well as in Kilimanjaro, Arusha, and Tanga in the northeast of the country. Mostly, the areas where coffee and tea are traditionally grown. The other regions are Kigoma and Kagera in the northwest and Morogoro in the east of Tanzania.

(TanzaniaInvest 2022)<sup>iii</sup>.

Tanzania has a variety of fruit crops grown in different agro-ecological zones produced through commercial as well as small farmers both as a source of income as well as food. There is high yield of produce harvested, but most of it is lost through spoilage. Avocado is a biological entity, hence, it respire (by taking up oxygen, and giving off carbon dioxide and heat) and transpires (loses moisture). Unless post-harvest technologies are implemented, the fresh avocado market could not accommodate the existing yield of the harvested crop. Consequently, there is great loss due to deterioration because avocado is susceptible to oxidation, microbial and enzymatic degradation (spoilage).

Hence, the establishment of an avocado processing plant would be of great benefit to avocado farmers as it would enable them to add value to and preserve their perishable crop, and therefore extend its shelf life. As a result, the highly perishable fresh produce is not lost to the elements, but instead it is preserved and value-added. Avocado oils is highly valuable at about Euro 6 per litre, so instead of the fruit perishing it is saved and converted into an oil that raked in foreign currency, provides employment and boosts the country's economy..

This justifies the feasibility study of avocado oil extraction to assess the economic advantage of investing in such a venture. The project attempts to study the feasibility factors of avocado oil processing which includes: technical factors, market feasibility,



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financial feasibility, organizational feasibility, and the environmental impact of avocado processing.

It is known that the factory will be capable of processing 10 tons of avocados per hour. It is assumed that the factory will work 8-hour shifts for 20 days a month and 10 months a year. This means that the factory will consume **16,000 tons of avocados per year**, assuming a 10month year. At 100% rate of production, 16,000 tons of raw avocados will cost **USD 2,735,042.74** annually. 16,000 tons of avocados produces **1,000,000 litres** of crude avocado oil yielding a revenue of **USD 6,000,000 annually**. The pulp that is left over from the production can be used as organic fertilizer or animal feed.

## 2.3 Project Implementation

The implementation period for the project in focus will be 6 months from the date of contract signing & deposit payment and will also be subject to factory machines delivery and workload at the time of signing the contract. This period assumes that all the payments will be made as per the milestones.

## 3. TECHNOLOGY CONSIDERATIONS

The major technical factors of this business are the required facilities. These may include the size and type of production machines (suitability of production technology), related buildings (availability and suitability of plant site), raw materials, commercial centres (banks), health centres, power qualified personnel.

Raw materials; Availability of the raw materials is very crucial and at the centrepont of this project. Therefore in order for this business to maintain its operations and activities without compromising the future of the business (long-term sustainability), The project must seek to own/acquire its own land preferably between 10000 ten thousands and 25000 twenty five thousands acres, This will help the business on the third yr as forecasted above to scale up its productivity by producing it's own raw materials to feed the production lines. This will be to the advantage of the business since it will minimize dependence of out-growers



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Production facilities include: electricity, water supply, communication technologies, transportation and its infrastructures. Also, plant buildings and building materials are all readily available at or near the site.

The processing technologies (machinery and equipment) as well as auxiliary technologies required by the business plant will come from Italy. Since, the site is in Mbeya City, with great air and land transportation infrastructure, importing machinery and equipment will be easy. The production technology is environmentally friendly because there are no harmful and toxic wastes that are generated from the processing plant. Tanzania has opened the door and welcomed investment in the avocado sector. An investment of this kind would ensure that farmers do not lose their crop to spoilage, this is a most welcome technology and the most important ever in the avocado business in Tanzania.

