FROMM

GERMAN OIL & LUBRICANT TECHNOLOGY

The business plan for «The project of the construction of an industrial zone for lubricant production and waste oil recycling»

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PROJECT RESUME

Concept	**Constructing an industrial zone for lubricant production and waste oil recycling using the latest research results and nanotechnologies.**	
Implementation schedule	Billing period	10 years
	Sales start in	4 years
Budget	**Project cost**	**€ 1 530 000 000**
	Own funds	*€ 30 000 000*
	Investment funds	*€ 1 500 000 000*
Profitability of the project	**Gross income**	€ 127 081 479 455
	Capitalized net profit	€ 26 764 334 231
	Total cash flow	€ 23 844 471 102
Investment attractiveness of the project	Discount rate	5%
	Discount payback period (DPP), years	4,12
	Net present value of the project (NPV)	€ 17 065 232 470
	Internal rate of return (IRR)	71%
	Profitability of investments (PI)	12,46

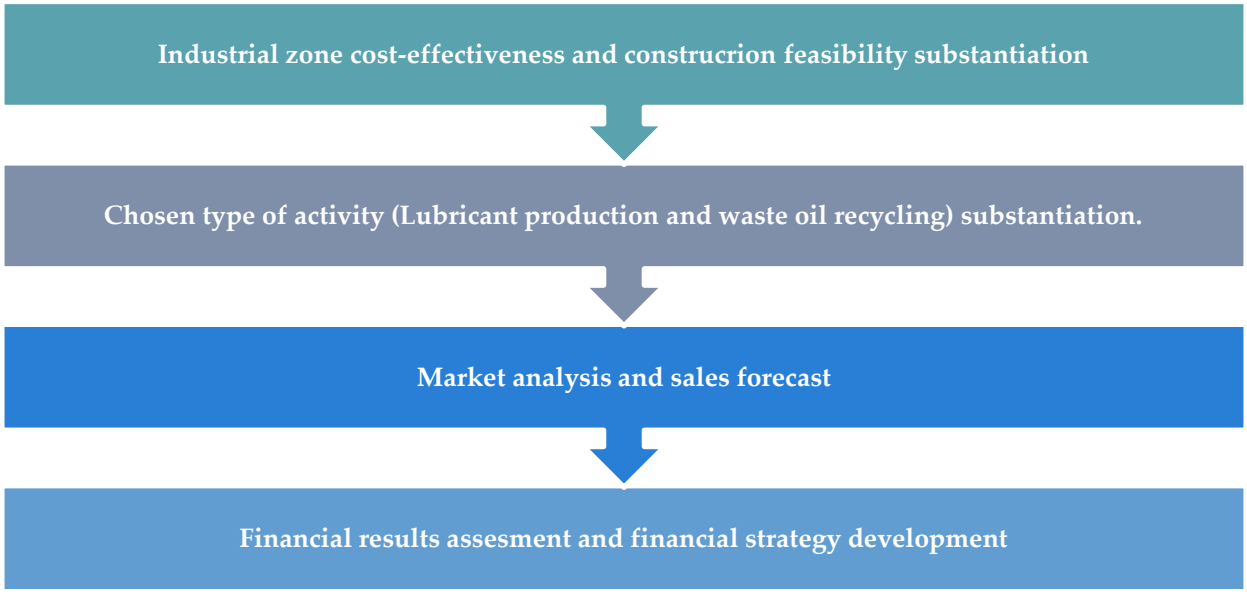
PROJECT DESCRIPTION

The industrial and motor waste oil processing and recycling is currently one of the most difficult ecological and technological problems. As for today no more than 15 % of waste oil is being collected to be regenerated or just burned. The rest is illegally dumped into soil or water, harming the environment. Lubricants are made by vacuum distillation of crude oil, making 1 liter of motor oil takes 1 barrel (159 l.) of crude oil. Factories constantly create huge amounts of waste oil. Waste removal and recycling prices constantly go up, and so do fines for failing to comply with environmental standards and requirements.

Thus lubricants become the most valuable products of oil refining and so they should be used as a secondary material product for the purpose of rational use of natural resources.

The purpose of this project is constructing an industrial zone for lubricant production and waste oil recycling using the latest research result and nanotechnologies.

Figure 1. Business-plan objectives



Project objectives:

- ✓ Constructing and launching a new industrial zone.
- ✓ Establishing a competitive and highly profitable enterprise.
- ✓ Making a product that is in high demand around the globe.
- ✓ Meeting the needs of the domestic market.
- ✓ Achieving good financial results.

Main goals of this project implementation are:

- Developing project and design documentation for waste oil industrial recycling

- Production lines installation, organizing waste oil processing

- Forming sales and feedback channels.

- Forming a professional research and production team

- Inducing the creation of regional waste oil market

- Organizing waste oil importation.

- Achieving the expected values of financial indicator

- Increase in market capitalization

The advantages of waste oil recycling technology include:

- Simplicity of the technological process and hardware design.
- Use of modern equipment.
- Ability to process a broad spectrum of waste oils.
- Ecological safety.
- High yield.
- A resource-saving technology allows ecologically safe waste oil recycling giving them a second life.

Availability of raw materials is achieved by:

- Having a sound strategy of supplying waste oil and other types of waste products.
- Crating structural units for collection and transportation of waste oil and other waste products.
- Timely provision of technical means for said units.
- Motivating staff to achieve higher amounts of collected and delivered waste; more customers attracted; lower prices on waste and higher cost of services.
- Versatile and competitive waste pricing policy.
- Active cooperation with waste oil suppliers, as well as government agencies overseeing waste circulation.
- Timely and reliable account and analysis of waste collection and recycling results.

Successful project implementation is ensured due to:

- A unique production and recycling technology.
- Availability of raw material sources as well as product consumers.
- Availability, recruitment and placement of personnel, its motivation.
- Program-target management of the structural units.
- Budget-target funding of business processes.
- Raw materials availability (rhythmical and sustainable supply).

The main objectives of the implementation of the project for the enterprise in question will be:

- Developing a business plan of the investment project as an instrument of external funding attraction.
- In 1-2 months after developing the business plan raising 1.5 billion euro of investment (credit) funds for project implementation.
- In 3 years after raising funds building and launching the industrial complex.

- In 12 months after the launch establish wholesales worldwide.
- Timely and fully pay back the invested funds.
- Rise business efficiency of the enterprise and its market value

Project location: Vietnam, Ong Keo IZ, Dong Nai.

Figure 2. Project location

Thus project implementation will allow to:

Create a powerful and competitive waste oil processing plant;

Meet the public demand for a high quality product;

Form a stable customer base by attracting new customers;

Increase income and profit from the enterprise;

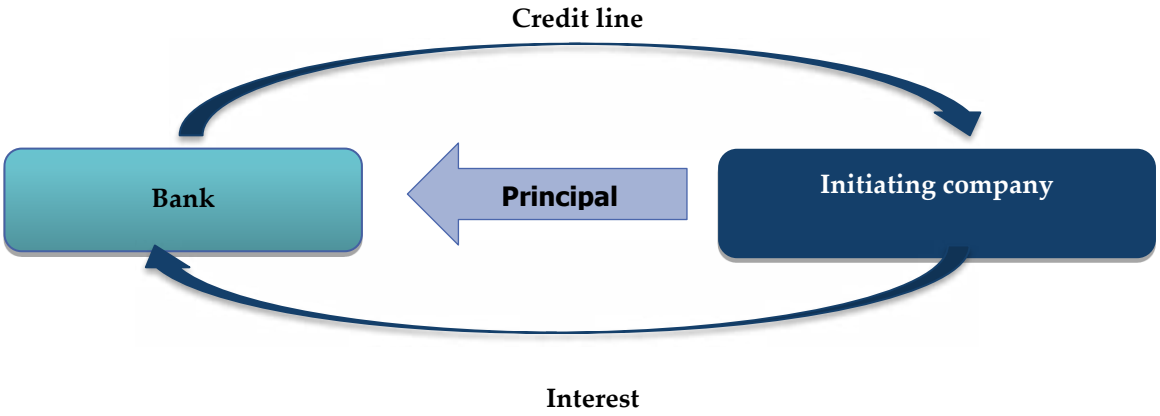
Increase the market value of the enterprise.

The implementation of the project requires financing construction at the expense of the investor.

Desired terms of fundraising:

- € 1 500 000 000 credit line.
- 1,8% interest rate.
- 120 months payback period.
- Interest repayment up to 37 months. Principal repayment from month 37.

Figure 3. Project financing diagram



The expected total income from lubricants sales will be sufficient for the initiating company to fully pay off on its loan obligations for this project.

The key parameters for project calculation:

- Estimated duration – 10 years.
- Calculation currency – euro.

PROJECT PARTICIPANTS INFORMATION

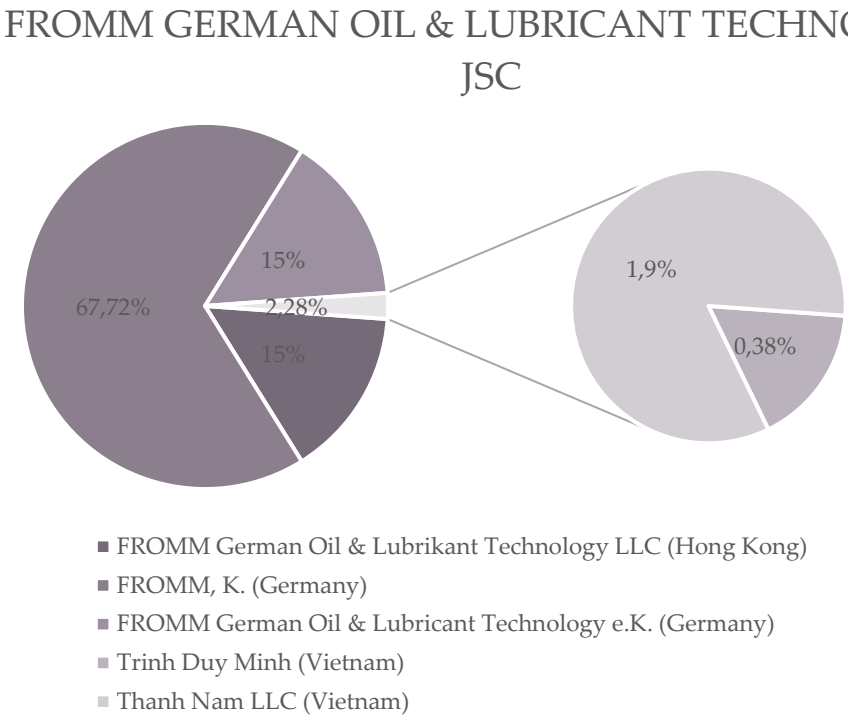
Project initiator - FROMM German Oil & Lubricant Technology JSC.

Table 1. Company information

FROMM JSC	Operating Fields
• Founded: 27/08/2015 in Vietnam • Investment license: 3273407185 • Tax ID: 3603307614 • Chairman & Director: • Mr. Konstantin Fromm	• Lubricant Processing & Trading • Capacity: 100,000 T / year • Construction begins: 12/2019 • Operating begin: 12/2022 • Duration: 37 years

Company property structure is shown on the figure below.

Figure 4. Shareholders



Company CEO - Mr. FROMM, Konstantin.
Qualification: Industrial Engineer
Languages: German, Russian, English
Experiences: Development & Research, Engineering Services. Petrochemicals, Dismantling and Assembly Equipment and Machinery, Import & Export.

Figure 5. Trademark

With many years of experience available on the oil and lubricants market in Vietnam of the Director cum Chairman of the Board Mr. KONSTANTIN FROMM and management team in the company, we are well aware that the opportunity to be competitive in the market when our company's products are completely new and unfamiliar to consumers is to compete with other competitors by FROMM-branded products manufactured by FROMM only, which is the shortest way to conquer the market and bring success as well as revenue from FROMM-branded oil and lubricants products

When being put into production and before being launched, the oil and lubricants products are registered product quality testing with the Directorate for Standards, Metrology and Quality of Vietnam to be issued the certificates and certified marks for the products meeting the oil and lubricants quality standards of API, SAE, and OEM standards of large car manufacturers as well.

This is the first step that the Company conducts to ensure the quality of products marketed as standard products, bring Vietnamese consumers Vietnamese products, but Germany as well as international quality.

Vision:

- To become one of oil and lubricants manufacturers with leading growth and profitability in the region
- A provider of oil and lubricants products with reasonable quality, price and time.
- To achieve customer satisfaction by added value services
- To provide quick response to the needs of customers through a professional team.

Quality policy:

- To satisfy customers with quality products on first use and afterwards.
- To ensure consistency in quality anytime and anywhere.
- To strive to achieve perfect quality system through training, motivation, team work for a team of consultants as well as continuously improving production technology.
- Gradually reduce waste, increase productivity and optimize product quality and services in the most effective way

Commitments:

- To provide products and services of high quality to ensure customer satisfaction.
- To build a culture of quality with the participation of the entire staff
- To become an environment-friendly manufacturer

These are benefits of compliance with quality standards that we have recognized and committed to compliance with

Target market that FROMM oil and lubricants products are focused is potential markets of regional countries of Southeast Asia, Pacific-Asia, etc. with high consumer demand for oil and lubricants products. To reach out to foreign markets, in addition to the achievement of high quality, it is crucial for the Company to have a team of good managers as well as leading specialist in the field of industrial oil and lubricants, who are able to grasp and handle the situation of the market in the best way.

PRODUCTION PLAN

Product characteristics

According to the project the main products are lubricants recycled from waste oil.

Waste oils are any petroleum-based or synthetic lubricants that, due to contamination, became useless for their initial purpose because of impurity or loss of their initial properties.

Waste oil does not naturally degrade in soil and water, harming the environment and people. Burning waste oil leads to spreading carcinogens into the atmosphere increasing the incidence of cancer.

According to international standards waste oils that are supposed to be processed (this is not a complete list):

1. Waste oils and lubricants from vehicles

- Automobile transmission oils in cars, trucks, sea crafts and aircrafts not used as fuel;
- Transmission oils for diesel engines in cars, trucks, buses, sea crafts, heavy equipment and locomotives not used as fuel;
- Engine oils for natural gas based engines;
- Lubricants for alternative fuel based engines;
- Transmission fluids;
- Brake fluids;
- Hydraulic fluids.

2. Waste industrial oils

- Compressor, turbine and bearing oils;
- Hydraulic oils or fluids;
- Oils or oil emulsions for metalworking, including cutting, polishing, rolling, stamping, quenching, coating;
- Electrical insulating oils;
- Oils for freezers and air conditioners;
- Cable oils;
- Lubricants;
- Heat carriers.

In operation, oils become polluted with dust, wiping material fibers, bits of metal, sometimes tiny bits of chark and drops of water get in. Affected by presence of oxygen, water, by elevated temperature hydrocarbons forming the basis of oils go through different types of chemical transformations (oxidizing, tarring, fatigue),

changing the properties of the product, as a result of that oils use their qualities, become unfit for further use and have to be replaced.

The average composition of waste oil:

– hydrocarbons 70,0–98,2 %;

– additives 0,0–12,0 %;

– mechanical impurities 0,0–1,0 %;

– water 0,0–2,0 %.

The dangerous properties of waste oils include toxicity and flammability, ability to maintain combustion and self-ignite. Waste oil belongs to the 4th class of toxicity, though issues of petroleum products toxicity are far from being developed. It is due to their complex chemical composition and differences in chemical properties. It is established that the most toxic are hydrocarbons with boiling temperature of 150 to 275 °C.

This project provides for recycling of such oils and producing the following types of oils and lubricants:

1. Engine oils
2. Tractor oils
3. Push-pull mixtures.
4. Automatic transmission liquid
5. Transmission oils
6. Hydraulic/Compressor oil

Table 2. Project products list

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
HT Synt RS SAE 5W-30 DLS HT Synt RS SAE 5W-40	HT Supertrac SAE 10W-40 (STOU)	HT 2-T Scooter	HT ATF 9000	Gear Oil SAE 75W-90 HT TOPGEAR SAE 80W-90 HC	Hightec VDL 68
HT Super Leichtlauf SAE 10W-40 HC-O HT Turbo HD SAE 15W-40		HT Power Boat 2-T		HT Hypoid EP SAE 85W-90 Hightec CLP 100-CLP 460	Hightec VDL 100. VDL150
HT Turbo HD SAE 20W-50 HT Truckstar SAE 10W, 15 W, 20 W-40 HC		HT Formula SAE 10W-40 TS-Z		Hightec CLP 220 Hightec HLP 10, 22, 32,46 Hydraulic Oil HLP46PP-45	

Fromm lubricants is formulated from high quality mineral oil and additives under state-of-the-art technology to meet stringent requirements of the market and have very competitive potentials with other well-known brands:

- Increase optimal capacity for engine;
- Prevent from abrasion, scratches or jams;
- Protect the engine in all operating conditions at the maximum level;
- Extend the life of the engine;
- Save fuel, reduce maintenance costs;
- Prevent from harmful effects of high temperatures for four-stroke motorcycle engines;
- Provide smooth operation in all conditions of roads and harsh weather.

Quality standards of FROMM oil and lubricants products under German technology standards has been subject to the research on production plans and the products of the Company are capable of meeting the quality standards of worldwide standards.:

- API (American Petroleum Institute),
- SAE (Society of Automotive Engineers),
- OEM (oil specifications of world major brands such as BMW, Ford, Mercedes-Benz, Porsche, VW, Toyota etc.)

The oil and lubricants products of the Company are capable of achieving quality standards equivalent to the quality criteria of the world's standards, depending on the needs of customers and markets. When comparing the quality of other famous lubricants products in Vietnam such as Caltex, Castrol, SHELL, etc., FROMM lubricants products have similar quality, and can create advantages to compete with oil products listed above when being introduced to the market.

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FROMM Primus HDC

SAE 5W-40

Fully Synthetic High Performance Low Friction Oil

Product Description

FROMMOIL HDC SAE 5W-40 is a high performance low friction oil, which is designed for all gasoline and diesel engines of passenger cars, and which especially can be used for fuel injected and turbo charged engines.
It is blended from high quality synthetic base oils and selected additives. This makes for a lubricant quality which fulfills and exceeds all requirements of modern passenger car engines.

Product Benefits

FROMMOL PRIMUS HDC SAE 5W-40 has following advantages to be pointed out:

- excellent cold start and fast oil feed even at temperatures down to lower than -30°C assure fuel- and oil-economy
- optimized high temperature viscosity to meet latest requirements leads to low oil-caused emissions
- high wear and corrosion protection and a very good dispersancy provide for an excellent cleanliness of the engine and for long motor life
- All seasons use by outstanding temperature-viscosity properties and reliable performance reserves even at long drain intervals.

Specifications / Recommendations

ACEA A3-B4-12
API SN / CF
BMW LL 98
Renault RN 710/700
Porsche A40
Opel GM-LL-B-025
Fiat 9.55535-M2
PSA B71 2296

Approval

VW 502.00 / 505.00
MB-Approval 229.3

Typical Properties

Density at 15°C	kg/m³	858	
Viscosity at 100°C		14.4	
Viscosity index		172	
CCS at -30°C	°C	6510	
Pourpoint		-42	
Flashpoint	°C	224	
TBN	mg KOH/g	8.8	
Article-Number		01167	

FROMM German Oil & Lubricants Technology e.K.

08.12.2015

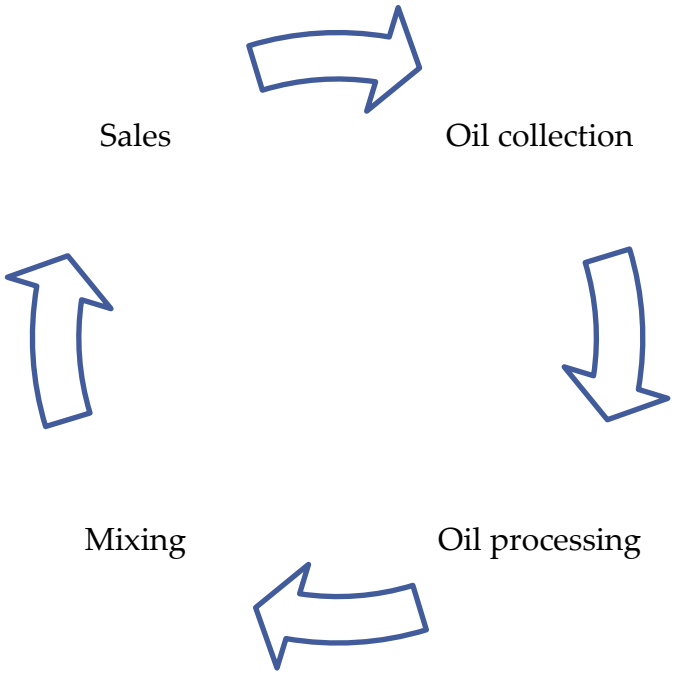
Technology

The production cycle includes two unique technological processes:

I. Processing and detoxification of waste oil.

II. Production of commodity oils (lubricants).

Figure 6. Production cycle



Main business processes:

1. Collection, temporary storage of waste up to minimal transportable amount.
2. Transportation to the recycling facility.
3. Processing (recycling) of waste into commodities.
4. Recycling products sales.

There is a number of methods of recovering and recycling waste oil, and the choice of a specific method is based on a number of: waste oil composition, possibility of use of the recycled product, economical expediency of recycling and available means.

Table 3. Comparative analysis of waste oil recycling methods

Name of the waste oil recycling method	Advantages of the method	Disadvantages of the method
Chemical processing methods	Sulphuric acid treatment is the most traditional and still used in some facilities of the oil industry method of removal from oil distillates of asphalt-resinous substances, oxygen-containing and sulfur-containing compounds and other unwanted additives. In the alkaline purification of petroleum products, two liquid phases are formed – upper and lower layers; the upper layer is acidic oil consisting of hydrocarbons, free sulfuric	Sulfuric acid cleaning does not ensure the removal of polycyclic arenes and highly toxic chlorine compounds from the waste oils. Oil settling after alkaline cleaning is mandatory.

Name of the waste oil recycling method	Advantages of the method	Disadvantages of the method
	acid and sulphocompounds; lower layer – acidic tar, consisting of free sulfuric acid, sulphocompounds and asphalt-resinous substances. All the toxic substances, apart from organic acids, are removed from the waste oil with acidic tar, the main part of the hydrocarbons in the oil stays pretty much unchanged.	
Physical processing methods	These include settling, separation, filtration, distillation, washing with water. This method allows to remove mechanical impurities, such as dust, sand, bits of metal, water resinous, asphalt-like, chark-like and carbonaceous substances, as well as fuel, without influencing the chemical basis of oils	The physical method of waste oil processing does not provide a complete recovery of oil in case of deep aging. Sometimes even after long processing a significant amount of additives remains suspended, meaning that the oil doesn't settle at all.
Physicochemical processing methods	Ion-exchange coagulation and adsorption. The advantage of these methods of waste oil recycling is using the ability of the substances acting as adsorbents keep the oil-polluting products on the outer surface of the granules and on the inner surface of of the capillaries penetrating the granules. Natural (bleaching clays, bauxites, natural zeolites) or artificial (silica gel, aluminum oxide, aluminosilicate compounds, synthetic zeolites) substances can be used as adsorbents.	This technological operation is very demanding as it depends on a number of factors, such as temperature of the reaction, exact amount of the reagent, mixing intensity. Also, using this method requires complicated equipment, which stops it from becoming common. To maximize the removal of water and metals in the coagulation process, when combined with the various individual components of the composition, additive, synergistic or antagonistic action is possible
Biological processing methods	This technology can be implemented both in special facilities, and in installations with a small number of modules installed in the places of collection of petroleum products. Inactivated microorganisms (strains) can be used as fertilizers in parks and flower beds.	This method is good for removal of acid ballast, but can't provide tar retention.
Thermal processing methods	High-temperature cracking, low-temperature pyrolysis is some of the most efficient recycling technological processes, allowing to turn waste oil into fuel, similar to diesel oil. They give back around 85 % of the initial amount.	The cracking process is slow, hydrocarbons with a straight chain of carbon atoms form. The thermal cracking gasoline contains many unsaturated hydrocarbons, which are easily oxidized and polymerized. Because of that this flammable liquids are less stable in storage. Their burning may clog various parts of the engine

Thermal technologies analysis shows that considering the list of tasks in-hand (ecological safety, products with required operational properties) methods of low-temperature pyrolysis are of greatest practical importance.

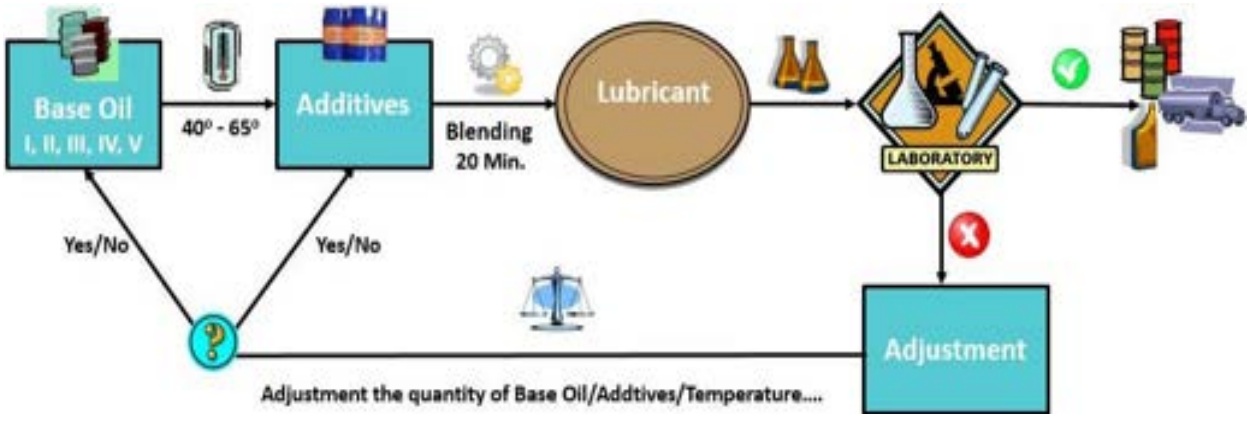
The most environmentally friendly technological processes of waste oil recycling are:

- Recycling into fuel (petrol, heating oil and boiler oil);
- Regeneration or restoration of the physicochemical properties of waste oil producing base oils and fuel;
- Coagulation cleaning of waste oil.

