



Business Plan

URANUS51

Business and Project Management TeamWork

Business Plan

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URANUS51

01 Business Purpose

A general discussion on what and how we want to realize

02 Strategy

All the analysis performed during the strategy section

03 Marketing

Marketing analysis

04 Operations

Operations Choices

05 Finance

Financial Analysis



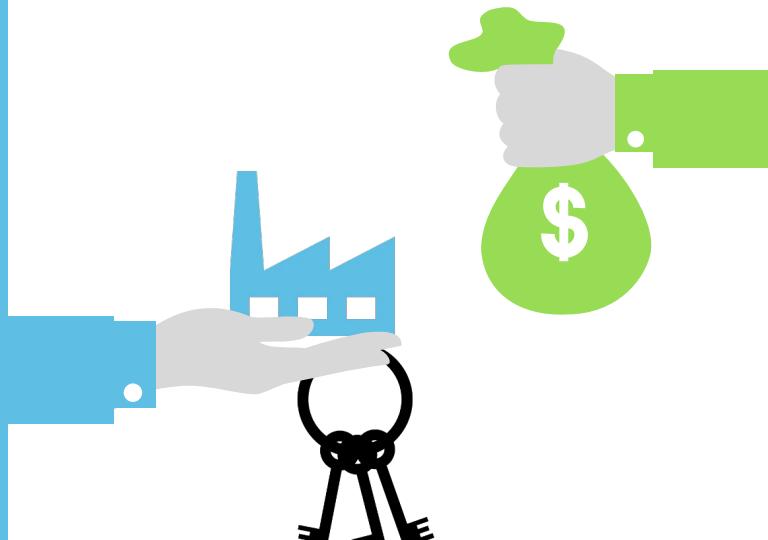
Business Purpose

OUR PURPOSE



Mission

Develop a digital platform that guides the customer through the ISO50001 standard to achieve state of the art energy management and certification leading to energy savings.



Key of Success



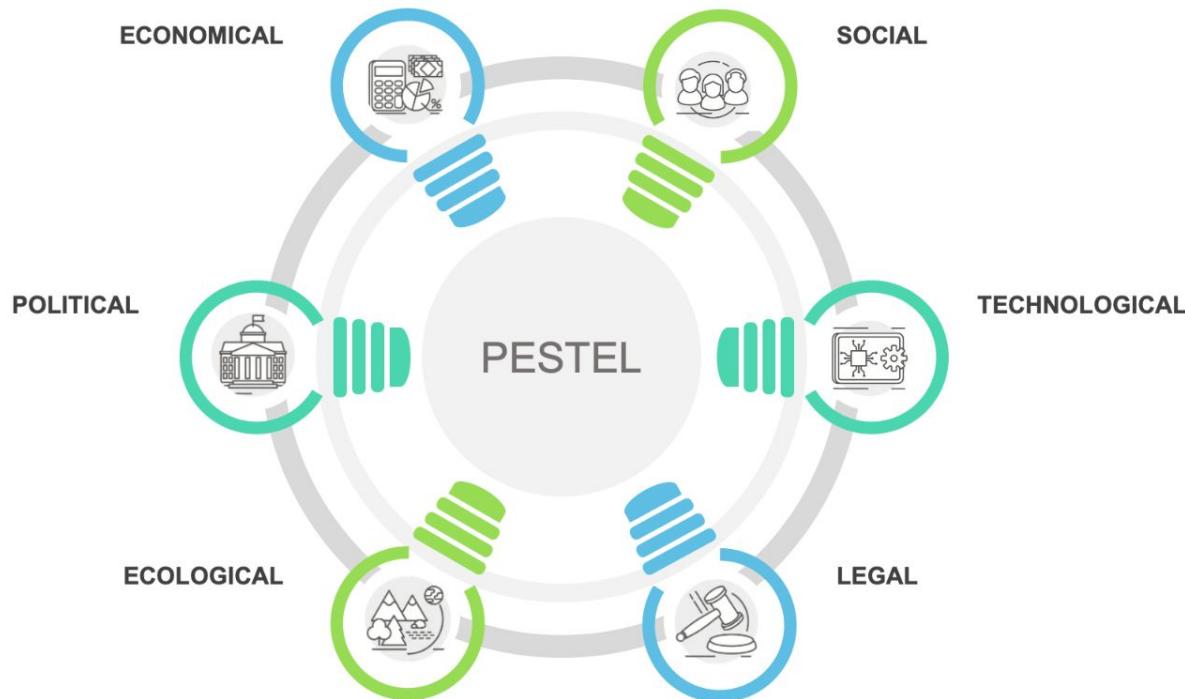
How

- Guidance through process monitoring and reporting phases (initial energy audit)
- Automatic calculation of Energy Performance Indicators (EnPIs)
- The automatic proposal of solutions (from external vendors) through machine learning to improve the EnPIs.
- Comparison between different best practices within homogeneous industrial sectors. (Continuous Improvement).



Strategy Section

PESTEL Analysis



Porter's 5 Forces

Supplier Power

- Cloud Infrastructure Provider
- Advertising Agency
- IoT devices Vendors

We currently don't have suppliers pressures. Platforms are happy to receive apps that help their platforms grow.

Threat of New Entry

- Other companies that may want to offer the same type of service in the future(startups or companies from other sectors)
- Average crowded market: the barrier to entry is medium.
- Quite a few companies.
- Average level of barrier, due to the initial investment, whose estimate is on average high.