So far in Tanzania only one other company, Rungwe Avocado Company Ltd., produces avocado oil. There are three main types of avocado oil. The uses range from culinary, cosmetic and medicinal. These types include;

- a) **Extra virgin (100% pure avocado oil):** Extracted from the Hass avocado type, this oil has high levels of monounsaturated fatty acids and a burning point of 250 degrees. Based on the extraction method the extra virgin oil is classified as; (i) organic with no added chemicals nor flavour in it or (ii) conventional type that has some added chemicals, preservatives and flavours. This oil is excellent for salad dressing and gourmet cuisines.
- b) **Crude Avocado Oil:** Crude oil is classified as mono-unsaturated oil. Used in the medical and cosmetic products, it is rich in potassium, lecithin, amino acids and vitamins A, E and D.

Union Nation Holdings proposes to produce and market crude avocado oil for which market has already been established. The basic raw material required for the processing plant is fresh avocado. Furthermore, avocado is grown all around the plant site, which means that the raw material can be easily obtained.

## **Proposed Plant Capacity and Production Programme**

### **a) Plant Capacity**

Extraction conversion;



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Table 1 below illustrates the extraction conversion rate of Hass variety based on the average fruit size of 192grams.

*Table 1: Weight of raw material needed to produce 1 litre of oil*

Avocado Weight (kg)	Volume (litres)
16	1

The envisaged plant will be able to process 10 tons of avocados per hour. It will run an 8hour shift day for 20 days/month. That means the plant will process 1,600 tons of avocados per month, which, assuming the plant works 10 months annually is **16,000 tons (16,000,000kg) of avocados**. This, according to Table 1 above, is equivalent to an annual avocado oil production capacity of **1,000,000 litres**.

Table 2 below shows the power demands of the proposed plant.

*Table 2: Power consumption*

<b>3-PHASE 400V, 50 HZ</b>			
DESCRIPTION	Kw	Nominal Amperes	Kw/h real consumption
CRUSHER A60	45,00	78,60	19,00
CRUSHER'S FEEDER	1,10	2,64	0,75
MOTORIZED MASERO (PASTE VAT)	1,10	2,64	0,75
PISTON PUMP	7,50	14,60	4,00
DOUBLE HEATEX	8,00	16,52	4,00
MIXING GROUP 3V8000	16,50	33,09	9,00
PASTE PUMP 3000	5,50	10,90	3,00



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DECANTER REX400	55,00	98,20	21,00
MOTORIZED POMACE VAT	1,10	2,64	0,75
PISTON PUMP	7,50	14,60	4,00
VIBRATING SCREEN	0,26	0,52	0,19
OIL PUMPS	2,10	4,70	1,65
SEPARATORE A4500	7,50	14,70	4,86
HYDROTHERMIC PANEL	2,23	10,80	1,50
<b>TOTAL</b>	<b>160,39</b>	<b>305,15</b>	<b>74,45</b>

**SUGGESTED THERMAL POWER  
ROUGHLY 500.000 kCAL/h (580 Kw)**

### **b) Production Programme**

Considering the need for raw material availability, the processing plant will be planned to start operation at 60% of the capacity in the first 2 years, and will grow to 80% and 100% in the 3<sup>rd</sup> and 4<sup>th</sup> years of operation.

### **c) Raw and Auxiliary Materials**

The main raw material required is ripe avocado fruit. This will be grown in Mbeya, Iringa, Njombe, Morogoro, Kilimanjaro, Songwe and a few other regions in Tanzania.

The list of machinery and equipment required for processing of the avocado oil is listed in Table 3 below. The imported components are recommended to be sourced from AMENDUNI company, Italy.

