M.I.N.A.
(Mining in Near Asteroids)

(Rules V0.1)

MINA is a simulation game for 4 players in which players take the role of various Consortiums and Agencies in their attempt to make asteroid mining a reality.

Components:

1 Game Board

10 Markers (turn, prestige)

100 Resource tokens (25 of each colour)

50 Asteroid Cards

40 Risk Cards

20 Space Module Cards

Game objective:

MINA is a game in which the players colaborate to reach their objetives and obtain prestige along the way. Prestige is esential to win the game.

The objective of the game is both playful and educational, being as important to enjoy the game as to promote the values and the interest in the themes the game touches.

The game takes place in a near future with similar technologies as the ones we have today and has a limited timeframe. Each of the players represent a space agency.

Game Phases:

The game consists in 4 phases that each one of the players must complete before advancing to the next one. If no one has won, the game ends when the 40th turn ends.

1.- Asteroids and resource adjustment phase.

2.- Investment stage.

3.- Mission launching.

4.- Prestige calculation.

The turn order inside of this phases is the following:

1st acts the NASA.

2nd acts the ESA.

3rd acts the Russian Agency.

4th acts the private Consortiums.

Game progress:

During the course of the game players must decide whether they prefer to invest their resources in developing technologies and infrastructure, in building and putting space modules in orbit or in launching missions. The better the technology, the more likely you will succeed.

General terms:

Prestige: Is the most important value of the game, the 1st player to reach 100 points wins the game. It also determines the new resources available each turn.

Opportunity: Determines the number of phases in which you can interact with the asteroids. It is determined by the detection systems, as well as the velocity of the asteroid, and the orbit.

Risk: A space mission is hardly free of mishaps, minimize all factors involved in the occurrence of these mishaps is essential for the mission to be performed. It is not advisable to perform missions at risk, because the consequences could be catastrophic, however any player may be tempted to assume the danger of these missions with the idea of accumulating more prestige.

Resources: Given the difficulty of managing different budgets even at different times at the same Agency and above all to make the rules more accessible has been simplified, budget, personnel, equipment and other factors, in this feature. We do not intend to do an economic game, so this feature is the capacity to carry out actions, not an amount of money. Each Asteroid also has a resources value that can provide. This reflects both the benefits that the extraction of the materials that compose it offers, as the possibility of a finding that could mean new discoveries.

1 - . Asteroid and resources adjustment phase.

At the beginning of each turn, players reveal newly detected asteroids. The number of asteroids that are detected each turn is equal to 1 plus the modifiers of detection technologies.

Then place these asteroids under appropriate opportunity frame that is listed on the asteroid card and is modified by the technological level.

Once done this, the players proceed to dispose of the resources allocated to this period. Each turn players receive resources allocated according to their prestige points as follows:

0-24 prestige points ► 2 resources

25-49 prestige points ► 3 resources

50-74 prestige points ► 4 resources

75-99 prestige points ► 5 resources

2 - . Investment Stage

Each of the resource points can be saved to pay the cost of missions or invest in the following:

Technological development and investment in infrastructure:

A key element for success in the game is to advance technological development and prepare the entire necessary infrastructure to carry out missions successfully. To reflect these two factors in the game, it has been developed a technology and an infrastructure tree. As the trees are completed they provide modifiers that increase the likelihood of mission success.

It is considered that each agency makes small advances and discoveries that allow applying progresses with measurable results. In a globalized world like ours you must assume that when advancement is made, is available to all players.

To simplify this, each line of development is divided into a small subset of progress that enables a final effective implementation. It is assumed that in one way or another, advances are shared by simplifying the issue of patents, development of parallel lines of evolution...

In the game when a line of progress is completed those who contributed to its development are granted prestige points in the resolution phase. This way all the agencies involved in the development of a line of prestige receive 1 point, and the Agency that did the most investing than any other in a line receives 2 points of additional prestige.

In addition, a number of improvements are available to all players once these progresses of the technology development chart are completed.

Construction and setting to orbit space modules:

To carry out missions is required a propulsion module, a cabin module and a prospecting module.

Building each of these modules cost 1 resource point. Once it is built, we draw the constructed card from the card reserve and we place it in our hand.

To get them operative for the launching phase we need to invest an additional resource point. Once it is paid we can put the module card from our hand on the ISS square, then we mark the ownership of the card with a resource token from the reserve (the ones that are not obtained by the player yet).

Other construction options are:

Space processing module:

It costs 3 resource points and allows us to process materials obtained from asteroids in orbit, generating an additional resource point each time we return from a successful mission. Like the other modules when built on land we take the corresponding card in hand and to be active you must prepare the launching (1 resource point) by placing the card from the hand and placing it on the ISS square, and placing a resource to know its owner.

Launch pad:

At the start of the game the only player that has a launch pad is the player of the Russian agency. Whenever any player wants to make a launch the Russian player gains 1 prestige. To avoid this any player can build a launch pad at the cost of 5 resource points. This allows players to choose which launch pad they use, earning prestige the player holding the launch pad that is used.

3. – Mission Launching

At this stage, we can decide to do one of 2 possible missions that comprise the game. The first thing is to check is whether we have the 3 required modules available.

You may negotiate with other players to use their modules, but each mission should be led by a single player. You can negotiate with resource points or part of the prestige points earned by the mission.

In case of failure of the mission any loss of prestige caused by an accident will affect any player who was involved in the mission. So the player who commanded the mission will receive 100% of the loss and the rest of contributors the 50% of it.

Types of missions:

Prospecting Mission:

This is the simplest task to perform. It consists of the visit and the prospection of material from an asteroid.