Buyer Power

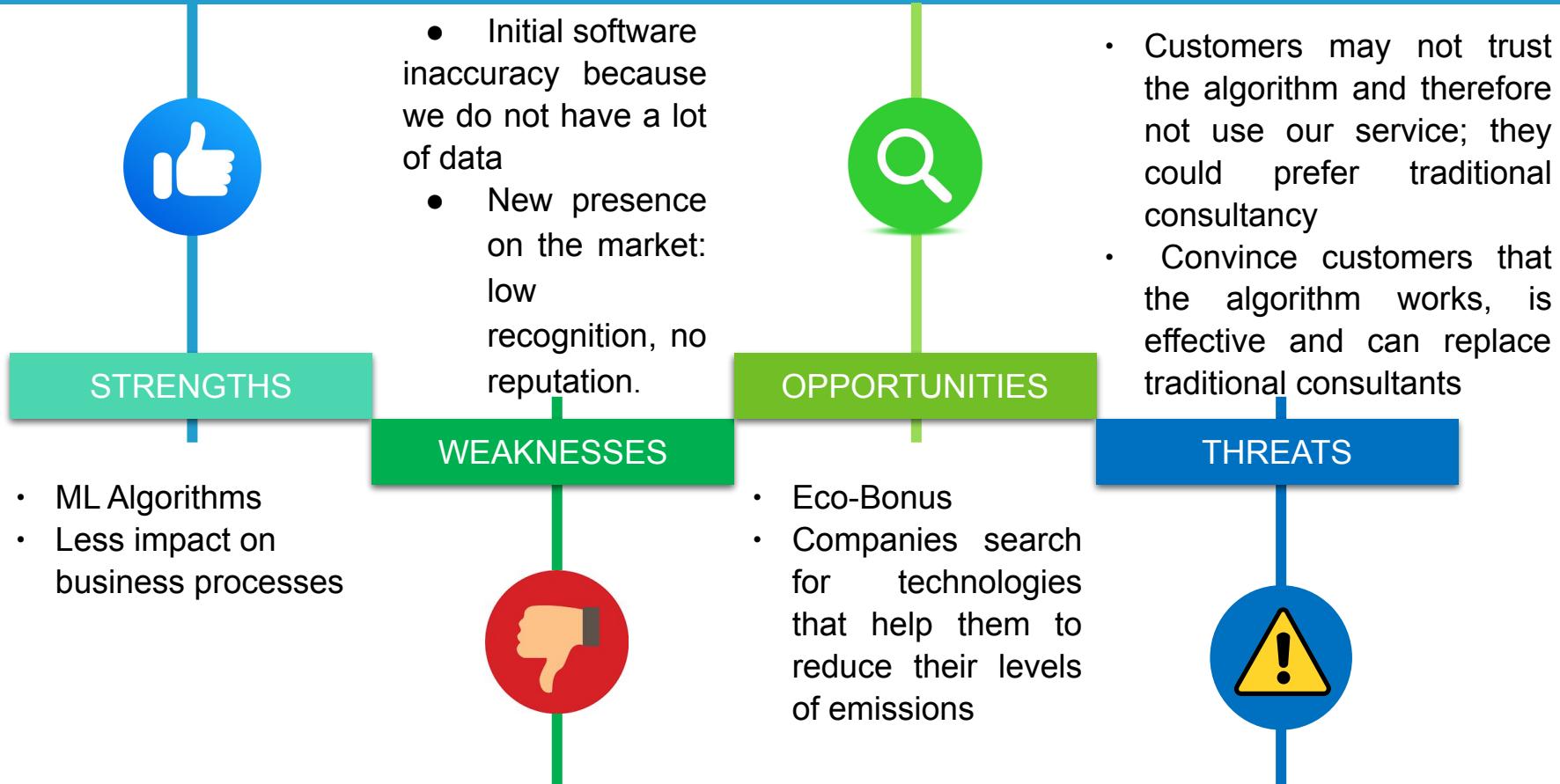
- Number of customers: In full production 50 contracts per years estimated
- Buyer ability to substitute: MEDIUM
- Size of each customer order: 15,5k€
- Independence of buyers: MEDIUM

- Thanks to the new technologies used, we have few direct competitors. Some example are: Techno, EGO Group s.r.l
- Monopolistic Competition

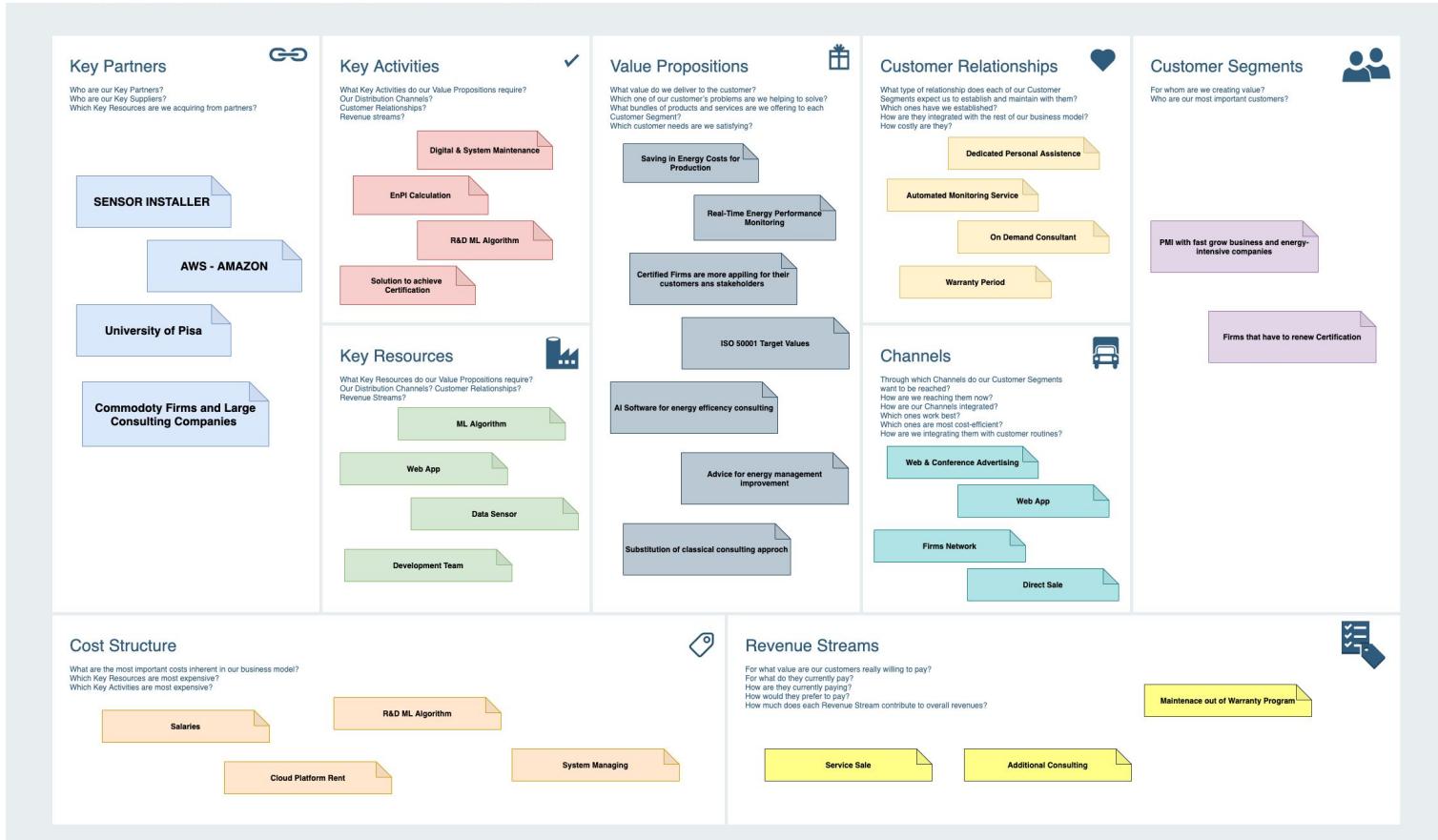
Threat of Substitution

- Companies that provide the same service without using the machine learning technologies.
- Other type of ISO that belong to field of energy efficiency