*Table 3: List of machinery*



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MACHINES FOR AVOCADO OIL EXTRACTION	
1	<p><b><u>CRUSHER A60</u></b>            Stainless steel motorized supply screw.            Stainless steel hammers and rotor            Stainless steel grid</p>
1	<p><b><u>MASERO (PASTE VAT)</u></b>            Holding frame for crusher and piston pump with valves and connections.</p>
1	<p><b><u>PISTON PUMP PP10</u></b>            To transfer the paste to the Heatex</p>
1	<p><b><u>INVERTER PISTON PUMP PP10</u></b></p>
1	<p><b><u>HEAT EXCHANGER "HEATEX" DOUBLE + Inverter</u></b>            To be mounted on the malaxers; to condition and prepare the paste before entering the malaxers.</p>
1	<p><b><u>MIXING GROUP type "AUTOMATIC or CONTINUOUS"</u></b>  <b><u>3V8000</u></b>            Composed by:            warm water circulation jackets and pipes;            circulation pumps; flowmeter; temperature control of water and paste; sensor for paste level</p>
1	<p><b><u>PASTE PUMP 3000</u></b></p>



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Mono type with stainless steel rotor with **INVERTER**, which will be mounted into the electrical panel

### **e) Source of Technology**

The machinery and equipment required for processing avocado fruit to produce oil for industrial use can be procured from: Amenduni Nicola S.p.A., Via delle Mimose, 3 (Z.I.) – 70026 Modugno (BA) Italy.

### **f) Land, Factory Building and Civil Works**

The required land is approximately three acres to hold the factory building administration and general purpose building, pathways, and space for expansion in the future. A total of 2800 square meters of land is required for the factory house.

### **g) Proposed Location**

Proximity of raw materials and availability of infrastructure have determined that the location of the plant be in Mbeya. A possible location would be in the proximity of the industrial warehousing area in the city of Mbeya.

## **4. PRODUCT/SERVICE MARKETPLACE**

The global avocado oil market is projected to grow from USD 553.27 million in 2021 to USD 822.29 million in 2028 at a CAGR of 5.82% in the 2021-2028 period.<sup>iv</sup> Avocado oil is being sought after mainly for food processing, manufacture of personal care products and medicinal products. Demand for it has been increasing steadily and is projected to maintain ascent, at least in the foreseeable future.

The need for avocado processing usually arises from a need to preserve the product for cooking purposes and/or to add value for extra income. Avocado processing is in its infancy stage in Tanzania with only one company engaging in it at the moment, Rungwe Avocado Company Ltd. So Rungwe Avocado Company is the one and only competitor within Tanzania. There are other producers in Kenya, Ethiopia, Peru, Mexico etc. But demand for the oil is too high to be filled any time soon, so there is still room for more players.



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Out of the various forms of processed avocado, the major product presently produced and consumed in the country is avocado juice, but even that, not at any industrial scale. In Tanzania, the number of fruits and processing industries is limited. Currently, there are only few fruits processing plants in the country. Avocado processing is apparently limited to juice making where cafés, restaurants and juice houses takes the leads in cuisine preparation. Thus, there is only one agro-processing plant for avocado oil production. This means that the raw materials (fruit rejected for the retail market) is plentiful in Tanzania, and makes it conducive for further investment in the area of avocado oil processing.

Annual avocado production in Tanzania is 39,000 tons (some sources say the number is nearly double that). The crop is now produced by many farmers countrywide who collectively farm mostly in the Southern highlands and in the northern highlands of Tanzania and other parts of the country due to more conducive climatic and edaphic factors. Due to the high potential of raw materials availability in the country, largescale oil processing from avocado looks attractive.

Crude oil produced by Union Nation Holdings will be only for export as customers already exist. To name a few:

- Gregorio (Aceites Naturales Del Sur Pegalajar Jaen),  
SPAIN
- LA TOURANGELLE, USA • Compagnia Alimentare  
Italiana, ITALY

## 5. MARKETING STRATEGY

Marketing dynamics for crude avocado oil are simplistic and do not require a lot of haggling and hustling. It is a product that sells itself in that if you produce it buyers will look for you. There is a huge and satisfying demand right here in Tanzania, Kenya and in most other African countries. Union Nation Holdings will mainly be selling to its preexisting customers in Europe. The plan is to create a unique product in terms of quality and supply consistence in order to grow with the customers we have. Maintaining quality and supply will keep Union Nation Holdings in the game.