Waste oil that's supposed to be processed goes through initial preparation: settling at 40–65 °C or centrifugation. During this process the physical impurities and water, which can be accumulated during storage, transportation and hardware operation are removed. In some cases before the settling or centrifugation oils can be washed with water to remove remaining additives thus reducing ash content of the final product.

Oil and lubricants production process:

Figure 7. Mixing process



Description:

• Base oil group I, II, III, IV, V

• Clean tanks and pipe systems with the base oil which has a low or middle viscosity degree (to be specified in the Chemical Laboratory)

• Pour 30-50% base oil into the tanks to be stirred

• Preheat the temperature to 40-65 ° C (the temperature is adjusted depending on the amount of finished products produced)

• As directed by chemistry testing room, add the percentage and types of additives to the base oil to be stirred The introduction of additives are made slowly or at a certain time depending on each product.

• After mixing the additives and base oil into a unified whole, stir more than 20 minutes.

• Whether the finished products reach standards or not must be tested by the Chemical Laboratory and such products are only allowed to be transported if the approval of the Head of Chemical Laboratory is obtained.

• In case the finished products fail to reach the standards and correction in the rate of raw materials, temperature are required, such finished goods will be taken through

the processing stage again.

• At this stage of processing, the mixture will be adjusted according to the adjusted formula of the Chemical Laboratory (formula, temperature, etc.). After adjusting some factors, stir the mixture for 20 minutes and then do a test again by the Chemical Laboratory before issuing the Ex-factory orders to the customers.

Quality inspection process:

One of outstanding advantages of our oil and lubricant products comes from the quality inspection process at the factory. All errors will have to be adjusted before the manufacturing process is carried out for final products.

Chemical Laboratory system with German equipment and know - how acts as the technology key that helps us ensure the quality of products according to the standards in the world:

1 American Petroleum Institute - API

2 Society of Automotive Engineers - SAE

3 OEM standards of large firms such as Ford, VW, Toyota, Honda, Yamaha etc.

- Oil and lubricants manufacturing process is carried out in each batch. A production cycle includes

+ Filling mixer - 30 minutes

+ Mixing of the material - 90 minutes

+ Emptying the mixer - 30 minutes

+ Purging of pipelines - 30 minutes

- **Production tanks** are connected to the raw materials area (base oil) and packaging area with pipes.

- Oil pumping control from oil tanks of raw materials to the production tanks or from the production tanks to the packaging area are carried out an **automatic control room (7).**
- The automatic control room uses a compressed piping system to each tank (production/additive) to control the remaining oil, as well as control the pumping of oil from the raw material tanks.
- Batch production and automatic control facilitate us to be completely autonomous in the production of large and small purchase orders, which are suitable to all needs of the market.

Рисунок 8. Технологическая схема

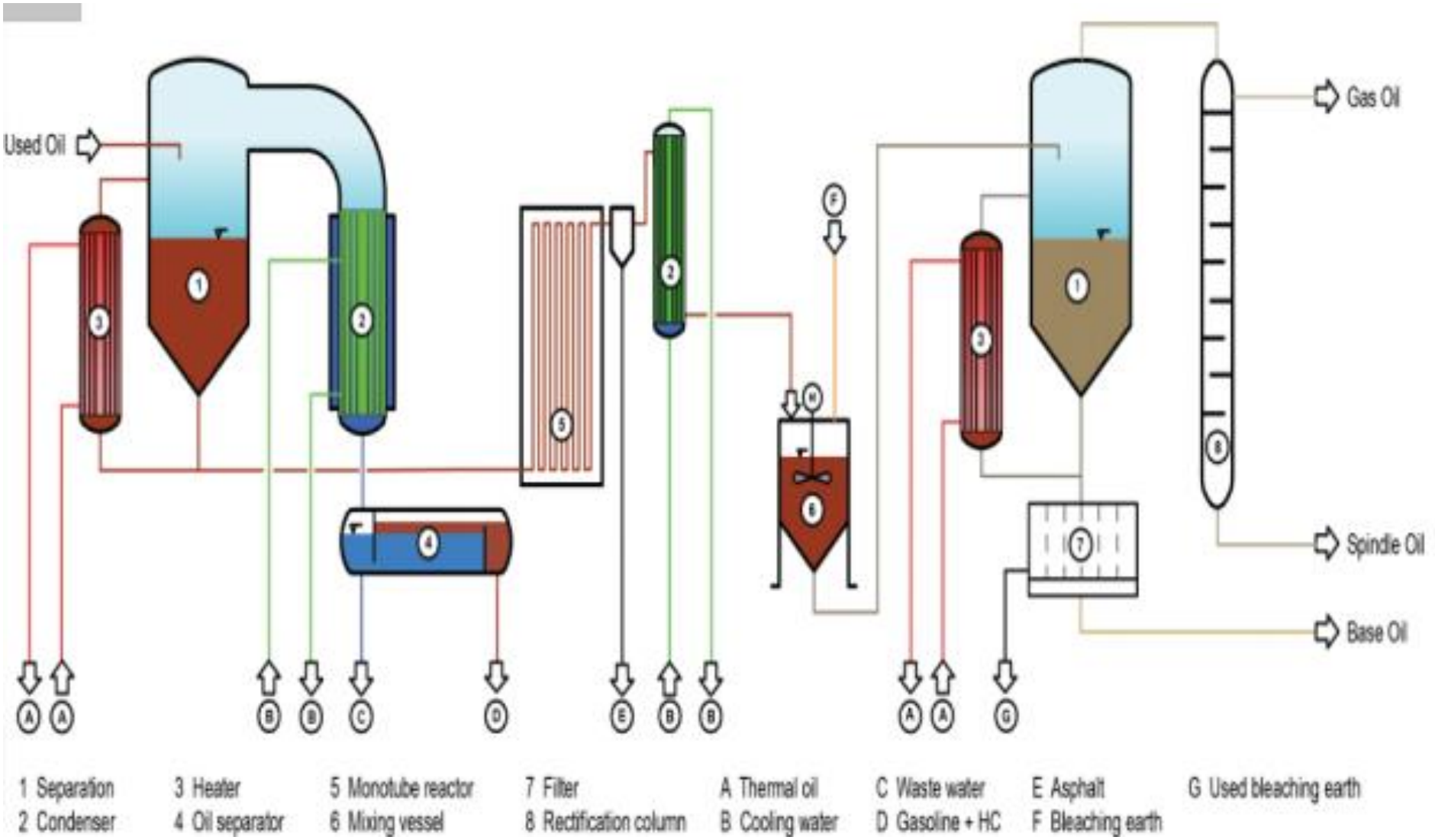
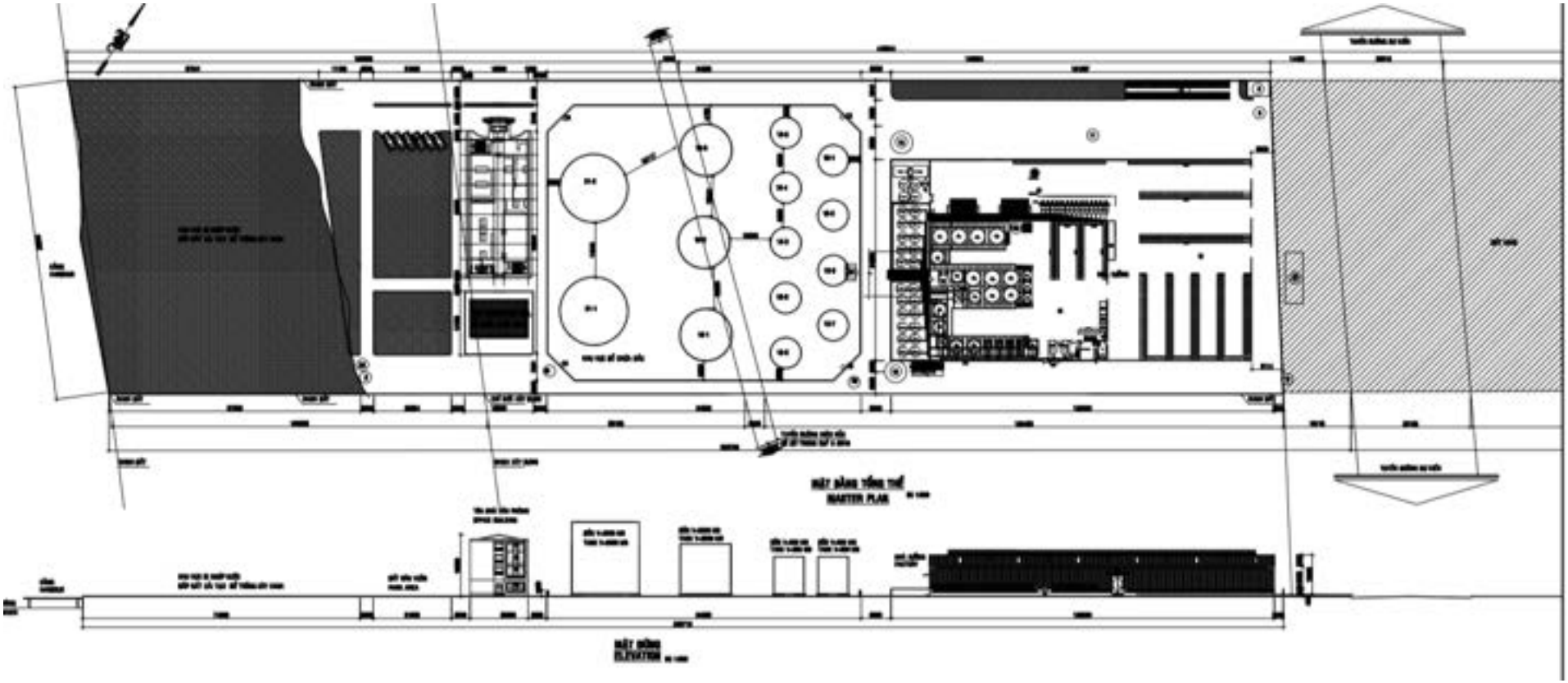
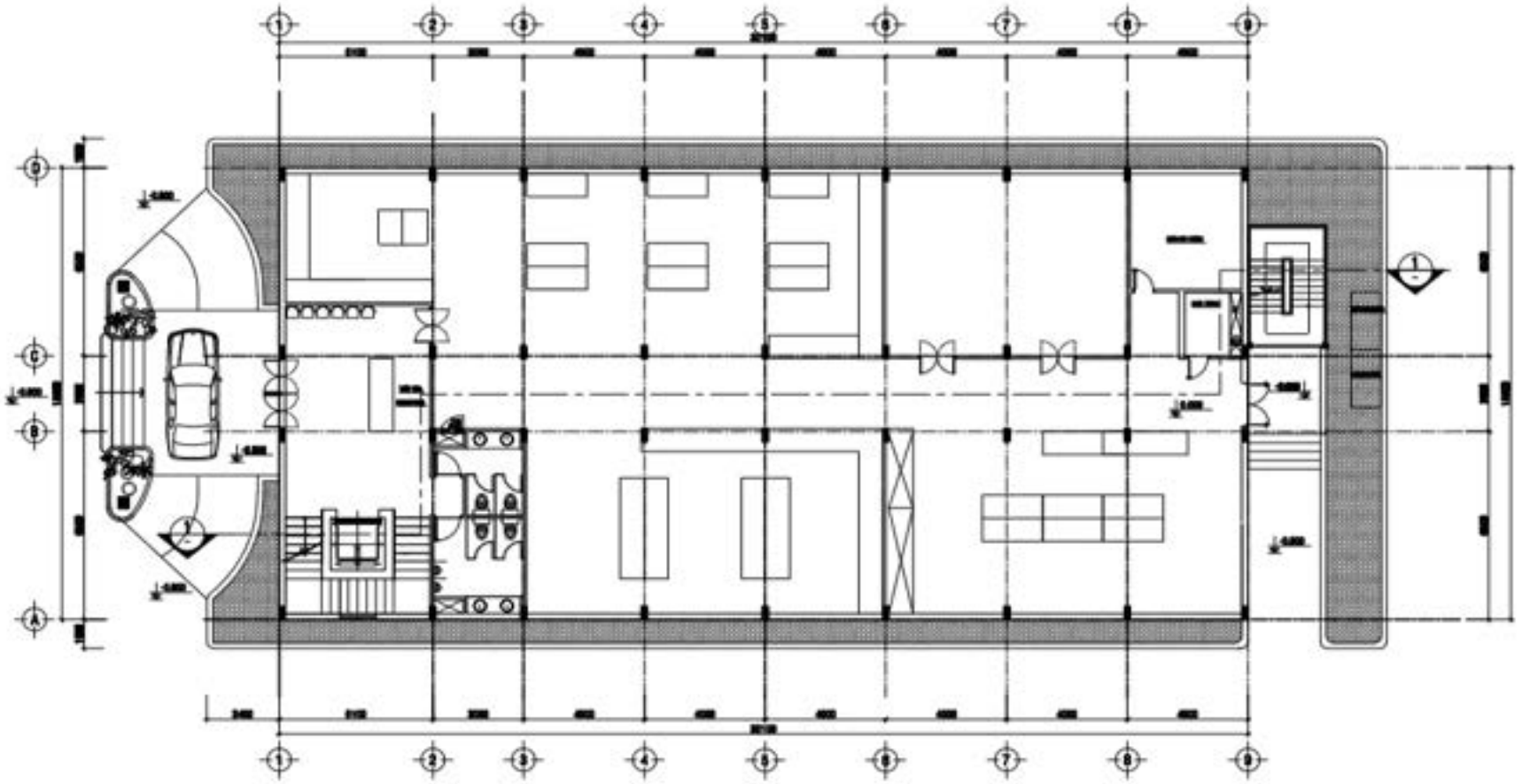
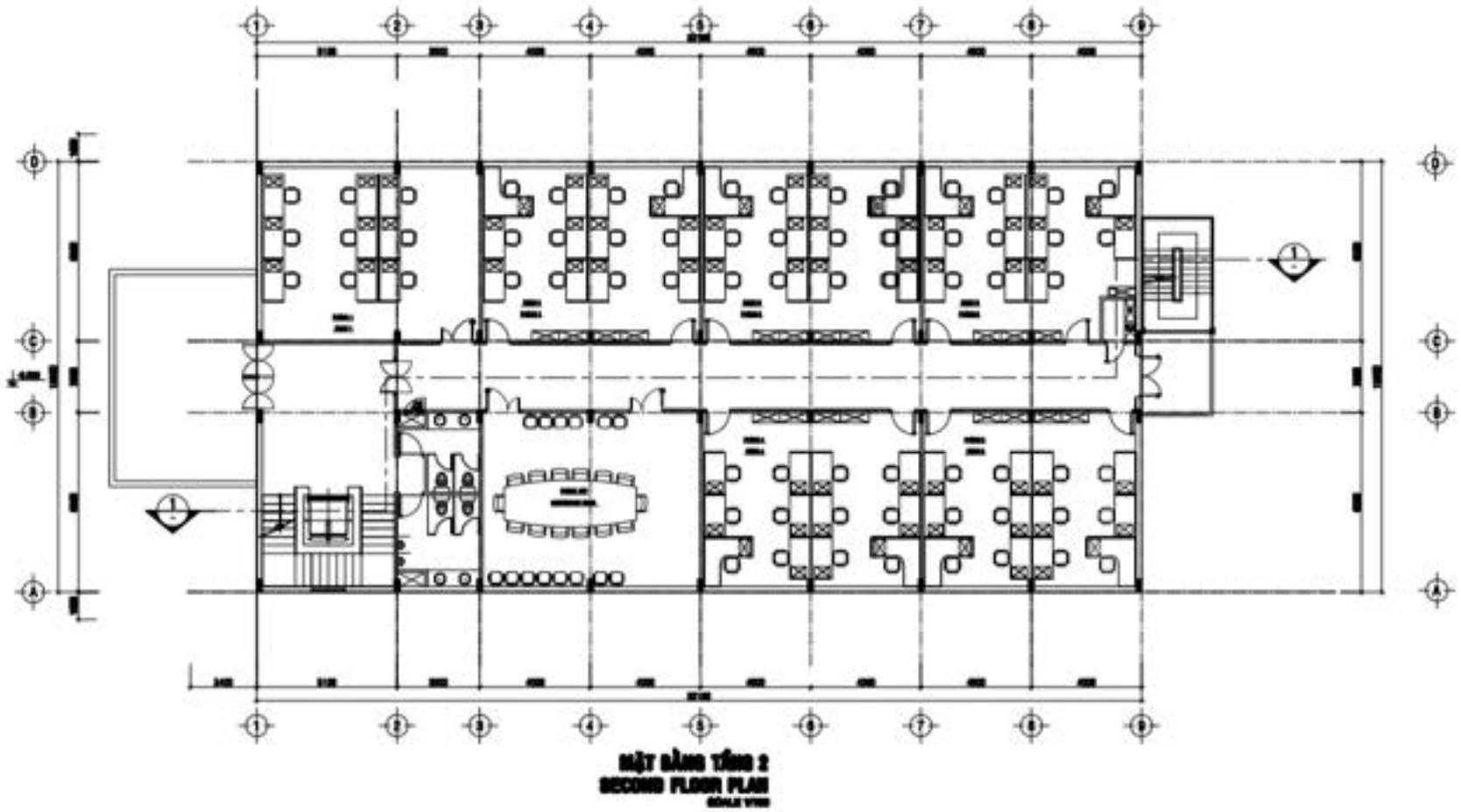