SWOT ANALYSIS



Business Canvas





Marketing Section

MARKET ANALYSIS

Tavola 22.2 - Numero di unità locali di organizzazioni (pubbliche o private) con Certificazione di gestione dell'energia - UNI CEI EN ISO 50001 - attiva nell'anno di riferimento dei dati per provincia/città metropolitana, regione e ripartizione geografica - Anni 2015-2018 (valori assoluti)

cod. reg.	cod. pro.	PROVINCE/CITTÀ METROPOLITANE REGIONI RIPARTIZIONI	Certificazione di gestione dell'energia - UNI CEI EN ISO 50001			
			2015	2016	2017	2018
		Nord-ovest	109	309	767	827
		Nord-est	66	210	292	346
		Centro	24	186	329	470
		Sud	30	72	128	180
		Isole	4	23	51	82
		Italia	233	800	1.567	1.905

Fonte: Elaborazione su dati Accredia

01 B2B Market

The service is addressed to other companies

02 Competition

This type of service is already provided, although with different technologies and methodologies

02 Large number of customers

ISO 50001 can be requested by any type of company, from those who produce products to those who provide any type of service

04 Market Growth

Istat Data + Economic Factor (SuperEcoBonus 110)

MARKET SEGMENTATION (I)



Geographical Location

Focus our business in north-central Tuscany

Industry

the production sectors are the most interested in acquiring this type of certification, but it is still too wide, so we have chosen to segment the production sectors themselves in a more specific way

Organizational Size

the market has been divided into PMIs and Large Companies

Choice Criteria

Choice to renew the certification

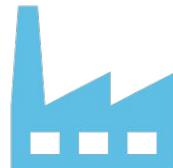
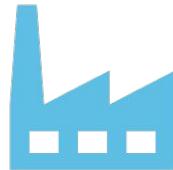
Possible Advantage

Firms could have benefits from obtaining ISO 50001 certification

MARKET SEGMENTATION (II)

Organizational Size,
Industry, Geographical
location, Choice Criteria

- 01** Large companies or PMIs in the geographical area indicated about the manufacturing (and its subsector) and housing sector
- 02** Companies that want to renew their certification



Possible Advantage

- 03** Utilities that sell electricity
- 04** Companies that provide components and services to produce electricity
- 05** Companies that are in the digital business
- 06** Companies that are interested in energy efficiency and they are in the housing market

TARGET MARKETING (I)

LARGE COMPANIES



Large companies do not rely on start-ups for this type of service

This segment is probably saturated

Large companies are reluctant to change their supplier

PMI



Many of these companies do not possess ISO 50001 certification

Many PMIs are becoming energy-intensive faster

Many PMIs in the productive sector

92% of companies in Italy

TARGET MARKETING (II)

Target Segments

- Production of Clothing and leather**
 - Manufacturing activities, Ateco Code 14 - 15
- Papermaking and paper products**
 - Manufacturing activities, Ateco Code 17
- Manufacture of metal products**
 - Manufacturing activities, Ateco Code 25
- Manufacture of electrical equipment**
 - Manufacturing activities, Ateco Code 27
- Housing**
 - Activities of accommodation and catering services, Ateco Code 55
- IT Consulting – other IT services**
 - Information and communication services, software production, Ateco Code 62 - 63



Companies that want to renew the certification through a different technology

Motivations

01

Energy-intensive Companies

02

High Density of these companies in target geographical region

03

Possible advantage in the market

TARGET MARKETING (III)

