General Department of
Economic and Financial Affairs of Khuzestan

Preparation and Compilation of Investment Opportunities in The Province

Investment opportunity studies report

"Design of Aluminum nickel catalysts"

(Attachment Number 1)

v-2

Date: 2023/02/07

In the name of God

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Tables and Figures

1) Location of the project

1-1- Province

KHUZESTAN province is located in the southwest of Iran (in 47° 42′ to 50° 39′ east of the Greenwich meridian and 29° 58′ to 32° 58′ north of the equator). The area of Khuzestan province is 63,238square kilometers. With a population of 4,994 thousand people in 1400SH, it is the fifth most populous province in Iran (after TEHRAN, KHORASAN RAZAVI, ISFAHAN and FARS provinces). **Ahvaz** is the capital of Khuzestan province and is located in the 880km of Tehran. This province is bordered by ILAM province from the northwest, Lorestan province from the north, CHAHARMAHAL and BAKHTIARI, KOHGILUYEH and BOYERAHMAD provinces from the northeast and east, the Persian Gulf (330km long) from the south and Iraq (330km long) from the west. The location of Khuzestan is in the west of Zagros mountains. Due to the vastness of its plains, the border with Iraq and the Persian Gulf, and the distance from other provincial centers have placed this province in a strategic position.

Figure (1): The Province Location in Iran

Figure (2): AHVAZ Location in Khuzestan Province

Figure (3): Political Divisions of Khuzestan Province

1-2- County

According to the latest national divisions of 1401 of the Ministry of Interior, this province has 29 counties, 70 districts, 145 villages, 90 cities and 3 special governorates. The latest political divisions of the province are described in Figure (3).

Ahvaz is one of the cities of Khuzestan province, centered in Ahvaz city. Ahvaz has a population of 1,420 thousand people, 28% of the population of the province. This city has a common border with SHUSHTAR, BAVI and RAMSHIR cities from the east, HAMIDIEH and HOIZEH cities from the west, KARKHE city from the north and KHORRAMSHAHR, KARUN and MAHSHAHR port cities from the south. After passing through DEZFUL, it enters Ahvaz and connects to KARUN River at BANDGHIR, which after the confluence of two DEZ rivers, KARUN forms the great KARUN River, and after passing AHVAZ, it enters ABADAN and KHORRAMSHAHR. A total of 185 km from the KARUN River, 61 km from the KARKHEH River and 5 km from the DEZ River are located in AHVAZ .

From the industrial point of view, AHVAZ is considered the vital artery of KHUZESTAN province where large factories of food, mineral, metal, and chemical industries have been established there. In the industry sector, there are five industrial towns (Ahvaz 1 to 5) .

Critical industrial centers including National Iran Drilling Company, Steel Complex, National Steel Industrial Group, Pipeline Company, Oil and Gas Companies, Northeast Agriculture and Industries, DEHKHODA and sugarcane ancillary industries are located in Ahvaz. In addition, sandstone and wind (industrial) mines and rich oil and gas resources are being exploited in the area of Ahvaz and many utilization units and management facilities in the southern oil-bearing areas, including exploration, drilling and oil and gas production facilities are settled in AHVAZ. The prosperity of agriculture and industries in the region has led to the prosperity of commerce and all kinds of industrial products such as steel, iron sheets, pipes, profiles, industrial parts, artificial leather, pressure vessels and heat exchangers, all kinds of iron, oil and all kinds of petroleum products, sanitary products and detergents, food, agricultural products such as wheat, barley, tares, dates and fishery products are among the most important products exported from this region locally and internationally.

2) Project Status

The location of the land in Ahvaz Industrial Town 5 with the following specifications and an area of about 2500 square meters is suggested. The acquisition of industrial land in this place requires industry, mining and trade permits and the approval of the Industrial Towns Company and the approval of the city's environment. One of the reasons for choosing this place is its proximity to the center of the province and consumer industries.

2-1- Access to infrastructures

Currently, there are water, electricity and gas infrastructures in this industrial town. In terms of access to transportation, this town is in a good position. The distance of the chosen place to the Ahvaz-Imam Khomeini Port freeway is 1.2 km and its distance to Imam Khomeini Port is 107 km. Ahvaz airport is also located 15.7 km away from the place. Based on this, raw materials will be supplied from Imam Khomeini port.

Figure (4): Project location map

Figure (5): Access routes to the project

Table (1): access to infrastructures

No.	Required Infrastructure	Distance From Project Status	Location Of Infrastructure Provision
1	Water	0.8	Ahvaz industrial Estate no 5
2	Electricity	0.8	Ahvaz industrial Estate no 5
3	Gas	0.8	Ahvaz industrial Estate no 5
4	Telecommunication	0.8	Ahvaz industrial Estate no 5
5	Main road	1.2	Ahvaz – Imam Khomeini port highway
6	Side road	0	Industrial Estate transportation
7	Airport	15.7	Ahvaz airport
8	Port	107	Imam Khomeini Port
9	Railway Station	18.7	Ahvaz Railway