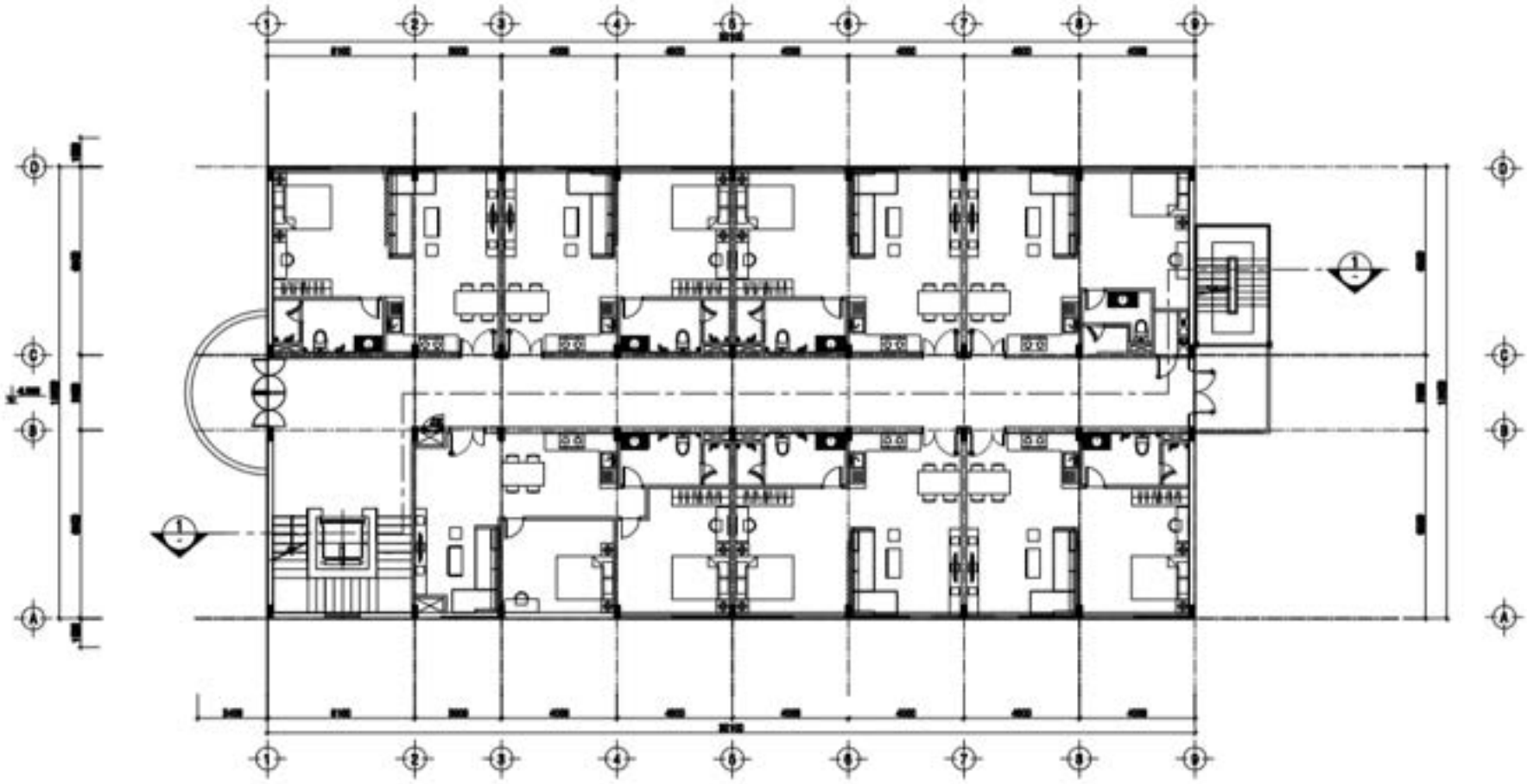
Рисунок 9. План-схема



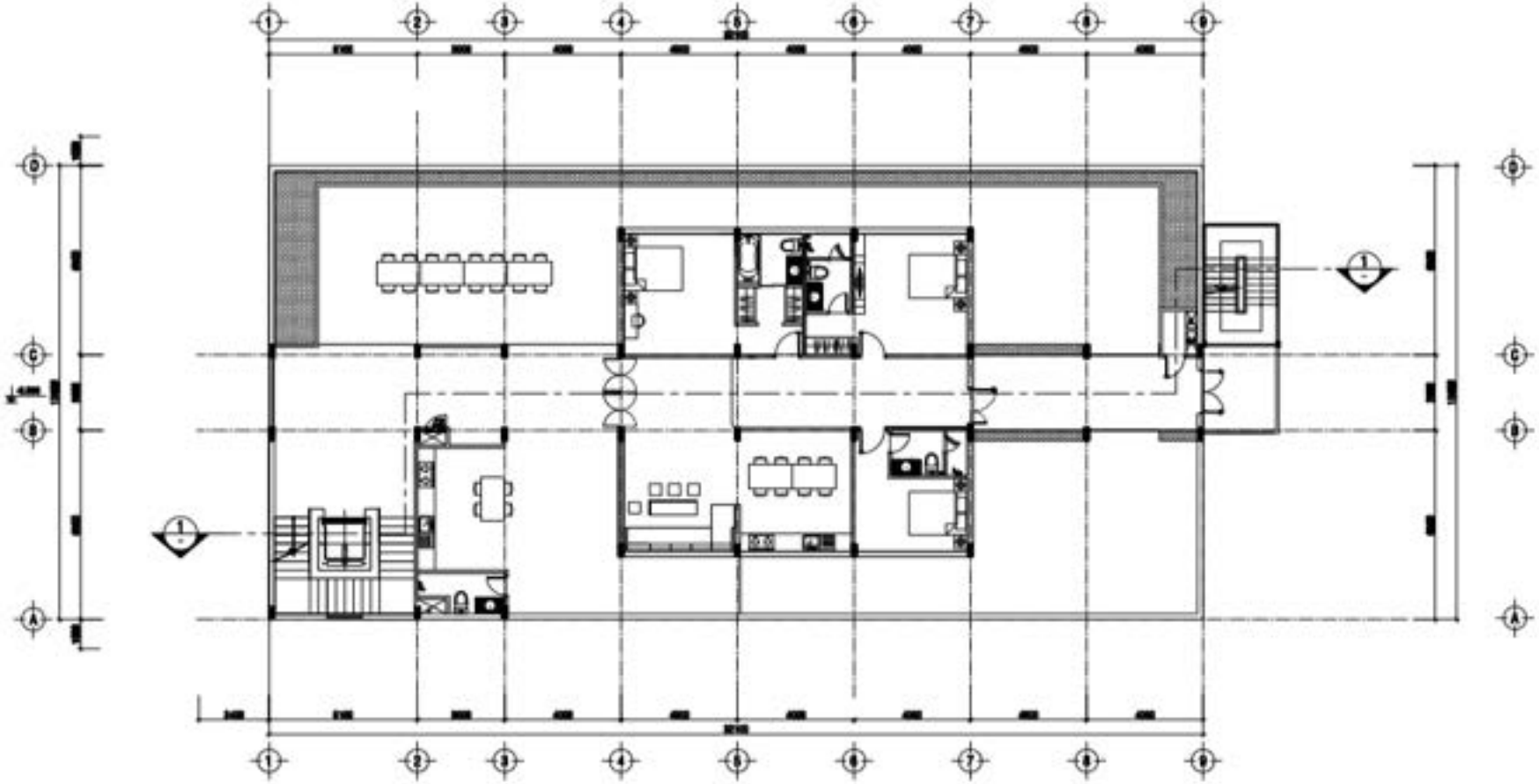


MẶT BẰNG TẦNG 1
FIRST FLOOR PLAN

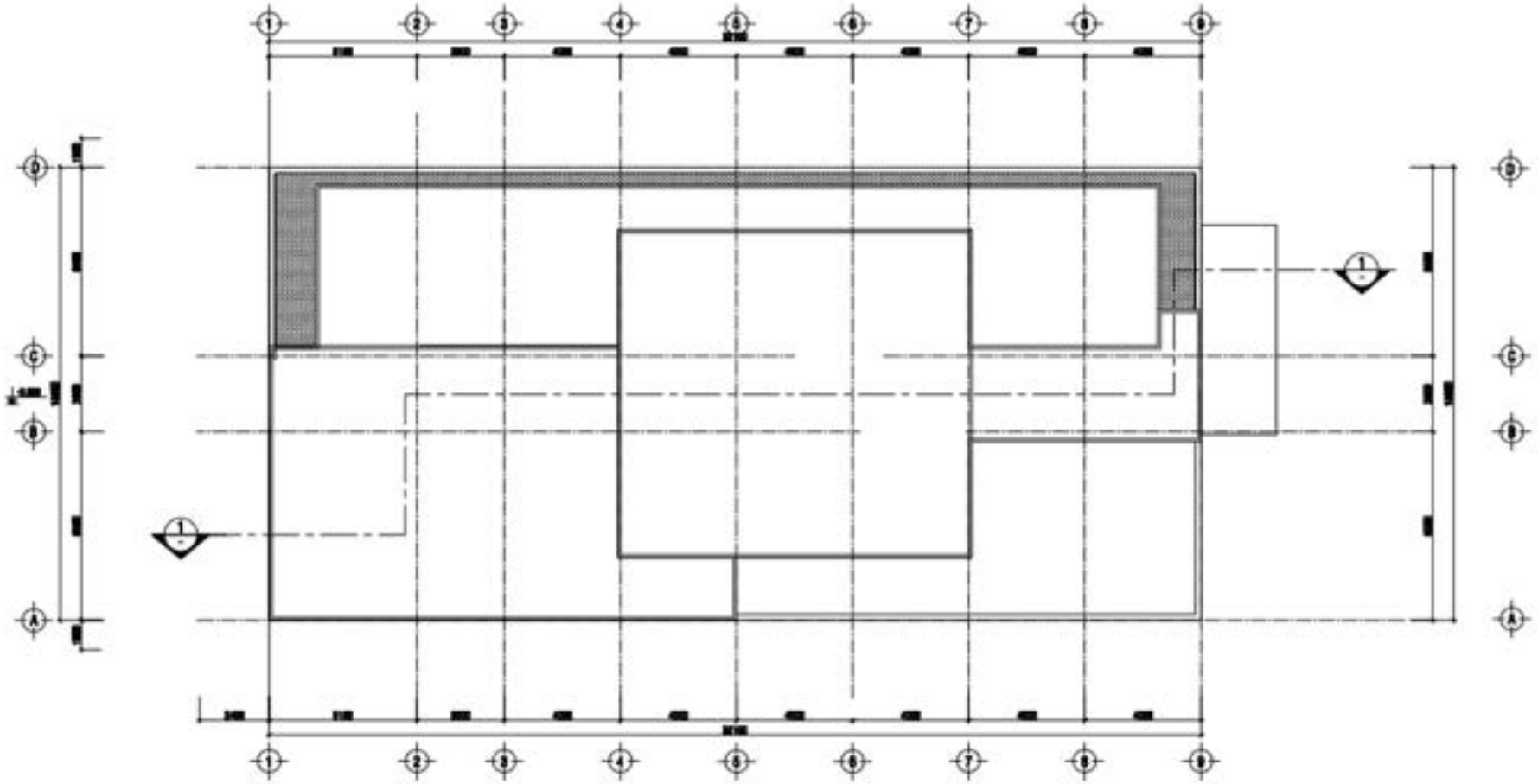




MẶT BẰNG TẦNG 3
THIRD FLOOR PLAN



MẶT BẰNG SÂN THƯỢNG
TERRACE FLOOR PLAN



MẶT BẰNG MÁI
ROOF FLOOR PLAN

Necessary equipment and other assets

The first thing to mention is the infrastructure to serve the production, infrastructure, including: premises for workshops, transport conditions, means of transport, etc., that are key factors affecting the production process of the Company.

Workshops for the production

Thanh Nam Construction materials quarrying and Installation Co., Ltd, a shareholder of the Company made a capital contribution to the Company in the form of land use rights of a total area of 27,000 m2 in Ong Keo Industrial Park, Phuoc Khanh Commune, Nhon Trach District, Dong Nai Province, Vietnam. The land papers include: Certificate of land use rights no. AL 011 039 issued by Dong Nai Province People's Committee/Dong Nai Province Department of Natural Resources and Environment and a lan map no. 515/2014 ration 1/2000 dated August 13, 2014. The construction is expected as follows:

a) Work environment in the workshops:

Recognizing that oil and lubricants production is a peculiar sector in the production industry, the company finds it necessary to create a safe workplace with the aim of serving safe production, then conducts an analysis of factors affecting the occupational safety and hygiene by focusing on:

- Impact related to the production process:

+ Physical and chemical factors:

Microclimate conditions in production:

- Temperature: Room temperature standard 10-30 ^{0}C

- Humidity: 60-70%;

- Ventilation: installation of a ventilation system, creation of favorable conditions for ventilation by designing windows and doors matching specific features of the production sector;

- Intensity of thermal radiation: As prescribed in the occupational safety and hygiene standards;

- Radioactive materials and radiation: Unavailable in the technology and production lines.

Noise and vibration in the production: With the availability of automatic production lines imported from Thailand and the implementation of occupational safety and hygiene standards for the workshops, the noise and vibration are minimized to the maximum extent and in accordance with the employees' health.

Pressure, dust and toxic substances are subject to serious concern from and strict compliance with the standards by the Company.

- Impact related to the organization of work:

- Working time: 08 hours/shift;

+ Labor intensity is suitable to occupational health of the employees;

+ To arrange appropriate and suitable working and resting regimes to occupational health of the employees;

+ To create comfortable working postures for the employees

+ To reduce activities of the nervous system, the senses, such as hearing, sight, etc.

- Impact related to hygiene and safety conditions:

+ To install appropriate lighting system;

+ To create favorable conditions for the employees in case of experiencing extreme weather and ensure the appropriate temperature in the summer and winter'

+ To ensure the workplace in terms of space and hygiene;

+ To provide heat-resistant, dust-proof, sound-proof and gas - resistant tools and equipment;

+ To provide the employees with protective equipment;

+ To inspect and supervise the occupational safety rules strictly.

b) Safety conditions for warehouses and power stations:

Since the Company specializes in the oil and lubricants production, it is crucial to pay great attention to the warehouse safety and install warehouse safety systems, including raw materials warehouses, finished products warehouses, packaging warehouses and power stations. The construction progress must be ensured in terms of specified temperature, dissipation system, cooling system, fire alarm system and fire control system for the warehouses and power stations.

All occupational safety and hygiene conditions mentioned above are strictly followed by the Company in accordance with standard procedures of occupational safety and hygiene for the industrial parks' workshops under the control and oversight of the local authorities.

Traffic conditions and means of transport

The location in Ong Keo Industrial Park, Phuoc Khanh Commune, Nhon Trach District, Dong Nai Province, Vietnam facilitates the production as well as the traffic conditions for cargo flow of the Company.

Ong Keo Industrial Park is considered having a strategic location because it is close to Ho Chi Minh City - Long Thanh - Dau Giay Expressway, National highway 51 Bien Hoa - Vung Tau, Ben Luc - Nhon Trach - Long Thanh Expressway and the expected ring road no.4 of Ho Chi Minh. Transport time from the project/plant location of the Company to cities, seaports, airports in Eastern, Western, Central Highlands and central provinces is completely favorable

Means of transport: Transport is carried out by truck or pickup, specialized ships to facilitate the goods delivery and receipt to the company, forklifts to lift the goods at the place of production to serve the goods delivery to the warehouses, or from the place of production

to the warehouses with the estimate that cost of investment in the manes of transport shall be provided by the third party.

Wharf system:

Thank to the plant location in Long Tau river - under Dong Nai river system, the company is created favorable conditions for the import of raw materials, as well as transportation of finished products. It can save a lot of costs in road transport from such direct import of raw materials (base oil). Estimate against European factories, we can save **$ 60-70/ton** by ignoring cost of road transport for raw material import, not to mention cost savings of shipping finished products.

To build a system of wharves and roads for vessels with a tonnage of 20,000 DWT, the shareholder Thanh Nam Construction materials quarrying and Installation Co., Ltd agreed and committed a private agreement between two parties to allow Fromm German Oil & Lubricants Technology JSC borrowing a part of water surface (adjacent to the Dong Nai land area) to serve this purpose. After being granted the adjusted investment certificate, the to parties commit to comply with the statutory procedures of the aforementioned agreement.

For the period prior to construction of the wharf system, will hire a wharf system with a tonnage of 3, Fromm German Oil & Lubricants Technology JSC 500 dwt from HONG MOC TRADING SERVICE PRODUCTION PRIVATE ENTERPRISE.

Production lines

With experience in the distribution of oil and lubricants and the idea of self-produced lubricants bearing the brand name of Fromm German Oil & Lubricants Technology JSC, Mr. KONSTANTIN FROMM, along with his associates has explored and become experted in the field of oil and lubricants manufacturing. Combined with the oil industry experience in Germany, Hong Kong, the shareholders of Fromm German Oil & Lubricants Technology JSC have contributed the entire line of imported lubricants from the Federal Republic of Germany, reaching 90 % quality versus original.

Таблица 4. Oil and lubricants production lines include:

No.	Item Specification, quality	HS code	Unit	Quantity	Note
1	Production line for lubricants, used disassembled goods	84212950	Set	01	Used goods Origin: German The remaining quality over 90%
2	Goods, used disassembled goods lifting and carriage in the factories	84283990	Set	01	
3	Factory control software system upon SPS Siemens automation center for used disassembled goods	85371012	Set	01	
4	Air filtration system for separating oil molecules, anti-air pollution in factories and used disassembled goods	84213990	Set	01	
5	Oil pumping and spraying systems for used	84131900	Set	02	

No.	Item Specification, quality	HS code	Unit	Quantity	Note
	disassembled goods				
6	Production lines used for can packaging and full automatic product measurement, used disassembled goods	84223000	Set	03	
7	Cooling and heating system for the preparation of disposable products, used disassembled goods	84158191	Set	01	
8	Laboratory equipment systems serving the research, product testing, measurement, inspection and assessment of product quality, new 90%	90268010	Set	01	
9	09G2S alloy steel (raw material used to make oil tanks)	72269919	Ton	600	New 100%

MARKET ANALYSIS

Global market

The main task and most important function of lubricants are to reduce friction by lubricants and offer wear protection, which extends machine runtimes and thereby protects raw materials. In some cases, the relative movement of two bearing surfaces is possible only if a lubricant is present. At present times when sustainability has become a driving force in the industry, saving energy and resources as well as cutting emissions have become central environmental matters. Therefore, the scarcity of resources and the responsibility towards future generations are also a particular focus of corporate action. Lubricants are increasingly attracting public awareness, because they support sustainability targets in economic, ecological and social areas. Lubricants make a contribution to the sparing use of resources and thereby to sustainability. Their task of reducing friction reduces the amount of energy input required and in this way saves emissions. Their task of wear protection extends the service life of equipment and saves resources. Scientific research has shown that up to 1% of gross domestic product could be saved in terms of energy in Western industrialized countries if current tribological knowledge, that is the science of friction, wear and lubrication, was just applied to lubricated processes.

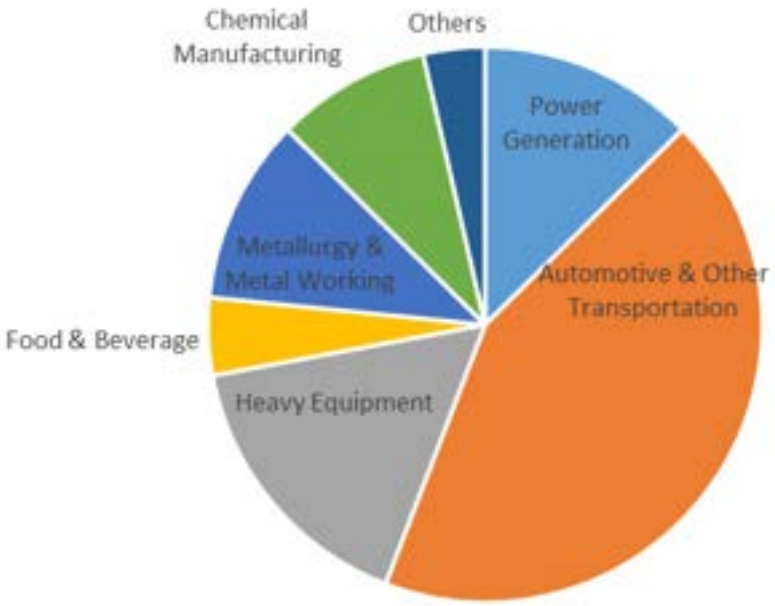
Apart from important applications in internal combustion engines, vehicle and industrial gearboxes, compressors, turbines or hydraulic systems, there are a vast number of other applications which mostly require specifically tailored lubricants. This is illustrated by the numerous types of greases or the different lubricants for chip-forming and chip-free metalworking operations which are available. About 5000–10000 different lubricant formulations are necessary to satisfy more than 90% of all lubricant applications.

Lubricants are majorly used in the industrial sector for the proper functioning of machines. They are also used in automobile for smooth functioning and longevity of engines and other components. Lubricants are available in liquid, semi-fluid, or solid state, and possess various characteristics, such as, high viscosity index, high level of thermal stability, low freezing point, and high boiling point, all of which help to reduce friction between surfaces of machine parts and the rate of wear, without compromising operational efficiency.

The consumption of industrial lubricants is rising steadily owing to increasing consumption from manufacturing sectors. The Asia-Pacific region, presently, is a major hub for manufacturing, led by China. Other Asian countries leading in the manufacturing sector include Indonesia, Thailand, the Philippines, Vietnam, and Singapore. FDI inflow to Asia is estimated to be increased by nearly 15% in 2017, to USD 515 billion, this is mostly a result of the renewed policy efforts by the countries in this region. The FDI inflow to Asian countries was at its peak value of USD 524 billion in the year 2015, which was a moderate value in the

year 2016. This robust growth in the manufacturing activities in the region is expected to create a surge in the demand for lubricants, during the forecast period.

Figure 1. Lubricants market, volume share, 2017



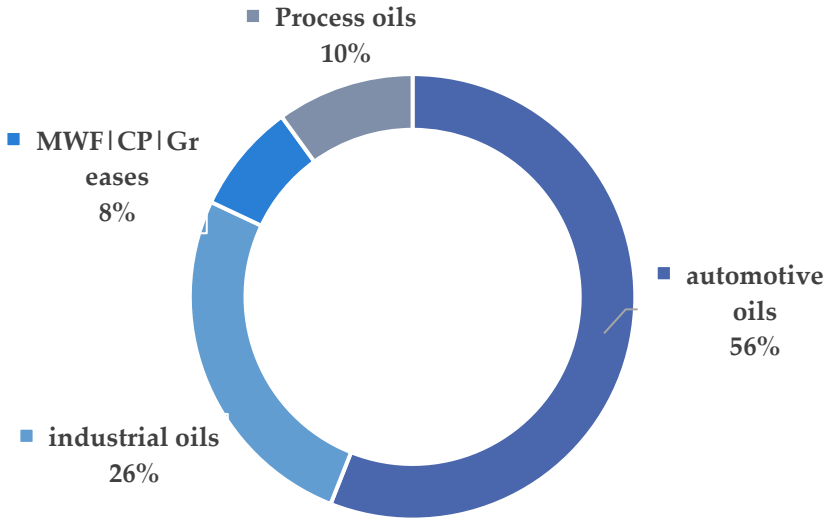
Source: Mordor Intelligence

If one thinks of lubricants today, the first type that comes to mind is mineral oil-based lubricant. Mineral oil continues to constitute quantitatively most important component of lubricants. Petrochemical components and increasing derivatives of natural, harvestable raw materials from the oleo-chemical industry are finding increasing acceptance because of their environmental compatibility and some technical advantages. On average, lubricants consist of about 90% base oils and 10% chemical additives and other components on a volume basis, while on a value base the respective ratio is estimated to be around 80:20. The development of lubricants is closely linked to the specific applications and application methods. As a simple description of materials in this field makes little sense, the following sections will consider both lubricants and their application.

The chemistry and technology involved in the production of lubricants have undergone a tremendous change in the recent times. With the introduction of long lasting high-performance lubricants, as well as developments in machining technologies, the interval for oil change has extended almost by 100%. The tradition of changing oil for every 3,000 miles has changed to 7,500 to 10,000 miles for passenger cars. For instances, 60 years ago, the typical oil change interval for a truck was between 500-1,000 miles. But, with the advancement in the lubricant technology, the oil change interval has come to 50,000 miles and is to increase further. This would directly decrease the volumes of lubricants used for automotive, as well as industrial purposes.

Lubricants today are classified into five product groups: automotive oils, industrial oils, greases, metalworking fluids (including corrosion preventatives) and process oils. Process oils are included as raw materials in processes, but above all as plasticizers for the rubber industry. Their only link with lubricants is that they are mineral oil products resulting from the refining of base oils, but they often distort lubricant consumption figures. Therefore, they will not be covered in this book. Interestingly, the breakdown by product groups in the past 15 years only slightly changed. 56% of all lubricants still go into automotive oils (e.g. engine oils, gear oils and transmission fluids), which continue to be the prevailing product group and largely dictate what will be available (or not) for making other products. Only 26% are industrial oils, with the rest comprising process oils, lubricating greases, metalworking fluids and corrosion preventatives.

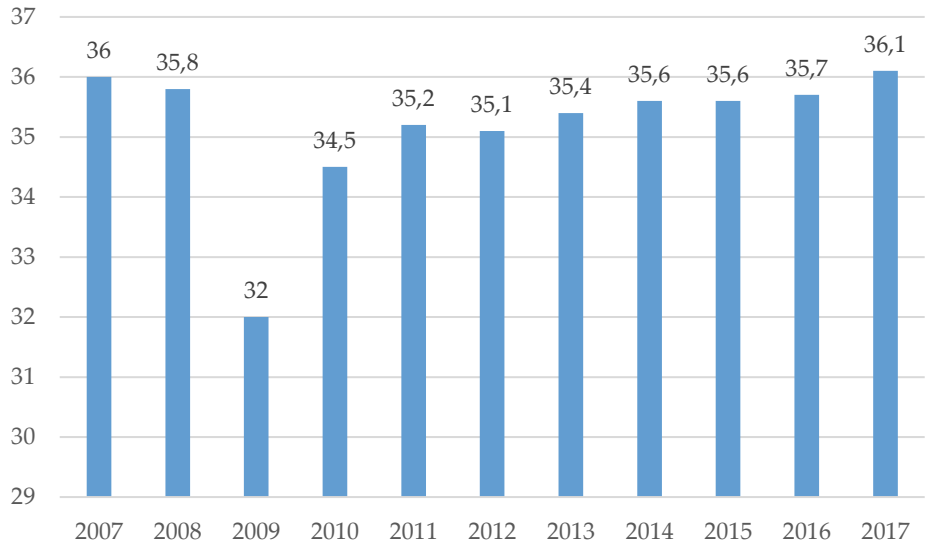
Figure 2. Global lubricant market



Source: FUCHS

The global lube market volume (without marine oils) was at around 36 million tonnes at the turn of the millennium and more or less quite stable until 2008. Then lubricants demand on a worldwide basis plunged by more than 10% yearon-year to just around 32 million metric tonnes in 2009. Since 2010 the worldwide market consumption showed a partial recovery in light of the partly unexpected rapid economic growth, to nearly reach the 36 million tonnes level again in 2015. Thus, one could think that not much happened market volumewise between 2000 and 2015.

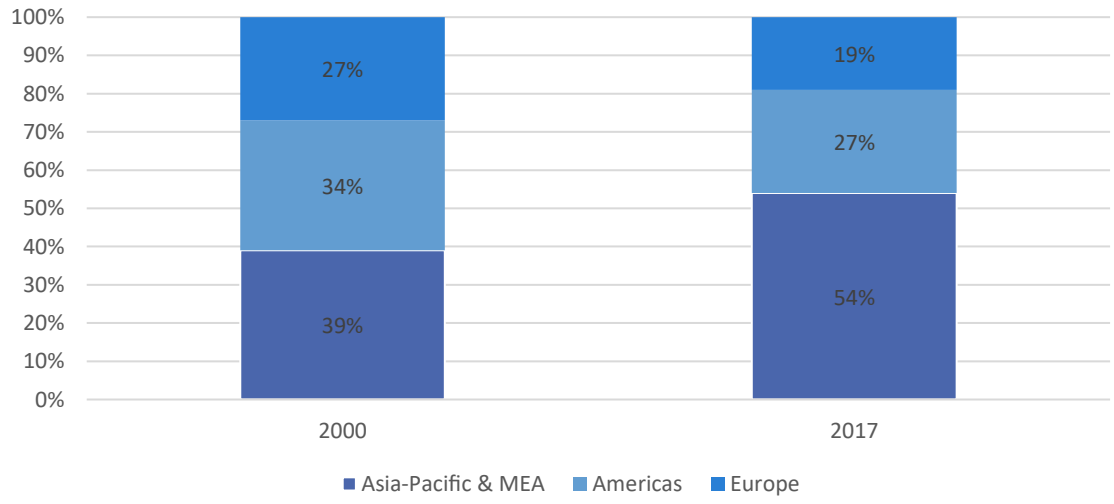
Figure 3. The global lube market volume (without marine oils), million tones



Source: FUCHS

However, the underlying regional lube market dynamics of the past 15 years were enormous in terms of quantity and quality. The Asia-Pacific region together with Africa and the Middle East accounted for a little more than onethird of global volume in 2000 and now makes more than half of it, as a result of growing industrialization and motorization and consequently higher consumption. The mature markets of Western Europe and North America experienced a continuous move to more quality lubricants, which resulted in extended oil change intervals and consequently lower demand per year. Asia-Pacific today consumes twice the lubricants amount per year than North America.

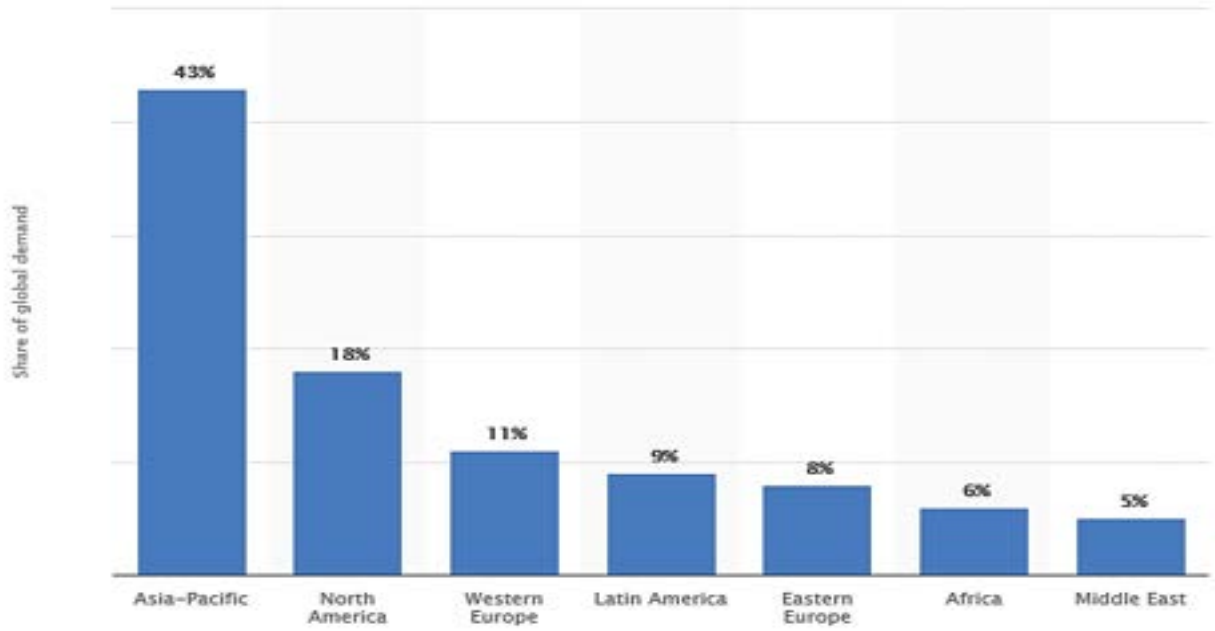
Figure 4. The global lube market structure (without marine oils), %



Source: FUCHS

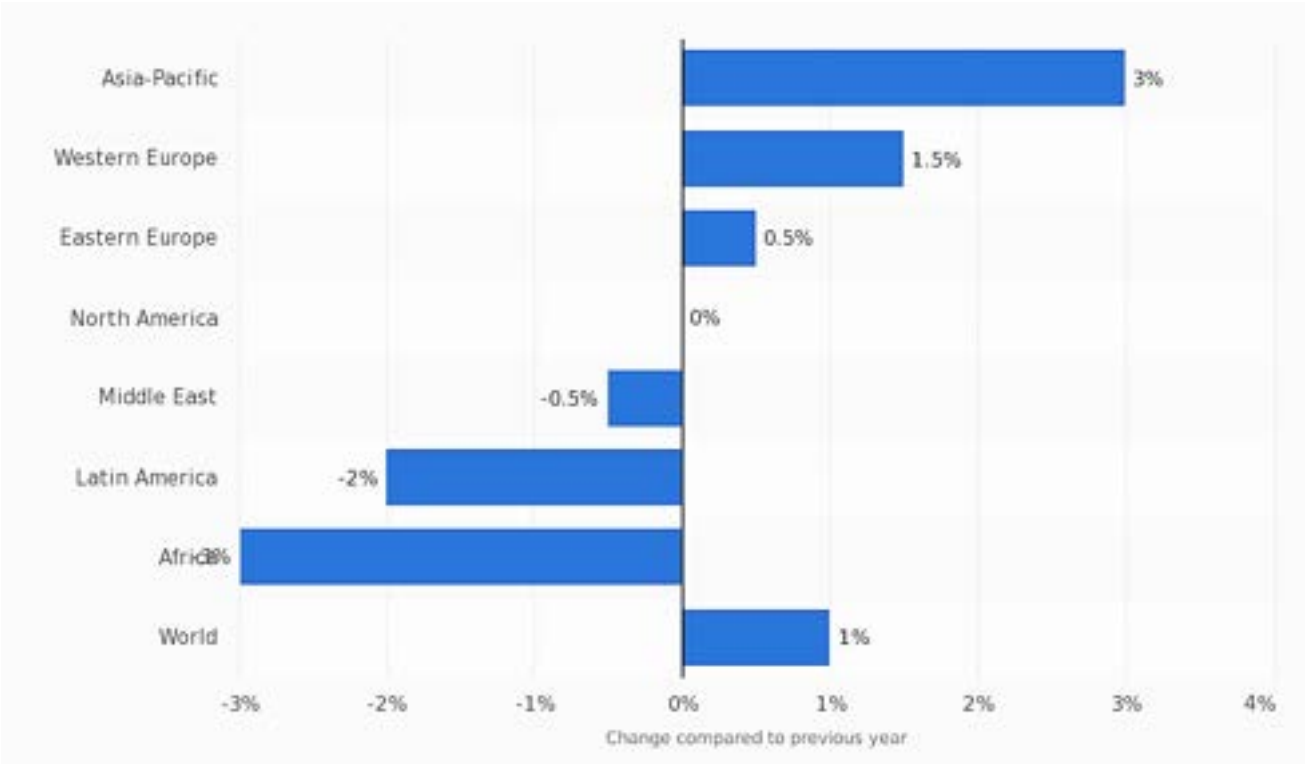
The statistic below depicts the distribution of the demand for lubricants worldwide in 2017, sorted by region. In 2017, the Asian-Pacific region accounted for a 43 percent of the total global demand for lubricants.

