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v1

Jul 2020

Game: **TERRAFORMING MARS**

Publisher: **STRONGHOLD GAMES (2016)**

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Print on card (ensure you are printing at 100% scale) laminate and trim to size.

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Peter 'Universal Head' Gifford
The Esoteric Order of Gamers

TERRAFORMING MARS

SETUP (2-5 PLAYERS)

Place the **game board** centrally on the table. Place the 9 **ocean tiles** on their reserved space, the **temperature** and **oxygen markers** on their starting positions, and the **generation marker** on 1 on the **terraform rating (TR) track**.

Place the **resource cubes** (copper = 1, silver = 5, and gold = 10) and remaining **tiles** within reach of all the players.

Ensure you have no **Corporate Era cards** (△) in the project deck or corporation card deck. Shuffle the **project cards** and place the deck next to the board, leaving space for a discard pile.

Give the **first player marker** to the player who most recently won a game of *Terraforming Mars*. Players choose their colors and take the corresponding **player markers** and a **player board**. In the standard game, start with 1 production of each **resource** on your player board: place player markers on number 1 on each track. Each player also places 1 marker on space 20 of the TR track.

Players new to the game each get a **beginner corporation card**. Other players are dealt 2 corporation cards and 10 project cards.

A beginner corporation gets to keep all their project cards for free. Other players simultaneously choose which corporation to play and what project cards to keep for their starting hand.

In player order, players reveal their chosen corporation, get any starting resources and production, and pay **3 M€** for each project card they keep. Cards not kept are discarded facedown to the box.

GENERATIONS

Each **generation** (round) players go through 4 **phases**.
The first generation starts with the action phase.

1. PLAYER ORDER PHASE

Shift the **first player marker** 1 step clockwise and move the **generation marker** (with tracks the game rounds) up 1 step.

2. RESEARCH PHASE

Each player draws **4 cards** and decides which of them they want to buy to their hand. Each card costs **3 M€** to buy, and you may buy 0-4 cards. Discard the rest of the 4 drawn cards facedown on the discard pile. There is no hand limit. If the deck runs out of cards, shuffle the discard pile to form a new deck and continue.

3. ACTION PHASE

Players take **1 or 2 actions each turn**, or pass. Play proceeds clockwise around the table until all players have passed and the action phase ends. The actions may be combined in any way and you may complete the same action twice.

If you take no action at all (pass), you are out of the round and may not take any any more actions this generation.

4. PRODUCTION PHASE

All players perform this phase simultaneously.

1. Move all resource cubes from the energy box to the heat box on your player board.
2. All players receive **M€** according to their **terraform rating plus any M€ production** (this may be negative); then they get any other resources they have production of according to their player board. Place all generated resources in their corresponding boxes.
3. Remove player markers from used action cards, allowing them to be used again next generation.

ACTIONS

A. PLAY A CARD FROM YOUR HAND

1. Check the requirements

To play a card you must meet its **requirements** (listed next to its cost) and be able to perform the effects on the card. However, you may play a card that:

- Raises global parameters that have already reached their goal.
- Adds resources that you can't collect.
- Removes resources for any player if you can't or do not wish to.

Even if these effects can't be performed, you may still play the card, performing all other effects as usual.

2. Paying and performing immediate effects

You must pay the card's **cost**. Some blue cards already in play may give you a discount. You may also use steel and titanium to help pay for **building** and **space** cards respectively.

Then, the lower panel of the card shows you any immediate effects. These effects (and other effects triggered by the card you just played) can be performed in any order you choose.

You must perform any **production** (brown boxes). Resources or production without a red border always affect yourself. Those with a red border can affect any player you choose (even yourself). Cards may also feature red bordered tiles and tags, meaning any player's tiles or tag.

Gain any **resources** immediately. A red border means you can choose the resources of any one player, but red bordered resources are optional, so you do not remove your own resources if you are the only player with those resources.

Non-standard resources (those not collected on your player board) are instead collected on specific cards; usually on the same card that generated them.

Any tiles placed by a card must be placed if possible, but being unable to do so does not prevent you from playing the card.

If a card symbol has a *, it is an exception to the normal rules; read the explanation in parenthesis to see how the card works. If you are unsure of a card's function, read the explanation text.

3. Place the card

Events (red) are collected in a facedown personal pile after being played. Their tags only apply while being played.

Automated cards (green) are placed faceup in a stack with only the top row visible. They have no further effect, but their tags still apply.

Active cards (blue) have ongoing effects that may trigger at any time, or actions that you can use. They are placed faceup in a stack with only the top row visible.

B. USE A STANDARD PROJECT

The 6 standard **projects** printed on the board are always available. Each of them may be used several times during a generation.

