Project *Mars*

Number of Players 2-4
Playing Time 60 Min.
Suggested Age 14+

In **Project Mars** you work as a space industry contractor racing to be the first company with the technology and engineering levels to send humans to Mars.

It's not going to be easy as there are a number of challenges to overcome in order to accomplish a manned trip to the red planet, for one, it's only feasible to make an attempt every 2 years (actually closer to 26 months) for the most optimal alignment of Earth and Mars.

Next there is the challenge of getting all the necessary items you'll need for the trip free of Earth's atmosphere. This can't be done in one shot - so multiple missions will be necessary, taking fuel and other modules to low Earth orbit (LEO) on separate trips where they can then be assembled into a spacecraft that has everything needed to do the job.

And let's not forget money – it costs a lot to make all this happen!

Place your modules in low Earth orbit by increasing your engineering level, while managing your resources, expanding your office space, working with the best vendors and hiring the most capable employees for the job.

Objective
Be the first player to place all five of your modules in low Earth orbit and have the engineering level necessary to acquire the **Launch Date** card - This must be done within 2 years (2 times through the draw deck) or all players fail.

Components List: (see next page for images)

93 Cards Including:

12 Project Leads	20 Module Miniatures (4 sets of 5)
12 Engineers	40 Money Markers Including:
6 Sr. Engineers	30 (of 1 Value)
6 Facilities Managers	10 (of 5 Value)
25 Vendors	40 Material Markers (of 1 Value)
8 Office Spaces	4 Player Boards
16 Technologies	4 Player Screens
4 Test Flights	This Manual
3 Launch Dates	
1 Contract	

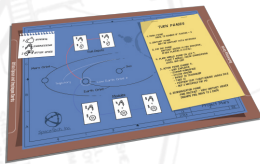Typical Card
(See detailed card explainations on page 3)

Module Miniatures
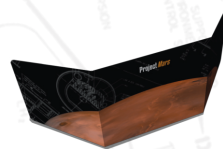One set shown: 2 Fuel, MAV, HAB and ERV
(see page 9)

Money Markers

Material Markers

Player Board

Player Screen

Card Explanations

Employee Cards:
Project Leads are used to boost approval for making use of vendors. They can be lured with money.

Engineers boost engineering (of course) which is used to acquire technology and hopefully a launch date if things go as planned. And they also can be lured with money.

Sr. Engineers can boost engineering but also offer some approval capability. They too can be lured with money.

Facilities Managers offer some approval but also allow you to acquire more office space at no cost, and you guessed it, money is used to bring them on.

Other Cards:
Vendors offer third-party materials, thus saving you money. You'll need approval to take advantage of their money-saving abilities.

Office Space is necessary to grow your team. You'll need materials or a **Facilities Manager** to acquire more office space.

Technology is very important to a project like this and you'll need an extensive engineering level to acquire these cards and make use of their special benefits.

Special Cards:
The **Test Flight** card is used to lower the amount of engineering needed to acquire the **Launch Date** card - since a test flight would lower the risk at final launch. They can be purchased for materials and fuel. **Note: This card is limited to 1 per player, the fuel must come from one previously placed on your player board (see page 7, phase 4).**

The **Launch Date** card is the ultimate goal in **Project Mars**. You'll need to have successfully placed all five of your modules in low Earth orbit and have reached the necessary engineering level (per number of players) to acquire it and win.

The **Contract** card gives the holder first bid for the contract during contract phase, first action during the action phase and a second action at the end of the action phase.

Card Types and Icon Legend

A - Card Name   **D - Image**
B - Cost and or Need   **E - Effect**
C - Gain   **F - Flavor Text**

Employee
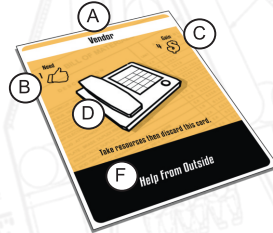
Vendor
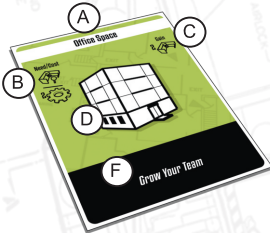
Office Space
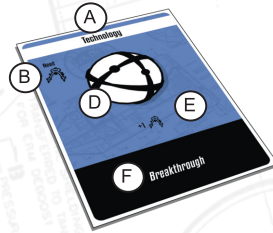
Technology
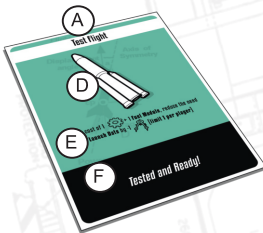
Test Flight
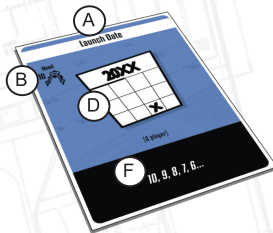
Launch Date

Contract

Money		**Materials**	
Approval		**Engineering**	
Office Space		**Acquire Office Space**	

Note: (/) In need/cost on Office Space card means one resource or the other.