Figure 5. Distribution of lubricant demand worldwide in 2017, by region



Source: statista

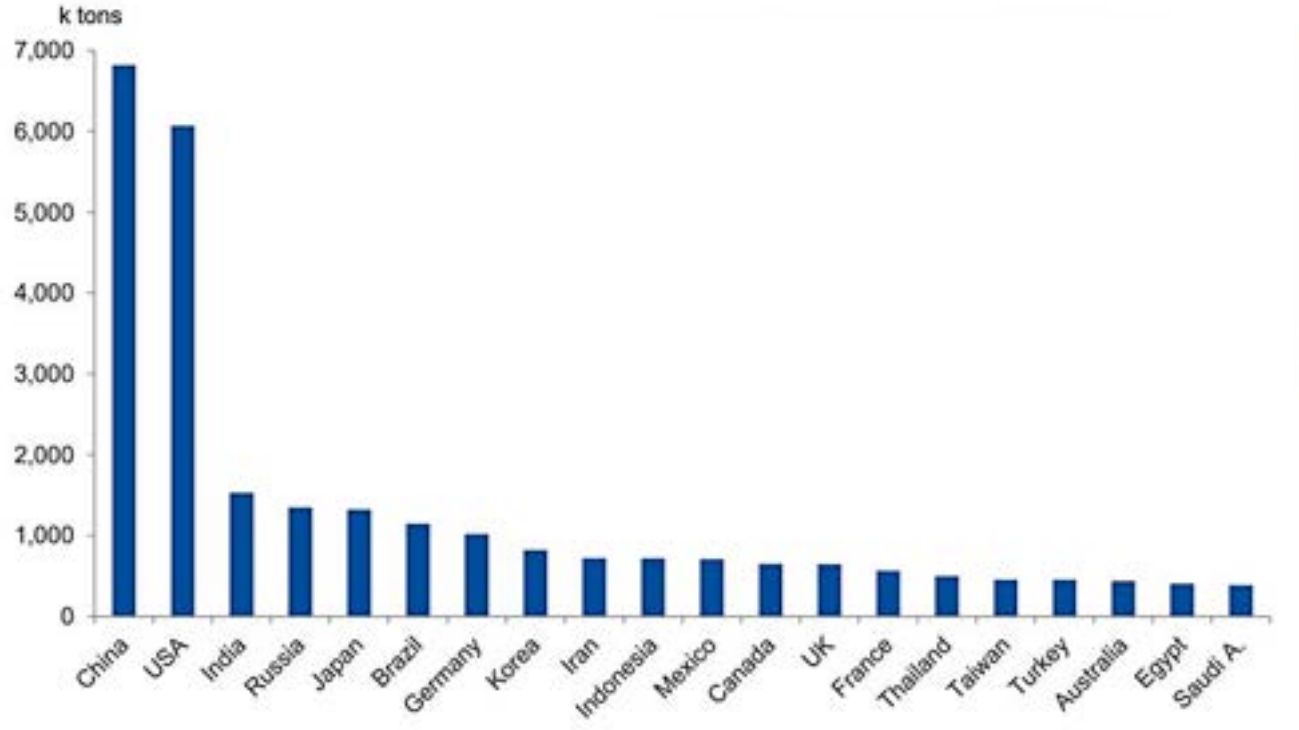
Figure 6. Change in global demand for lubricants in 2017 compared to 2016, by region



Source: statista

China and USA cover more rhan one third of the world lubricants market.

Figure 7. Top-20 lubricants producing countries



Source: FUCHS

Since 1975, quantitative lubricant demand has significantly detached itself from gross national product and also from the number of registered vehicles. This quantitative view, which at first glance shows a continuous decline in lubricant volumes, gives an inadequate impression of the significance of the lubricants business today. In almost all areas, products now have a longer life and offer greater performance, that is specific lubricant consumption has declined but specific revenues have increased noticeably. This is also confirmed by the volumetrically very important group of engine oils: The doubling of requirements with extended oil change intervals in recent years has quadrupled the cost of such oils. The efforts to increase the life of lubricants are not based on the wish to reduce lubricant costs. Much more important is the reduction of service and maintenance costs which result from periodic oil changing or regreasing. As about 50% of the lubricants sold worldwide end in and thus pollute the environment, every effort is made to minimize spillages and evaporation. An example is diesel engine particulate emissions, about a third of which are caused by engine oil evaporation.

A further incentive to reduce specific consumption is the ever-increasing cost of disposal or recycling of used lubricants. But this again creates new demands on lubricants

because reduced leakage losses means less topping-up and less refreshing of the used oil. The new oils must therefore display good ageing stability.

Another consequence of the aforementioned developments was that global per capita consumption decreased from around 9 to 5kg per year between 1970 and 2015, that is the increase in lubricant demand (+7%) did not keep up with the worldwide growth in population (+90%) during this period; in other words, the compounded annual growth rate (CAGR) of world population between 1970 and 2015 was 1.6% and 10 times higher than the CAGR of global lubricants demand, which amounted to just 0.16% in this time frame (Chart 1.3).

Figure 8. Regional Per-Capita lubricants demand, 2015, kg

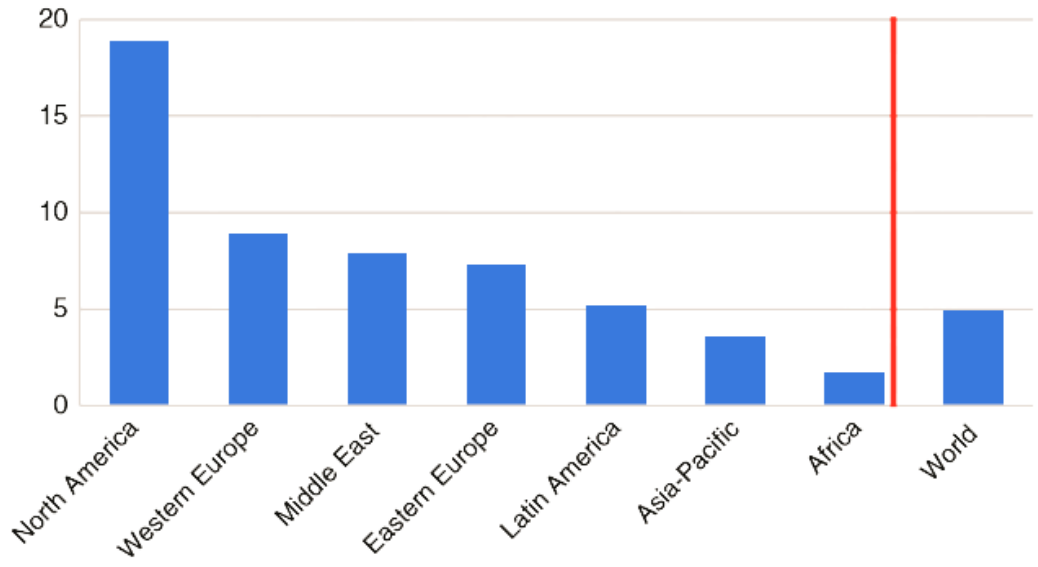
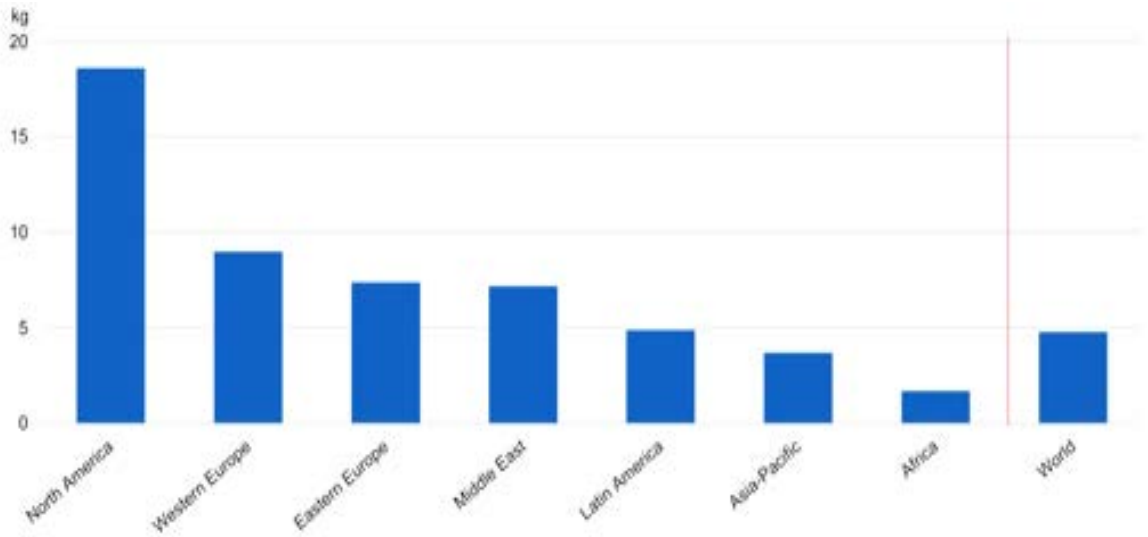
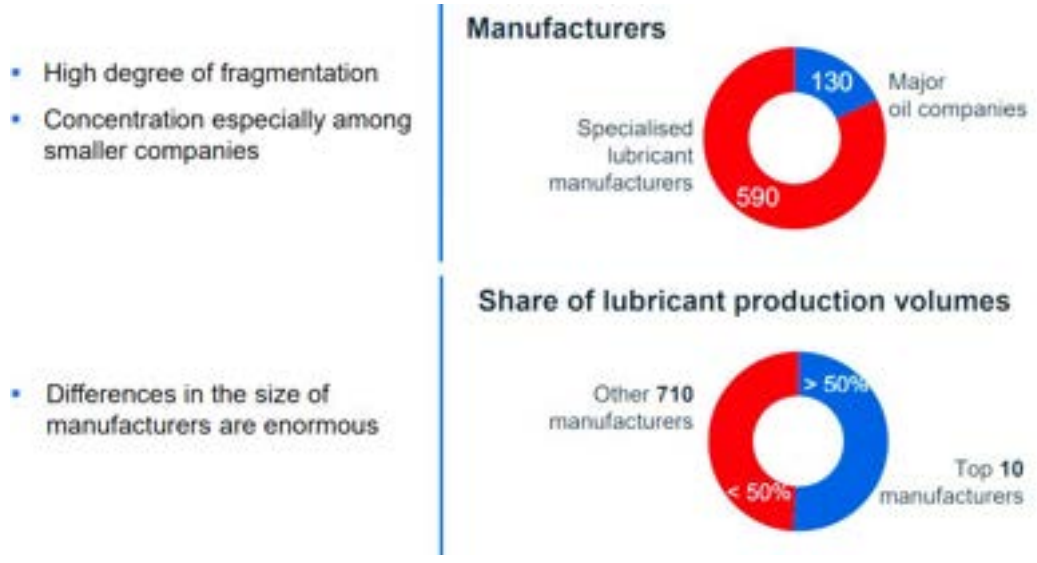


Figure 9. Regional Per-Capita lubricants demand, 2017, kg



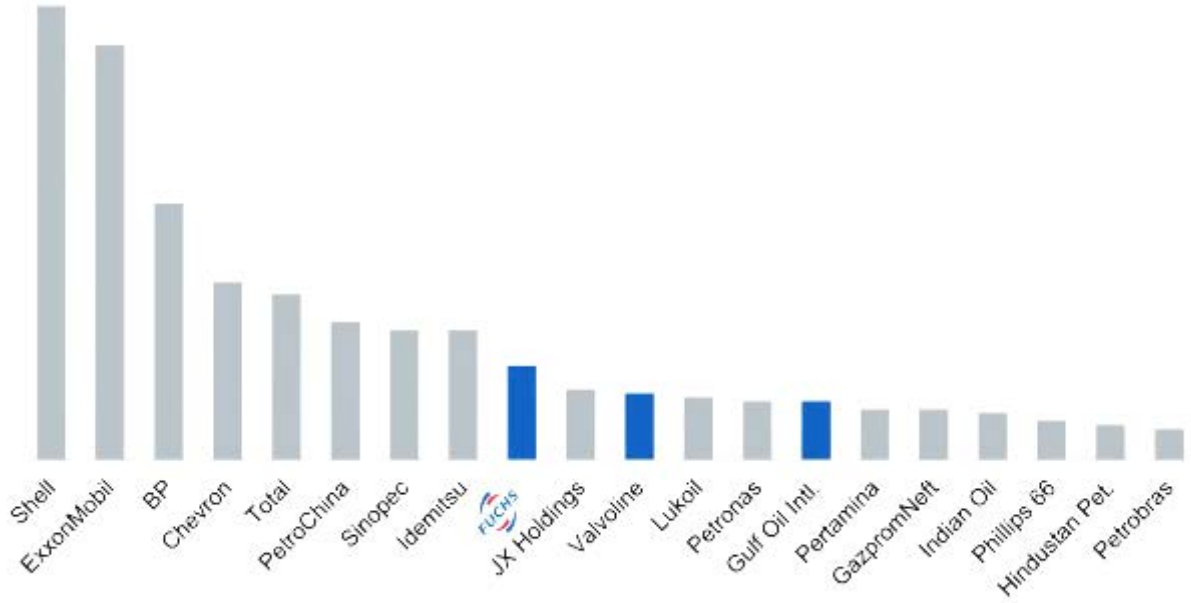
Source: FUCHS

The structure of the global lubricants industry changed significantly between the mid-1990s and 2005. Towards the end of the 1990s, the petroleum industry was affected by a wave of mergers and acquisitions (M&A). These created new and larger lubricant structures at the merged companies. The principal reasons for these mergers were economic factors in crude oil extraction and refining which resulted in lower refining margins. The number of manufacturers (with lubricants production over 1000 tonnes per year) decreased by close to 60% or in nominal terms by around 1000 players from around 1700 to just above 700 market participants at the end of 2005. On the one hand, there are vertically integrated petroleum companies whose main business objective is the discovery, extraction and refining of crude oil (Majors). Lubricants account for only a very small part of their oil business. In 2005, there were about 130 such national and multinational oil companies engaged in manufacturing lubricants, with the focus on high-volume lubricants such as engine, gear and hydraulic oils. The consolidation and concentration proceeded much stronger on the level of the small-sized and independent lube manufacturers (Independents), with technological, safety-at-work and ecological considerations along with the globalization of lubricant consumers playing an important role and critical mass becoming increasingly important in company strategies. Their number halved between 2000 and 2005 to around 600 players, down from around 1200 at the beginning of the millennium. These 590 independent lubricant companies view lubricants as their core business, focusing on specialties and niches, where apart from some tailor-made lubricants, comprehensive and expert customer service is part of the package. They mainly concentrate on the manufacturing and marketing of lubricants. The independent lubricant manufacturers also generally purchase raw materials on the open market from the chemical and oleo-chemical industry and their mineral base oils from the large petroleum companies and they rarely operate base oil refineries.



At the end of 2015, the top 15 manufacturers share two-thirds of the worldwide lube market, while the rest of more than 700 manufacturers share the other half. The production of simple lubricants normally involves blending processes but specialties often require the use of chemical processes such as saponification (in the case of greases), esterification (when manufacturing ester base oils or additives) or amidation (when manufacturing components for metalworking lubricants). Further manufacturing processes include drying, filtration, homogenizing, dispersion or distillation. Depending on their field of activity, lubricant manufacturers invest between 1 and 5% of their sales in research and development.

Figure 10. Top-20 manufacturer at the end of 2016



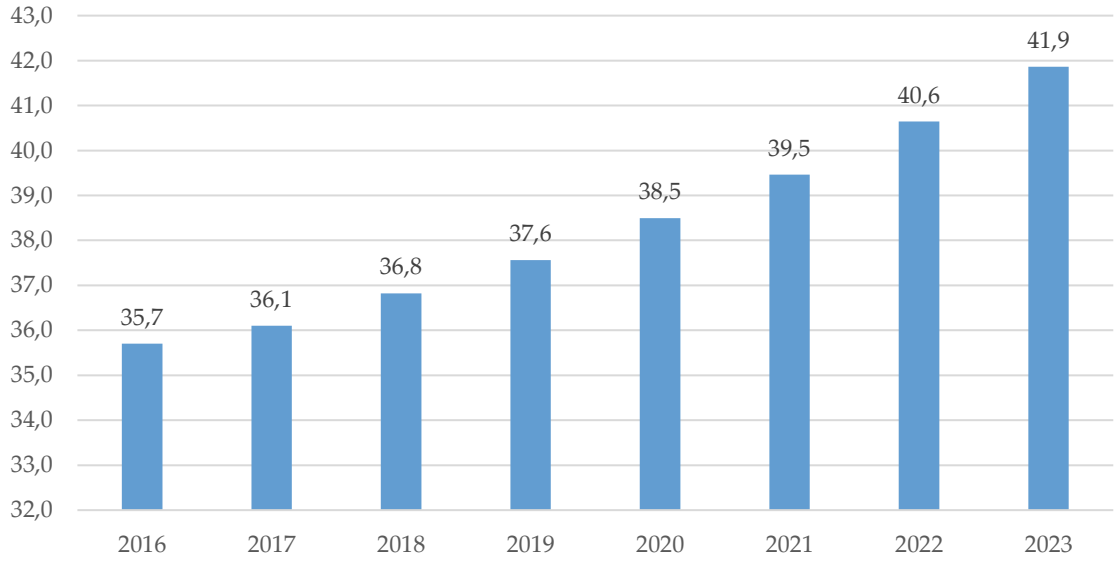
Source: FUCHS

Bearing in mind the growth potential in Asia where per capita consumption in some areas is still extremely low and a continuing reduction in volumes or stagnation in Western industrialized countries, overall a modest global growth is forecast. The growth in value will be more pronounced because the rapid globalization of technologies will promote high-value products even in the developing and emerging lubricant markets such as India and the machines and plants used in these countries will be similar or identical to those used in the developed industrialized countries.

According to Mordor Intelligence, the global lubricant market is expected to register a CAGR of 2.18% during the forecast period, 2018-2023. One of the major factors driving the growth of the global market is the growing automotive production Asia-Pacific and Europe, especially in countries, such as India, United Kingdom, Italy, France, and Indonesia.

Additionally, the growing demand for and usage of high-performance lubricants (owing to their better and improved properties, such as reduced flammability, reduced gear wear, and increased service life), is also driving the growth of the market, as the aforementioned properties, make these lubricants suitable for high temperature applications.

Figure 11. The global lube market volume (without marine oils), million tones. Forecast

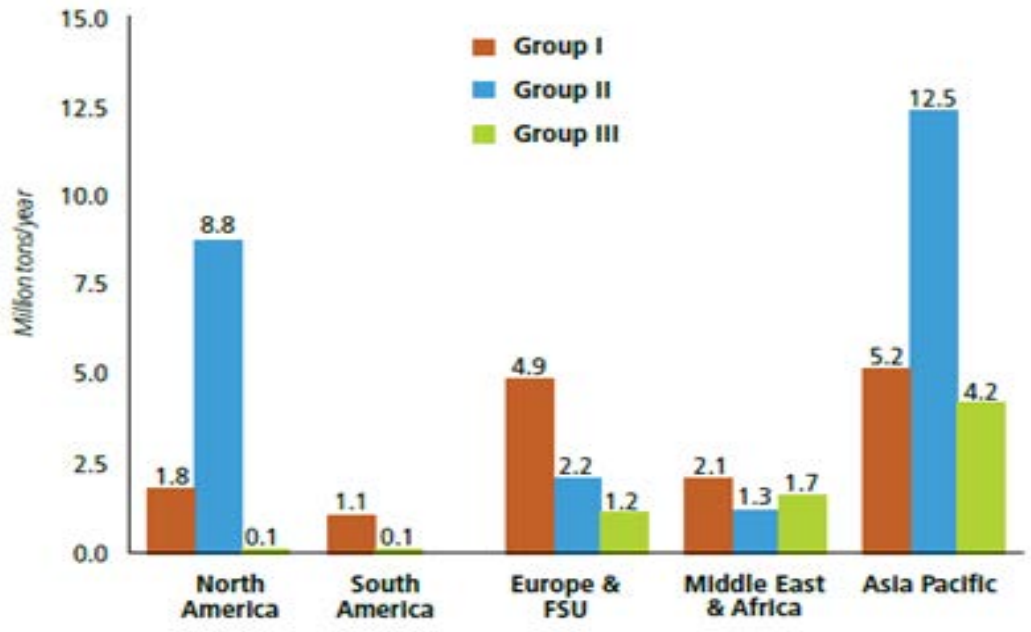


For the past 20 years, global lubricant demand has closely tracked global GDP growth, but offset by about 3.8 percent. Using the International Monetary Fund's 5-year GDP forecast should provide a reasonable estimate of future global lubricants growth. In 2017 years, lubricant demand has been held back by a weak global economy. Since 2011, succeeding global GDP forecasts have dropped, and the 1.7 percent cumulative reduction for 2015 correlates to about a 600,000 ton loss in lubricant demand and 500,000 ton lower demand for 2016.

Not all regions are experiencing the same rate of growth or decline. Organization for Economic Cooperation and Development countries in Europe and North America will see declines of 1.0 to 1.5 percent per year. Robust growth is still expected in the emerging economies of Asia, the Middle East and Africa. South America is being held back by the very weak economies of Brazil, Venezuela and Argentina.

By 2020, almost one-half of global lubricant demand will come from Asia Pacific. In contrast, Europe, including Russia, will consume only about one-sixth of total production.