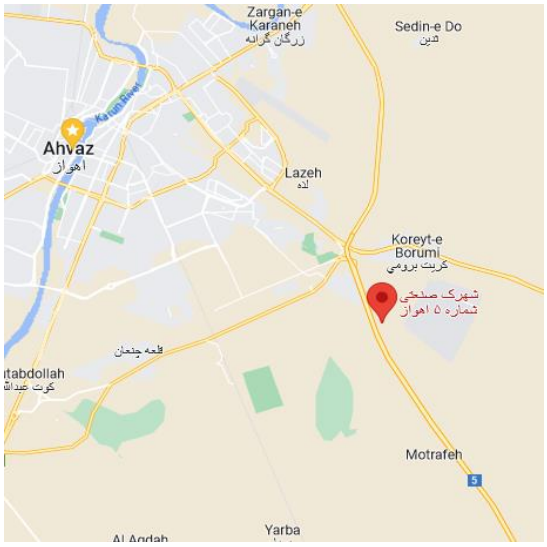

Figure (6): Access routes to the project

3) Technical specifications of the project

3-1- Product

Raney nickel catalyst is a powder obtained from a nickel-aluminum alloy and has a light silver color that is insoluble in water. This material is used to increase chemical performance in the manufacture of synthetic materials and processing of vegetable oil and petroleum.

3-2- Project Requirement

3-2-1- Land And Required Infrastructure

For nickel-aluminum catalysts, land with an area of 2,500 thousand square meters and infrastructure (sole and other buildings) production of 1,050 meters is needed. The specifications of the land, main buildings and other required side buildings and investment in them are as described in the table below.

Table (2): Amount of investment in land, landscaping and building

No.	Requirements	Description	Investment Required		Total Cost (Million Rials)
			Required Area m^2	Unit Price (Rial)	
1	Land purchase 50 m * 50 m	2500 square meters in Ahvaz industrial town 5	2,500	6,700,000	16,750
2	Site preparation and development	According to relative calculations	1,450	8,689,655	12,600
3	Civil works, structures and buildings	Production building (21*30)	630	150,000,000	94,500
		Office and management building	200	120,000,000	24,000
		Other buildings (warehouse, etc.)	220	120,000,000	26,400
Total			-	-	174,250

3-2-2- Plant Machinery and Equipment

Table (3): Plant Machinery and Equipment

No.	Equipment/Machinery	Required investment			Total cost (Million Rials)
		Amount	Unit Price	Currency	
1	Production line equipment including furnaces, molds, and other equipment	3	400000	Euro	180,612
Total		–	-	–	216,000

Table (4): Auxiliary and service plant Equipment

No.	Equipment/Machinery	Unit of measurement	Type of equipment	Required investment		Total cost (Million Rials)
				Amount	Unit Price (Million Rials)	
1	Distribution Of Electricity / Demand Price	Kw	Facility	200	6	1,200
2	Several Electrical Cables	M	Facility	400	4.0	1,600
3	Electrical Equipment of The Greenhouse Lighting System	Amount	Facility	53	40	2,100
4	The Cost of Panel Boards and Related Electrical Equipment	Amount	Facility	6	320	1,920
5	Water Branch	-	Facility	1	3,000	3,000
6	Other Water Conveyance Equipment	Amount	Facility	1	2,000	2,000
7	Piping for drinking water, fire water and...	M	Facility	300	8	2,400
8	Other plumbing (electricity, etc.)	M	Facility	100	3	300
9	Firefighting, safety and health equipment and...	Capsule	Facility	10	30	300
10	Gas Piping	M	Facility	400	5	2,000
11	Gas Branching	-	Facility	1	20,000	20,000
12	Water Heater and Heater	Machine	Facility	3	350	1,050
13	Air conditioning equipment	Fan	Facility	6	36	216
14	Gas Cooler	Set	Facility	5	1,000	5,000
15	Gas Heater	Ton	Facility	3	150	450
16	Workshop and laboratory tools	Machine	Workshop and laboratory tools	1	5,000	5,000
17	Other safety equipment and CCTV System	Set	Facility	1	1,000	1,000
18	Office Stuff	Set	Office Equipment	2	700	1,400
19	Restaurant Equipment	Set	Office Equipment	9	30	270
20	Other Facilities	-	Facility	1	2,994	2,994
Total				-	-	54,200

3-2-3- Raw Materials and Intermediate Parts

Table (5): Costs of Raw Material for Production

No.	Title	Production quantity at maximum capacity	buying unit	the amount of Consumption	Average price (Rials)	consumption coefficient unit	Amount of consumption in the nominal capacity	The cost at the maximum nominal capacity (Million Rials)
1	The basic ingredients of the formulation	6,000	kg	1	37,800,000	kilo	6,000	226,800

3-2-4- Management and human resource

For nickel-aluminum catalysts, a total of 10 manpower will be needed for different process units as described in Table (6).

Table (6): Management and Human Resource

No	Level of skill	Number of staff	Average basic salary
1	Senior	6	240,000,000
2	Mid-level	2	150,000,000
3	Junior	2	85,000,000

Number Of Direct Mid-Level Staff Required	2	Person
Number Of Direct Junior Staff Required	2	Person
Number Of Direct Senior Staff Required	6	Person
Total	10	person

4) Ownership and legal permissions

4-1- land ownership

The right place to implement the project is in one of Ahvaz's industrial estates (preferably Ahvaz 5 industrial town). The right to use the land in the mentioned industrial town is 6,700,000 rials. This town is subject to the rules and regulations of developed industrial towns. In order to obtain industrial land in this town, it is necessary for investors to obtain the legal permits listed in paragraph 3-4.

