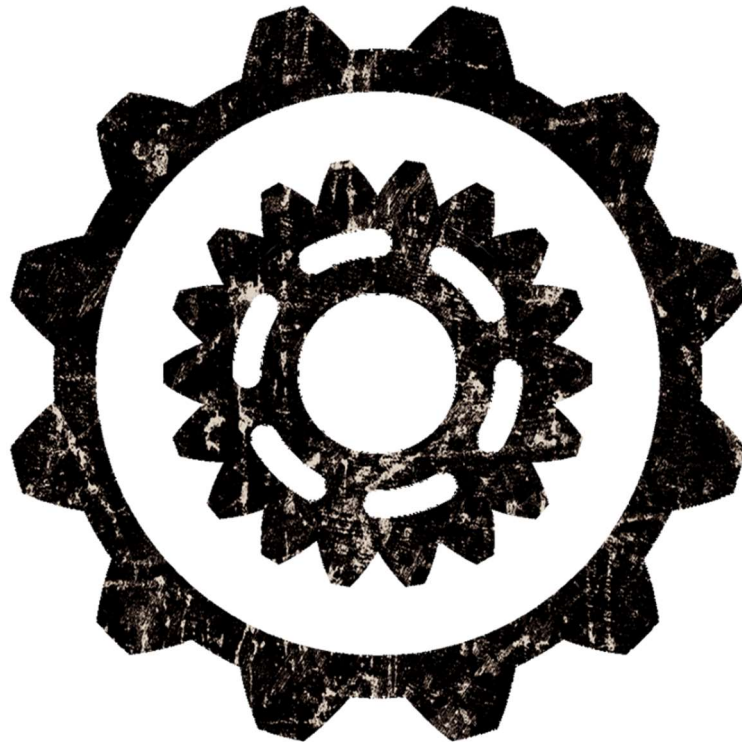




INDUSTRIAL

BOARD GAME





INDUSTRIAL BOARD GAME

INTRODUCTION:

In the industrial world, a company must maintain a balance between income and expenses, which is very difficult in today's competitive market. To achieve this, there are systems or tools that help the company to reduce costs, improve the product, increase production, reach customers or maintain a qualified workforce.

All this is what the INDUSTRIAL Board Game (IBG) offers, simulating the creation of a consumer goods factory with a small workshop, which will evolve improving the facilities, products and machinery to become a large company.

DEVELOPING

Players will have six game rounds that simulate economic cycles where each player must use their capital for the development of the company by hiring Technicians, Administrators or Marketing personnel to develop improvements and access the markets where the products obtain bonuses on their sale price. .

OBJECTIVE

At the end of the six game rounds, the player with the highest score wins. This score is received mainly for the number of improvements developed, but having accidents, contamination or not returning credits on time are penalizing factors that subtract victory points.

GAME CONTENT

1 Market Board	8 Loan Markers 80 Product Cubes 18
4 Factory / Department Modules 20 Incident	Trace Cubes per Player 20 1 \$ Coins 8
Cards 4 CEO Meeples 6 Technician	5 \$ Coins 16 \$ 10 Coins 8 \$ 50 Coins 8
Meeples 6 Administrative Meeples 6	\$ 100 Coins Manual
Marketing Meeples 1 6-sided Dice 6 Event	
Cards	



BOARD AND MODULES

The main board layout includes several key areas:

- Improvement Market:** A grid of gear icons with numbers 1-4, organized into columns of yellow, blue, and pink. Prices range from 2\$ to 20\$.
- Technical Market:** A vertical stack of gear icons with numbers 1-4, with prices of 7\$, 5\$, 4\$, and 3\$.
- Bag:** A horizontal row of gear icons with values +2\$, +2\$, +3\$, +4\$, and +5\$.
- Sales Markets:** A horizontal row of gear icons with values +3\$, +3\$, +4\$, +5\$, and +6\$.
- Shift Order:** A row of four numbered gear icons (1-4).