Figure 12. Regional Base Oil Supply, 2020

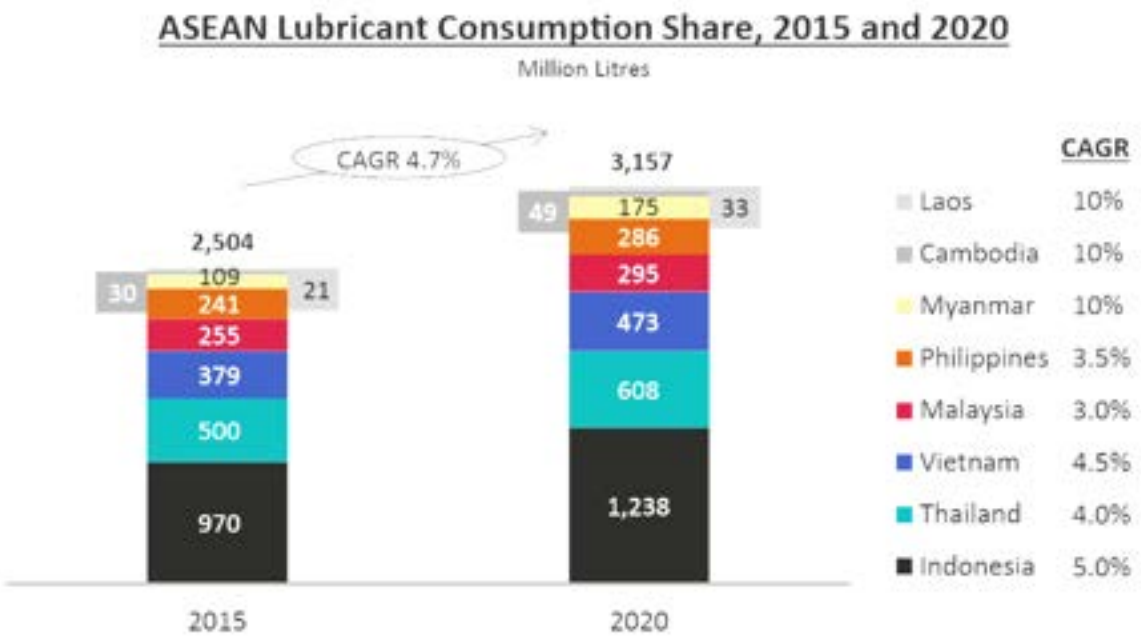


Source: SBA Consulting

Asia market

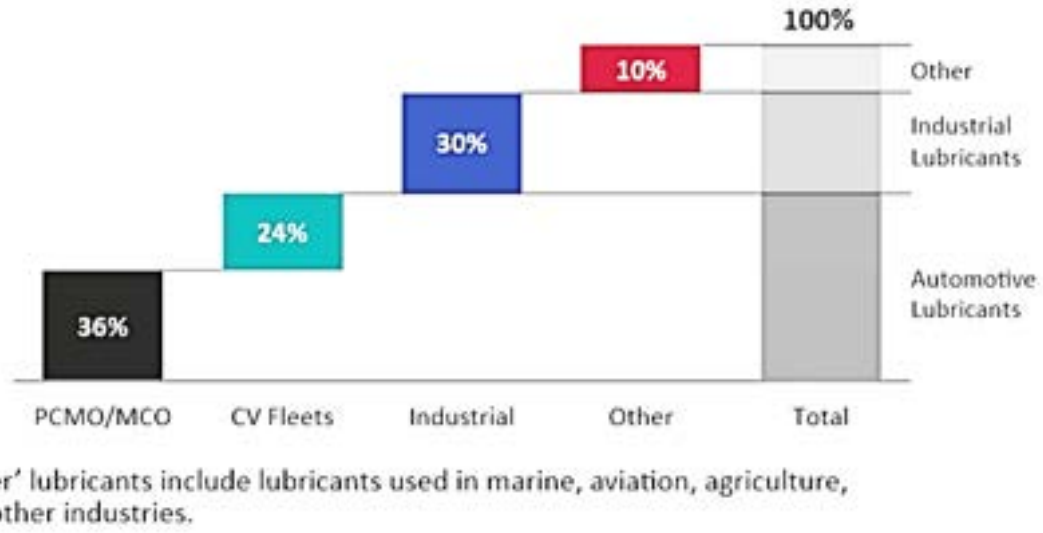
The shift to Asia is not a surprising phenomenon as businesses and manufacturers become increasingly globalised in order to seek out better value-cost and, at the same time, compete to fulfill rapidly emerging gaps in the Asian market. European demand, for example, which has traditionally captured 25%–30% of global market in the past decade, has steadily declined to just 15%–20% market share, with North American demand showing similar trends. Meanwhile Asian demand picked up the slack, increasing from 30%–35% to 40%–45% within the same time period and currently overshadowing both Europe and North America combined.

Figure 13. ASEAN lubricant market breakdown, 2015



The formation of the AEC appears to be a positive catalyst for ASEAN's lubricant market, whose economic outlook presents exciting prospects for growth. The proposed removal of tariffs on vehicles under the AEC may have a direct and immediate impact on the consumption of vehicles from international brands. Many of these—including Japanese brands—already have manufacturing facilities in Thailand, Indonesia, and Malaysia, and a rise in sales could boost lubricant demand in both the OEM segment, and subsequently the aftermarket segment. A similar removal of tariffs on lubricants may prompt lubricant players in the region to react quickly by expanding and penetrating into the other emerging markets in ASEAN. The numbers tell a compelling story: total lubricant demand in 2015 is estimated at 2.5 billion liters per year and is projected to hit 3.2 billion liters per year by 2020–a respectable CAGR of about 5%. Although ASEAN currently represents 11%– 13% of Asia's lubricant market, this share may grow to 15%– 17% by 2020, making it a sizeable market at the very least

Figure 14. ASEAN Lubricant Demand 2015



ASEAN is an association of 10 member countries located in the Asia-Pacific region. In order to put the ASEAN economy into perspective, consider the following:

ASEAN has a population of about 600 million, making it the third largest labour force in the world after China and India. It is also the world's third largest potential economy with a sizeable proportion of its population still relatively young.

If ASEAN was a single country, it would be the world's 7th largest economy with a combined GDP of more than USD2.5 trillion in 2015. Its economy could be the 4th largest by 2050 if current growth trends continue.

ASEAN is one of the most open trading regions in the world, with total merchandise exports of nearly USD1.3 trillion in 2013 –approximately 54% of its GDP and 7% of global exports. The ASEAN–China Free Trade Area is the third-largest free trade bloc after the European Economic Area and North American Free Trade Area.

In 2015, ASEAN has developed into a single market and production base under the ASEAN Economic Community (AEC), easing access to products and allowing more flexible movement of skilled labour and capital. Intra-ASEAN and extra-ASEAN trade have grown by 7.5x and 5.5x respectively since the early 1990's.

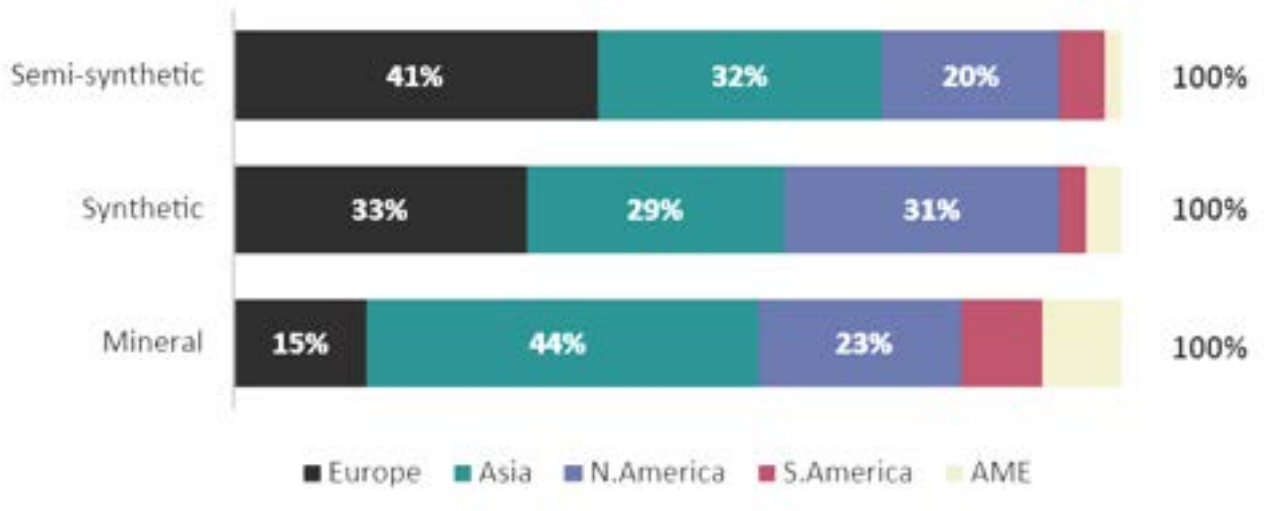
The competitive landscape of lubricants in ASEAN is as vibrant as it is intense. Lubricant players have established their footholds in ASEAN, with international brands having developed a strong presence in the more-mature ASEAN-51 markets. Among them, Shell is the most established brand, with a strong presence in almost all of the ASEAN-5 markets. Other major players include BP Castrol, which has the largest presence in the Vietnamese motorcycle market, while Caltex and ExxonMobil are on equal footing across the five markets.

Compared to the international brands, the market shares of the ASEAN national brands are less expansive, being strong primarily in their own countries. However, many of the national brands do have a presence in at least three ASEAN markets (with Petronas at the forefront in all ASEAN-5 markets), and it remains to be seen if the national brands can better capitalise on the AEC and raise their competitiveness against the international brands.

In terms of the lubricant products landscape, Asia (including ASEAN) is still predominantly consuming mineral-based, low-grade lubricants compared to the more lucrative syntheticbased European and North American markets. However, the consumption trend in ASEAN has begun to gradually shift towards semi-synthetic/synthetic lubricants (i.e. "upgrades") over the past decade. OEM recommendations have played a key role in driving this shift as consumers become more aware and appreciative of performance/ longevity over base price. Recommendations from equipment manufacturers have also played a part in this ongoing market evolution, as industries transition into higher value-adding manufacturing. These trends are expected to continue as markets mature and household income rises. National brands will need to have a clear and effective product positioning strategy in order to increase shares in the growing upgrades market that is presently led by the international brands.

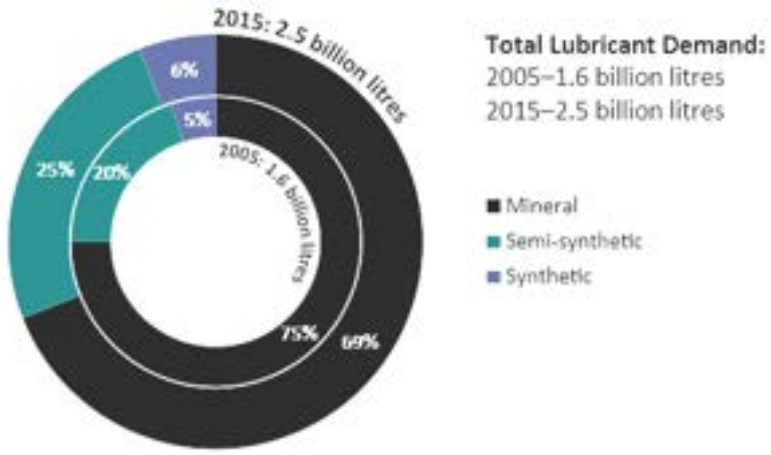
Asia is the largest consumer of mineral-based lubricants between Europe, Asia, and North America.

Figure 15. Regional volume share in lubricant demand by type, 2015



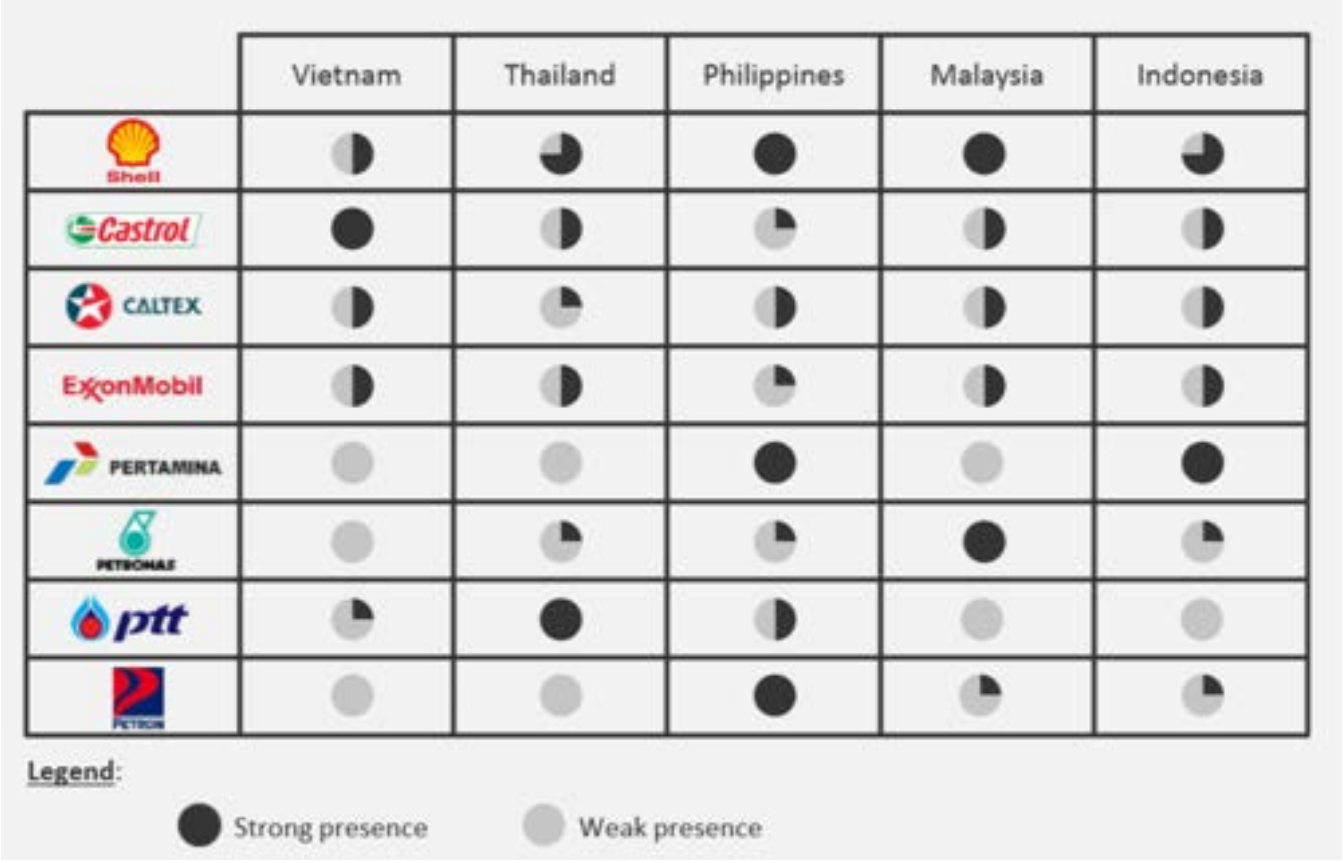
Compared to Asia and the rest of the world, ASEAN consumes a larger proportion of mineral-based lubricants. However, semi-synthetic demand has steadily risen over the past decade and has accounted for 25% of the market in 2015.

Figure 16.



International brands dominate the top 4 positions in the region (as measured by market coverage), followed by the national oil companies in Indonesia, Malaysia, Thailand, and the Philippines.

Figure 17. International brands



ASEAN as a region is an exciting market for lubricants because of the diversity of its economy, progressive business outlook, rising household income levels, and perhaps most

importantly, the latent potential that it holds to develop into one of the world's leading economies in the future. Although uncertainties do surround the implementation of the AEC, they are not expected to impede growth and, overall, ASEAN as a whole should be viewed on the upside. We believe that ASEAN is one of the more attractive investment destinations for lubricant players in the next 3 to 5 years, especially in the industrial segment where the market is growing faster than before. The diversity of the manufacturing industries and their varied development trajectories in individual ASEAN countries make up an exciting and constantly evolving market with potentially lucrative niche opportunities arising for lubricant players that are able to capture the trend. Nevertheless, lubricant players need to be constantly kept abreast of requirements for locally manufactured content across ASEAN–a grey area at the moment–which could change market demand and dynamics significantly.

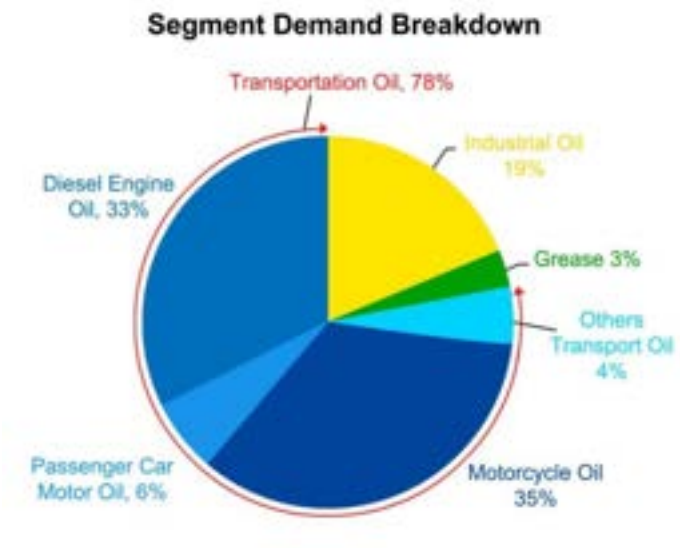
The automotive lubricant segment requires much more careful analysis. While Thailand and Indonesia are established automotive hubs with an attractive market size, competition in the automotive lubricants segment is much stiffer as compared to the industrial counterpart. In addition to the established international brands and government-supported national brands, there are also numerous other well-known brands (at least in their own countries) originating from Europe, North America, and China that are competing for the same market share across ASEAN. Lubricant players interested in the automotive segment will have to keep a finger on the pulse of the developing automotive trends (e.g. increasing adoption of hybrid vehicles) and key market drivers (e.g. OEM recommendations), to understand how these factors are set to drive higher-value consumption (e.g. shift from minerals-based to semi-synthetic lubricants) across ASEAN in the next 3 to 5 years in order to quickly capitalize on market opportunities.

Vietnam oil

Vietnam oil and lubricants field in recent years has been grown and developed in large scale based on various demands for transport and personal travel. Up to now, the total demand of oil and lubricants in Vietnam has been estimated at 370,000 tons per year with the fierce competition of many domestic brands such as: Vilube, PLC, Solube, Mekong, etc,. and international brands such as: BP, Shell, Castrol, Caltex, Total, ExxonMobil, etc,

2014 sales of the whole market was estimated at $ 500-600 million with an annual growth rate of 4-6% largely depending a lot on Vietnam's GDP growth rate, laws and taxes related to the use of means of transport.

Figure 18. Segment demand breakdown



Ước lượng thị phần và sản lượng 2014, Việt nam

Nhãn hiệu	Sản lượng (Kt)	Thị phần (%)
BP/CASTROL	81.4	22.0%
PLC	44.4	12.0%
SHELL	40.7	11.0%
CHEVRON	17.76	4.8%
TOTAL	40.7	11.0%
MEKONGLUB	29.6	8.0%
MOTUL-VILUBE	8.14	2.2%
PVOILUBE	7.77	2.1%
APP	8.14	2.2%
OEMs (Nippon, Idem)	12.95	3.5%
Nhập khẩu khác	24.05	6.5%
Sx nội địa khác	54.39	14.7%
Tổng cộng	*370*	*100.0%*

According to the evaluation of Vietnamese oil and

At present, the market share of oil and lubricants for engines is accounted for 60-65% by foreign firms with brands such as: ExxonMobil, BP, etc., while two brands of Vietnamese widely known as: PLC, Vilube accounting occupy for 15-20% market share.

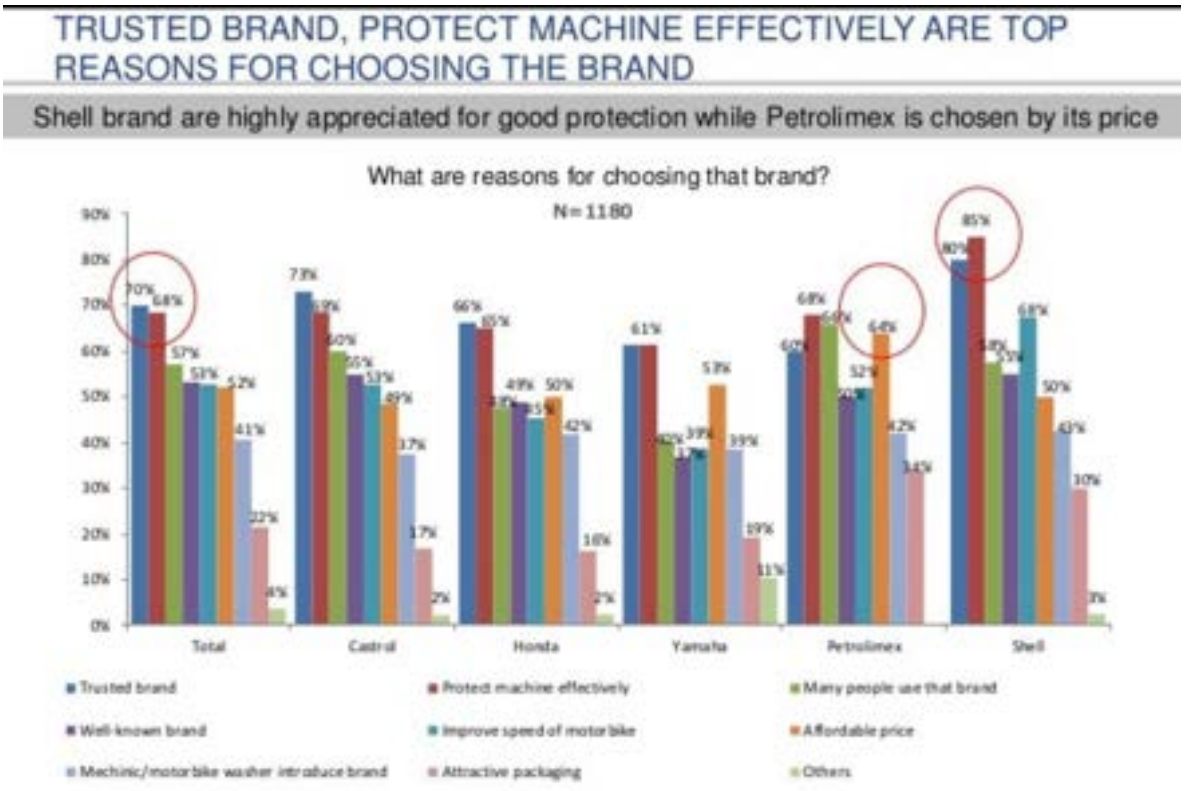
Since Castrol and BPPetco brands in Vietnam are the brand of two joint ventures Petrolimex and Saigon Petrol, the largest market share in Vietnam at the moment is occupied by BP firm. There are also a number of product lines in promising development such as OEMs, essentially, these are lubricants of motorcycle manufacturers such as Honda, Yamaha, VEMP manufactured by aforementioned oil and lubricants companies and then sealed its trademarks.

Reasons for brand selection:

According to DI-Marketing research on the oil and lubricants market in Vietnam, the top three reasons for brand selection of Vietnamese consumers include:

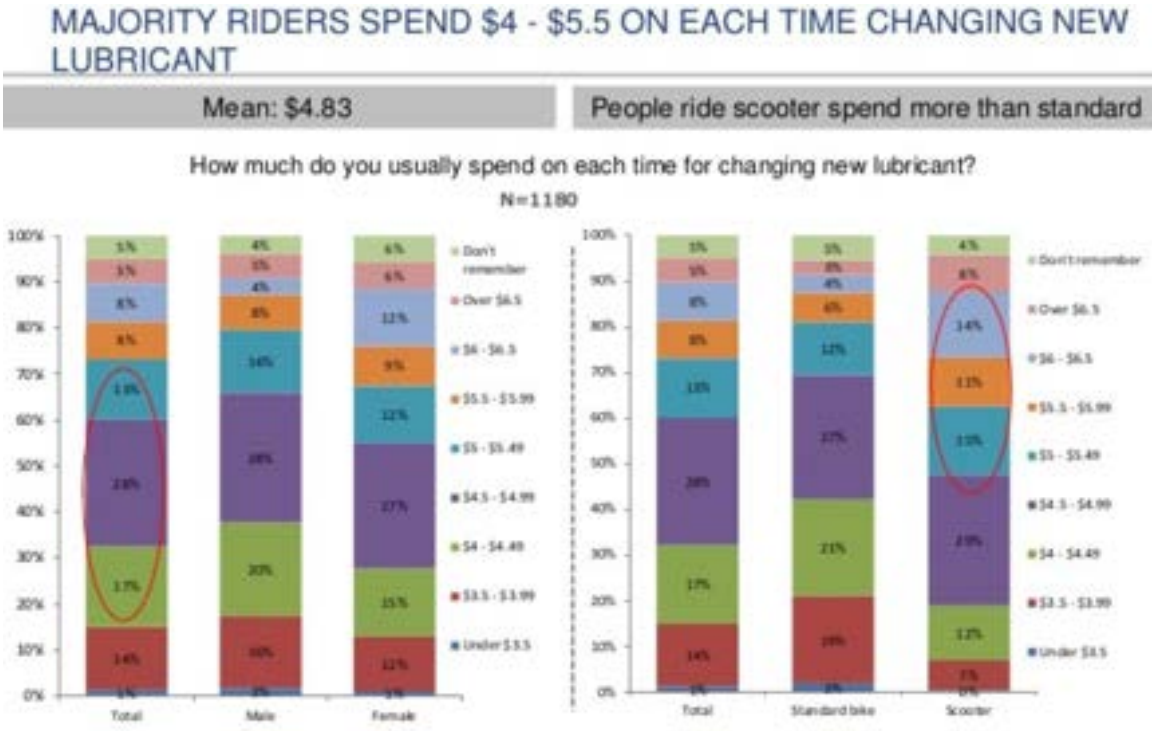
- Brand reliability.
- Motor protection quality.
- Reasonable price.

Foreign brands such as Shell and Total are selected because of their reliability, fame and quality brands while Petrolimex brand of Vietnam is chosen because of its price.



Study about Lubricant Industry in Vietnam Market –

Price level for 1 liter of oil and lubricants for motorcycles that Vietnamese consumers must pay



The average price level for 1 liter of oil and lubricants for motorcycles that Vietnamese consumers must pay is around USD 4.83/liter ranging from US $ 4 to USD 5.5 depending on the brand.

Current market and target market analysis

a) Oil and lubricants market

As an estimated consumption so far, there have been 200,000 cars/ year and 200,000 motorcycles/year consumed in Vietnam.