Explanation of Resources and Player Boards

There are two types of physical resources in Project Mars, **Money** and **Materials** (seen on page 2).

The other type of resources (or needs) come from player boards and cards, these are: **Approval, Engineering, Office Space and Acquire Office Space.** (page 4).

Each player board starts with 3 **Approval**, 1 **Engineering** and 2 **Office space** (found in the upper left-hand corner), these resources can be increased by placing cards in your tableau as shown below.

In this example (below) the player has added an **Office Space** Card and four **Employee** cards - bringing her **Approval** up to 7, her **Engineering** up to 4, her **Office Space** capacity up to 5, and has added the ability to acquire office space (with the addition of a **Facilities Manager** card). She has space for one more employee before needing to increase her **Office Space** again.
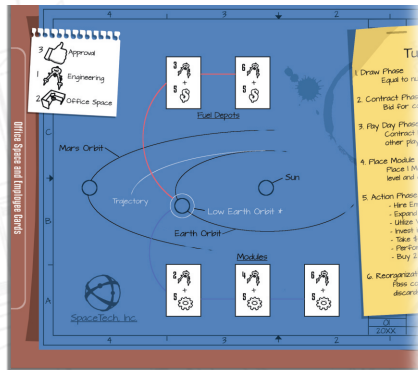
This example (left) shows how to place **Technology** cards on the right side of your player board in order to see the individual effect of each card.

Setup

Each player takes a player board, a player screen, a set of module miniatures (see page 2), $8 worth of money markers - 1 (of 5 value), 3 (of 1 value) and 2 material markers.

The player boards and screens are placed in front of each player with the money markers and material markers being placed behind their screens. These resources will be hidden during the game, all other information is public.

Set aside the **Contract** card and the **Launch Date** card (with the right number of players listed on it). Also make a pile of **Test Flight** cards face up, equal to the number of players, where all players can reach them.

Shuffle all remaining cards together to form a draw deck, then draw cards equal to the number of players +5 to create the initial card pool - place them in the center of the table leaving room for a discard pile.

Place all remaining money markers and material markers where all players can reach them to create the general supply.

The starting player is the person who has most recently watched or read something Mars-related. They will take the **Contract** card.

Setup example for 2 players

Turn Phases

1. Draw Phase (skip on first turn)
The contract holder draws cards to fill the card pool - equal to the number of players +3. **Note: Once the first draw deck is depleted – shuffle the discard pile and deal 10 cards face down, then shuffle the Launch Date card into these 10 cards and place them on top of the pile thus creating a new draw deck (with the Launch Date card residing somewhere in the top 10 cards). This will be the last draw deck of the game (see Winning Conditions on page 9).**

2. Contract Phase
The contract holder may start the bid on the contract using their available materials (not money) if they wish to keep it. Then in clockwise order each player can bid on the contract by increasing the bid, using their materials. The bidding continues until all players have finished. The winner then places it in their play area and pays the winning bid cost, all other players keep their bids. **Note: The Contract card gives the holder first bid for the contract during contract phase, first action during the action phase and a second action at the end of the action phase.**

3. Pay Day Phase (skip on first turn)
The contract holder must now pay $1 for every employee in his tableau, all other players pay $1 (total). If you are unable to do so then you must discard (lose) one employee and you don't pay anything this phase. **Note: If a player doesn't have any employee cards in their tableau at this time then they can skip this phase.**

4. Place Module Phase (skip on first turn)
Now starting with the contract holder, each player in clockwise order can place one module in low Earth orbit (LEO) if they have the necessary engineering level and payment (money or materials) listed on their player board, they can then pay the cost to the general supply and place one of their modules in the appropriate spot on the board (see example on page 8).

5. Action Phase (see next page for actions)
Starting with the contract holder, each player in clockwise order will **CHOOSE ONE** of the following actions (next page) then the contract holder will take one additional action and play proceeds to the next phase.