Discarded Segments



Energy supply sector

- supply of electricity, gas, steam and air conditioning, Ateco Code D - 35



Other Manufacturing activities

Motivations

01

No Data in this sectors

02

Possible competitors

MARKET POSITIONING

01

Performance

time used to reach ISO 50001 +
technology used to evaluate
and reach the ISO

02

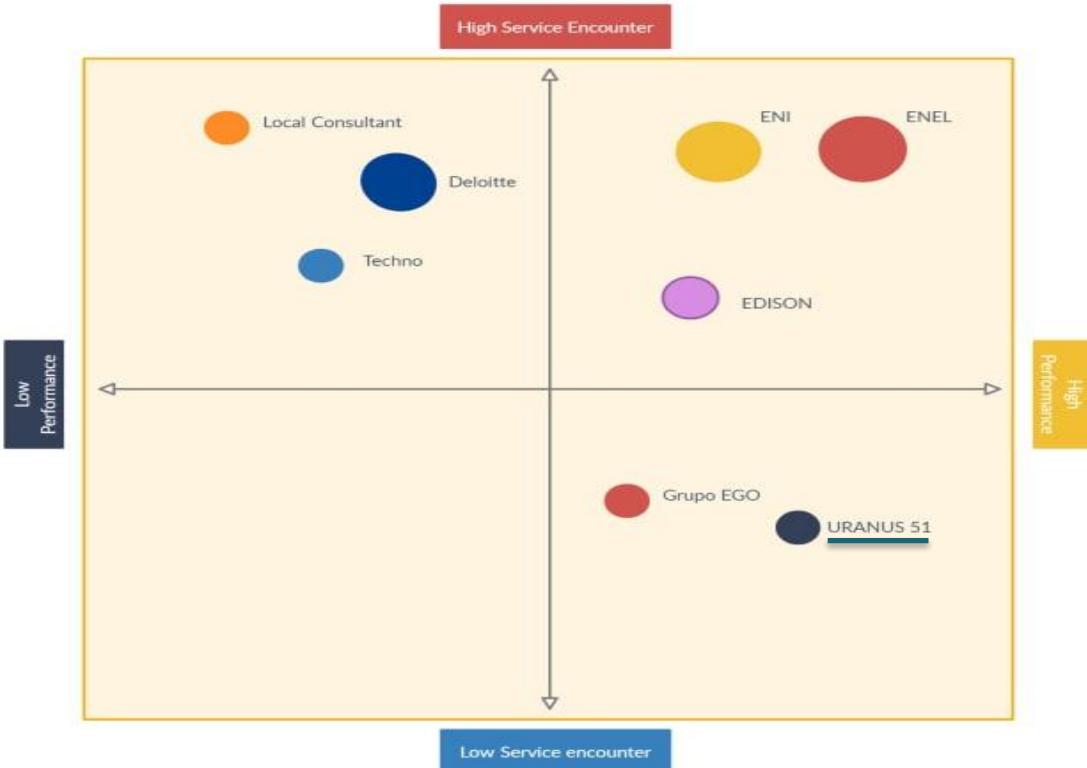
Service Encounter

customers interaction with a
service provider

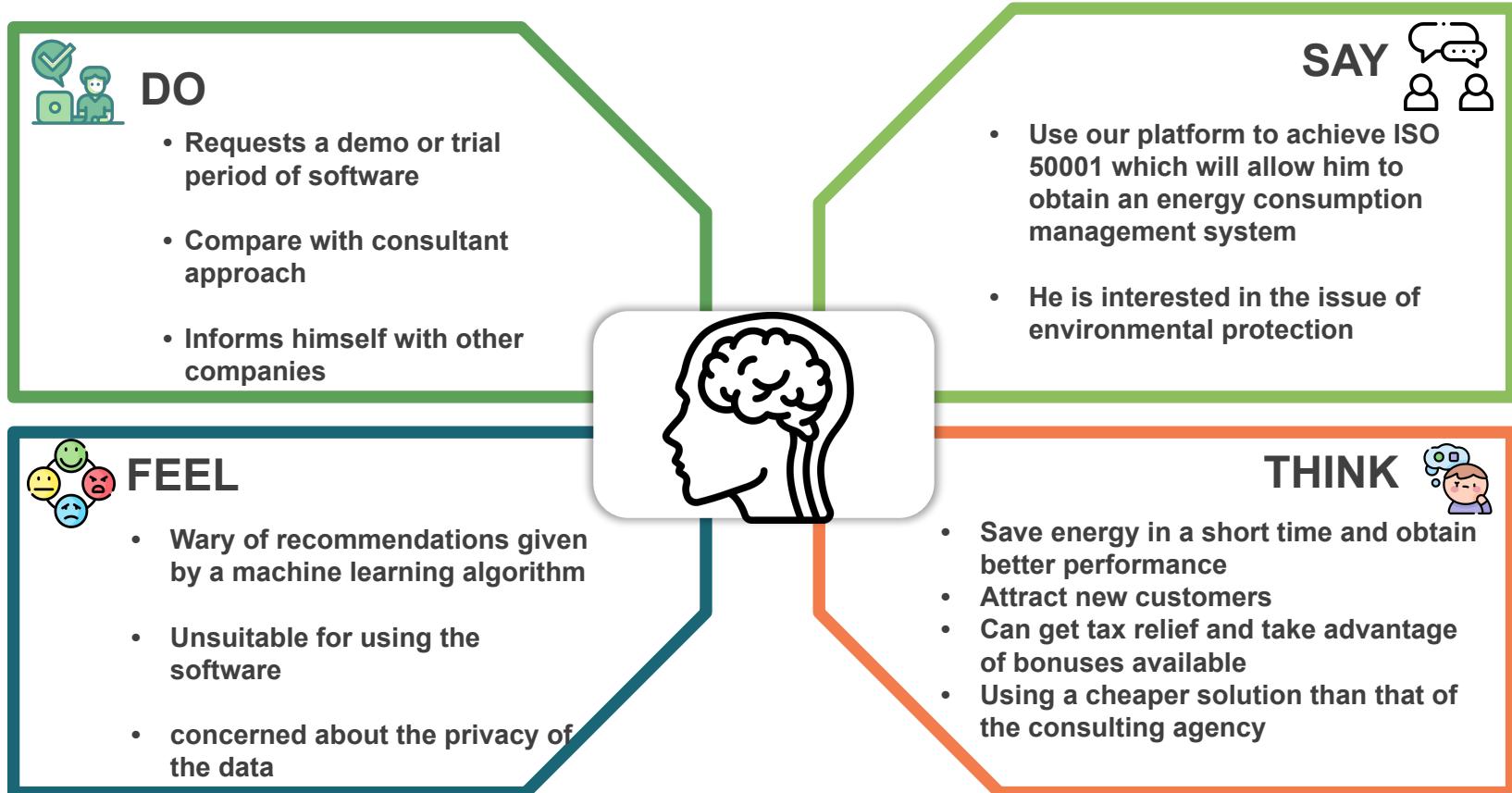


Competitors

There are strong competitors
but do not use the same
technology



EMPATHY MAP

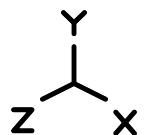


XYZ - HYPERZOOMING

Value Proposition



"Many companies would be interested in purchasing a subscription to a digital platform that leverages a machine learning algorithm to guide the company to achieve ISO 50001 certification"



XYZ



- X = at least 10 %
- Y = PMIs of Italian manufacturing sector
- Z = 15000 €



"At least 10% of PMIs in the Italian manufacturing sector would be interested in buying at a price of € 15000 a subscription to a digital platform that guides them to obtain ISO 50001 certification"

 HYPERZOOMING



- X = at least 10 %
- Y = 300 PMIs in the field of production and processing of leather within a radius of 70 km from Pisa
- Z = 15000 €



"At least 10% of 300 PMIs in the field of production and processing of leather within a radius of 70 km from Pisa are interested in buying at the price of € 15000 a subscription to a digital platform that guides them to obtain the ISO 50001 certification".

PRETOTYPING

A beta version of the software is designed for companies that have at least one machine with built-in sensors in order to allow the monitoring of an indicator related to energy consumption and this demo will give possible solutions to be adopted to fall within the target values set by the ISO 50001 standard. The beta version will be presented to potential customers in the target sectors by representatives of the company. The demo can be offered either at a discounted price or possibly provided for free to interested companies for a period of 3-4 months. At the end of the period, customers will be able to decide whether to:

- Do not accept the service.
- Request a meeting with the entrepreneurs of the start-up for clarifications and explanations on the functions of the final version.
- Buy the final version.