With a population of over 86 million people and limited public transport system, personal means of transport are still the first choice of the majority of Vietnamese people in the next 3-5 years. Coming to this demand is the need to use related products such as:: Gasoline, diesel oil and lubricants.

There is a huge demand for cars and motorbikes in the next 3-5 years of Vietnam; however, due to the fact that the infrastructure has not yet met the growth rate of private vehicles, the Government of Viet Nam will continue to take measures to limit these means in the short term. As committed to WTO, Vietnam will gradually reduce 30-50% import taxes and excise duties which can make the number of imported and consumed cars continue to increase in the following years as expected. Since then, there will be an increase in the demand for oil and lubricants products and spare parts for vehicles as well We believe that such demand calculated by market share for cars and motorcycles will increase from 6% to 8-10% in the next 3 years.

Oil and lubricants market and spare parts of Vietnam in recent years have experienced a rapid growth based on the demand for transport activities and personal travel. Up to now, there is a considerable high demand for these products with the fierce competition from firms at home and abroad: Castrol, Shell, Caltex, etc.

b) Marine oil and lubricants market

Shipping by sea increasingly plays an important role in the economy of Vietnam and other countries in the region. With a strategic position in the South China Sea, lying on the major artery lines linking the most important trade routes of the Pacific Ocean - Indian Ocean, Europe - Asia, the Middle East – Asia.

the position of Vietnam is considered the second busiest international transport route in the world. Every day, there are about 150 - 200 vessels of all kinds crossing the South China Sea, of which about 50% are ships with a tonnage of over 5,000 tons, more than 10% are ships with a tonnage of over 30,000 tons or more. Southeast Asian region has about 536 seaports, including the two largest and most modern ports in the world - Singapore and Hong Kong. This region is experiencing an increasing development in terms of trade and maritime industries.

According to recent statistics, more than 90% of commercial transport of the world is carried out by sea and 45% of them have to go through the South China Sea.

With TPP agreement already signed, Vietnam's role in transport trading through the South China Sea has been increasingly confirmed.

The launch of FROMM JSC's plant will meet the increasing demand for oil and lubricants of Vietnam and other countries in the Asia-Pacific region.

c) Target market

Out target market can be classified into the following groups:

+ Export market: Export market is a significant market o FROMM JSC. Particularly with s available strategic partners that have been doing business in the oil and lubricants industry, FROMM JSC will have a stepping stone for market expansion in Vietnam and countries of the Asia - Pacific region.

+ Oil and lubricants market for river boats and ships of all kinds.

+ Industrial oil and lubricant market for factories, workshops.

+ OEMs processing orders with carmakers to generate carmaker-branded products.

+ Industrial OEMs processing orders for dedicated vehicles & machines specialized in the areas of mining, geology, boats.

The Company continues to build the distribution systems in many provinces and at the same time develops FROMM-branded oil and lubricants for other product groups.

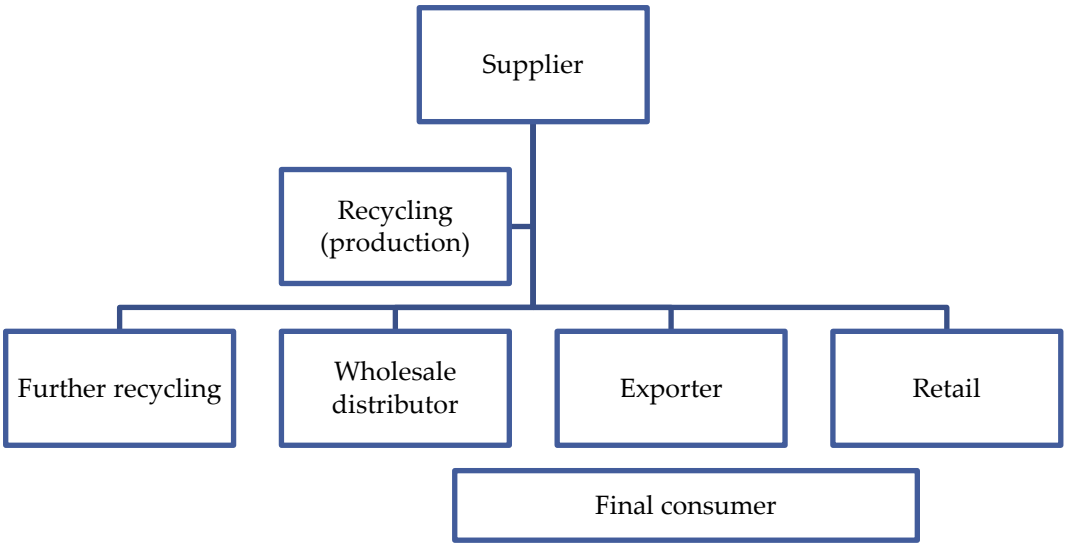
With a strategy to become a leading manufacturer of competitive quality and prices in the region, the Company focuses on the market of wholesale orders with large and steady demand.

The focusing on this market saves time to open up the market for FROMM JSC, but helps it reach the maximum capacity of the plant in the shortest time.

MARKETING STRATEGY

The diagram below shows the key links of the logistics chain used for the recycled oils distribution. The manufacturer is able to export and wholesale. Final consumption can be carried out within the group of companies and not even enter the retail level.

Figure 10. Logistics chain elemental structure



To sell the company's goods, it is advisable to use a zero and one-level distribution channel.

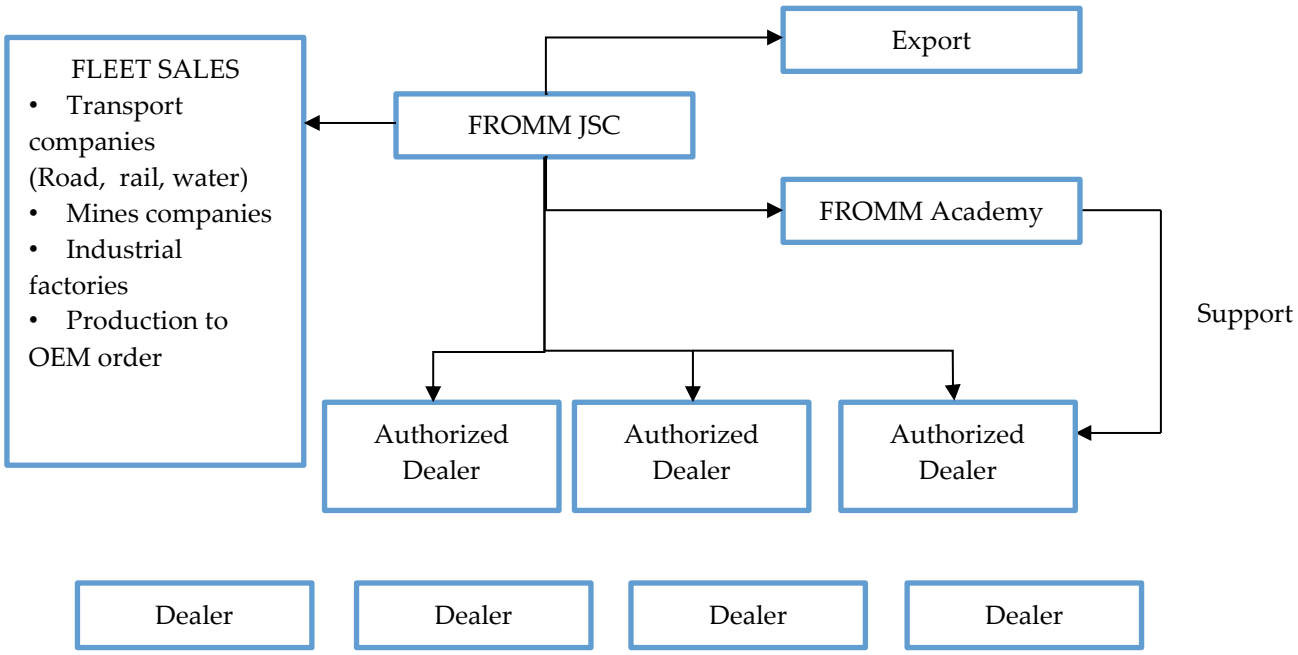
A zero distribution channel is selling the goods directly to the consumer.

A one-level distribution channel includes one intermediary.

Product sales are meant to be organized through product presentations as well as establishing contractual relations. In the first instance our company intends to establish connections with major market players that have extensive sales networks.

Based on the forgoing, the possible sales channels are shown below.

Figure 11. Distribution system



The main channel of sales goes through dealers and intermediaries occupying 70-80% of sales. Wholesale distributors (traders) will be the key consumers. They, in there turn, will be working with retail byers.

Our company has established contractual relationships with the following partners:

- RAVEN Oil (Germany) for Asia – Pacific market.
- Trendel Ltd. (France)
- FROMM German Oil & Lubricant Technology e.K. (Germany)
- CC FUNDING SECURE INVESTMENT. (Monaco)
- SATTILIK INVEST HOLDING. (KZT)

These partners are the basis for the plant to be operated in full capacity in the shortest time.

On the other hand, the Company is gradually building its loyal customer base through a sales representation system:

- Sales representative for European region: FROMM German Oil & Lubricant Technology e.K (the parent company in Germany)
- Sales representative for Asia - Pacific region: FROMM German Oil & Lubricant Technology LLC (the parent company in Hong Kong)

Domestic strategic partners:

- The companies are allowed to import gasoline: We look forward to cooperating with partners that are allowed to import petroleum, have petroleum station systems without any petroleum sale strategies along with oil and lubricants products At present, we are

negotiating with Tin Nghia Corporation and Thai Son Petrol Company - important partners of the company's shareholders Thanh Nam Construc-tion materials quarrying and Installation Co., Ltd for the distribution of oil and lubricants products in the petroleum station system of the units.

- OEMs maintenance stations: OEMs maintenance stations of Honda, Yamaha, SYM for motorcycles and Toyota, Ford for cars are an important distribution channel for the oil and lubricants products. As our anticipation, these maintenance stations will be important customers because the majority of oil and lubricants products for this market must be imported. With competitive advantage on price, we can fully supply oil and lubricants products to ensure each quality standard of OEMs.
- OEMs defense orders are currently being processed by Shell and Total (10,000 tons/year)
- Nationwide distribution system: In combination with product consultants, we will develop a distribution channel system-one agent for each province in connection with retailers and wholesale clients such as factories, transportation companies, shipping lines, etc., in each province.

The Company also focused on the establishment of consultants in charge of industrial lubrication solutions: The company makes a plan in collaboration with Ho Chi Minh City University of Technology to perform advisory, training missions for the agents in the provinces, as well as staffs, increase the efficiency of the use of oil and lubricants, increase productivity and lifetime of machinery depending on individual needs.

Commodity marketing policy is the implementation of a marketing strategy aimed at creating a set of competitive advantages and effective use of the company's opportunities on the market to achieve its strategic goal.

To effectively implement the development strategy, companies develop a commodity-marketing policy that allows to optimally determine the commodity (product range) profile of the company. It is necessary to conduct market segmentation and differentiation of the product portfolio into groups, the implementation of which will be carried out with taking into account the optimal pricing and competitive environment.

For purposes of developing a successful marketing program research assessing market situation and its influence on the company on a number of indicators will be conducted. There are plans to monitor market trends and foreign economic situation, macroeconomic situation within the country and prerequisites for the development, sales volume for similar products and the level of competition in the market.

Quality, efficiency and pricing are the most important advantages that are necessary to compete on solvent markets. Our company's constant work to improve the product policy

will identify the profitability of certain product types, market needs of target groups, sales restrictions and seasonal trends. To increase sales, it is necessary to establish competitive prices.

The communication policy provides for the development and active implementation of an advertising campaign.

The most important steps allowing the company to fully embody the goals and objectives of the project, as well as to implement an efficient marketing strategy are:

- Devising a plan of accessing markets of different countries.
- Making a list of all marketing communications, possibly including newspapers, business catalogs, radio and television advertising, website, online advertising, etc. planned to be used on a permanent basis.

A key element of attracting and retaining customers is correct pricing. For that reason the pricing strategy of the planned network is focused on avoiding any decline in sales and minimizing the impact of such external forces as competitors and participants of the distribution channels. Of all the possible methods of pricing, it is planned to base the price on the cost of production, i.e. the main factor of pricing is costs.

Figure 12. Sales price structure for wholesale

Figure 13. Sales price structure for retail

In order to achieve the planned sales volume, the company must carefully plan and organize the work with potential buyers.

The company is going to use modern management technologies. The most important company's activity will be internal and external market analysis, which will be the first step of considering the strategic development model. After collecting the data for the analysis and

receiving the information for the modeling of company's future there will be formed a unique strategy, intolerant to stereotypes and standard solutions.

An efficient strategy for a competitive product: increasing sales.

In order to achieve the planned sales volume the company must carefully plan and organize the work with potential buyers. For that purpose the company must:

- provide consistently high quality;
- explore all sales channels, chose the most efficient of them;
- constantly monitor the market and ensure dynamic decision-making in case of change of internal or external factors;
- actively work with distributors as well as direct consumers.

All the activities carried out for this purpose should be optimized in terms of effectiveness and cost. In a stable and favorable economic environment, companies operating in B2B markets use a variety of methods and techniques to advertise and promote their products, including presentations, participation in major and prestigious Russian and international exhibitions, numerous publications in specialized industry-related magazines, etc.

When initially entering the market, advertising campaigns should be aimed at informing potential consumers about the manufacturing plant, the range and quality of products.

While forming the advertising policy the following is recommended:

1. It is advisable to use printed promotional materials. Printed promotional materials should be made in the form of a handout that includes:
   - brief information on the plant and production technology;
   - technical specifications;
   - distinctive competitive advantages over other manufacturers;
   - basic terms of delivery;
   - contact information.
2. Placement of advertising materials in specialized publications. The following forms and types of publications will be most efficient:
   - introductory articles, informing consumers about a new offer on the market, its properties, advantages, field of application, etc.
   - articles designed as interviews with company management talking about the advantages in quality, logistics etc.
   - small advertising modules with specifications, terms of delivery, etc.

The strategic plan for promotion is to conduct an advertising campaign, the purpose of which is to create a positive image of the company and attract attention of potential

consumers and ultimately to increase sales. It will include the following tools of advertising policy:

- Specialized press spread through administrative channels, advertising through it is highly efficient as the information goes directly to the target audience.
- Internet advertising. Internet advertising should be very efficient. It is supposed to use Internet advertising in global and local search engines (for example, Baidu for China):
  - ✓ Search engine advertising. The enterprise pays clicks on its ads, setting a price in form of an auction. Advertising blocks are placed above and to the right of the main issue.
  - ✓ Banners.
  - ✓ Brand zone. This type of advertising is primarily used by big companies. It is similar to an extended snippet, where you can place a logo, a description of the company, and quick links to the main sections of the site and banners.
- Informational advertising (handbooks, catalogs etc.).
- Participation in the industrial exhibitions.

Advertising cost are expected to reach up to 2-3,5% of sales revenue.

The suggested approach to advertising is to focus on direct or wholesale sales, participation in exhibitions, tenders, and also active promotion in the Internet.

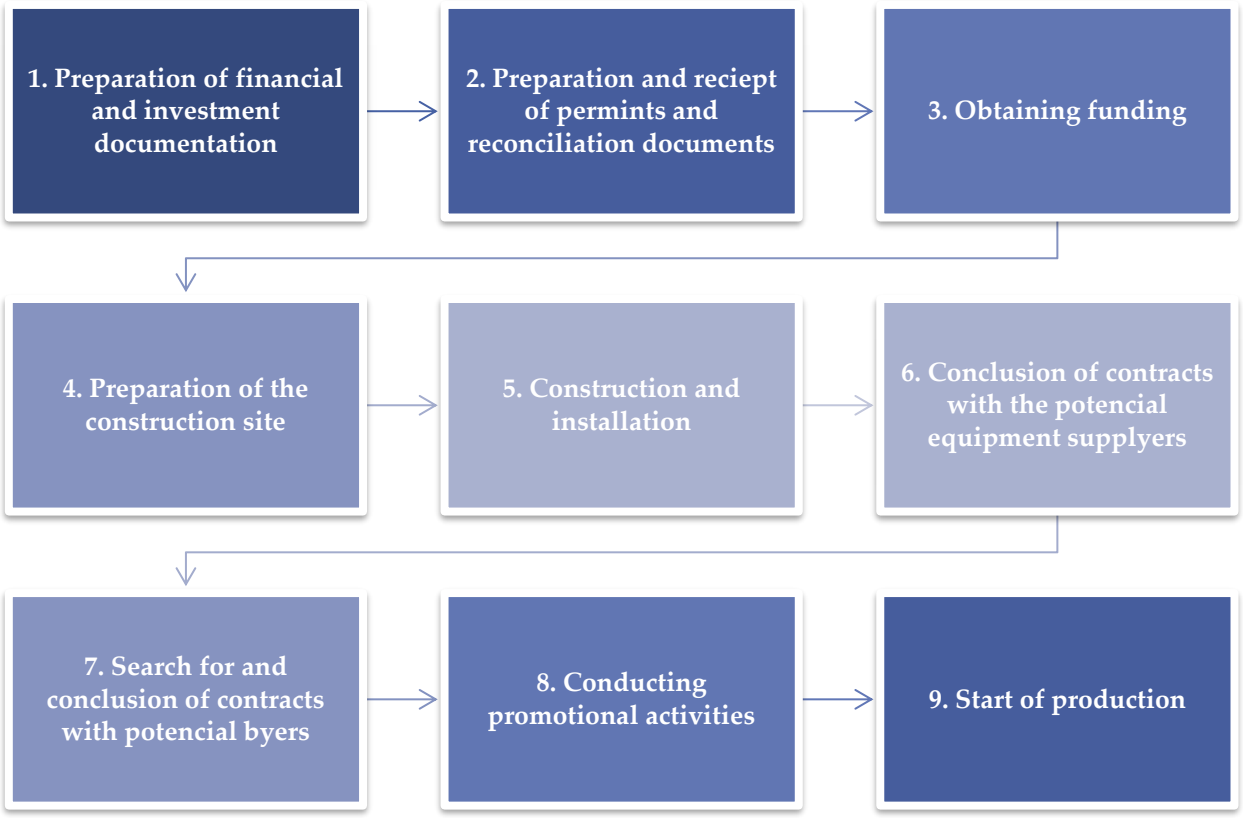
Sales will be ensured with:

- Administrative resource for participating in tenders;
- Direct negotiations with exiting market operators;
- Secondary market sales through dealers.
- Exports.

ORGANIZATIONAL PLAN

Project implementation schedule

In order to implement this investment project, the following work package will be carried out:



Timing and implementation stages of the project:

Stage	Beginning	Conclusion
Design work	2022	2024
Construction and installation	2024	2026
Ordering equipment	2024	2023
Delivery of the equipment	2024	2026
Installation of the equipment	2024	2026
Commissioning	2025	2029

Required personnel

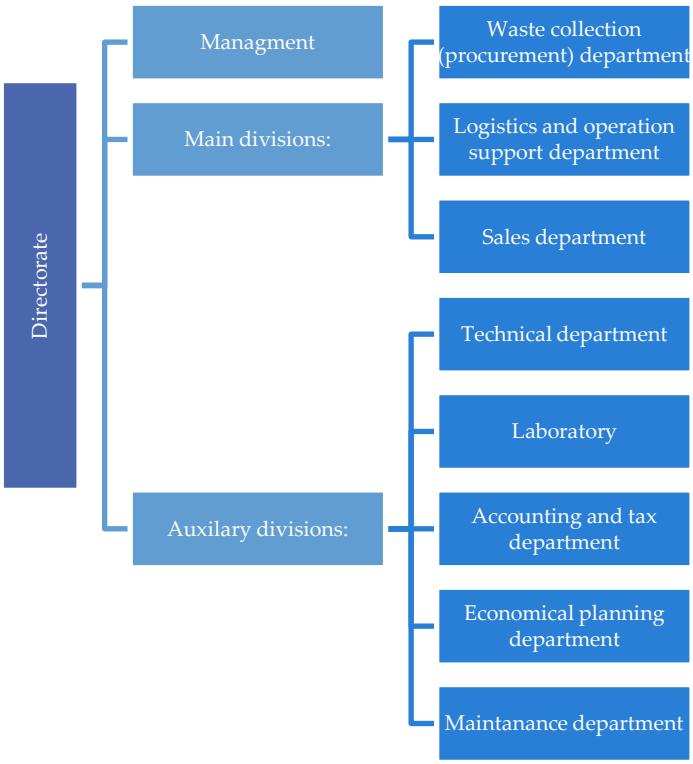
Personnel policy for the proposed project will focus on the use of such methods of labor organization that would provide the enterprise with the creation of a high-performance, cohesive team that efficiently and timely carries out its duties and is able to quickly respond to changing market demands.

The main directions of the personnel policy of the company:

- headcount planning;
- implementing personnel development programs to address current and future objectives of the enterprise;
- developing motivational mechanisms to increase concernment and satisfaction from work;
- creating modern systems of staff selection;
- conducting marketing activities in the field of personnel;
- strengthening the incentive role of wages;
- developing social programs etc.

One of the most important tasks of building the most effective management system is the formation of the organizational structure of the project.

Figure 14. Organigramme



The total staff is 405 people. General management of the enterprise, starting from the organizational period and directly starting the production, including management of the current production and financial activities of the enterprise, will be carried out by the directorate. Also, for full-fledged functioning a production and support staff are formed.

Recruitment is carried out in parallel with the organization of construction and installation. The personnel participates in the installation of equipment and receives the necessary training for further work on this equipment.

To implement the personnel policy the following strategic tasks should be fulfilled:

- Basic and advanced training of the employees;
- Improvement of the social policy of the enterprise and motivation of employees;
- Creation of an operating reserve and career planning for the personnel;
- Formation of corporate culture.

Personnel policy of the company will be aimed at optimal delegation of authority and bearing responsibility for decisions made. The company will also maintain a balanced staff remuneration system. The development of the company's corporate culture will be aimed at creating in every employee a sense of involvement in achieving the company's high results, fostering team spirit.

Also, the company's management plans to conduct an active work to motivate staff. Thus, to meet the social needs of workers, the following measures will be taken:

1. Constant work on supporting the team spirit of working for the common result.
2. Regular meetings with subordinates to take into account their opinions and ideas and increase their evident significance to the company.
3. Organizing corporate activities,
4. Create conditions that stimulate social activity.

To meet the needs of workers in recognition and respect, the following will be done:

1) The results received by employees will be appropriately evaluated and rewarded, the leaders in the field of work will be identified and will receive additional funds;
2) In order to formulate goals and develop solutions on certain issues, it is planned to involve subordinates;
3) Workers will receive additional rights and authority;
4) Work will be done to improve the employees' skills and level of competence.

INVESTMENT PLAN

The investment section of the business pla reflects the investment costs of the enterprise (long-term investments) aimed at the acquisition of tangible and intangible assets.

The total amount of funding required for the project is € 1 530 000 000.

Funding is expected to come from the following sources:

1. Required investment (credit) funds – € 1 500 000 000. or 98% of the total amount of funding.
2. Equity capital – € 30 000 000 or 2% of the total amount of funding.

The investment funds will be used to finance the following items of expenditure

Table 5. Structure of investment costs

Item of expenditure	Equity capital	Investment funds	Credit funds	Total
Design work	$15 000 000	$0	$0	**€ 15 000 000**
Main equipment cost			$700 000 000	**€ 700 000 000**
Main equipment delivery cost			$50 000 000	**€ 50 000 000**
Main equipment installation cost	$0	$0	$75 000 000	**€ 75 000 000**
Main equipment commissioning cost	$0	$0	$5 000 000	**€ 5 000 000**
Office building construction (including cost of land)	$0	$0	$350 000 000	**€ 350 000 000**
External communications	$0	$0	$50 000 000	**€ 50 000 000**
Beautification	$0	$0	$10 000 000	**€ 10 000 000**
Railway junction and piers construction	$0	$0	$260 000 000	**€ 260 000 000**
Replenishment of working capital	$15 000 000	$0	$0	**€ 15 000 000**
TOTAL COST OF THE PROJECT	**€ 30 000 000**	**€ 0**	**€ 1 500 000 000**	**€ 1 530 000 000**
Final percentage	**2%**	**0%**	**98%**	

Repayment of loan and interest

Required credit funds – € 1 500 000 000 or 98% of the total amount of funding.