4-2- Intellectual Property and Concessions

In order to produce nickel-aluminum catalyst, high technical knowledge is needed. In the present plan, the technical know-how to manufacture these catalysts is available to the existing knowledge-based companies in the country.

4-3- Legal permissions

In order to produce this product, we need legal permits such as (establishment permit and operating permit) from the Khuzestan Province Industry and Mining Organization, and environmental permit. It is worth noting; Graphitization processes are carried out using furnaces and at high temperatures. The fuel used in the furnace is natural gas and has no non-virtual pollution. Machining processes are carried out in the presence of machining fluids, and this makes the relevant processes not create dust in the surrounding air.

5) market research and competition

5-1- Target market introduction

Investigations and researches have been carried out among the industries that consume nickel-aluminized catalyst, indicating that this product is imported. There is no accurate information about the number of imports and the amount of demand for this product.

6) Physical progress of the project

■ No ☐ Yes

This plan is created and defined to cover the needs of the country. There is no progress in the implementation of this project.

7) Operational plan and implementation scheduling

The implementation of the project stages until its operation is planned for 24 months and the operation of the project is expected from the beginning of 1405. The schedule of the project is presented in Table (7).

Table (7): Project Scheduling

year	1402				1403				1404				1405			
Operations/Season	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Pre investment studies																
Fundraising and starting																
Obtain legal permissions																
Providing engineering services																
Land purchase and preparation																
Selecting contractor																
Equipping site																
Construction and landscaping																
Order, purchase and transportation of machinery																
Machinery installation																
Facilities																
Hiring and onboarding of staff																
Unexpected delays																
Trial production																
production phase																

8) Financial Plan

8-1- Cost Estimation

In general, the investment of the project according to the stages of implementation and operation in two forms: fixed investment and initial working capital and necessary capital in the pre-operation period and creating the project through fixed capital and necessary capital in the operation period through Working capital is provided. The fixed investment of the project includes investment costs in land, landscaping and building, machinery and equipment, facilities, office equipment and pre-production costs. These types of costs are done at the beginning of the project and before operation and are depreciated during the life of the project according to their useful life. Working capital includes the capital needed during the operation of the project. The working capital of a production unit is the set of facilities, inventories and work in progress, as well as the liquidity required for the use and exploitation of fixed investment in order to maintain, continue and continue operations. Determining the basis of the number of inventories, work in progress and claims depends on the conditions of the supply, production and sales processes and the business environment. In this section, the evaluation and estimation of the investment required to complete the project (based on the price of the base year 1401) has been estimated and calculated.

Table (8): Cost Estimations

No.	Subject	Amount (Million Rials)
1	Total Fixed Investment Costs	443,800
2	Total Net Working Capital Requirements	13,516
3	Total Production Costs (Annual)	321,185
4	Depreciation	38,147
5	Total Investment	457,316

Table (9): Fixed Capital Estimations (Capital Costs)

No.	Subject		Cost (Million Rials)
1	Purchasing land		16,750
2	Landscaping and land improvement		12,600
3	Civil operations and construction of buildings		144,900
4	Production machinery and equipment		180,612
5	Service equipment		54,200
6	Protection and environmental equipment		0
7	Overhead costs		0
8	Pre-Production Expenditure (As described in Table (11))	Pre-investment studies	790
		Project management and organization	12,501
		Technology education	909
9	Unexpected costs		20,538
Total			**443،800**

The primary items included in working capital are:

- Raw materials (local and foreign): To prevent any interruptions in production process, production capacity, source and method of supplying materials, length of time during ordering and receiving materials, time of delivery and transportation, the amount of required raw materials, auxiliary materials and packaging are determined as one of the working capitals items for one period. In this project, the material inventory coverage period is equal to 10.
- - Manufactured goods and in the manufacturing process: taking into account the stages and methods of production, the time required to manufacture the goods and keep them in the warehouse was checked, and the related costs are considered as working capital. In the current plan, the coverage period of the product under construction and the manufactured product is not included.
- Claims of expected funds from sold products that are collected in a short period of time. The duration for expected funds must be determined. According to the economic condition of Iran, cash is preferred.
- Revolving fund to finance the company's current expenses is considered as cash balance or revolving fund for a period of time in working capital based on production costs (without considering the cost of raw material production and depreciation). 60 days is considered in this plan.