Union Nation Holdings will implement a customer e mailing list in order to send product promotions, sales advertisements, and other special offerings to customers who register. Additionally, Union Nation Holdings will offer referral incentives to customers



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who refer our products to friends and family in order to provide additional incentives. Union Nation Holdings will also maintain a customer database in order to determine its target customer groups and geographical regions. Union Nation Holdings will research marketing intelligence providers to determine the benefits and costs of purchasing customer information for bulk email campaigns as well. Another important consideration of Union Nation Holdings' online marketing strategy is cost. Electronic marketing communication costs are very small in comparison to direct mail marketing. However, we expect the additional revenue from online sales to greatly outweigh these additional electronic marketing costs.

It is important to note that Union Nation Holdings marketing and sales staff will require training in online marketing and sales practices. This training will need to be contracted to a training provider as part of our startup costs and schedule.



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## 6. ORGANIZATION AND STAFFING

Figure 1: Organizational Structure

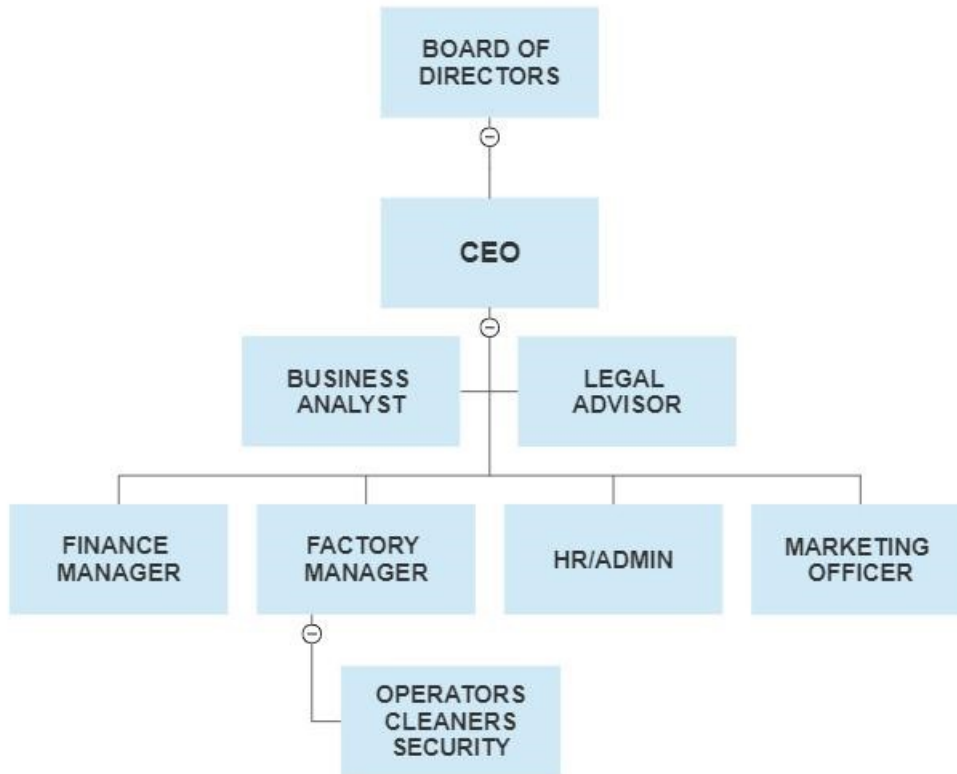


Table 4: Union Nation Holdings  
 Staffing Roster

	Position	#	Reports To	Annual Salary
<b>Top Executive</b>	CEO	1	BOD	\$24,000
<b>Dept. Heads</b>				
	Finance Man.	1	CEO	\$18,000
	HR/Admin	1	CEO	\$18,000
	Factory Man.	1	CEO	\$18,000
	Marketing Officer	1	CEO	\$18,000