DISTRIBUTION

DIRECT APPROACH



WEBSITE

Visit our platform to contact us



SALESMEN

Senior Salesman tries to stable
contacts with companies in
target geographical area



COMMUNICATION

ONLINE

WEBSITE

Small description of the service, video presentation, posts about energy saving, etc..

LinkedIn ADS

Sponsored our company in the platform and reach other companies through email.

Google ADS

Ads when a potential customer search keyword such as "ISO 50001", "Energy saving", etc..

Other Social Media

Facebook, Instagram etc..



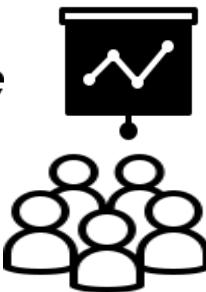
OFFLINE

Salesmen

they try to sponsor the service among the companies in the target industrial sector

Industry conferences

insert announcements in conferences in which the theme is the "corporate energy saving", "the importance of obtaining ISO in the company", etc.



PRICING

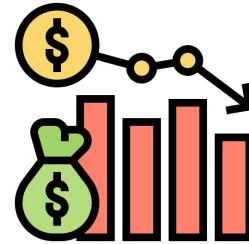
Competitor-oriented

Retrieve some information about competitors' price through market interview



Costs-based

Estimate of all costs in our company to assign a possible to the service: Direct costs + Indirect costs + Overhead costs.



Value-based

Price based on the value of the service that the customer has perceived during its use

If customer save a percentage in energy terms



Price difference between small and medium companies

We can ask to pay an extra

SALES PLANNING

SOME CONSIDERATIONS:



Difficult to analyze



Based on the number of salesmen



1° Year		2° Year		3° Year	
<u>Description</u>	<u>Contracts</u>	<u>Description</u>	<u>Contracts</u>	<u>Description</u>	<u>Contracts</u>
<ul style="list-style-type: none">• 6 months of sales (R&D period)• 1 Salesman	15-16	<ul style="list-style-type: none">• All the year• Maintain the previous contracts• 2 Salesmen	30-36	<ul style="list-style-type: none">• Increment in number of contracts by 13% - 15%• 2+ Salesmen	41-43



Operation Section

DATA CENTER

Service contract

Amazon EC2 and Amazon Document DB

Objective

Guarantee the monitoring of our clients 24/7

Location

Milano

Features: EC2

Linux OS, Storage: 30GB, Workload: Daily

Features: Document DB

Storage: 2TB, I/O, Backup: 1TB

Total Cost

€10.324,70



OUR PRODUCT

Our work is to guide the business of our customers to success.

How?

- ✓ Improving the energy efficiency of our clients through digital monitoring
- ✓ We use Artificial Intelligence technologies: ML Algorithms and IOT devices (sensors and gateways)
- ✓ Advice for optimize consumption, reduce energy expenditure, highlight waste and inefficiencies, and maintain control of the energy performance indicator.

- ✓ Main objective: That our clients achieve ISO-50001 certification



We create and build solutions, not only software!!

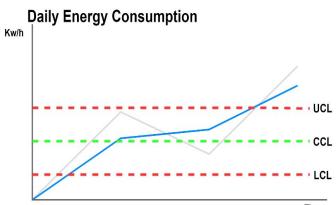
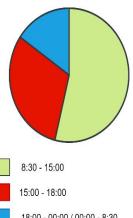
WEB APP & CLOUD SERVICE

Monitoring Dashboard

Machine 1 Machine 2 Plant 1 Plant 2

MACHINE 1

Daily Production



Measurements in details

Sensor	Time Slot	Value
Sensor 1	11:00 - 12:00	Value 1
Sensor 2	11:00 - 12:00	Value 2
Sensor 3*	11:00 - 12:00	Value 3
Sensor 4	11:00 - 12:00	Value 4

1

SUGGESTIONS DASHBOARD

Machine 1 Machine 2 Plant 1 Plant 2

MACHINE 1

A line graph titled "ENPI 1*" showing data over time. The graph includes mean value, maximum value, and minimum value lines. A table below provides detailed data for each time slot.

Ora/Giorno	Mean Value	Max Value	Min Value
time slot 1	Value	Value	Value
time slot 2	Value	Value	Value
time slot 3	Value	Value	Value
time slot 4	Value	Value	Value

SUGGESTIONS

ENPI	DATE	DESCRIPTION of Suggestions
1	Time Slot 1	Change the configuration of the machine
1	Time Slot 2	Turn off the machine during lunch break
1	Time Slot 3	Replace Machinery

COMPUTE PAYBACK TIME

2

PAYBACK TIME DASHBOARD

Page 1 https://www.uranus51/paybacktime

POSSIBLE MACHINERY FOR REPLACEMENT

INSERT NEW MACHINERY

PRICE

SAVINGS

VALUE

OTHER ENTRANCES

VALUE

MAXIMUM RETURN TIME OF THE INVESTMENT

VALUE

COMPUTE PAYBACK TIME

VALUE

A circular icon containing a stylized hand holding a green dollar sign with a small leaf attached to it.

3

SERVICE FLOW

Two cases can be presented:

1. The client already has the necessary sensors.
2. The client is totally or partially without the necessary sensors.

Energy Policy

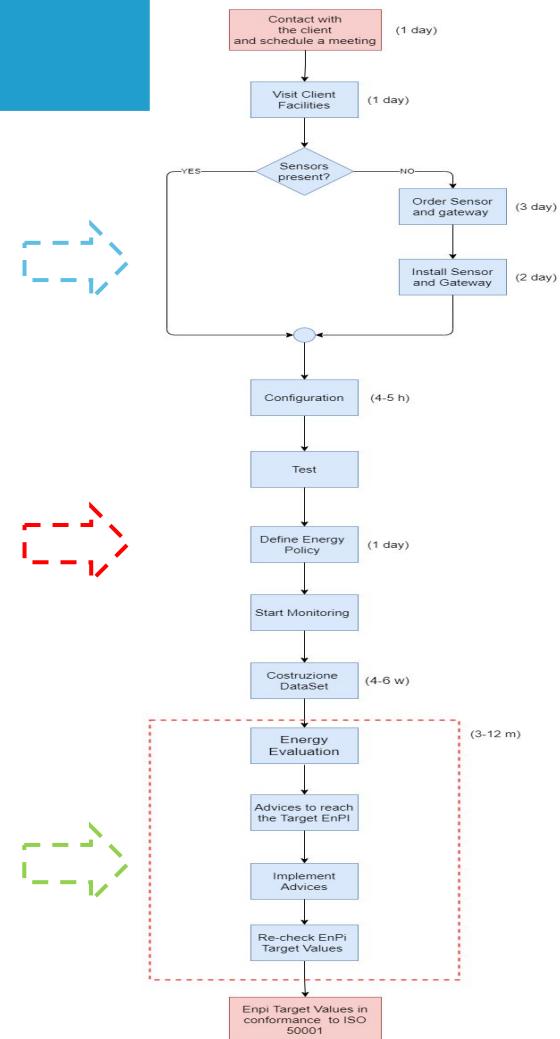
- ✓ Defined by the operations manager and the client
- ✓ Contain the EnPI values and processes in which they must work to comply with the ISO 50001 standard.