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Table (10): Total Net Working Capital Requirements (Production Costs)

No.	Subject	Amount (Million Rials)
1	Raw Materials Inventory	6,300
2	Work In Progress	0
3	Finished Product	0
4	Accounts Receivable	0
5	Cash-In-Hand	7,216
6	(Commercial Accounts Payable)	0
Total Net Working Capital Requirements		**13,516**

Table (11): Pre-Production Expenditure

No.	Subject		Description	Total (million Rials)
1	Incorporation		-	150
2	Obtaining Licenses / Production License		-	550
3	Studying, Consulting, Research and Development, Traveling, Visiting and Participating in Local Exhibitions, etc.		1.5 thousandth of the investment costs of the project	790
4	Property Insurance		2 thousandth of depreciable fixed assets	860
5	Survey Fee, Financing, Contract and So on		Survey fee 0.5 thousandth, other 2.5 thousandth	0
6	Cartography, Supervising		2 thousandth of contract expenses	680
7	Other's	Staff Training	Equivalent to 3 days of Staff salary	229
		Wages And Salaries During the Construction	Equivalent to the salary of 2 personnel in 24 months	10,656
		Other Expenses	٪2.0	285
Total				14,200

8-2- Sales Revenue

Currently, the market of this product does not have a comprehensive market. This metal is not one of the commodities that are offered in the commodity exchange. The market needs are provided by two active production companies and importers. The maximum nominal production capacity of the plan is equal to 6 tons and its selling price in the country is considered to be around 120 dollars per kilogram. Based on this (according to the production plan), the total sales amount of the project in 1405 at the fixed prices of 1402 is estimated to be 302 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 378 billion Rials.

Table (12): Project Revenue in the First 5 Years of Production Phase (Billion Rials)

No.	Subject	Q_1	Q_2	Q_3	Q_4	Total 1st Year	Total 2nd Year	Total 3rd Year	Total 4Th Year	Total 5th Year
1	Aluminum nickel catalyst	76	76	76	76	302	340	378	378	378

8-3- Length of Production Phase

The construction period of the plan is equal to 24 months and it is considered to start from the beginning of 1403. The duration of the project is considered to be 5 years.

Table (13): Planning Horizon

Title	Month	-	year
Project identification	1	/	1402
Beginning of construction phase	1	/	1402
Beginning of production phase	1	/	1405
End of production phase	12	/	1409

Length of construction phase (months)	Start of phase (months)	Length of production phase (years)
24	12	5

8-4- Break-Even Analysis

From an economic point of view, break-even point analysis is an important technique that is used to study the relationship between costs, income and profit. The break-even point is the point at which total cost and total revenue are equal. In other words, it is used to analyze the effect of product volume change on the profit. The break-even point is calculated for 100% of practical capacity (year 1407 SH onwards) below.

$$\text{Break-even sales value (Rials)} = \frac{\text{Total Fixed Costs}}{1 - \frac{\text{Total Variable Costs}}{\text{Sales Value}}}$$

$$\text{The number of sales at the break-even point} = \frac{F_C}{S - V_C}$$

FC = Total Costs VC= Average Variable Costs Q = Quantity of Sales S = Unit Price

$$\text{The ratio of investment to employment} = \frac{457{,}316}{9} = 50{,}813 \text{ (Million Rials)}$$

$$\text{Break-even sales value} = \frac{59{,}746}{1 - \frac{261{,}439}{378{,}000}} = 193{,}753 \text{ (Million Rials)}$$

$$\text{The number of sales at the break-even point} = \frac{59{,}746{,}013{,}200}{70{,}000{,}000 - 48{,}414{,}639} \approx 2{,}768 \text{ (kilo)}$$

$$\text{Break-even (٪) ratio} = \frac{193{,}753}{378{,}000} = 51.3\%$$

Table (14): Project break-even point estimation

(Million Rials)

Title	Production 1405	Production 1406	Production 1407	Production 1408	Production 1409
Sales revenue	302,400	340,200	378,000	378,000	378,000
Variable costs	211,854	236,646	261,439	261,439	261,439
Variable margin	90,546	103,554	116,561	116,561	116,561
Variable margin ratio (%)	30	30	31	31	31
Fixed costs	57,839	58,792	59,746	59,746	59,579
Break-even sales value	193,168	193,148	193,753	193,753	193,211
Break-even ratio (%)	63.9	56.8	51.3	51.3	51.1

- According to COMFAR Results

Based on the calculations of COMFAR software, the break-even point including operating and non-operating costs is 193.75 billion Rials and it will be achieved in the 51.3% of the practical capacity.

In the mentioned formula, the break-even point is determined by the relationship between fixed costs and the difference between unit sales price and unit variable costs. Therefore, three practical results are obtained from it:

- The higher the fixed costs, the higher the break-even point.
- The greater the difference between unit sales price and variable operating costs, the lower the break-even point. In this case, fixed costs are absorbed faster through the difference between unit sales price and unit variable costs.
- One of the break-even points is disproportionate. Since it makes the company vulnerable to changes in production (sales) levels.

8-5- Cost-Benefit Analysis

In project analysis, one of the most common methods is the **Benefit-Cost Ratio**. In this method, the ratio of the current value of possible benefits to the current value of costs is obtained. If this ratio is greater than one, the plan has economic justification for implementation. In terms of this index, the plan has favorable conditions.

Net Present Value is one of the other evaluation methods which is calculated according to the following relationship:

NPV= The Present Value of The Total Cost of The Period of Construction Phase and Production Phase - The Present Value of The Total Income of Construction Phase and Production Phase

NPV= The Present Value of The Fixed Assets Depreciation + Initial Investment - The Present Value of The Future Cash Flows

The **net current value** of the project at a discount rate of 10% is over 16971، million Rials, which is negative, which indicates the lack of economic justification of the plan.