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Other Staffers				
	Guards	2	Factory Man.	\$1,532
	Machine Operators	5	Factory Man.	\$3,830
	Office Secretaries	2	Factory Man.	\$1,532
	<b>TOTAL</b>	<b>13</b>		<b>\$102,894</b>

Union Nation Holdings is a small organization and not very complicated. The nature of the operation and technological automation employed for avocado crude oil extraction would not require the hiring of too many workers. The Chief Executive Officer (CEO) is going to work under the Board of Directors to give the company governance. The CEO is going to have an adept advisory team (*Legal Advisor and Business Advisor*) working under him to help streamline his governance and steer clear of the common pitfalls of management. He will give oversight to four (4) main departments; the Finance, Factory Operations, Marketing and Human Resources & Administration.

In order to assure the project takes off properly we have involved a professional candidate who may assist to assure the project takes off Properly.

Here are the profiles of the main proponents of this project:

### **CEO - Brian Ngelangela**

#### ***Summary:***

Offering 15yrs of experience providing leadership that is tailored to meet different needs of customers. Demonstrated resilient and flexibility of working in supply chains during Covid-19 and recent global events. Exceeding revenues and meeting targets by leveraging communication skills and day to day logistics demand and operations.

#### ***Experience:***

10 years experience at Land Rover and Jaguar, logistics and supply chain supervisor at Road lane Solihull Birmingham UK.

4 years CEO for Kaizen Logistics Ltd in Tanzania.

#### ***Education.***

MBA at Derby university, IBM honours International Business with French at



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es Salaam Tanzania.

## **Business Analysts – HAMDY AHMED FOUAD**

### ***Summary:***

A versatile and solutions driven analyst, with broad range experience in improving business and operational processes by leveraging natural analytical abilities and a computer background. Fully Knowledgeable and understanding on the importance of capturing data as the centre point of any forward moving business, and the fact that understanding of organisational data flow is very crucial for managerial decision making.

### ***Experience:***

3 years' experience within Union Nation Holdings as junior business analyst in Dar es salaam Tanzania.

### ***Education:***

HND at John Paulo Academy catholic College in Glasgow Scotland, 2 Arrocher St, Glasgow. G23 5LY, UNITED KINGDOM.

## **7. SCHEDULE**

Union Nation Holdings has estimated a timeline from approval to production of the first drop of avocado crude oil. It will take approximately **6 months** from ordering the machinery from Italy to installation and ultimately production in Mbeya, Tanzania. The following is a high level schedule of some significant milestones for this initiative:

Upon approval of this project a detailed schedule will be created by the assigned project team to include all tasks and deliverables.



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## 8. FINANCIAL PROJECTIONS

The financial projections for the extraction of crude avocado oil for Union Nation Holdings are highlighted in the table below. These figures account for projected sales, additional staffing requirements, shipping, logistics, material, warehousing, online marketing and utilities costs.

The assumptions for these projections are as follows:

- For the 1<sup>st</sup> and 2<sup>nd</sup> years, production will be running at 60% capacity,
- For the 3<sup>rd</sup> year, production running at 80% capacity, and
- For the 4<sup>th</sup> to the 6<sup>th</sup> years, production will be running at 100% capacity.
- All transactions are closed yearly with no carry-over to subsequent years

- Important data:**
- It takes 16kg of avocados to produce 1 litre of oil,
  - Current price of 1 litre of crude avocado oil is \$6,
  - Current price of raw materials (avocado) is \$170.21/ton,
  - The proposed machines have a capacity of processing 10 tons of avocados per hour,
  - The factory will be running on an 8-hour shift day, for 20 days a month and 10 months a year. This means the factory will be processing 1,600 tons of avocado per month (16,000 tons/year),
  - All other costs are listed in the table below.