Sell patents: You may discard a number of cards from your hand to gain the same number of **M€**.

Power plant: For 11 **M€** you can increase your energy production 1 step.

Asteroid: For 14 **M€** you can increase temperature 1 step (and your TR).

Aquifer: For 18 **M€** you can place an ocean tile (you also get 1 TR and collect any placement bonus for the tile).

Greenery: For 23 **M€** you can place a greenery tile, which increases oxygen level (and your TR) 1 step, and collect any placement bonus for the tile. Put a player marker on the tile.

City: For 25 **M€** you can place a city tile (collect any placement bonus for the tile, and place a player marker on it). You also get to increase your **M€** production 1 step.

C. CLAIM A MILESTONE

If you meet the criteria of a **milestone**, you may claim it by paying 8 **M€** and placing your player marker on it. A milestone may only be claimed by one player, and only 3 of the 5 milestones may be claimed in total. Each claimed milestone is worth 5 VPs at the end of the game.

These are the milestones and what you need to claim them (besides paying 8 **M€**):

Terraformer: Have a terraform rating of at least 35.

Mayor: Own at least 3 city tiles.

Gardener: Own at least 3 greenery tiles.

Builder: Have at least 8 building tags in play.

Planner: Have at least 16 cards in your hand.

D. FUND AN AWARD

There is no requirement that must be met to fund an **award**. The first player to fund an award pays 8 **M€** and places a player marker on it. The next player to fund an award pays 14 **M€**, and the last pays 20 **M€**. Only 3 awards may be funded, and each award can only be funded once.

In the final scoring, each award is checked, and 5 VPs are awarded to the player who wins that category (it does not matter who funded the award). The second place gets 2 VPs (except in a 2 player game where second place does not give any VPs). Ties are friendly: more than one player may get the first or second place bonus. If more than one player gets the 1st place bonus, no 2nd place is awarded.

The awards are:

Landlord: Own the most tiles in play.

Banker: Have the highest **M€** production.

Scientist: Have the most science tags in play.

Thermalist: Have the most heat resource cubes.

Miner: Have the most steel and titanium resource cubes.

E. USE THE ACTION ON A BLUE CARD

Many blue cards and corporations have **actions**, indicated by a red arrow. Each such action card may be used once each generation. When you use an action on a blue card, you must first pay any cost stated to the left of the arrow. You get whatever the arrow points to, and place a player marker on the card to indicate that it has been used this generation. The player markers are removed during the production phase.

Blue cards may also have effects that are always active. These effects are not actions (no red arrow), so you can always use them.

F. CONVERT PLANTS INTO GREENERY

8 plant resources may be turned into a greenery tile, which increases oxygen level 1 step (and therefore also your TR 1 step). The greenery tile must be placed next to another of your tiles (if possible) and may generate placement bonuses.

G. CONVERT HEAT INTO TEMPERATURE

8 heat resources may be spent to increase temperature 1 step (and therefore also your TR 1 step).

PLAYER BOARDS

Production tracks: If you gain production of a resource, mark the new production level with your player marker. Production is not limited to 10; use 2 markers to denote higher numbers.

MegaCredits (M€): Used to pay for cards etc. **M€** production is the only production that can be negative, but never lower than -5.

Steel: Worth 2 **M€**/cube; used to pay for cards with a **building** tag. You may pay with both **M€** and steel, but you get no refund for 'overpaying' with steel.

Titanium: Worth 3 **M€**/cube; used to pay for cards with a **space** tag.

Plants: May be converted into greenery tiles.

Energy: Used by many cards. All leftover energy is converted into heat at the beginning of the production phase.

Heat: May be spent to raise temperature 1 step.

TILES

When placing a tile on the board, first check to see if there are any placement restrictions. There are areas reserved for ocean and specific cities where no other tiles may be placed, and each tile may have specific restrictions.

When you place the tile, receive the **placement bonus** printed on that area (if any). You also get a bonus for placing tiles next to ocean tiles.

Ocean tile: Ocean tiles may only be placed on areas reserved for ocean. Placing an ocean tile increases your TR 1 step. Ocean tiles are not owned by any player. Each ocean tile on the board provides a 2 **M€** placement bonus for any player later placing a tile, even another ocean, next to it.

Greenery tile: If possible, greenery tiles must be placed next to another tile you own. If you have no available area next to your tiles, or if you have no tile at all, you may place the greenery tile on any available area. Place a player marker on it. When placing a greenery tile, you increase the oxygen level, if possible, and also your TR. If you can't raise the oxygen level you don't get the increase in TR either. Greenery tiles are worth 1 VP at the end of the game, and also provide 1 VP to any adjacent city.