One of the other methods of evaluating investment plans **internal rate of return**. In fact, the internal rate of return is the interest rate or the discount rate in which the current value of all the plan benefits is equal to the current value of its expenses.

According to the calculations, the internal rate of return of the plan is estimated at 11.1% and compared to the minimum expected profit (Minimum Attractive Rate of Return), it is not favorable.

Table (15): Project Return Index

Index	Amount	Unit of measurement
The Present Value of The Total Cost of The Period of Construction Phase and Production Phase	1,167,731	Million Rials
The Present Value of The Total Income of Construction Phase and Production Phase	1,184,702	Million Rials
NET PRESENT VALUE (NPV)	16,971	Million Rials
Cost-benefit RATIO (B/C)	1.01	-
INTERNAL RATE OF RETURN (IRR)	11.1%	Percent
NPV RATIO (PI)	0.04	Rial per Rial of investment
NORMAL PAYBACK	5.11	Year

Profitability Index (PI) indicates how much economic profit will be obtained for each unit of money invested during the lifetime of the project

Project Investment payback is the period of time required to recover the project investment from net income, measured in years. In other words, it shows the length of time taken for the initial investment to be returned. This index shows the speed of investment return and the amount of project risk coverage. The ROR (simple) of the plan is estimated to be 5.11 years (equal to the year 1410) according to the calculations.

8-6- Sensitive Analysis

In the sensitivity analysis of the plans, the percentage of changes in the internal rate of return (IRR) is measured in relation to the change in some basic parameters and variables. In this plan, the analysis has been carried out by major variables such as sales, fixed and operating costs. Table (16) shows the results of the sensitivity analysis regarding the variables of sales income, fixed assets and operating costs.

8-6-1- Sales Revenue

Changes in sales revenue are mainly caused by alteration in two variables: planned sales amount and product sales price. The results of the sensitivity analysis regarding sales income show; 4% increase in sales revenue of the plan, the internal rate of return will increase from 11.1 % to 14%. On the contrary, in the case of a 4% decrease in sales revenue, the internal rate of return of the project will decrease to 8%.

Table (16): Sensitivity Analysis (Percentage of IRR changes caused by sales revenue, fixed assets and operating costs alteration)

Variation (%)	Sales revenue	Investment costs	Operating costs
-20%	-5%	18%	22%
-4%	8%	12%	13%
0%	11.1%	11.1%	11.1%
4%	14%	10%	9%
20%	26%	6%	-1%

8-6-2- Fixed Assets

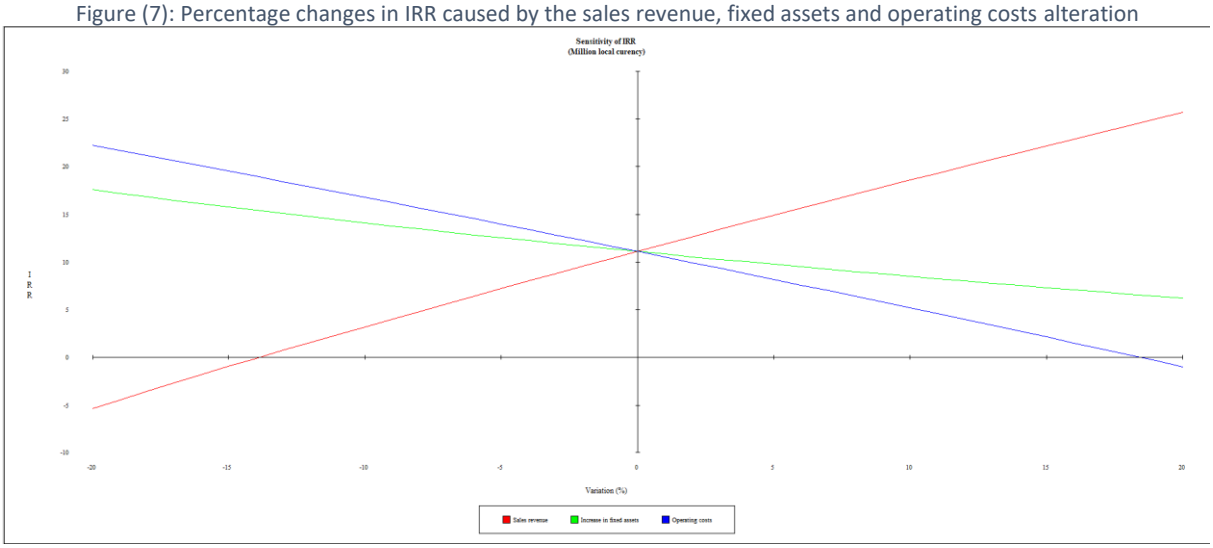
The change in the fixed assets is due to the fixed costs of the initial investment alterations. The results of the sensitivity analysis according to the fixed costs of the plan have been done and it shows that in case of an unexpected 6% increase in the fixed capital costs of the project, the internal rate of return will decrease from 11.1 % to 2%. Conversely, if there is a 20% reduction in the fixed capital costs, the internal rate of return will increase and reach 18%.