## ANNUAL PERFORMANCE

Table 5: Annual Performance

Production Rates	60%	80%	100%	100%	100%	100%
(US\$)	2023	2024	2025	2026	2027	2028
<b>Revenue</b>						
Crude Avocado Oil	3,600,000	3,600,000	4,800,000	6,000,000	6,000,000	6,000,000
Avocado Pulp						0
<b>Total Revenue</b>	<b>3,600,000</b>	<b>3,600,000</b>	<b>4,800,000</b>	<b>6,000,000</b>	<b>6,000,000</b>	<b>6,000,000</b>
<b>Direct Cost/Cost of Sales</b>						
Salary & Wages	-102,894	-102,894	-102,894	-102,894	-102,894	-102,894



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Inbound Logistics (truck hire)	-184,615	-184,615	-246,154	-307,692	-307,692	-307,691
Outbound Logistics (factory-Port)	-57,692	-57,692	-76,923	-96,154	-96,154	-96,153
Empty Barrels	-15,000	-15,000	-20,000	-25,000	-25,000	-20,000
Shipping per Container	-93,000	-93,000	-124,000	-155,000	-155,000	-155,000
Avocado (Price/Ton)	-1,641,026	-1,641,026	-2,188,034	-2,735,043	-2,735,043	-2,735,044
<b>Gross Profits (GP)</b>	<b>1,505,773</b>	<b>1,505,773</b>	<b>2,041,995</b>	<b>2,578,217</b>	<b>2,578,217</b>	<b>2,583,218</b>
<i>GP Margin</i>	<i>42%</i>	<i>42%</i>	<i>43%</i>	<i>43%</i>	<i>43%</i>	<i>43%</i>
<b>Other Operating Expenses</b>						
Utilities - Power	-3,077	-3,385	-3723	-4095	-4505	-4505
Utilities - Water	-3,076	-3,384	-3722	-4094	-4504	-4504
Office/Stationeries/Secretarial	-600	-600	-600	-600	-600	-600
Rent	-2,564	-2,564	-3077	-3077	-3692	-3692
<b>Other Operating Expenses</b>	<b>-9,317</b>	<b>-9,932</b>	<b>-11,122</b>	<b>-11,867</b>	<b>-13,301</b>	<b>-13,301</b>
<b>Operating Profit (EBITDA)</b>	<b>1,496,456</b>	<b>1,495,840</b>	<b>2,030,873</b>	<b>2,566,350</b>	<b>2,564,916</b>	<b>2,569,917</b>
Depreciation charge	-700	-1263	-1889	-3176	-4000	-5600
<b>EBIT</b>	<b>1,495,756</b>	<b>1,494,577</b>	<b>2,028,984</b>	<b>2,563,174</b>	<b>2,560,916</b>	<b>2,564,317</b>
<b>Profit before tax (PBT)</b>	<b>1,495,756</b>	<b>1,494,577</b>	<b>2,028,984</b>	<b>2,563,174</b>	<b>2,560,916</b>	<b>2,564,317</b>
Corporate tax	448,727	448,373	608,695	768,952	768,275	769,295
<b>Net Profit/(Loss) after tax</b>	<b>1,047,029</b>	<b>1,046,204</b>	<b>1,420,289</b>	<b>1,794,222</b>	<b>1,792,641</b>	<b>1,795,022</b>
<b>Cost of Sales</b>	<b>-2,094,227</b>	<b>-2,094,227</b>	<b>-2,758,005</b>	<b>-3,421,783</b>	<b>-3,421,783</b>	<b>-3,416,782</b>

The Gross Profit Margin in this table appears to be constant because



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productivity and resources needed both increase at the same ratio, even though the Net Profit after taxes clearly increases.

## 9. FINDINGS AND RECOMMENDATIONS

The findings of this feasibility study show that this initiative will be highly beneficial to the organization and has a high probability of success. To farmers, this venture will mean an end to post-harvest losses due to spoilage as they will be able to sell their fruits, rejected by the fresh fruit markets, to Kaizen Logistics for oil production.