Example of ENPI value :

$$\text{Annual energy consumption of each heating system: } E_{H,n} = \frac{C_{H,n} * S_H * \text{HDD}}{S_{B,n} * \text{HDD}_{A,S}}$$

Where: $C_{H,n}$ is the fuel consumption (m³), S_H is the lower calorific value (kWh/m³), HDD is the number of standard degree days for heating, $S_{B,n}$ is the floor surface of the building, $\text{HDD}_{A,S}$ is the number of actual degree days of the considered heating season.

This $E_{H,n}$ is useful for comparing energy consumptions (Dall'O, Ferrari, Bruni, & Bramonti, 2020).



SENSORS ACQUISITION



Evaluation Scale

1	2	3	4	5
Extremely poor	Bad	Average	Good	Excellent

Criteria for suppliers' selection

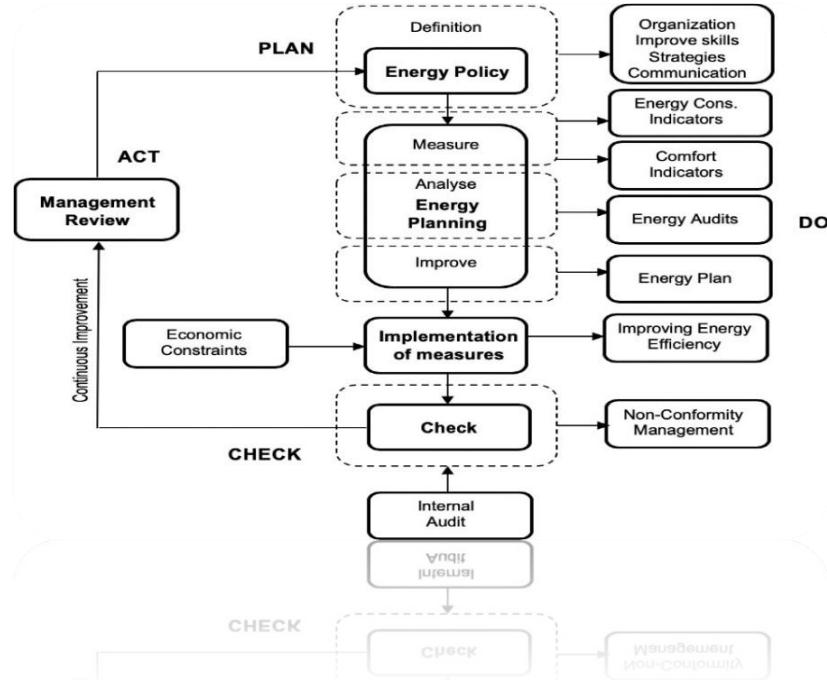
CRITERIA	NGS SENSORS	TSM SENSORS	LSI LASTEM
Closeness	5	2	2
Certified company (ISO standards)	3	5	5
Experience with similar companies	5	5	5
Overall quality of products	5	5	5
Customized solutions	5	4	3
Technology (efficient, precise, and updated)	5	5	5
Ability to meet requirements	5	5	5
After-sales assistance	3	3	5
Guarantee	3	3	5
Total score	39	37	40

- ✓ Acquisition, installation of sensors and local configuration cost: around € 3.690.

DIMENSIONS OF SERVICE QUALITY

Quality Assurance Policy

- Has its own Quality Management System based on ISO 9001 standard
 - We obtain training in IOT and ISO 15001 standard
 - We assigned a Quality Assurance team
 - Ensure Internal quality: Doing tests after the configuration of the sensors, Implementing the Deming cycle
 - Ensure External quality: Suppliers are ISO 9001 certified



DIMENSIONS OF SERVICE QUALITY

Quality Tangible policy



- Location: Pisa
- OFFICE 1:** Marketing - Project Managers
- OFFICE 2:** Operation - Finance Managers
- OFFICE 3:** Administration and human resources (RH)
- Research and Development (R&D) :** creation of ML algorithm, selection of the most suitable sensor



DIMENSIONS OF SERVICE QUALITY



Quality Time Policy

Lead Time: 9 months
Delays: Contracts > 30
Where? 1rst phase of the service flow
Solution: Scheduling the inspection in a period in which the workload is less.
Provide special tariff plans



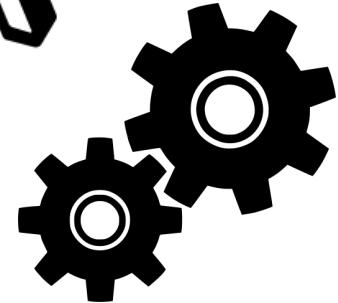
Quality Expectancy Policy

Guide and advise our client's business
Successfully acquire the norm ISO 50001.