The detailed board layout for 'fricaltec' includes:

- Production Line:** A sequence of boxes representing production stages, with a truck icon and a '5\$' cost indicator.
- Inventory:** A row of boxes representing inventory levels, with a '5\$' cost indicator.
- Production Schedule:** A grid with numbers 1-16 in the first row and 2-32 in the second row.
- Module List:** A collection of modules categorized by gear icon numbers (1-4) and costs (2\$, 3\$, 4\$).
- Resumen de Turno:** A summary table for the turn, listing actions 1-7 and their costs.

1	2	3	5	6
4	8	12	16	
1	2	3	4	

ICONOGRAPHY AND TOKENS DESCRIPTION

	Department of Engineering		Department of Quality		Department of Logistics
	Administration Department		Human Resources Department		Department of Marketing
	Administrative area (Blue Meeple)		Marketing Area (Meeple Rosa)		Engineer Zone (Yellow Meeple)
	Item cost the row		CEO Area (Black Meeple)		Maintenance costs
	Market area (No. corner players lower right.)		Space for 1 product (cube)		Worker and cost per production
	Manufacture of 1 unit of product		Accident		Environment
	Manufacture of 1 unit of extra product		Purchase price		Loan token
	Symbol for rolling a six-sided dice		Level of improvement		Improvement symbol free
	Increased sales in a unit		Cost reduction for employee		Movement direction of products
	Currencies and value		Shares of stock		Event cards e incidents
	Market access (According to color)		Lets you copy an improvement action		Cost of Technicians reduced by \$ 3
	Grant		Meeples position		Re-roll

PREPARATION:

- Place the Market Board in the central part of the table.
- Each player receives a Factory / Department Module, 18 cubes for tracking Tracks, located according to the Setup image and \$ 50.
- (Optional) Event cards are shuffled and face down next to the market board.
- Event cards are shuffled in phases, Phase 1 (top of the deck) - Phase 2 (bottom of the deck) are sorted and placed face down next to the market board.
- Players roll 1d6 for order in the starting position for the first turn.



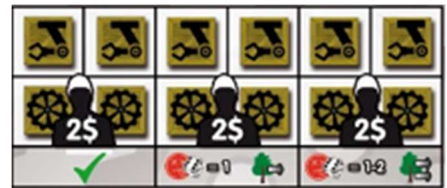
- The Blue, Yellow and Pink Meeples are mixed (preferably using an opaque bag) then placed randomly one by one in the Technician Market area following the direction of the arrows.
- The rest of the components, the dice, loan tokens and coins are left in separate piles.

FACTORY MODULE:

It is a basic infrastructure in which we store the raw material, manufacture the products and re-store them as the final product.

PRODUCTION AREA

Each Production Zone has a basic production capacity of 2 units for each shift worker, represented by an illustration. For each operator that we start, we must pay 2 \$ of salary, either manufacturing one or two products. If you do not manufacture, no salary is paid.



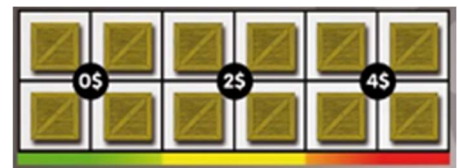
The production associated with the BONUS part is never lost, as long as at least one worker produces, but to achieve it we need to activate the associated improvements.

Depending on the activated workers, the pollution and accident conditions indicated under the workers must be applied.

- Activating a worker: Nothing happens.
- Activating two workers: Roll 1d6, if the result is 1 the worker has an accident. Remove the produced material to your initial warehouse. Pollution advances one square.
- Activating three workers: Roll 1d6, the accident occurs if the result is 1 or 2. The contamination advances 2 squares.