Key findings are as follows:

### **Technology:**

- Will utilize cold-pressing technology which eliminates the use of chemicals during the extraction process,
- Technology used has high oil-output to energy consumption ratio, so it is very good for the environment and for the bottom line.
- Once in place this technology is simple to operate and maintain for a relatively low cost, and does not require a multitude of staffers to run.

### **Marketing:**

- The online marketing initiative will allow Kaizen Logistics to reach a large number of target groups electronically at a low cost
- As crude avocado oil is a much sought-after item worldwide, not much aggressive effort is needed to woo customers, as they immediately flock to where it is produced.

- Union Nation Holdings will be able to differentiate itself from its competitors by being socially responsible through conducting its business ethically, and with sensitivity towards social, cultural, economic, and environmental issues.

### **Organizational:**

- Minimal increases to staffing will be required after the second year with no changes to organizational structure.
- No new facilities will be required within the first five years of operation.

### **Financial:**



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- Break even point occurs early in the third year of operation
- Union Nation Holdings will be in position to capture a much greater market share by maintaining an online presence as well.
- There will be a positive return on the capital invested into this venture as can be seen by the level of demand for the oil, the great availability of raw materials and type of technology proposed.

From the results of Market study, Technical Study and Financial analysis results we can see that the project is Feasible



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## APPENDIX


### 1. Quality Assurance - HACCP Certificate





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## 2. Electrical Requirements

			
<b><i>Electrical requirements KAIZEN LOGISTICS</i></b> <b><i>3PHASE 400V, 50 HZ</i></b>			
DESCRIPTION	Nominal Kw	Nominal Amperes	Kw/h real consumption
CRUSHER A60	45,00	78,60	19,00
CRUSHER'S FEEDER	1,10	2,64	0,75
MOTORIZED MASERO (PASTE VAT)	1,10	2,64	0,75
PISTON PUMP	7,50	14,60	4,00
DOUBLE HEATEX	8,00	16,52	4,00
MIXING GROUP 3V8000	16,50	33,09	9,00
PASTE PUMP 3000	5,50	10,90	3,00
DECANTER REX400	55,00	98,20	21,00
MOTORIZED POMACE VAT	1,10	2,64	0,75
PISTON PUMP	7,50	14,60	4,00
VIBRATING SCREEN	0,26	0,52	0,19
OIL PUMS	2,10	4,70	1,65
SEPARATORE A4500	7,50	14,70	4,86
HYDROTERMIC PANEL	2,23	10,80	1,50
<b>TOTAL</b>	<b>160,39</b>	<b>305,15</b>	<b>74,45</b>



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**SUGGESTED THERMAL POWER**

**ROUGHLY 500.000 kCAL/h (580**

**Kw) Please note; kW/h measure energy usage per hour**

### **3. Technology/Machinery**



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**PRICE OFFER**

**N. 573/E2022**

**Data: 19/10/2022**

**AMENDUNI**

1	<p><b><u>GENERAL CONTROL PANEL</u></b> To control both the whole line and single machines screw elevator, crusher, mixing group, pumps, decanter, screws and accessories described in the price offer. Equipped with safety devices and displays to control process parameters.</p>	
1 1	<p><b><u>DECANTER type "REX 400 limited"</u></b> (Approx. Capacity 10.000 kg/h) <b><u>INVERTER for Decanter REX 400 limited</u></b> Rotating drum made of high resistance stainless steel Internal screw made of high thickness stainless steel Wear proof coating of the internal screw on the working surface by STELLITE powder for a long-life cycle applied on a Stainless Steel axis New Gearbox for speed adjustment between drum and screw Husk ejector for automatic and continuous discharge High adjustable oil and water levels to reach always the best performance New stand frame design for stress and vibrations high resistance Process in both 2 and 3 phases without replacing any part</p>	
1	<p><b><u>VIBRATING SCREEN</u></b> Composed by: double section stainless steel vats; filter for oil and water purification; electric motorisation</p>	
1	<p><b><u>LIQUID POMACE MOTORIZED COLLECTION VAT</u></b> with internal screw, to feed the piston pump</p>	
1	<p><b><u>PISTON PUMP PP10</u></b> To transfer the paste</p>	
1	<p><b><u>HYDRA PUMPS</u></b> To transfer oil and liquid parts from Decanter to Separator The oil pump is endowed with a valve to transfer oil to the separators or to the tanks.</p>	