Continuous Improvement

Considering the opinion of the clients (VOC)
Monthly surveys
By: email, our service platform or by calling



PRODUCTION COST ESTIMATION



DIRECT COST

Installation cost:

$$\text{€}1800 * 12 \text{ customers} = \text{€}12.600$$

Cloud cost:

$$\text{€}860,39 * 12 \text{ months} = \text{€} 10324.70$$

Labor Costs

R&D cost:

$$\text{€}1.600 \text{ salary} * 4 \text{ employees} * 12 = \text{€}76.800$$

CTO salary:

$$\text{€}2.000 \text{ salary} * 1 \text{ CTO} * 12 \text{ months} = \text{€}24.000$$



◆ **Total Direct Cost:** €123.724,70



INDIRECT COST

Rent cost:

$$\text{€}2.000 * 12 \text{ months} = \text{€}24.000$$

Utilities cost:

$$\text{€}1000 * 12 \text{ months} = \text{€}12.000$$

Commercial sector cost (Salesman):

€30.000 salary +

€150 for each closed project * 16 project +

€1.000 bonus = €33.400

Car Leasing: €8.600

Labor cost

Managers Salary:

$$\text{€}2.000 \text{ salary} * 12 \text{ months} * 4 = \text{€}96.000$$

◆ **Total Indirect Cost:** €174.000



OVERHEAD COST

Initial equipment:

$$6 \text{ PC} * \text{€}1.500 + 4 \text{ PC} * \text{€}700 = \text{€} 11.800$$

Office material = €10.000

Total Material cost:

$$\text{€}11.800 + \text{€}10.000 = \text{€}21.800$$

IOT training: €1.700 * 2 employees = €3.400

ISO 50001 Training: €300

$$\text{Total Training Cost: } \text{€}3.400 + 300 = \text{€}3.700$$

Advertisement: €15.000

◆ **Total overhead:** €40.200

< ◆ **Total cost for the first year:** €337.924,7 ≈ €337.925 >



Finance Section

COST ACCOUNTING SYSTEM

› Compliance with the Law

- Ensure compliance
- Help creating a good reputation for the company

› Cost Management

- Establish a list of cost items
- Identify and describe each cost of the list
- Attribute the cost to the correct cost item (while working)
- Define, monitor and control KPI (Key Performance Indicator)
- Produce charts and reports to support cost management
- Perform corrective actions (savings, reduction)
- Provide information and data for new investments and make-or-buy analysis

COST CONFIGURATION

Item	Description	Code	Responsible
Client Acquisition	Every cost related to the acquisition of new clients	BD	Marketing Manager
Client Management	Every cost that occurs after the signature of the contract with a client	CM	Project Manager
Accounting Activity	Every cost related to the accounting activity	AA	Finance Manager
Human Resources Activity	Every cost related to any activity about the management of human resources	HRA	Finance Manager
General Costs	Every general cost (eg. office rental, travels)	GC	Finance Manager
Mandatory Costs	Every mandatory cost due to Law and Regulations	MC	Finance Manager
Personnel Costs	Every costs related to the personnel	PC	Operations Manager
ICT	Every cost related to the supply and services of ICT resources	ICT	Operations Manager
Research and Development	Every cost related to the R&D activity	R&D	Chief Technology Officer (CTO)

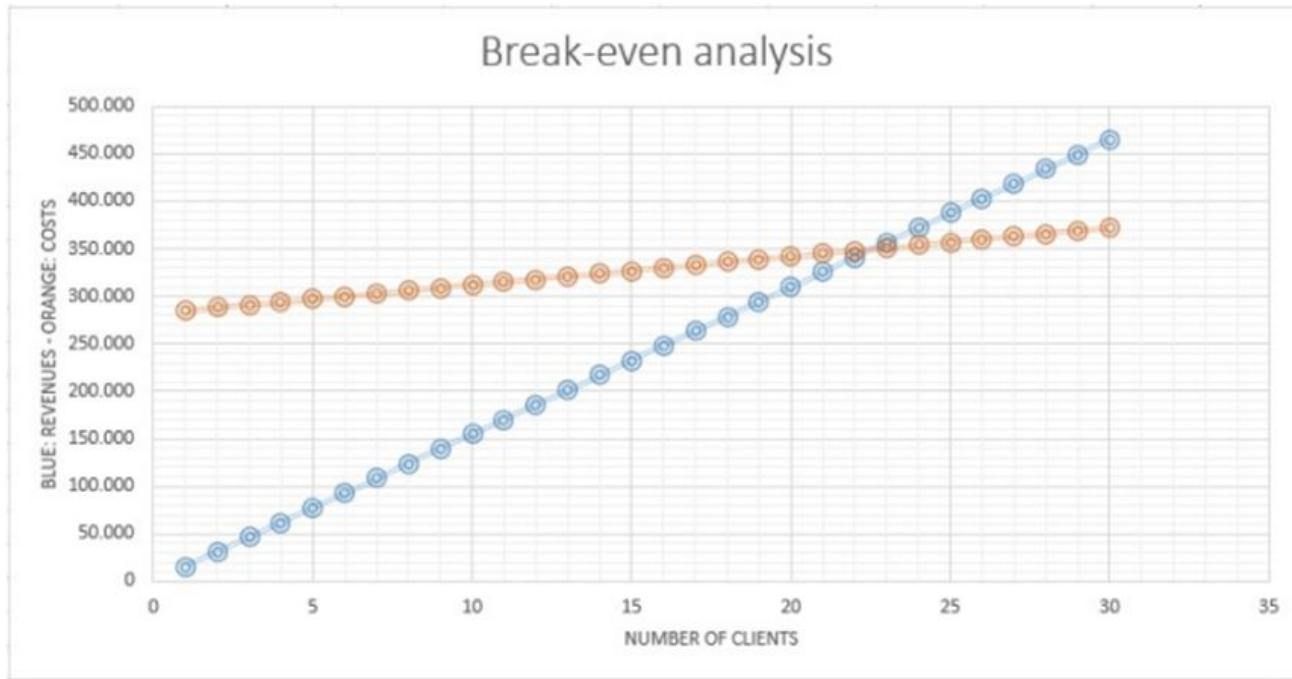
KPI	Description	Value	Responsible
Costs YTD	Comparison between budget and cost to the date	€	Finance Manager
Costs multi-year	Comparison of general costs vs revenues in a multiple year period	%	Finance Manager
Operational costs YTD	Comparison of operational costs vs budget to the date	€	Operations Manager
Project Acquisition costs YTD	Comparison of project acquisition costs vs budget to the date	€	Marketing Manager
Project Management costs YTD	Comparison of project management costs vs budget to the date	€	Project Manager
Personnel costs YTD	Comparison of personnel costs vs budget to the date	€	Operations Manager
R&D costs YTD	Comparison of R&D costs vs budget to the date	€	Chief Technology Officer (CTO)

KPI Table

Configuration Table

BREAK-EVEN ANALYSIS

- › How many clients to get the break-even point ?