WAREHOUSES

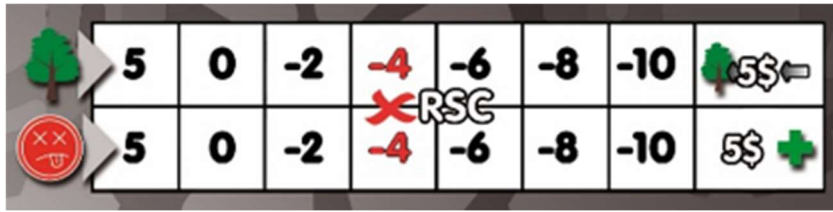
Warehouses are the only place where we can store the products we buy and that they do not degrade or spoil. Each warehouse has a base capacity of 12 units, which will be stored from left to right respecting the assigned space, represented in the quadrant with the illustration of the boxes.



(Optional - Advanced Players) To simulate the cost of immobilized material, if at least one material is within the YELLOW zone, an additional \$ 2 will be paid for maintenance, and if there is any in the RED zone, an additional \$ 4 will be paid. This rule applies to both warehouses, so you could pay up to \$ 8 more if the material from each warehouse reaches the red zone.



POLLUTION AND ACCIDENT TRACKS



At the beginning of the game, a cube will be placed to track the tracks, above number 5. The numbers of these tracks indicate the number of points to be added or subtracted at the end of the game.

To recover lost positions on each track, for every \$ 5 paid, one box is recovered.

In the case of reaching the last box and having to keep going down due to pollution or accidents, instead \$ 5 is paid.

It is possible to cancel that the counter continues decreasing, achieving the improvements with the associated symbol of the Development Module (ISO14001 or ISO45001).

MAINTENANCE TRACKS AND PURCHASE / SALE PRICE



The maintenance track will start marked at \$ 8 which is the factory basic. This track will increase depending on the departments or active improvements that contain the Maintenance symbol. On the other hand, the track can decrease its value if the appropriate improvements are acquired (Kanban, Poka-Yoke or TPM).

LOAN MARKERS

During the entire game, up to two loans of \$ 20 may be requested, once purchased, the loan token will be placed on each of the loan areas, which has a return value of \$ 24. As many credits as needed can be requested as long as the two active loan token zones on the player's board are not exceeded. The player who has two active loans and does not have money to pay maintenance or wages will fall bankrupt and will be eliminated from the game.



For each loan not returned by a player at the end of the game, there will be a penalty of 10 points.

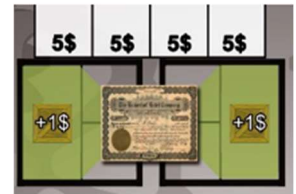
CEO AREA

This space is reserved for the CEO token, the CEO is a special figure that counts as any type of Technician. After using it can be recovered at the end of the turn.



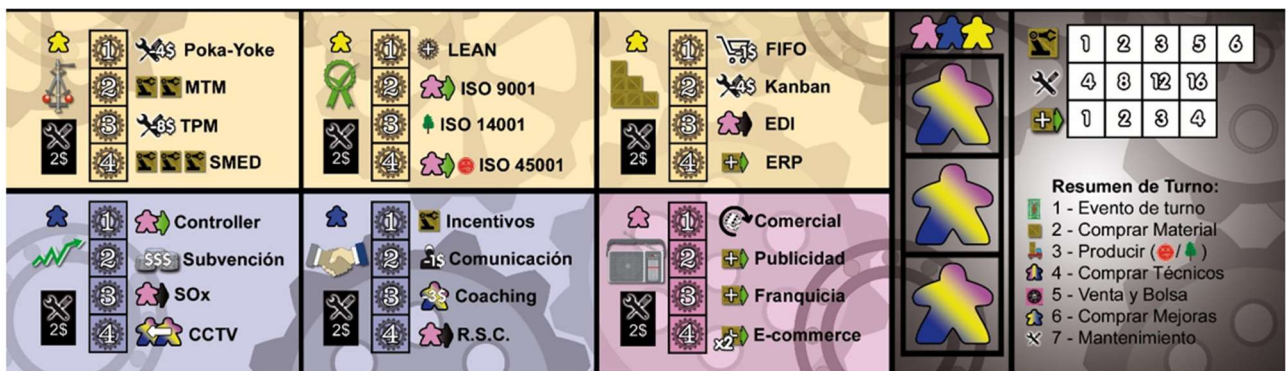
SHARES OF STOCK

In this part each player will place a cube representing company shares against the values at the top. The box for purchased shares (box with + \$ 1) indicates that for every two shares purchased from the same player, the player with the shares receives \$ 1 from the bank for each unit sold by the player who owns shares.