6. Reorganization Phase
The contract holder passes the contract to the left. The new contract holder discards cards from the pool down to 2 cards - then a new turn starts. **Note: Once the Launch Date card is drawn and placed in the card pool it cannot be discarded for the rest of the game, this should not come into play until the second year (second time draw deck is created - see phase 1).**

Actions

- Hire Employee
Take an **Employee** card from the card pool paying it's cost (in money) and place it in your tableau. **Note: First make sure you have enough office space for all of the employees in your tableau. If you have exceeded your Office Space you can discard an employee from your tableau to make room.**

- Expand Workspace
Take an **Office Space** card from the card pool, paying it's cost in materials to the general supply or by having a **Facilities Manage**r employed and place it in your tableau. This adds more space for hiring employees.

- Utilize Vendor
Take a **Vendor** card from the card pool checking your total approval level from your player board plus the cards in your tableau, it must be equal to or exceed the need of the card. Then take the resources listed on the card and place them behind your screen and discard the card face up in the discard pile near the draw deck.

- Invest in Technology
Take a **Technology** card from the card pool checking your total engineering level from your player board plus the cards in your tableau, it must be equal to or exceed the need of the card. Then place the card in your tableau (see example on page 5). **Note: These cards cannot be used on the same turn that they were acquired.**

- Take $2
A player may take $2 from the general supply and place it behind their screen.

**- Perform a Test Flight or Acquire Launch Date**
Pay 1 material and 1 fuel module **(from your player board)** to acquire a **Test Flight** card or meet the requirements for the **Launch Date** card to acquire it and win the game **(see Winning Conditions on page 9).**

- Buy 2 materials for $10
A player may buy 2 materials from the general supply for $10 and place them behind their screen.

Note: Don't forget the contract holder gets a second action at the end of the Action Phase.

This example (right) shows where to place your modules on the player board after meeting the requirements on the spaces (either Engineering and money or Engineering and materials). Fuel modules on the top 2 spaces and the other modules on the bottom 3 spaces. **(see page 7, phase 4)**
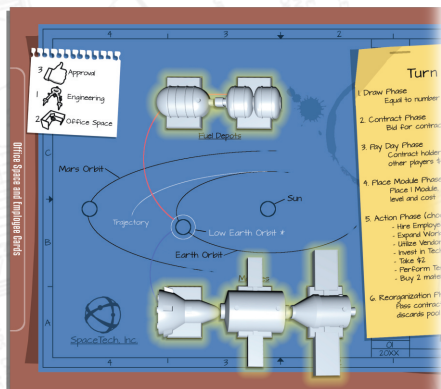
Winning Conditions
The first player to place all of their modules in low Earth orbit, raise their engineering level up to the necessary level to acquire the **Launch Date** card - before the deck runs out the second time (to symbolize a two-year launch window), wins the game!

Additional Instructions and Hints
- **Cost vs need:** Cost means you'll have to give up resources equal to the **cost** by returning them to the general supply (money or materials), need means you **need** to have that level of the appropriate skill (i.e. engineering, approval, etc.) on the cards in your tableau to acquire the card.

- Don't forget the added advantage of **Technology** cards.

- Approval (from project leads) and office space are important in the beginning of the game but not as important later on.

- If you have enough money to pay your employees during the **Pay Day** phase you must do so.

- Modules can be placed in any order as long as you meet the requirements listed on their space on the player board.

- Materials are hard to come by, so use them sparingly.

- Blue employee cards help acquire (blue) **Technology** cards, yellow employee cards for (yellow) **Vendor** cards, green employee cards for (green) **Office Space** cards, etc.

- **Test Flight** cards can be very useful in reducing the engineering **need** to acquire a **Launch Date** card and help you win the game.

- Public vs Private information: Money and Materials are private information, player boards and cards the in your tableau are public information.

Glossary
Low Earth Orbit (LEO) - LEO is an orbit around Earth with an altitude between 160 kilometers (99 mi), and 2,000 kilometers (1,200 mi).

Modules - The modules listed in this game might (in a real project) consist of an: Mars Ascent Vehicle (MAV), Habitat (HAB), Earth Return Vehicle (ERV) and Fuel Depots.

Fuel Depot - A module for storing fuel in space.

Credits

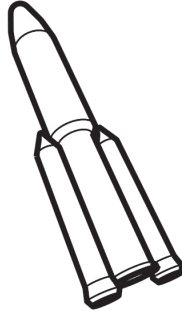|	
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A good read: *The Case for Mars: The Plan to Settle the Red Planet and Why We Must* by Robert Zubrin

Project Mars was made entirely with the following open source software: Blender, GIMP, Scribus, Inkscape and Libre Office.

Watch for the expansion - **Project Mars: The Return Home**.
Now that you've made it to Mars, it's time to bring samples and the crew members safely back to earth.

This game is dedicated to my wife **Cynthia** for always believing and supporting me in my creative endeavors.