BUDGET (1-2 YEARS)

PROFIT AND LOSS		
	Year1 (€)	Year2 (€)
REVENUES		
Revenues	248.000	511.500
Other Revenues	13.230	15.120
Total Revenues	261.230	526.620
COSTS OF SALES		
Rent	24.000	24.000
Utilities	12.000	12.000
Sensor installation costs	13.230	15.120
Cloud	10.324,7	10.324,7
Salaries	191.800	225.200
Car leasing	8.600	12.200
Personnel costs	3.700	0
Advertising	15.000	12.000
Legal costs	10.000	10.000
Stationery	10.000	0
Data Sim	12.600	27.000
Depreciation	20.320	20.320
Total Costs of Sales	331.574,7	368.164,7
Passive interests	1162,58	1.162,58
Total Passive interests	1162,58	1.162,58
Taxes	0	62.917,09
Net Profit		
Net Profit/Sales	71.507,28	94.375,63

BALANCE SHEET		
	Year1 (€)	Year2 (€)
ASSETS		
A) Current assets		
Cash	110.212,72	217.908,35
Total Current Assets	110.212,72	217.908,35
B) Fixed assets		
R&D	76.800	61.440
Start-up	3.000	2.400
PC	11.800	9.440
Furniture	10.000	8.000
Total Fixed Assets	101.600	81.280
C) Depreciation		
Depreciation	20.320	20.320
Total Depreciation	20.320	20.320
Total Assets (A+B-C)	191.492,72	278.868,35
Net Profit or Loss	71.507,28	0
Total Assets + Net Loss	263.000	278.868,35
LIABILITIES		
Paid-in capital	200.000	200.000
Income (losses) carried forward	0	71.507,28
Net Profit (Loss) for the year	0	94.365,63
Debts and Loans	63.000	56.000
Total liabilities	263.000	278.868,35

ECONOMICAL AND FINANCIAL RATIOS

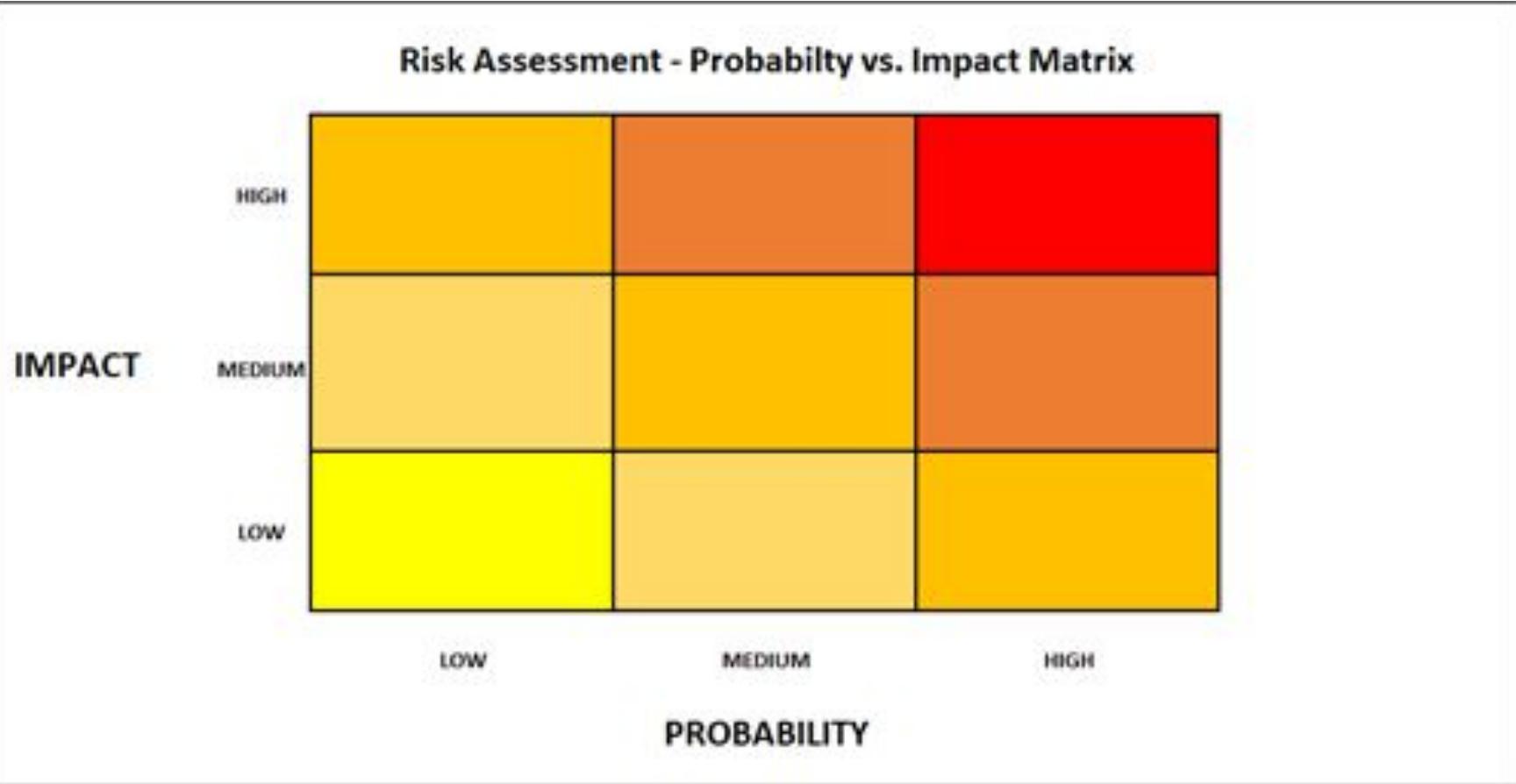
- › Financial (EBIT, EBT, EAT, RE)
- › Profitability (ROTA, ROI, ROE)
- › Liquidity (Current Ratio, Quick Ratio)
- › Solvency (Equity Ratio, Debt to Equity Ratio)

RISK ASSESSMENT (I)

Risk Assessment Table

Risk Description	Probability	Impact	Mitigation Measures	Responsible
Bugs and failures of the algorithm	Low	Medium	Constant monitoring and updates of the app	Operations Manager
Loss of data from the client's datalogger	Medium	High	Setup a stand-by and backup procedure	Operations Manager
Delay in client's payments	Low	Medium	Strict monitoring of the entire invoice process	Finance Manager

RISK ASSESSMENT (II)



RISK ASSESSMENT (III)

Other documents

- **Risk Register:** record all information and data since the occurrence of the risk to its closure
- **Lessons Learned:** document to be prepared for major risks, aimed at averting that the situation will happen again in the future

Thank You

Business Plan

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