DEPARTMENTS MODULE:

This panel offers a vision of the strategic support for business improvement, the different departments, improvements, the technical reserve, tracks to track accumulated improvements, shift summary are shown.



DEPARTMENTS AND IMPROVEMENTS

The six departments shown are from left to right and top to bottom, Engineering, Quality, Logistics, Administration, HR and Marketing.

Each department has the department symbol that is associated with its corresponding column on the Market Board.



All the apartments have a maintenance cost of \$ 2 that must be added to the maintenance track when the first improvement of each one is obtained.

Upgrades are numbered from 1 to 4, you cannot access an upgrade from a higher level without having developed the previous level. The opening order is from Level 1, improvements with less level, to Level 4, maximum level improvements.

Each improvement has a text that identifies the name of the improvement, see annex, all the names correspond to real management tools of the industrial world. The associated symbol next to the name identifies the type of improvement that applies to us in the game (See Symbology box).



TECHNICAL RESERVATION

The reserve of technicians are the spaces we have for the placement of Technicians (Pink, Yellow and Blue Meeples) up to a maximum of three. These can be used for the acquisition of improvements, the sale in markets, the purchase of shares or they can be reserved for the next shift.



MARKET BOARD:

This board is made up of five parts: the Technicians Market area, the Technology Tree, the Stock Market, the Sales market and the order of the Shift.

TECHNICAL MARKET

When the technical purchase phase is activated, proceed as follows, starting from the initial player.

In the preparation, technicians are randomly placed in each of the boxes.


The initial player decides if he buys a Technician and from which square he takes it, depending on the position these will be paid at \$ 3, \$ 4, \$ 5 or \$ 7.

The empty box is filled with the technician from the previous position and so on, the value box \$ 7 is filled with a random technician from the reservation.

The next player following the hands of the clock proceeds the same way, this process is repeated until all the players complete their reserve of technicians or pass in their turn to buy. Once they have skipped their purchase turn, they cannot buy again.

TECHNOLOGY TREE

The technology tree has the boxes corresponding to the different technology levels of the departments of the Development Board. The columns indicate the department to which the improvement belongs, the price indication on the left marks the price of the improvements in the indicated row and the number inside each gear indicates the level of the improvement.

The allocation of improvements is made starting from the initial player and moving clockwise. Each player will place a technician of the corresponding color indicated on the column (ex. ) on the box improvement that is free and from which the improvement of the previous level has been developed, then it will pay the corresponding cost and place a cube to track the level of improvement in its Department Module.

If a player runs out of cash to get the upgrade they can immediately take out a loan as long as they have the loan zones available.

If a player develops an upgrade, for example, Level 2, and on the next round no one has blocked the Level 3 space, he may develop this level of improvement by previously unlocking Level 2.

At the end of the upgrade phase, the technicians used are lost, returning to the general reserve.



As a particular case, some improvements of the Marketing department are not paid immediately, but permanently increase the maintenance track by the value indicated for each row.

SALES MARKET

Sales marking is the fundamental part of earning income. It is divided into two market rows, each with different access conditions to the following market. Each market has marked the price increase on the buy / sell track. For example, for the first market, \$ 2 per unit sold will be added to the purchase price in the purchase / sale track, which will give us the sale price. In all markets the units sold are obtained by rolling the six-sided die plus the additional amount obtained for the improvements the player has.



To access a market the players, starting from the initial player, will place a Marketing Technician (Meeple Rosa) or the CEO, on the box corresponding to the number of players, which is empty and to which they have access depending on the improvements obtained.