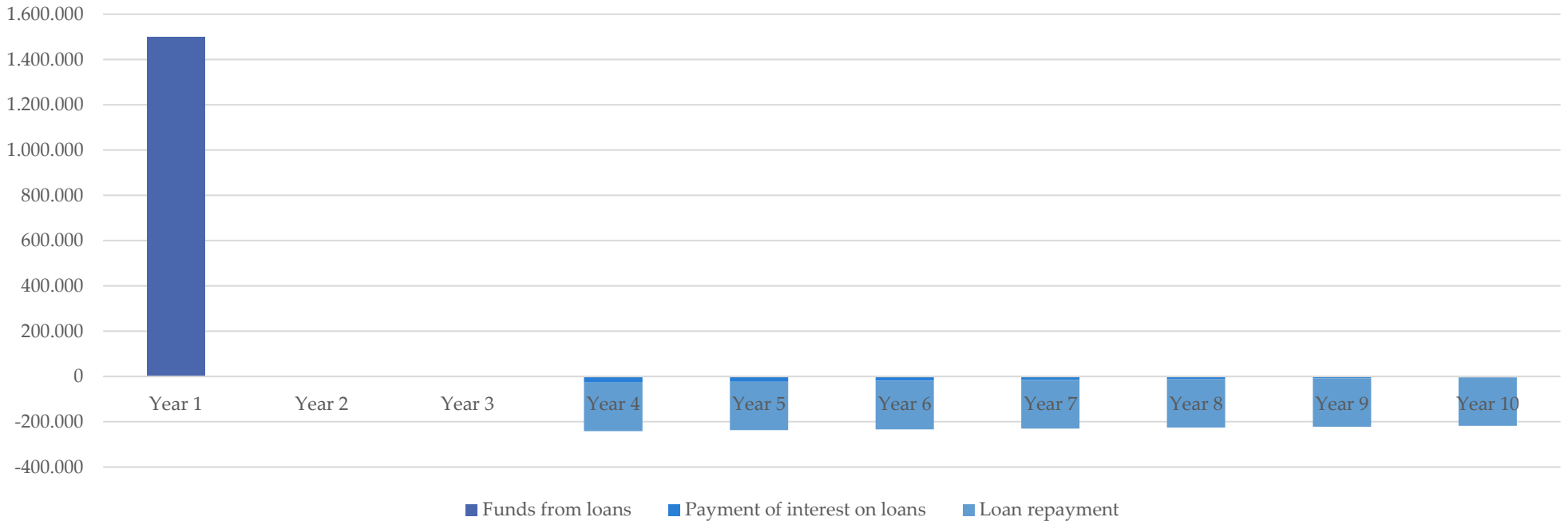
Desired conditions:

- The loan rate of 1.8% per annum.
- Loan repayment terms: principal - in equal payments starting from year 4, interest – for the balance on the principal every month.

Table 6. Loan funds provision, servicing and repayment schedule

LOAN		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	*TOTAL*
Receiving loan funds	Thousand EUR	1 500 000										*1 500 000*
Repayment of principal	Thousand EUR				214 286	214 286	214 286	214 286	214 286	214 286	214 286	*1 500 000*
Interest payed	Thousand EUR	0	0	0	27 000	23 143	19 286	15 429	11 571	7 714	3 857	*108 000*
Debt at the end of current period	Thousand EUR	1 500 000	1 500 000	1 500 000	1 285 714	1 071 429	857 143	642 857	428 571	214 286	0	

Figure 15. Loan funds provision, servicing and repayment diagram



FINANCIAL PLAN

In the calculations above the price level is given in euros. To take into account the time factor and the degree of business risk the results of financial indicators calculations are given for the same moment of time (the beginning of project implementation) using discounting.

Tax parameters have been adopted for the project according to the general taxation system:

- VAT rate – 10%.
- Income tax rate – 0% for the first 2 years, 11 % for the next 4 years, 22% from year 7.
- Tax charge on wages – 23%.

SALES PLAN

Start of production – year 4. Production volume – 10 million ton per year. Achieving the planned production volumes – in 3 years.

Sales structure and basic prices are shown in the table below.

Table 7. Sales structure and basic prices

	Proportion, %	Basic selling price, euros per ton
2-wheel vehicles	20%	2018
Cars and trucks	15%	1863
Gearbox & drive	10%	1575
Industry	20%	1796
Marine	35%	2010

The sales plan takes into account 5% of annual tax increase.

Figure 16. Sales revenue, thousands of euros

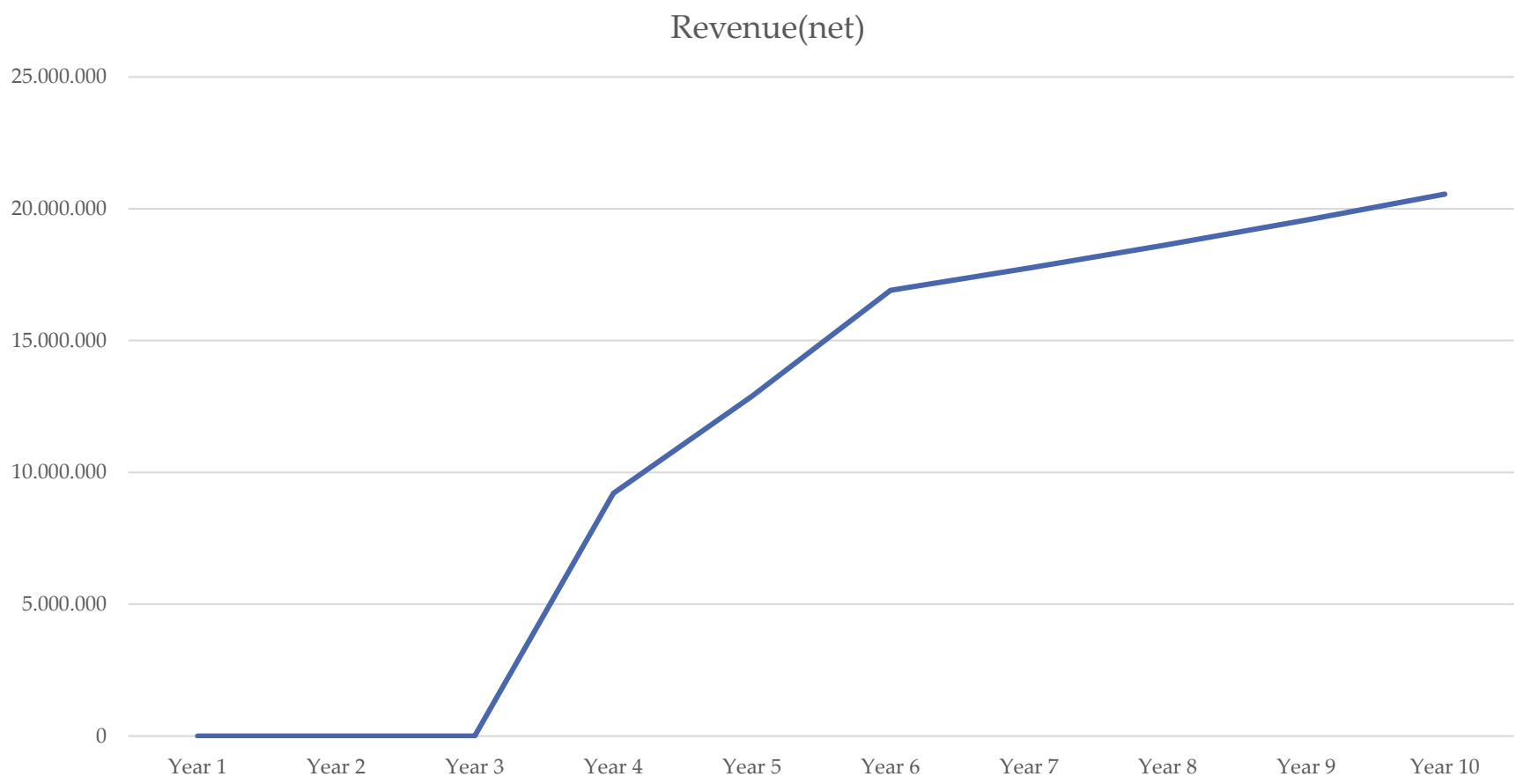


Table 8. Sales plan, euro

Sales	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTAL
Percentage of capacity utilization	60%	80%	100%	100%	100%	100%	100%	64%
Waste oil processing volume, tons	6 000 000	8 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	**64 000 000**
Recycled oil output, tons	6 000 000	8 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	**64 000 000**
2-wheel vehicles								
Production volume, tons	1 200 000	1 600 000	2 000 000	2 000 000	2 000 000	2 000 000	2 000 000	**12 800 000**
Selling price, euro per ton	€ 1 687	€ 1 772	€ 1 860	€ 1 953	€ 2 051	€ 2 153	€ 2 261	**€ 1 880**
Sales revenue, euro	€ 2 024 662 828	€ 2 834 527 959	€ 3 720 317 946	€ 3 906 333 844	€ 4 101 650 536	€ 4 306 733 063	€ 4 522 069 716	**€ 25 416 295 891**
Cars and trucks								
Production volume, tons	900 000	1 200 000	1 500 000	1 500 000	1 500 000	1 500 000	1 500 000	**9 600 000**
Selling price, euro per ton	€ 1 558	€ 1 636	€ 1 717	€ 1 803	€ 1 893	€ 1 988	€ 2 087	**€ 1 736**
Sales revenue, euro	€ 1 401 863 298	€ 1 962 608 618	€ 2 575 923 811	€ 2 704 720 001	€ 2 839 956 002	€ 2 981 953 802	€ 3 131 051 492	**€ 17 598 077 024**
Gearbox & drive								
Production volume, tons	600 000	800 000	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	**6 400 000**
Selling price, euro per ton	€ 1 317	€ 1 383	€ 1 452	€ 1 524	€ 1 601	€ 1 681	€ 1 765	**€ 1 467**
Sales revenue, euro	€ 790 100 088	€ 1 106 140 123	€ 1 451 808 911	€ 1 524 399 357	€ 1 600 619 325	€ 1 680 650 291	€ 1 764 682 805	**€ 9 918 400 899**
Industry								
Production volume, tons	1 200 000	1 600 000	2 000 000	2 000 000	2 000 000	2 000 000	2 000 000	**12 800 000**
Selling price, euro per ton	€ 1 502	€ 1 577	€ 1 656	€ 1 738	€ 1 825	€ 1 916	€ 2 012	**€ 1 673**
Sales revenue, euro	€ 1 801 929 851	€ 2 522 701 791	€ 3 311 046 101	€ 3 476 598 406	€ 3 650 428 326	€ 3 832 949 743	€ 4 024 597 230	**€ 22 620 251 447**
Marine								
Production volume, tons	2 100 000	2 800 000	3 500 000	3 500 000	3 500 000	3 500 000	3 500 000	**22 400 000**
Selling price, euro per ton	€ 1 681	€ 1 765	€ 1 853	€ 1 945	€ 2 043	€ 2 145	€ 2 252	**€ 1 872**
Sales revenue, euro	€ 3 529 113 725	€ 4 940 759 215	€ 6 484 746 470	€ 6 808 983 793	€ 7 149 432 983	€ 7 506 904 632	€ 7 882 249 864	**€ 44 302 190 682**
TOTAL SALES	**€ 10 123 314 140**	**€ 14 172 639 795**	**€ 18 601 589 732**	**€ 19 531 669 218**	**€ 20 508 252 679**	**€ 21 533 665 313**	**€ 22 610 348 579**	**€ 127 081 479 455**

COSTS PLAN

Prerequisites for the calculation of costs are given in the table below.

Table 9. Prerequisites for the calculation of costs

Enterprise parameters		
Maintenance cost		1,5%
Major repair cost		4%
Annual increase		5%
Insurance cost		0,3%
Cost of market development		
	Year 1	2,0%
	From year 2	3,5%
Purchase cost		0,5%
Utility costs		0,05%
Other costs		0,10%
Administrative staff salaries		
	quantity	40,00
	salary	€ 770
Engineering staff salaries		
	quantity	65,00
	salary	€ 520
Production personnel saaries		
	quantity	300,00
	salary	€ 575

Material costs

Lubricants for lubrication is a mixture including base oil and additives.

As defined by American Petroleum Institute (API), the base oil used for lubricants blending is classified into five groups as follows:

	Sulfur content	Saturated HC content	Viscosity index
Group I base oil	S > 300 ppm	Degree of saturation < 90%	80- 120
Group II base oil	S ≤ 300 ppm	Degree of saturation ≥ 90%	80- 120
Group III base oil	S ≤ 300 ppm	Degree of saturation ≥ 90%	≥ 120
Group IV base oil	Synthetic base oil PAO		
Group V base oil	Base oil other than in Group I to IV		

Additives are added with the aim of making commercial lubricants have consistent properties with the set out objectives for which the base oil is unavailable.

Additives are organic, inorganic compounds, even chemical elements added to the lubricant to enhance or bring the desired properties. The amount of additives normally introduced is at 0.01-6%.

Due to being active compounds, the additives can work together and lose the functions of the lubri-cants when presenting in the lubricant. Conversely, such additives can mutually impact together to create new beneficial properties for the lubricants, so the mixing of additives need to be studied care-fully to exclude countervailing effects and enhance the mutual impact. The mutual effect between the additives and the base oil is also an important factor in case of lubricant production.

Types of additives are featured by the following properties:

+ /Additives increase viscosity index

+ /Additives used to inhibit oxidation

+ /Cleansing additives

+ /Dispersion additives

+ Additives used to inhibit corrosion

+ /Additives used to inhibit abrasion

+/Rust inhibitor ...

Таблица 10. Стоимость сырья

Raw material cost		FOB price	Transport	Import tax
Base oil	USD/ton	810	52	40.5
Additives	USD/ton	4055	150	40.6
Raw material cost		**Input raw material price**	**% raw materials component**	
Base oil	USD/ton	902.5	83.85%	756.7
Additives	USD/ton	4245.6	16.15%	685.7
Average raw materials cost	**USD/ton**	**USD/liter**	**VND/ton**	**VND/liter**
	1442.4	**1.24**	32,165,577	27.662

Annual price increase: 4% of the first year (remain unchanged since year 10).

Thus, the costs of the enterprise are shown in the table below:

Figure 17. Costs, thousands of euro

COST OF MATERIALS		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTAL
Raw materials cost	thousand EUR	0	0	12 060	7 235 865	10 033 733	13 043 853	13 565 607	14 108 232	14 672 561	15 259 463	87 931 374
Purchase cost	thousand EUR	0	0	60	36 179	50 169	65 219	67 828	70 541	73 363	76 297	439 657
Main production personnel salaries	thousand EUR	0	0	188	2 262	2 330	2 400	2 472	2 546	2 622	2 701	17 521
Insurance premiums for main production personnel salaries	thousand EUR	0	0	43	520	536	552	568	586	603	621	4 030
Utility costs	thousand EUR	0	0	0	5 062	7 086	9 301	9 766	10 254	10 767	11 305	63 541
Auxilary production personnel salaries	thousand EUR	0	0	74	443	457	470	484	499	514	529	3 470
Insurance premiums for auxilary production personnel salaries	thousand EUR	0	0	17	102	105	108	111	115	118	122	798
Maintenance cost	thousand EUR	0	0	0	12 450	12 450	12 450	12 450	12 450	12 450	12 450	87 150
Major repair cost	thousand EUR	0	0	0	33 200	34 860	36 603	38 433	40 355	42 373	44 491	270 315
Administrative staff salaries	thousand EUR	0	0	67	404	416	428	441	455	468	482	3 162
Insurance premiums for administrative staff salaries	thousand EUR	0	0	15	93	96	99	102	105	108	111	727
Other costs	thousand EUR	0	0	0	10 123	14 173	18 602	19 532	20 508	21 534	22 610	127 081
Insurance cost	thousand EUR	0	0	0	4 500	4 500	4 500	4 500	4 500	4 500	4 500	31 500
Cost of market development	thousand EUR	0	0	0	202 466	496 042	651 056	683 608	717 789	753 678	791 362	4 296 002
= Total: running costs	thousand EUR	0	0	12 526	7 543 670	10 656 952	13 845 640	14 405 903	14 988 933	15 595 658	16 227 046	93 276 328

FORMATION OF PROFIT FOR THE PROJECT

In accordance with the estimated costs and revenues of the project formation of profit is generally shown in the table.

Table 11. Profit and loss statement, thousand euros

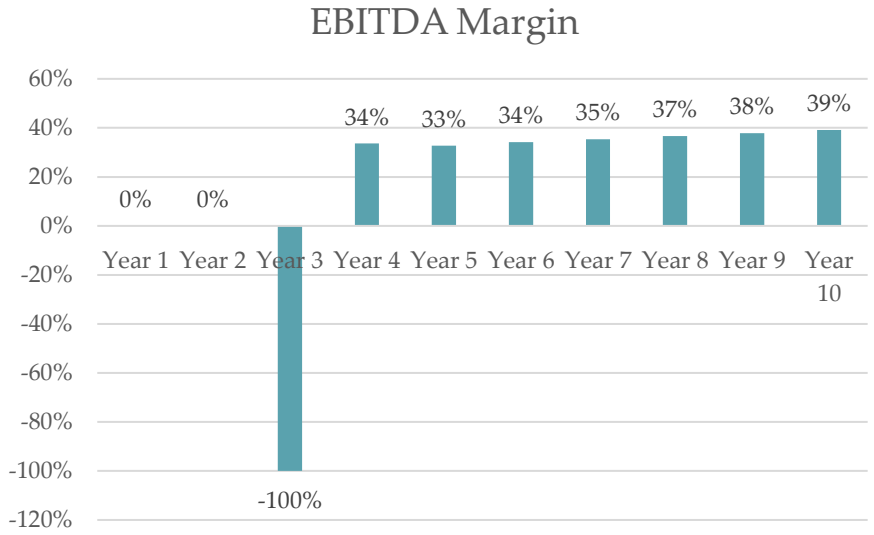
PROFIT AND LOSS STATEMENT		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTAL
Revenue (net)	thousand EUR	**0**	**0**	**0**	**9 203 013**	**12 884 218**	**16 910 536**	**17 756 063**	**18 643 866**	**19 576 059**	**20 554 862**	***115 528 618***
Prime cost	thousand EUR	**0**	**0**	**323**	**6 742 912**	**9 291 577**	**12 045 433**	**12 524 319**	**13 022 380**	**13 540 384**	**14 079 131**	***81 246 458***
including												
Materials	thousand EUR	0	0	0	6 621 968	9 167 183	11 917 339	12 394 032	12 889 793	13 405 385	13 941 601	*80 337 301*
Other variable expenses	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Production personnel salaries	thousand EUR	0	0	323	3 327	3 427	3 530	3 636	3 745	3 857	3 973	*25 818*
Lease payments	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Other production expenses	thousand EUR	0	0	0	46 102	49 451	53 049	55 135	57 326	59 627	62 042	*382 732*
Depreciation	thousand EUR	0	0	0	71 515	71 515	71 515	71 515	71 515	71 515	71 515	*500 606*
Gross profit	thousand EUR	**0**	**0**	**-323**	**2 460 101**	**3 592 641**	**4 865 104**	**5 231 744**	**5 621 486**	**6 035 675**	**6 475 732**	***34 282 160***
Administrative and commercial staff salaries	thousand EUR	0	0	83	497	512	527	543	559	576	593	*3 889*
Administrative expenses	thousand EUR	0	0	0	13 294	16 975	21 001	21 847	22 735	23 667	24 646	*144 165*
Commercial expenses	thousand EUR	0	0	0	184 060	450 948	591 869	621 462	652 535	685 162	719 420	*3 905 456*
Taxation, except income tax	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Interest	thousand EUR	0	0	0	27 000	23 143	19 286	15 429	11 571	7 714	3 857	*108 000*
Profit (loss) from operating activities	thousand EUR	**0**	**0**	**-406**	**2 235 250**	**3 101 064**	**4 232 421**	**4 572 464**	**4 934 086**	**5 318 556**	**5 727 215**	***30 120 649***
Profit / loss from sale of non-current assets	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Profit / loss from construction activities	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Exchange rate differences	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Other profit	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Other loss	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Profit before tax	thousand EUR	**0**	**0**	**-406**	**2 235 250**	**3 101 064**	**4 232 421**	**4 572 464**	**4 934 086**	**5 318 556**	**5 727 215**	***30 120 649***
Income taxes	thousand EUR	0	0	0	0	0	465 566	502 971	542 749	585 041	1 259 987	*3 356 315*
Net profit (loss)	thousand EUR	**0**	**0**	**-406**	**2 235 250**	**3 101 064**	**3 766 854**	**4 069 493**	**4 391 336**	**4 733 515**	**4 467 228**	***26 764 334***

Gradual formation of the profitability of complex activities based on various factors is shown below:

- EBITDA Margin (%) – shows the profitability taking into account all operating costs before accrual of depreciation and taxation.
- Return on sales (%) – profitability taking into account all costs.

Figure 18. Return on sales

Figure 19. EBITDA Margin



PROJECT CASH FLOW FORECAST

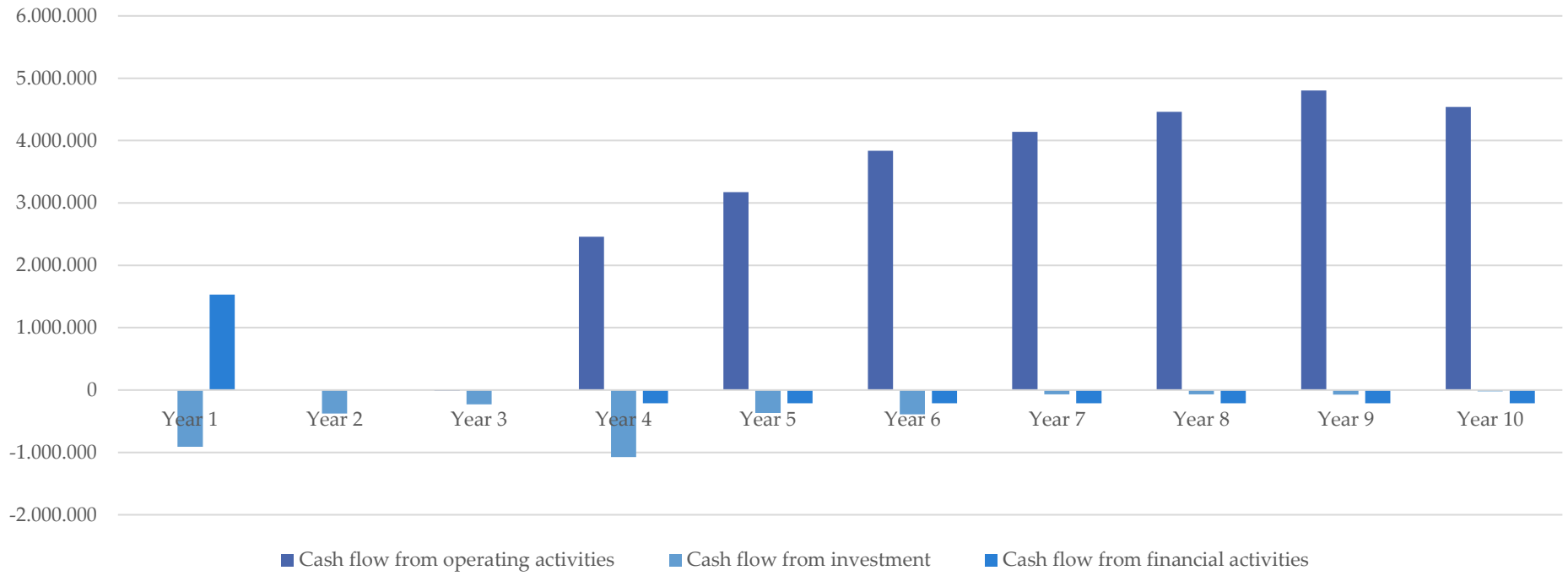
During project implementation cash flow increase is expected.

Table 12. Cash flow report, thousand euro

CASH FLOW REPORT		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTAL
Sales revenue	thousand EUR	0	0	0	10 123 314	14 172 640	18 601 590	19 531 669	20 508 253	21 533 665	22 610 349	*127 081 479*
Costs for materials and components	thousand EUR	0	0	-12 120	-7 272 045	-10 083 902	-13 109 072	-13 633 435	-14 178 773	-14 745 924	-15 335 761	*-88 371 031*
Other variable expenses	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Salary	thousand EUR	0	0	-330	-3 109	-3 202	-3 298	-3 397	-3 499	-3 604	-3 712	*-24 152*
General expenses	thousand EUR	0	0	0	-267 801	-569 111	-732 511	-768 289	-805 856	-845 301	-886 719	*-4 875 589*
Taxes	thousand EUR	0	0	-76	-96 747	-320 703	-899 053	-970 111	-1 045 702	-1 126 092	-1 841 557	*-6 300 039*
Payment of interest on loans	thousand EUR	0	0	0	-27 000	-23 143	-19 286	-15 429	-11 571	-7 714	-3 857	*-108 000*
Other income	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Other expenses	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Cash flow from operating activities	thousand EUR	**0**	**0**	**-12 526**	**2 456 613**	**3 172 579**	**3 838 369**	**4 141 008**	**4 462 851**	**4 805 030**	**4 538 743**	***27 402 668***
Investment in land	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Investment in buildings and structures	thousand EUR	-402 000	-167 500	-100 500	0	0	0	0	0	0	0	*-670 000*
Investment in equipment and other assets	thousand EUR	-507 000	-211 250	-126 750	0	0	0	0	0	0	0	*-845 000*
Investment in non-material assets	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Investment in financial assets	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Payment of deferred expenses	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Net working capital gain	thousand EUR	0	0	-1 816	-1 075 812	-370 050	-391 366	-67 918	-70 359	-72 883	-22 994	*-2 073 196*
Assets sale revenue	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Cash flow from investment	thousand EUR	**-909 000**	**-378 750**	**-229 066**	**-1 075 812**	**-370 050**	**-391 366**	**-67 918**	**-70 359**	**-72 883**	**-22 994**	***-3 588 196***
Proceeds from equity	thousand EUR	30 000	0	0	0	0	0	0	0	0	0	*30 000*
Targeted financing	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Funds from construction investors	thousand EUR	0	0	0	0	0	0	0	0	0	0	
Funds from loans	thousand EUR	1 500 000	0	0	0	0	0	0	0	0	0	*1 500 000*
Loan repayment	thousand EUR	0	0	0	-214 286	-214 286	-214 286	-214 286	-214 286	-214 286	-214 286	*-1 500 000*
Lease payments	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*
Dividend payment	thousand EUR	0	0	0	0	0	0	0	0	0	0	*0*

CASH FLOW REPORT		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTAL
Cash flow from financial activities	thousand EUR	**1 530 000**	**0**	**0**	**-214 286**	**-214 286**	**-214 286**	**-214 286**	**-214 286**	**-214 286**	**-214 286**	***30 000***
Total cash flow for the period	thousand EUR	621 000	-378 750	-241 592	1 166 515	2 588 243	3 232 718	3 858 804	4 178 207	4 517 861	4 301 464	*23 844 471*
Cash at the beginning of the period	thousand EUR	0	621 000	242 250	658	1 167 173	3 755 417	6 988 135	10 846 939	15 025 146	19 543 008	
Cash at the end of the period	thousand EUR	**621 000**	**242 250**	**658**	**1 167 173**	**3 755 417**	**6 988 135**	**10 846 939**	**15 025 146**	**19 543 008**	**23 844 471**	

Figure 20. Cash flow, thousand euro



The analysis of the profitability of the project as a whole is presented in the table.