City tile: May not be placed next to another city (however *Noctis city* must always be placed on its reserved area). Place a player marker on it. Each city tile is worth 1 VP for each adjacent greenery tile (regardless of owner) at the end of the game. (The card *Capital* places the unique Capital city tile, which counts and scores like a normal city tile, but additionally gives you VPs for adjacent ocean tiles.)

Special tiles: Some cards allow you to place special tiles. Their function or placement restriction is described on the card. Place the tile, and place a player marker on it.

GAME END

When all 3 global parameters (ocean, temperature, and oxygen) reach their goals, the game ends at the end of that generation.

After the production phase, players have 1 extra chance to convert plants into greenery tiles (in player order; this may also trigger other effects such as placement bonuses). Then the final scoring takes place:

1. **TR:** Your TR at the end of the game is your basic score. Move your marker onward from this point as you add VPs from the rest of the scoring.
2. **Awards:** Gives the leading player in that category 5 VPs and the runner-up 2 VPs (except in a 2-player game). Ties are friendly: Players at the same level get the same VPs for 1st or 2nd place. Add your points to the TR-track.
3. **Milestones:** Each claimed Milestone is worth 5 VPs.
4. **Game board:** Players get VPs from the map on the game board. Each greenery tile is worth 1 VP and each city tile is worth 1 VP for each greenery adjacent to it (regardless of who owns the greenery tiles). Count these in player order to avoid confusion.
5. **Cards:** First count all VPs on cards that collect resources. Then gather all of your remaining cards (including all your played events) and count your VPs. If you have Jovian cards, these may have to be counted separately.

The player with the highest total score is the winner. Any ties are won by having the most **M€**.

VICTORY POINTS

VPs are scored for your **terraform rating** (TR), from map **tiles**, from **milestones** and **awards**, and from many cards.

PARAMETERS

Terraform Rating (TR) is how much you have contributed to the terraforming process. Each time you raise the oxygen level, the temperature, or place an ocean tile, your TR increases. Each step of TR is worth 1 VP at the end of the game, and the Terraforming Committee awards you income according to your TR.

Mean temperature at the equator rises 2°C at a time from -30°C to +8°C; this creates an equatorial zone where water stays liquid. This symbol means raise the temperature 1 step, and therefore also increase your TR 1 step.

Oxygen level is measured as a percentage of an atm of pressure, meaning that this percentage is comparable to Earth's 21% oxygen. At 14% the atmosphere resembles that of Earth at a 3000 m elevation. This symbol means you raise the oxygen level 1 step, and therefore also increase your TR 1 step.

Each **ocean tile** represents 1% ocean coverage. With 9% of the surface covered by oceans, Mars will have a hydrological cycle, creating rain and rivers. This symbol means that you place an ocean tile, and therefore also increase your TR 1 step (and get any placement bonus).

RESOURCES

Resources are represented by **resource cubes** of size 1 (bronze), 5 (silver) and 10 (gold), and can be used as any kind of resource. Where you place them determines what they are.

The 6 standard resources are all collected on the player board. Certain cards can also collect resources. If a card adds a non-standard resource, it is generally placed on that same card.

Megacredits (M€) are the currency used for buying and playing cards and using standard projects, milestones, and awards.

Steel represents building material on Mars (usually some kind of magnesium alloy). Steel is used to pay for building cards, being worth 2 M€ per steel.

Titanium represents resources in space or for the space industry. Titanium is used to pay for space cards, being worth 3 M€ per titanium.

Plants use photosynthesis. As an action, 8 plant resources can be converted into a greenery tile you can place on the board. This increases the oxygen level (and your TR) 1 step. Each greenery is worth 1 VP and generates 1 VP to each adjacent city tile.

Energy is used by many cities and industries, either via an action on a blue card or a decrease in energy production. Leftover energy is converted into heat.

Heat warms up the Martian atmosphere. As an action, 8 heat resources may be spent to increase temperature (and therefore your TR) 1 step.

Other resources (including animals and microbes) are collected on their respective cards, which also define what they do.

Production of a resource is depicted by having the resource symbol in a brown production box. Production is not limited to 10; if your production exceeds 10, leave the marker on 10 and start a new marker to complement it.

Only M€ production can be negative (as far as -5). But since TR is added to your production, your total income will not be negative.

Cards cost 3 M€ to buy into your hand during the research phase, but have different costs to play from your hand. This symbol means that you may draw a card to your hand (without paying for it).

Cards may have **tags** that describe them and allow other cards to relate to them:

Building: This project involves construction on Mars. Steel may be used to pay for this card.