For two players only the first space in each market will be used, for three players the two spaces in the upper market and the first space in the lower one will be used, and for four players all the spaces will be used.

Each player can only place the Meeple in a single market. If you have more Méeples de Rosas or the CEO, you can use them to repeat the roll of units sold and keep the one with the highest result. To the result of sales units the additional units that we apply based on the improvements will be added. The placed Meeples will be blocked until the end of the turn, at which time each player will be able to recover their CEO, if he has used it, and the rest of the Pink Meeples are removed to the general reserve of technicians.

GAME PHASES

SHIFT EVENT

At the beginning of each turn, the top card of the event deck will be raised, the condition that applies will affect all players equally. The moment the sixth event card is turned over the game will enter its final round.

PURCHASE OF RAW MATERIALS

In this phase the price of the raw material is fixed when the Initial Player of the turn rolls a 1d6. The cost of each cube of raw material will be that corresponding to the value of the result.



All players will mark this value on the purchase / sale track, since it will be the one on which we calculate the sale value. If any player has the purchase price decrease by \$ 1 active, this value will be subtracted from the price to be paid, but the track marker should not move it.

Each player buys the resources he deems appropriate.

PRODUCTION

In the production phase, each player will place the amount they want to produce in the spaces indicated for this process, each worker can produce a maximum of two products and for each activated worker, \$ 2 will be paid.

In the case of having production Bonuses, the total manufacturing is increased by that number, either producing with one, two or three workers. In the case of having reduction of payment to workers, it will be applied.

Once the wages have been paid, the Accident and Pollution rules apply as previously seen. If the player does not produce because he has stock in the final product warehouse, the accident and contamination factors would not apply.

The manufactured product is then passed to the final product warehouse. Be careful with the quantities, since all the material that does not fit in the warehouse will be lost.

It is very important to follow all the steps in the following order to avoid skipping any of the conditions.

- one- Place cubes to produce
- 2- Pay wages
- 3- Accident and contamination
- 4- Transfer products to the warehouse

TECHNICAL MARKET

The next step is the activation of the technical market as explained in the corresponding section.

SALE MARKET

The next step is the activation of the sales market as explained in the corresponding section.

Note: If a player does not want to sell in this round, he can skip this phase, but if he decides to play it, he must sell the amount of material he takes out in the roll or, in his absence, all the material he has stored if he does not reach the indicated amount.

BUY UPGRADES / BAG

The improvement market will open and each player will be able to opt for the acquisition of improvements for their plant following the rules explained in previous sections. During the purchase of upgrades, each player will have the option to buy shares of other players at any time. (Optional - Advanced players. Purchase of shares for a fixed value may be substituted for purchase by auction)



The shares that a player has previously acquired, can be released for sale at any time)

MAINTENANCE

As the last phase of the turn, each player must pay the maintenance indicated on the maintenance track.

(Optional) INCIDENTCES

Finally, each player receives an incident card, this card cannot be used until the next turn from the moment it is received and from the beginning of the fourth turn.

The maximum number of cards in hand is three and each turn only one card can be applied per player. These cards can be applied both to oneself and to other players and can be used at any time.

PUNCTUATION

The game ends at the end of the sixth round of play, corresponding to the last Event card displayed. The round must reach the final player. Then the scoring system follows the following rules:

- For development of improvements will be scored as follows, only the highest level improvement score by department:
 - or + 2 points for the first improvement
 - or + 5 points for the second improvement
 - or + 10 points for the third improvement
 - or + 20 points for the fourth improvement
- The scores of the Contamination and Accident tracks will be added or subtracted.
- Each active loan subtracts 10 points.
- Every 10 coins adds 1 point.
- In case of a tie, the player with the most coins wins.

THANKS

Thanks to Garba (El Bruto) for collaborating in the graphic design of this game, to all the testers and companies that have collaborated with contributions, to all the sponsors and patrons for making its edition possible and to my family for the support received.