The cost of the mission is calculated from the risk cost printed in the asteroid card, the asteroid's position in the window of opportunity, special ability from the consortium and technology modifiers, to a minimum value of 1.

In the game this is intended to reflect the different characteristics of the asteroids that impede the mission and are reflected in the characteristic risk (size, speed, and orbits)

against other factors that may facilitate it, reflected in the window of opportunity (such as a greater planning time , or to plan a better approach path).

Once all the costs are paid, we will place our modules by the asteroid we have chosen and we will wait for the resolution phase to see the results of our mission.

Capture Mission:

This is a more ambitious mission; consist in capturing an asteroid so that we can bring it to a stable orbit of the Earth in which we can extract all the resources.

The cost of this mission is 3 + (printed risk in the asteroid card) – (the asteroid's position in the window of opportunity, special player ability from the consortium and technology modifiers), with a minimum value of 1.

Once all the costs are paid will place our modules over the chosen asteroid and wait for the resolution phase for results.

It is possible for two different players to take on the same asteroid missions. In that case, capture missions will have priority for resolution over the prospection ones. If two missions are the same type and since the game will assume there are collaborative, the following modifiers apply at the time of the resolution:

 -1 Mission risk factor, since in case of failure, the two missions can support each other.

There will be an equitable sharing of both resources and prestige points between them, rounding up the fractions.

4. - Resolution and calculation of prestige

At this stage we check the success or failure of the missions and calculate the prestige obtained (or lost) derived from the actions of that turn.

Also readjust the position of the Asteroids 1 down his window of opportunity and removing all those arriving to 0.

Resolution of missions:

At this point we will determine the outcome of our mission. If we planned correctly the profits will be great. Otherwise the consequences could be disastrous for our reputation.

The first thing we need to determine is the ultimate risk of the mission.

To calculate the risk of a prospecting mission, subtract from the risk value of the asteroid card all the risk modifiers obtained by technologies.

To calculate the risk of a capture mission add 3 to the risk value of the Asteroid card and then subtract any modifiers obtained by technologies.

If the result is 0 the mission is a success, otherwise reveal as many cards from the deck of risk as indicated by the result of the mission's risk calculation. We apply the value of the most negative card revealed and shuffle the rest back into the deck.

Then we proceed to the extraction of material. We can extract as much material from an asteroid as our extraction value, noting that we cannot overcome our load value. If the opportunity value of the asteroid is greater than 1, we can remain a turn near the asteroid to expand our load if the necessary technology is available. Each additional turn we stay at the asteroid will increase the risk value by 1.

If we decide to end the operation, we proceed to calculate the profits. There are 2 types of profits, prestige and resources for the next turn.

Prestige profits:

The first player in the game that makes a prospecting mission gains 5 prestige points.

The first player in the game that makes a capture mission gets 10 prestige points.

After a successful prospection mission you will always receive as many prestige points as the asteroid's printed risk value divided by 2 (rounded up).

After a successful capture mission you will always get as many prestige points as the risk value printed on the asteroid card.

Resource Profits:

On a prospection mission we receive 1 resource for each resource transported from the asteroid.

On a capture mission you receive all the resources printed on the asteroid.

Calculation of prestige:

In addition to the benefits for doing missions now is the time to gain prestige for the investments in technology. Each participant that completed a breakthrough this turn receives 1 point of prestige. Besides the driver of the project (the player that invested more than any other player), receives 2 points of additional prestige. If 2 or more

players are tied for the maximum investment, no one gets the prestige profit for being the driver of the project.

Players withdraw their investments and a token is placed in the 'completed advancement' square.

Asteroid Movement:

We remove all the opportunity 1 asteroids, and then move all the asteroids a level of opportunity immediately below.

Special abilities and optional rules:

Each of the Space Agencies has a unique ability that represents its own characteristics that difference it from the other players' agencies.

NASA's player receives an additional resource point each turn that can only be used for technological developments. This represents the advanced facilities of the agency and its efforts to innovate.

Every time the player of the European Agency (ESA) place a resource in a technology where resources have already been placed by other player can place an extra resource point provided that that extra action does not cause the player from the ESA to be the player with the most invested resources in the technology. This represents both the diplomatic ability of the European countries and also the internal disputes that often prevent them from leading the progress.

The Russian Agency player is the only one that begins the game with a launch pad. Therefor the Soyuz rockets will report 1 prestige point every time any player performs a launch or performs a mission (in the mission cost is included the loading and unloading of materials and supplies). The prestige increase occurs immediately after being declared the action.

The consortium of companies reduces the cost of their missions in 1 (to a minimum of 1). This is due to it being a conglomerate of private firms that adjust their budgets to maximize benefits. They also have a greater ability to find investors.

The asteroid apocalypse / mission to save earth (optional rule)

To give more drama to the game we created 5 models of Apocalypse's Asteroid. Enormous asteroids that are on collision course with Earth and their impact will cause devastation only comparable to the extinction of dinosaurs.

For the basic game mode we recommend not to play with more than one of these asteroids, although you are free to insert into the asteroid deck as many as you like.

Once an Apocalypse's Asteroid is revealed is placed in the window of opportunity under the normal rules and the box for the mission to save Earth is activated in the technology tree, with a cost equal to that indicated in the Apocalypse's Asteroid card. If the mission is not completed before the opportunity of the asteroid reaches 0 the game ends with the defeat of ALL players. If the Earth is saved all those who participated in the mission to save the Earth will be granted 20 prestige points to share out equitably, fractions rounding up. Also if there is a player who has invested more resources than any other (project driver) wins 3 additional prestige points.