Amenduni Nicola S.p.A. Capitale Sociale € 3.500.000 i.v. - R.E.A. 353346 - Vicenza - Sede legale: Viale della Scienza 25 - 36100 Vicenza Direzione Generale - Stabilimento e Magazzino: Via Delle Mimose, 3 - Z. L. - 70026 Modugno (BA) - Italia - P. IVA 01213290248 Codice Fiscale n. 00473170728 - Tel. +39 080 5314910 - Telefax +39 080 5314920 e-mail info@amenduni.it - Http://www.amenduni.it Società soggetta alla direzione e coordinamento di Acciaieria Vialbruna S.p.A.



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**PRICE OFFER**  
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**AMENDUNI**

<p>1</p>	<p><b><u>SEPARATOR A-4500</u></b> Special Stainless Steel high speed drum Special Stainless Steel separation disks External bright stainless steel covers for fluid outlets Rotating axis mounted on high resistance bearing</p>	
<p>1</p>	<p><b><u>INVERTER</u></b> Which will be mounted in the general control panel</p>	
<p>1</p>	<p><b><u>BASE for Separator</u></b> Stainless Steel horizontal frame Stainless Steel frame and covers for separators discharge Tanks built-in on the liquid phases frame Complete set of feeding and connecting piping Connection between the frames in order to start each one separately</p>	
<p>1</p>	<p><b><u>HYDROTHERMIC PANEL for warm water</u></b> All hydraulic pumps, valves and exchanger plates Timer and digital temperature control Accessories</p>	

**TOTAL PRICE**

**564.000,00 €**



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**PRICE OFFER**  
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**AMENDUNI**

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**SALES TERMS**

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**PRICE:** 564.000,00 € EX WORKS

**PAYMENT**

By Bank transfer or Letter of Credit confirmed by:  
INTESA SANPAOLO SPA  
IBAN: IT06 L030 6904 0131 0000 0005 486  
SWIFT: BCITITMM

**SCHEDULE OF PAYMENT**

To be agreed

**INSTALLATION & SERVICING**

Included

**SPARE PARTS**

Included

**DELIVERY**

Shipment within 60 days after receiving L/C confirmation in Italy or bank transfer.

**GUARANTEE**

For n. 2 consecutive seasons.  
(except for electrical parts)

Any tampering of the MACHINE &/or any damage caused by improper use or modifications brought on the same machine without previous authorization of the Amenduni S.p.a., will cause immediate expiration of the guarantee.

**VALIDITY OF THE OFFER**

15 days.

**NOTE: The images above are indicative only.**

**All bank charges including the L/C confirmation charges in Italy are on Applicant's account.**

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**This Price Offer does not include:**

- Masonry works, civil or any modifications required to concrete works for loading equipment
- Hydraulic connections and water supply up to the machines as per our drawing
- Electric line to Amenduni electrical panel
- Sub surface conduits or overhead cable trays
- Labour excluding technical installation
- Unloading machines from trucks and/or containers
- Crane truck and/or lift truck
- Burner connections to the power grid

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- <sup>i</sup> Fruit and Vegetable Processing (Improving Quality), by Wim Jongen <sup>ii</sup> Fruit Juices: Properties, Consumption and Nutrition by Pauline G. Scardina <sup>iii</sup> <https://www.tanzaniainvest.com/avocado> <sup>iv</sup> <https://www.fortunebusinessinsights.com/industry-reports/avocado-oil-market-101938>.