"Business is a good game. A maximum of competition and a minimum of rules. It is scored with money. "

(Bill Gates).



ANNEX - DEFINITIONS

LOGISTIC IMPROVEMENTS

FIFO: Basic improvement to ensure that previously purchased material is used before and not wasted due to the possibility of deterioration or obsolescence (First In First Out - First in first out).

KANBAN: This tool makes it possible to supply a quantity of raw material adjusted to the needs and dimensioning of stocks in the manufacturing lines, using a card system that refers to the material used in each line. Reduces warehouse movements due to lack of control which reduces waste.

LOGISTIC TRAIN: Eliminates truck traffic and optimizes material replacement routes, which reduces costs for the purchase / rental of trucks or unnecessary trips.

EDI: The EDI System allows the exchange of data in an electronic way that allows to standardize data structures despite working on various computer systems.

AUTOMATIC WAREHOUSE: High-tech infrastructure that allows automated storage and sometimes loading of trucks, reducing the personnel in charge, making more efficient or eliminating truck traffic, reducing the space occupied by corridors and gaining storage capacity.

SSL HR IMPROVEMENTS: Basic measures on Occupational Health and Safety, assesses risks at work to eliminate or reduce them, making people feel safer at work.

INCENTIVES: A productivity bonus system makes staff more efficient in their work in exchange for payment proportional to the performance improvement obtained.

COMMUNICATION: This tool improves labor relations, making staff feel part of the company and increasing the sense of belonging.

CCTV: With security guards and a video surveillance system (CCTV) we can prevent theft.

MARKETING IMPROVEMENTS

COMMERCIAL: Hiring commercials to attract clients increases the sales of our products by going to look for clients.

FRANCHISE: A commercial has a limited area of action, with franchises in different geographical points as other communities or countries we will expand our influence and find more buyers.

ADVERTISING: Not only commercials have the ability to convince potential customers to buy our product, but commercial campaigns make our product popularly known and easier to sell.



CORPORATE SOCIAL RESPONSIBILITY (CSR): To increase the influence of our brand in society and that it has a good appreciation of it, by implementing social responsibility the brand image is improved in front of consumers, which reverts to the increase in sales.

ENGINEERING IMPROVEMENTS

POKA YOKE: Tool that is used so that the components that are mounted in a product only have a unique and unequivocal position, which reduces errors and therefore increases the production of good parts, a common example is the connections of USB memory sticks.

MTM: System of predetermined times to calculate the production based on the movements to be carried out in the assembly of the product, helps to balance time, increasing production using the same working time.

TPM: Tool Acronym Maintenance **P**roductive **T**otal that serves to analyze causes of breakdowns, schedule maintenance of machinery and reduce breakdowns attending to their root cause.

SMED: Sgroin **M**inute **AND** xchange of **D**ie (**SMED**) This tool reduces the time for changing the dies / tools of the machines, thus increasing the time available for the machine to produce.

IMPROVEMENTS QUALITY

LEAN: Lean production is a management model that focuses on minimizing losses from manufacturing systems while maximizing value creation for the end customer.

ISO 9000: Product quality standard that establishes basic manufacturing standards. This improvement allows access to markets with higher demands, which in turn is reflected in sales prices with a higher profit margin due to continuous improvement.

ISO 14000: Norm related to the environment and that establishes basic standards for waste management in the company. Sometimes required to access more demanding markets.

ISO 45000: Norm related to occupational safety and that establishes basic standards to manage occupational risk prevention.

ADMINISTRATION IMPROVEMENTS

ACCOUNTING: With this tool, investment in different areas of the company is controlled and expenses are controlled.

SOx: The Sarbanes Oxley Act was enacted in the United States for the purpose of monitoring companies listed on the stock exchange. Its purpose is to avoid fraud and bankruptcy risk, protecting the investor.

SUBSIDY: With personnel in charge of applying for regional, state or European subsidies we can obtain extra income.

COACHING: Tool that improves staff performance, improving relationships and promoting company membership.