Space: This project uses space technology. Titanium may be used to pay for this card.

Power: This project is focused on energy production or handling.

Science: This project enhances your scientific knowledge. Some cards require science tags.

Jovian: This project represents infrastructure in the outer solar system.

Earth: This project is related to activities on Earth.

Plant: This project involves plant life or other photosynthesizing organisms.

Microbe: This project involves microbes for specific purposes.

Animal: This project involves animals. Generates VPs.

City: This project places a city tile. This often requires energy production and produces M€.

Event: This project is a one-time event. All events are red cards that are turned face down after being played.

TILES

When placing a tile on the map, you may receive a placement bonus printed on the area (plus 2 M€ for each adjacent ocean).

Place an **ocean tile** and increase your TR 1 step. Ocean tiles may only be placed in the 12 reserved areas on the board and and no other tiles may be placed there. Ocean tiles are not owned by any player, but generate a 2 M€ placement bonus each for any player subsequently placing tiles next to them.

Place a **greenery tile** with an owner marker (this also increases oxygen level and TR, as indicated by the oxygen symbol). If possible, the tile must be placed next to another tile that you own. If you have no tiles or no area next to them, you may place it on any available area. Greenery tiles are worth 1 VP at the end of the game, and also generate a VP to any adjacent city.

Place a **city tile** with an owner marker. It may not be placed next to another city tile. Each city tile is worth 1 VP for each adjacent greenery tile (regardless of who owns the greenery tile) at the end of the game.

(Symbol tiles in brown). Place the **special tile** described on the card, with an owner marker. Special rules and restrictions are specified on the card.

An icon with a **red border** targets any player (including you). A card that removes red-bordered resources may remove those resources from any one player (this effect may also be performed partly, or not at all). A card effect that reduces production of a red-bordered resource must be performed, so if your opponent doesn't have that production, then you must lower your own production or not play the card at all. A card with a red-bordered tile icon targets any or all players' tiles. A card with a red-bordered tag icon targets all cards with that icon, whether they belong to you or another player.

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TERRAFORMING MARS

GAME VARIANTS

CORPORATE ERA (EXTENDED GAME)

To play the extended game, add all cards marked with the icon at the start of setup, including 2 new corporations. Players start with no extra production of resources. This variant can be combined with any of the other game variants.

This variant focuses on economy and technology. These are projects that do not contribute directly to the terraforming, but make the corporations stronger, adding new strategic choices.

SOLO VARIANT FOR CORPORATE ERA

The solo version always uses the Corporate Era setup; include all the Corporate Era cards and start without any production, except for what your corporation may give you. All rules apply as usual with these exceptions:

1. Before you choose your cards, place 2 neutral city tiles on the map with an adjacent greenery tile each (these tiles are not yours, and do not increase the oxygen level): reveal and discard the 4 top cards of the deck and use their cost numbers to determine the positions of the tiles. The first city is placed counting from top left to right and down, like reading. Skip any illegal placements (like areas reserved for ocean). For the second city you step backwards from bottom right in the same fashion. Then you place the two greeneries by counting the cost numbers and stepping clockwise around each city, starting from top left, skipping illegal placements.

   Special case: If you choose to play Tharsis Republic this game, you get M€ production for the 2 neutral cities even though they are placed before you reveal your corporation.

2. Start with a terraform rating of 14 instead of 20 (marked 'solo' on the track) and without the extra production of resources decribed for the standard game.
3. Awards and milestones are not used.
4. You have a neutral opponent that you can steal from, or reduce any kind of resources and production from.
5. You always play 14 generations (marked 'solo' on the track).

In order to win, you need to complete terraforming (i.e making the 3 global parameters reach their goal) before the end of generation 14. After generation 14, you may convert plants into greenery tiles, following normal rules but without raising the oxygen, and finally you score VPs to get as high a score as possible. If you have not completed terraforming by the end of generation 14, you lose.

DRAFT VARIANT

If more interaction is desired, use this variant.

During the research phase, players **draft** 4 cards to buy from instead of just drawing 4 to buy from.

Each player first gets 4 cards and chooses 1 to draft, putting it aside and passing the rest to the next player.

Then you have 3 cards; set aside 1 of them and pass the rest to the left. Then set aside 1 of the 2 you receive, pass the last card, and finally receive your last card.

Then examine the 4 cards you've set aside (drafted) and choose which to buy (3 M€ each) and which to discard.

Drafting is not used during the first generation since the first research phase is skipped. Cards are passed clockwise during even-numbered generations and counter-clockwise during odd-numbered generations.

This variant allows players to affect which cards other players get access to, and increases your ability to pursue a certain strategy, or predict which parameter will rise first.

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