8-6-3- Operating Costs

The operating costs of the plan is one of the crucial items in terms of sensitivity analysis regarding its changes. Therefore, unexpected and possible changes should be investigated.

The change in project operating costs is mainly caused by changes in raw material, supply, human resource and finally changes in other overhead costs of projects. If these parameters change, it can be as a result of the change in the technical coefficients of product production or the change in their purchase price. The sensitivity analysis indicates that in case of a 4% increase in the operating costs, the efficiency rate of the plan will decrease to 9%. On the contrary, if the total operating costs of the project are reduced by 4%, the internal rate of return will increase to 13%. Finally, the results of the sensitivity analysis show that the current project has a very high sensitivity to changes in sales revenue (changes in sales amount or sales price) and more considerations should be taken in this regard.

Figure (7): Percentage changes in IRR caused by the sales revenue, fixed assets and operating costs alteration



As you can see, the slope of the IRR change curve is higher relative to the changes in sales revenue compared to other items while the slope of the IRR change curve is lower relative to the changes in fixed assets, which indicates the greater sensitivity of the plan's internal rate of return to sales revenue and its lower sensitivity relative to operating costs and fixed assets.

8-7- Conclusion

The implementation of the project is planned by obtaining a land area of 2500 square meters and carrying out construction on the infrastructure of 1050 square meters. The total investment in land and building is 174 billion Rials and the total investment in main and secondary equipment is estimated at 255 billion Rials. The total pre-operation costs are estimated at 14 billion Rials. With this, the total fixed capital required is 443 billion Rials and the total working capital required for the project is estimated at 12 billion Rials. It is expected that the entire investment of the project will come from the resources of the company's shareholders.

The sale of the project in 1405 is expected at fixed prices equal to 302 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 378 billion Rials. The net profit of the plan has been positive in all years. The profit figure in 1405 is equivalent to 32.7 billion Rials. The profit will increase in the following years and will reach a maximum of 45.58 billion Rials. The average annual profit of the mature plan is 42 billion Rials and the average profit margin is expected to be 11.7%. The internal rate of return (IRR) of the project is also estimated at 11.1% and the payback period (PBP) is estimated at a maximum of 5.11 years. Also, the net present value of the project's cash flows (NPV) is positive and, considering the expected interest rate of 10%, is equal to 16.971 billion Rials.

The liquidity situation of the plan and the payment of dividends to the shareholders from the company's funds are also not suitable. Therefore, if the assumptions and predictions are fulfilled, the plan under consideration is not profitable and considering the financial results, its implementation is not recommended. The economic discussions of the plan are summarized as follows.

Table (17): Summary of Economic Features

Nominal Capacity and Unit of Measurement	Product Name	Title Of the Project with ISIC Code	Title Of the Project
6000 kilos	Aluminum nickel catalyst	Aluminum nickel catalyst (2411413077)	Aluminum nickel catalyst production plan
Required Human Resource (Person)	Equity Shares (Million Rials)	Total Fixed Capital (Million Rials)	Project Duration
9	13,516	443,800	24
B/C	Applicant Available Cash (Million Rials)	Net Present Value (NPV) (Million Rials)	IRR (%)
1.0	457,316	16,971	11.1%
ROI (%)	NPV Ratio / Profitability Index (Rial per Rial invested)	Dynamic Payback Period (Year)	Normal Payback Period (Year)
9	0.04	5.9	5.1
Average Assets Turnover Ratio	Average Net Profit Margin (%)	Average Annual Profit (Million Rials)	Maximum Annual Sales (Million Rials)
0.65	11.7%	40,723	378,000

8-8- Estimation of currency rate fluctuation during the project implementation

The currency rate at the time of evaluation is included as described in Table (18). In the present plan, it is an important part of the cost of buying foreign equipment and requires foreign currency.

Considering the currency of buying equipment and raw materials, both in the construction phase and in the implementation phase, the following are significant:

- As long as the financing of the project is through foreign currency sources, the number of financial resources required will not change much.
- If the financial resources of fixed and circulating capital are provided through internal sources, the increase in the exchange rate will directly increase the fixed and circulating investment costs and will make it difficult to provide financial resources for the implementation of the plan.

Table (18): Currencies exchange Rate

Unit of Measurement	Unit Price	Currency
Rials	413,204	USD
Rials	451,531	EURO

Exchange rate of Central Bank, Exchange Trading System (ETS) dated 05/25/1402

9) Investment Required, method of fundraising and guarantees

9-1- Foreign Currency Required

The foreign currency investment of the project is estimated at 400 thousand euros, which is planned to be paid within two years (24 months according to the physical progress of the project).