The table shows the gradual formation of the profitability of the industrial complex, taking into account various factors.

Table 13. Project profitability analysis

FINANCIAL SOUNDNESS INDICATORS		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Return on assets	%	0,0%	0,0%	0,0%	87,6%	61,5%	45,2%	33,7%	27,3%	23,1%	16,5%
Return on equity	%	0,0%	0,0%	-1,4%	194,8%	81,3%	52,0%	36,4%	28,5%	23,7%	16,7%
Return on non-current assets	%	0,0%	0,0%	0,0%	166,6%	244,2%	314,3%	361,1%	416,1%	481,1%	509,6%
Direct costs to revenue from sales	%	-	-	-	73,3%	72,1%	71,2%	70,5%	69,8%	69,2%	68,5%
Sales profitability	%	-	-	-	24,3%	24,1%	22,3%	22,9%	23,6%	24,2%	21,7%
Share of fixed costs	%	0,0%	0,0%	100,0%	4,6%	6,1%	5,9%	5,9%	5,9%	5,9%	6,0%
Break-even point	thousand EUR	-	-	-	1 136 700	2 054 897	2 511 219	2 563 516	2 619 361	2 678 817	2 741 957
"Margin of safety"	%	-	-	-	87,6%	84,1%	85,1%	85,6%	86,0%	86,3%	86,7%
EBITDA Margin	%	-	-	-100%	34%	33%	34%	35%	37%	38%	39%
EBIT Margin	%	-	-	-100%	33%	32%	34%	35%	36%	37%	39%
Net profit margin	%	-	-	-100%	32%	32%	30%	31%	32%	33%	30%
Effective income tax rate	%	0,0%	0,0%	0,0%	0,0%	0,0%	11,0%	11,0%	11,0%	11,0%	22,0%
Total liquidity ratio	times	-	-	7596,10	93,77	65,89	60,98	81,36	100,44	118,34	104,50
Net working capital	thousand EUR	703 636	359 318	152 322	2 244 801	5 203 094	8 827 178	12 753 900	17 002 466	21 593 210	25 917 668
Coefficient of total solvency	times	0,02	0,02	0,02	0,63	0,82	0,90	0,94	0,97	0,98	0,99
Equity ratio	times	0,02	0,02	0,02	1,73	4,66	9,09	16,47	29,34	56,05	107,00
Share of long-term loans in balance sheet currency	%	98%	98%	98%	36%	16%	8%	5%	2%	1%	0%
Total debt coverage ratio	times	-	-	-	5,83	11,90	14,84	17,80	19,50	21,35	20,72
Coverage of interest on loans	times	-	-	-	83,79	135,00	220,46	297,36	427,40	690,44	1485,83

Indicators of project implementation efficiency

Financial end economic evaluation, as well as investment efficiency assessment was performed according to the UNIDO guidelines for investment project evaluation.

Both static and dynamic methods of UNIDO methodology are used for the project's economic efficiency assessment. The discount rate is assumed to be 5%.

Discounting is a procedure of bringing different cash receipts and payments to a single point in time. The discount factor is determined by the formula:

$$k = \frac{1}{(1+R)^t},$$

where t is the calculation step (t = 1, 2, 3 etc.);

R is the discount rate.

Net present value of the project (NPV)

Net present value (NPV) is calculated as the difference between the discounted cash flows of receipts and payments made during project implementation.

This indicator can be calculated according to the formula:

$$NPV = \sum_{t=0}^{T} \frac{NCF_t}{(1+R)^t} - I_0,$$

where NCF_t - net cash flow on step t of the calculation; I_0 - loan funds under the project.

R – discount rate; T – investment period duration.

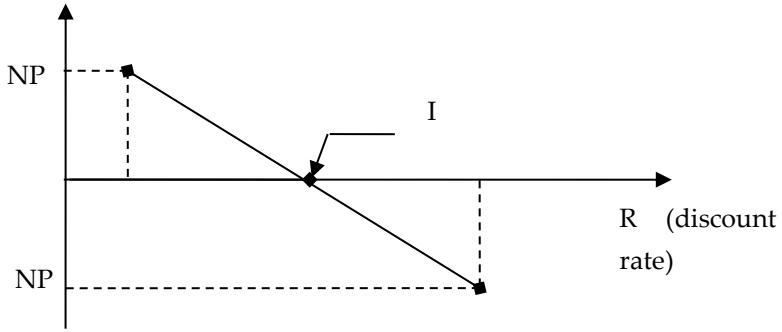
Annual net cash flow (NCF) is defined as the difference between operational and investment cash flows.

Internal rate of return on the project (IRR)

The calculation of the internal rate of return (IRR) involves determining the discount rate (R), in which the input and output discounted cash flows are equal.

For the IRR calculation the linear interpolation method based on the Intermediate value theorem is used.

If the continuous function of NPV(R) is monotone (ascending or descending) on the [R1;R2] interval and has values of opposite sign at R1 and R2 then at some point in this interval the NPV(R) function is zero, and this point (function root) is unique for this interval.



The approximate value of the root of the function is calculated by the following formula:

$$IRR = R_1 - \frac{NPV(R_1)\cdot(R_2 - R_1)}{NPV(R_2) - NPV(R_1)}$$

The discount payback period is a period of time (t), necessary to return the invested capital.

If the payback period exceeds the investment period the project is considered economically inefficient. The discount payback period is calculated by this formula:

$$DPP = t_1 + \frac{|NPV_1|\cdot(t_2 - t_1)}{NPV_2 + |NPV_1|},$$

where t_1 - moment in time when net present value is negative ($NPV_1 < 0$);

t_2 - moment in time when net present value is positive ($NPV_2 > 0$).

Profitability index

The profitability index (PI) is defined as the ratio of discounted cash flows of revenues and payments made in the course of the project for the entire investment period:

$$PI = \frac{\sum_{t=0}^{T} \frac{NCF_t}{(1+R)^t}}{I_0}$$

Return on investment

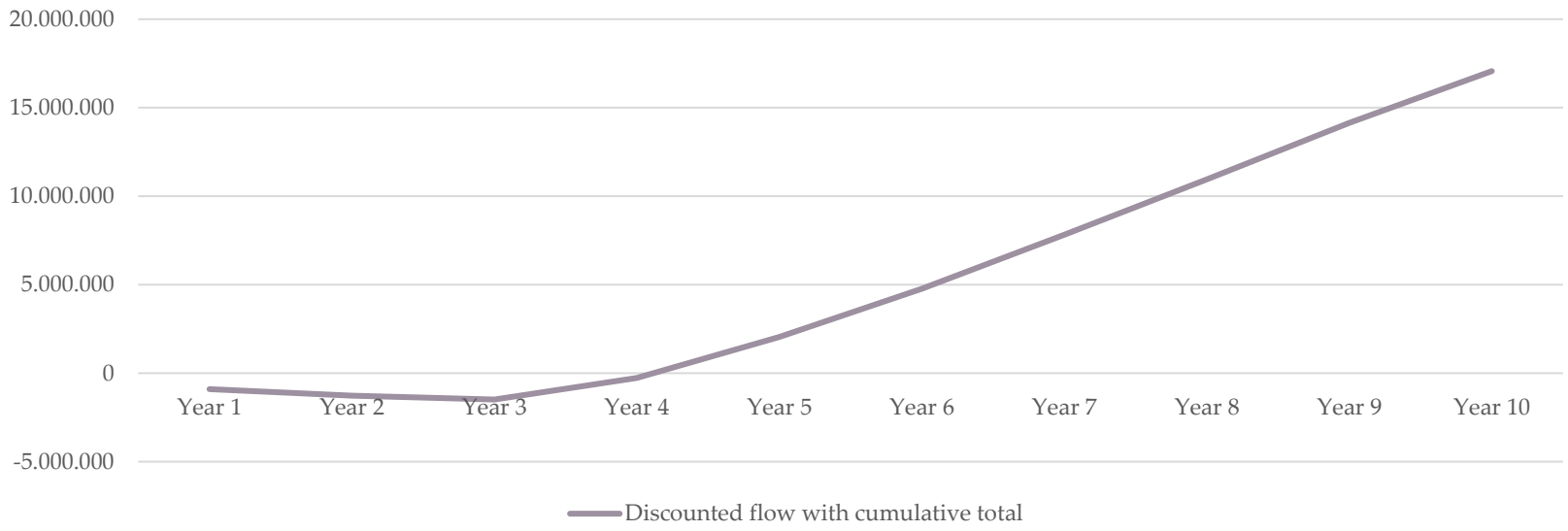
$$ROI = \frac{\sum \text{Net Profit}}{I_0} * 100\%$$

The return on investment shows net profit gained as a result of investment into the project.

Table 14. Discounted flow, thousand euro

TOTAL INVESTMENT COSTS EFFICIENCY		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTAL
Net cash flow	thousand EUR	-909 000	-378 750	-241 592	1 407 801	2 825 672	3 464 168	4 086 821	4 402 791	4 739 013	4 518 758	*23 915 683*
Discounted net cash flow	thousand EUR	-909 000	-360 714	-219 131	1 216 111	2 324 687	2 714 266	3 049 649	3 128 982	3 207 550	2 912 832	*17 065 232*
Discounted flow with cumulative total	thousand EUR	-909 000	-1 269 714	-1 488 845	-272 734	2 051 953	4 766 220	7 815 869	10 944 850	14 152 401	17 065 232	

Figure 21. Return on the project (for total investment costs), thousand euros



Payback period (PP)

Payback period (so called "simple payback period") means the period of time from the moment of the beginning of calculations to the earliest period of planning, after which the net income of the project becomes and stays positive. The simple payback period for this project is 4,04 **years** since the beginning of investment.

Discounted payback period (DPP)

The discounted payback period for this project is **4,12 years** since the beginning of investment.

Net present value (NPV)

This indicator is above «0». The achieved sum of **17 065 232 thousand euro** confirms the profitability of the project. In other words, all cash receipts to the present value significantly exceed the funds invested in the project, which indicates the effectiveness of the investments.

Internal rate of return (IRR)

The internal rate of return (average return on capital invested) is 71,1 %. At this rate the present value of the cash flows for the project is equal to the present value of the project costs, i.e., the efficiency of capital investments in the project is equal to the efficiency of investment by 71.1% in a financial instrument with a uniform income.

Thus, with zero return on the invested capital, the internal profitability of the Project is much higher than the planned discount rate of cash flows, which is 5%.

Profitability index

For this project the investment profitability index is 12,46, which means this: every monetary unit spent by the company will bring to it in the course of the project implementation 12.46 units of cash receipts.

The main financial indicators forecast gives us reasons to describe the project as economically attractive (high profitability index), financially sound, solvent and efficient.

Table 15. Standard and actual values comparison

	Standard value	Efficiency of total investment costs
Net present value (NPV)	above «0»	**17 065 232 тыс. евро**
Internal rate of return (IRR)	above «5%»	**71,1**
Rate of return on discounted costs (PI)	above «1»	**12,46**

Return on sales is used to control not only the cost of sales, but also the changes in the pricing policy of the company and describes the company's operational efficiency. The value of this indicator is 23%. It means that each euro of revenue will bring 0.23 euro of net profit to the company.

Production profitability shows real amount of profit which is brought to the company by every euro spent on production and sales and according to the project is 26%. In other words each euro spent for operating expenses will bring the company 0.26 euros of profit.

Table 16. Cost analysis

COST ANALYSIS		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Sales price	thousand EUR/unit	0,00	0,00	0,00	1,53	1,61	1,69	1,78	1,86	1,96	2,06
Unit cost	thousand EUR/unit	-	-	-	1,16	1,22	1,27	1,32	1,37	1,42	1,48
Fixed costs per unit	thousand EUR/unit	-	-	-	0,05	0,07	0,07	0,08	0,08	0,08	0,09
Variable costs per unit	thousand EUR/unit	-	-	-	1,10	1,15	1,19	1,24	1,29	1,34	1,39
Total costs	thousand EUR	-	-	-	6 940 763	9 760 011	12 658 830	13 168 171	13 698 209	14 249 789	14 823 790
Materials	thousand EUR	0	0	0	6 621 968	9 167 183	11 917 339	12 394 032	12 889 793	13 405 385	13 941 601
Other variable expenses	thousand EUR	0	0	0	0	0	0	0	0	0	0
Salary	thousand EUR	-	-	-	3 824	3 939	4 057	4 179	4 304	4 433	4 566
Depreciation	thousand EUR	-	-	-	71 515	71 515	71 515	71 515	71 515	71 515	71 515
Lease payments	thousand EUR	-	-	-	0	0	0	0	0	0	0
Other production expenses	thousand EUR	-	-	-	46 102	49 451	53 049	55 135	57 326	59 627	62 042
Administrative expenses	thousand EUR	-	-	-	13 294	16 975	21 001	21 847	22 735	23 667	24 646
Commercial expenses	thousand EUR	-	-	-	184 060	450 948	591 869	621 462	652 535	685 162	719 420
Fixed cost distribution ratio	times	-	-	-	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Variable costs	thousand EUR	0	0	0	6 621 968	9 167 183	11 917 339	12 394 032	12 889 793	13 405 385	13 941 601
Fixed costs	thousand EUR	-	-	-	318 795	592 828	741 491	774 138	808 416	844 404	882 189
Price factor	%	-	-	-	28%	29%	30%	30%	31%	32%	32%
Marginal profit	thousand EUR	0	0	0	2 581 045	3 717 034	4 993 198	5 362 031	5 754 073	6 170 674	6 613 262
Break-even point	thousand EUR	-	-	-	1 136 700	2 054 897	2 511 219	2 563 516	2 619 361	2 678 817	2 741 957
Break-even point	units	-	-	-	741 083	1 275 916	1 485 003	1 443 741	1 404 945	1 368 415	1 333 970
"Margin of safety"	%	-	-	-	88%	84%	85%	86%	86%	86%	87%
Profitability	%	-	-	-	25%	24%	25%	26%	27%	27%	28%

PROJECT RISK ANALYSIS

Production risks

The main source of production risks on the enterprise is the high level of main production equipment wear increasing probability of emergency shutdown. As the enterprise will be, for the moment, using the most modern equipment this risk will remain low.

In the future, for the purposes of prevention of such risks, the enterprise will continuously carry out technical audit work, the purpose of which is to identify the weak points of production processes, and also to develop effective proposals for their leveling. Regular preventive maintenance of technological equipment should be carried out, as well as work on diagnostics of main and auxiliary equipment, monitoring of its technical indicators in order to determine effective measures to maintain equipment in working condition, work on the technical re-equipment.

The availability of backup equipment in the most important areas of the production and technical process will make it possible to launch reserve facilities and thereby minimize the risk of disrupting the rhythm of the production process in the event of an emergency stop of this equipment.

Regarding the technological equipment of which the reserve is lacking, to minimize the risk of malfunction and, as a result, emergency shutdown of the production, an emergency stock of items necessary to eliminate any malfunctions is to be formed.

Logistical risks

Risks associated with ensuring the delivery of products to consumers through road, railway and maritime transportation (the so-called logistical risks) have a direct impact on the competitiveness of the enterprise and, therefore, are very significant for the company. In terms of rail transportation, there may be a situation of reduced competitiveness of the enterprise due to a shortage of railroad tank cars for the transportation of products. In order to minimize those risks, the company plans to implement a number of measures, including the purchase of its own railway fleet and its maintenance by means of timely repairs.

Risks associated with the delivery of goods by road can be considered for the enterprise to be sufficiently minimized. The availability of its own trucks, together with a large selection of companies with professional experience in the provision of services for the delivery of goods by road throughout the country and beyond, allows the

company if necessary to choose the best option for transporting products by third-party companies, thereby minimizing possible logistical risks, connected with road transport.

Price and currency risk

The emergence of price risks may in the first place happen due to the decrease in selling prices for the products that make one of the main types of commercial products of the enterprise - fuel and lubricants by the competitors, as well as the forced reduction in prices for these products due to the deterioration of the overall economic situation in the country and in the world. Taking into account the presence of fluctuations in demand in the market of the products produced by the enterprise, we have to conclude that the enterprise is substantially exposed to risks associated with changes in prices for products. But minimization of these risks can still be ensured through the implementation of the company's balanced sales policy.

The price conjuncture in the fuel market is determined by such factor as production costs, which entail the onset of risk situations for the enterprise:

- decrease in the competitiveness of the enterprise's products due to changes in the tariff policy of natural monopolies;
- decrease in the competitiveness of the enterprise due to integration processes in the industry;
- consolidation and integration of competing enterprises into financial and industrial groups, as a result of which the following things become possible:
- a drop in market prices due to lower production costs for larger enterprises;
- redistribution of the sales market by merging enterprises and their active penetration into new market segments.

In order to minimize the possible negative impact of the economic situation in the country and the world on the performance of the enterprise, it is necessary to ensure the development and implementation of a number of measures: diversification of production, expansion of the range, and also search for new markets.

Possible sources of currency risks include:

- purchase of imported materials and other commodities;
- attraction of loan (credit) funds denominated in foreign currency;
- Loss of export market, breaking of contracts with permanent foreign buyers.

Taking into account predicted stable demand for certain types of products of the enterprise from foreign buyers, the risk of decrease in exports is low. If necessary, in case of sale prices for foreign buyers going below the level of domestic market it is possible to reorient trade relations to the domestic market.

In general the probability of currency risks for the enterprise is considered to be average.

Tariff risks

A significant influence on the production costs comes from the pricing policy of the natural monopolies. A big share of production costs is energy. In order to reduce electricity cost which in turn allows to efficiently control production costs the enterprise has to develop measures aimed at lowering the share of energy costs (energy saving measures).

The competitiveness of the products is influenced by the increase in railway tariffs. In order to minimize the negative consequences of increase in the tariff component, the enterprise will ship the products to the consumer under FCA conditions, and if other conditions are applied in accordance with INCOTERMS 2010, tariff issues are taken into account in pricing, thus compensating for the transportation "shoulder".

Credit risks

Credit risks are associated with negative consequences for the organization when other organizations (persons) fail to fulfill their obligations under the borrowed funds granted to them in the form of purchase of bonds, bills of exchange, deferred payment for manufactured goods, work performed.

As part of receivables management, measures should be taken to reduce overdue, including claims, judicial work, assignment of the right to claim a debt (cession), liability insurance, etc.

Inflation risks

Inflationary processes lead to an increase in the prices of raw materials and auxiliary materials and, as a consequence, to an increase in the production cost. The enterprise has no means to influence the market prices for the materials but is taking certain measures to lower this kind of risks by carrying out procurement on a competitive basis. To purchase equipment, direct contracts with manufacturers are concluded, as well as cooperation with domestic factories for the production of analogues of imported equipment where possible.

In order to minimize negative consequences of the inflation risks the enterprise is going to take the following measures:

- Controlling and sustaining sufficient stock, including purchasing the kinds of inventory, which price depends on exchange rates and which has a long shelf life for future use;

- Improvement of the supply system based on competitive selection of the most optimal suppliers, controlling the prices and quality of raw materials from the main suppliers, carrying out costly procurement on a tender basis;
- development and implementation of methods for the acquisition of materials aimed at reducing transport and procurement costs.

Environmental risks

Production and recycling of fuels and lubricants is considered to be environmentally hazardous. Toughening environmental legislation regarding the operating conditions of hazardous chemical and oil and gas industries may adversely affect the activities of the enterprise, i.e. for the enterprise there is a threat of penalties for environmental pollution and / or stopping production. In order to prevent the onset of negative consequences of environmental risks, the company plans to:

- carry out regular preventive maintenance of the equipment to prevent accidental emissions;
- carry out environmental protection measures;
- carry out insurance of hazardous production facilities;
- conduct research and development to improve the efficiency of sewage treatment (optimization of the technology of sewage treatment of the enterprise in order to improve the efficiency of treatment);
- monitor changes in international environmental law (a plan for appropriate preventive measures is being developed) monitor completeness and timeliness of their implementation.

SWOT-ANALYSIS OF THE PROJECT

Strengths	Opportunities
• Favorable geographical location, available river port that allows direct import • 20 % lower than the market price - foreign brand • Product quality guarantee under international standards in the world with production technology from • Germany • Relations with the partners available • Customers and strategic partners available are the basis to put the plant in operation with maximum capacity in the fastest time.	• Strong development of oil and lubricants market in ASEAN organization, expected increase in oil demand to 2019 at more than 600,000 tons from 2,393 thousand tons (2015) up to 3,013 thousand tons (2019), annual growth at 4.7%. • Removal of tax barrier for the oil and lubricants products among ASEAN countries in 2016. Opportunities for FROMM oil and lubricants products in ASEAN common market. • Significant ability to collaborate with the units having gasoline retail systems such as Tin Corporation, Thai Son Petrol when these units do not have partners for the distribution of oil and lubricants products on its petroleum station system. •
Weaknesses	**Threats**
• Completely new brand • Unavailable domestic distribution system • Unreasonable capital structure, low liquidity	• The import of oil and lubricants products in case of tax barriers removal. • Investment burden for enterprises according to Decree no. 50/2013 of the Government on requiring the manufacturers to recover the waste oil.

CONCLUSION

The project under consideration gives opportunity to invest in a project of constructing an industrial zone for the production of lubricants and waste oil recycling using the latest achievements of scientific research and nano-technologies.

Project location: Vietnam, Ong Keo IZ, Dong Nai.

Annual production capacity will reach 10 million tons of oil.

Total amount of money required for the project is € 1 530 000 000.

Funding is expected to come from the following sources:

1. Required investment (credit) funds – € 1 500 000 000 or 98% of the total funding.
2. Equity capital – € 30 000 000 or 2% of the total funding.

The estimated project period is 10 years, the beginning of production and sales on year 3.

The discounted payback period is 4.12 years, the internal rate of return is 71%, the net present value of the project is € 17,065,232,470.

Gross income of the project € 127 081 479 455			
Profitability of the project		Efficiency of investments	
Return on sales	Net profit	Investment profitability index	Return on investment
23%	€ 26 764 334 231	12,46 units	1749%

In addition to achieving these economic indicators, the project also guarantees a high ability of the enterprise to service investment (credit) funds and to return them timely.

Table 17. Main indicators of the project

MAIN INDICATORS OF THE PROJECT		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	TOTAL
Revenues from sales (excluding VAT)	Thousand EUR	0	0	0	9 203 013	12 884 218	16 910 536	17 756 063	18 643 866	19 576 059	20 554 862	*115 528 618*
Production costs (excluding VAT)	Thousand EUR	0	0	406	6 967 763	9 783 154	12 678 116	13 183 599	13 709 780	14 257 503	14 827 647	*85 407 968*
Profit before tax, interest and depreciation (EBITDA)	Thousand EUR	0	0	-406	2 333 765	3 195 722	4 323 221	4 659 408	5 017 172	5 397 785	5 802 588	*30 729 256*
Profit before interest and tax (EBIT)	Thousand EUR	0	0	-406	2 262 250	3 124 207	4 251 706	4 587 892	4 945 657	5 326 270	5 731 072	*30 228 649*
Profit before tax	Thousand EUR	0	0	-406	2 235 250	3 101 064	4 232 421	4 572 464	4 934 086	5 318 556	5 727 215	*30 120 649*
Net profit (loss)	Thousand EUR	0	0	-406	2 235 250	3 101 064	3 766 854	4 069 493	4 391 336	4 733 515	4 467 228	*26 764 334*
Retained earnings (per period)	Thousand EUR	0	0	-406	2 235 250	3 101 064	3 766 854	4 069 493	4 391 336	4 733 515	4 467 228	*26 764 334*
Investments in non-current assets	Thousand EUR	-909 000	-378 750	-227 250	0	0	0	0	0	0	0	*-1 515 000*
Investments in working capital	Thousand EUR	0	0	-1 816	-1 075 812	-370 050	-391 366	-67 918	-70 359	-72 883	-22 994	*-2 073 196*
Own funds and target financing	Thousand EUR	30 000	0	0	0	0	0	0	0	0	0	*30 000*
Attracting loans	Thousand EUR	1 500 000	0	0	0	0	0	0	0	0	0	*1 500 000*
Repayment of loans	Thousand EUR	0	0	0	-214 286	-214 286	-214 286	-214 286	-214 286	-214 286	-214 286	*-1 500 000*
Payment of interest on loans	Thousand EUR	0	0	0	-27 000	-23 143	-19 286	-15 429	-11 571	-7 714	-3 857	*-108 000*
Total cash flow for the period	Thousand EUR	621 000	-378 750	-241 592	1 166 515	2 588 243	3 232 718	3 858 804	4 178 207	4 517 861	4 301 464	*23 844 471*
Cash at the beginning of the period	Thousand EUR	0	621 000	242 250	658	1 167 173	3 755 417	6 988 135	10 846 939	15 025 146	19 543 008	
Cash at the end of the period	Thousand EUR	621 000	242 250	658	1 167 173	3 755 417	6 988 135	10 846 939	15 025 146	19 543 008	23 844 471	