Table (19): Foreign (Fixed) Currency Required

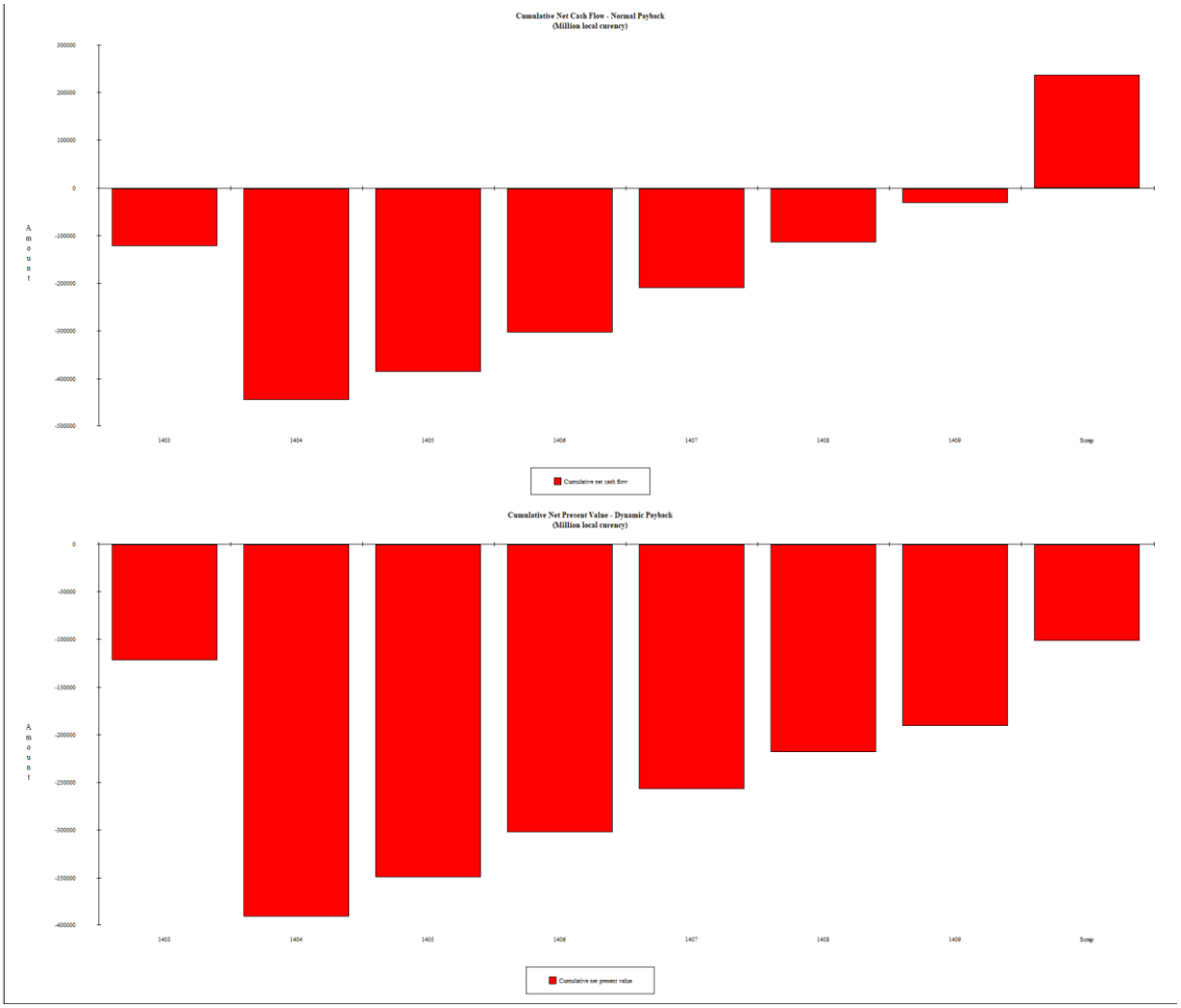
No.	Year	Required Investment
1	Year 1 (1403)	80,000
2	Year 2	320,000
3	Year 3	0
4	Year 4	0
5	Year 5	0

9-2- Model Of Partnership and Fundraising

Participation in the present project and its fundraising process is predicted to be in the form of establishing a company inside Iran. The total required investment is predicted through the investor's contribution. Financing through local banks has not been included in the fundraising process.

9-3- Payback Period

The payback period is the period of time when the initial investment of the plan is compensated from the annual cash funds. The payback period (normal) of the plan is estimated to be 5.11 years (equal to 1410) according to the calculations of CAMFAR.



10) Incentives, features and benefits of the plan

Some of the financial supports for production companies are loans and bank facilities and tax exemptions which can facilitate the project implementation and provide the favorable condition for investment. In the following, some of these supports will be discussed.

One of the important bank facilities for production units is the long-time repayment period loans up to 70% of fixed capital by the Iran's state banks. This amount can be increased up to 90% for deprived areas if foreign machinery is used. The interest rate of long-term facilities in the industry sector is 23%, which in case of financial prudence, only a part of the interest can be repaid. The repayment period of long-term bank facilities is up to 8 years according to the production plan, the type of technology and the possibility of product exportation.

Another important bank facility is short-term bank loans (6 to 12 months) to use as working capital needed to carry out production processes, which will be provided up to 70% by bank communities. Obtaining short-term facilities to this extent depends on gaining the trust of the operating banks and having an acceptable financial history.

Tax exemption is another incentive for investors to establish factories. To name a few;

- Tax exemption for up to 10 years for implementation in deprived areas
- Tax exemption for up to 4 years for implementation in industrial towns

Investments in the project during implementation is of the investments in developed towns with industrial and mining activities. Since it is located within 30 kilometers of cities with more than 300,000 people, it doesn't have any tax exemption. But if it establishes in another industrial town within a range of more than 30 kilometers from cities with a population of more than 300 thousand people, it can get exempted from Article 132 of the Direct Taxes Law and up to 80% until four years after the date of operation from Article 105 (Direct Taxes Law)1.

So, the effective performance tax rate (annual profit) can be reduced to 4% in the first 4 years, and then it will be considered on the basis of 20%. Obviously; If the project location is in one of the deprived areas, it will be subject to 10 years of 100% exemption.

If the manufactured products (provided that it is in excess of the local market) can be exported to foreign markets, it can be exempted from Article 141 and 100% of the income from exports is exempt from taxes.

Obviously, If the legal personality of the partnership is defined as a public company accepted in the stock exchange market during its operation (in such a way that its shares can be traded with stock brokers), this type of company is subject to Article 143 of the Direct Taxes Law and up to 10% of the company's tax will be exempted.

1 - The exemptions of this article will not include the income of production and mining units located within a radius of 120 kilometers from the center of Tehran and 50 kilometers from the center of Isfahan, 30 kilometers from the centers of provinces and cities with more than 300 thousand people (according to the latest census).

(Attachment Number 2)

Summery Sheet

Project introduction
1. Project Title: Aluminum nickel catalyst production plan
2. Sector: Production sub-sector: Industry
3. Products/services: Aluminum nickel catalyst
4. Location: Khuzestan, Ahvaz city, Ahvaz Industrial Estate No 5
5. Project description: The implementation of the project is planned by obtaining a land area of 2500 square meters and carrying out construction on the infrastructure of 1050 square meters. The total investment in land and building is 174 billion Rials and the total investment in main and secondary equipment is estimated at 255 billion Rials. The total pre-operation costs are estimated at 14 billion Rials. With this, the total fixed capital required is 443 billion Rials and the total working capital required for the project is estimated at 12 billion Rials. It is expected that the entire investment of the project will come from the resources of the company's shareholders. The sale of the project in 1405 is expected at fixed prices equal to 302 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 378 billion Rials. The net profit of the plan has been positive in all years. The profit figure in 1405 is equivalent to 32.7 billion Rials. The profit will increase in the following years and will reach a maximum of 45.58 billion Rials. The average annual profit of the mature plan is 42 billion Rials and the average profit margin is expected to be 11.7%. The internal rate of return (IRR) of the project is also estimated at 11.1% and the payback period (PBP) is estimated at a maximum of 5.11 years. Also, the net present value of the project's cash flows (NPV) is negative and, considering the expected interest rate of 20%, is equal to 17 billion Rials.
6. Annual Capacity: 6000 kilo

Project Status
7. Local/internal raw material access: 100%
8. Sales: 378 (billion Rials) **Anticipated local market:** 100% **Anticipated export market:** 0%
9. construction period: 24 months
10. project status: - Feasibility study available? Yes. The feasibility of the project has been evaluated from different aspects and the results of the feasibility study are favorable in terms of financial and economic indicators. - Required land provided? Yes. Currently, there is industrial land in Ahvaz Industrial Town 5, and it has been selected based on geospatial criteria for the implementation of the project. - Legal permission (establishment license, foreign currency quota, environment) taken? In order to settle in Ahvaz 5 industrial town, legal permits must be obtained from the city's industry, mining, trade and environment organization. - Partnership agreement concluded with local/foreign investor? So far, no partnership agreement has been prepared for the implementation of the project. This plan has the necessary features to attract shareholders' financial resources. - Agreement with local/foreign contractor(s) concluded? So far, no agreement or contract has been concluded for the purpose of manufacturing domestic and foreign machinery. - Infrastructural utilities procured? If the project is established in industrial towns (such as Ahvaz Industrial Town 5), infrastructure facilities such as water and electricity, roads, etc. are available. - List of know-how, machinery and equipment concluded? Yes - Financing agreement for machinery, equipment and know-how concluded? No

Financial structure

11. Financial table:

Description	Local Currency Required			Foreign Currency Required	Total Euro
	Million Rial	Exchange Rate	Euro		
Total Fixed Investment Costs	263,188	451,531	582,878	400,000	982,878
Total Net Working Capital Requirements	13,516	451,531	29,934	0	29,934
Total Investment	276,704	-	612,812	400,000	1,012,812

–	Value Of Foreign Equipment/Machinery:	400,000	Euro		
–	Value Of Local Equipment/Machinery:	120,036	Euro		
–	Value Of Foreign Technical Know-How:	0	Euro		
–	Value Of Local Technical Know-How:	0	Euro		
–	Net Present Value (NPV):	37,586	Euro	Net present values discounted to:	1403
–	Internal Rate of Return (IRR):	11.1%	٪		
–	Normal Payback:	5.11	year	Equivalent to 61 months	
–	Minimum Attractive Rate of Return:	10٪	٪		

General information

12. Project Type: new Project ☑ Explanation / Rehabilitation project ☐

Name / Company name: -

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Local entrepreneur: Private Sector ☑ government /public sector ☐